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The Crimean Campaign 1854-1856
From Sanitary Disaster to Sanitary Success

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Department of War Studies
King's College London

The Crimean Campaign 1854-1856: from Sanitary Disaster to Sanitary Success

Michael Hugh Hinton

Thesis submitted for the Degree of Doctor of Philosophy

2017

Declaration

I confirm that the following thesis does not exceed the word limit prescribed in the College regulations. I further confirm that the work presented on the thesis is my own and all references are cited accordingly.

Michael Hugh Hinton

Abstract

The health of the British Army deteriorated catastrophically during the first winter of the Crimean campaign to create a Sanitary Disaster; but this tragedy did not persist and the way the situation evolved to the spectacular Sanitary Success evident during the last nine months of the campaign is the principal question addressed in this thesis.

Emphasis is placed on the analysis of large numerical data sets of published and unpublished contemporary documents; and by considering events strictly in date order errors in interpretation associated with the knowledge of hindsight are avoided.

The most notable conclusion made is that the mortality at Scutari from diseases such as continued fever, diarrhoea, dysentery, frostbite, pneumonia, scurvy, and typhus mirrored almost exactly what occurred in the Army as a whole. This is not surprising as most patients came from the Crimea and it suggests there is no justification in considering the hospitals in Scutari as a special case, and indeed the Army's health problems were not solved there, as has been implied by commentators who have concentrated almost exclusively on events in the Barrack Hospital where Miss Nightingale was based, but principally in the Crimea where the Army was located.

There were no notable advances in medical science during the campaign and there is little evidence to support the assertion of that the Sanitary Commission saved the Army, or indeed that their efforts were more than subsidiary. Rather, it was the progressive improvement in the standard of living of the troops by providing adequate food, clothing, fuel and shelter, coupled with improvements in health care in the camps and general hospitals in the Crimea, from early in 1855 which resulted in the Sanitary Success of 1856, and which Lord Panmure acknowledged when proposing a vote of thanks to the armed forces in the House of Lords after the ratification of the Peace Treaty.

Preface

I became interested in the Crimean War nearly 25 years ago when I was on the academic staff of the Veterinary School of Bristol University and I discovered that one of my 2x great grandfathers, James William Dewar, served throughout the campaign as an officer in the 49th Regiment, and on the Army staff as a Town Major of the Sevastopol Garrison. My principal research interest at the time was the infectious diseases, particularly those involved with public health, and this prompted my curiosity in the medical aspects of the campaign. I then appreciated just how many of Dewar's contemporaries died of so called 'zymotic diseases', an obsolete term which included afflictions such as cholera, erysipelas, small pox, tuberculosis, typhoid, and typhus; and it is from this curiosity that this thesis evolved.

Acknowledgements

Andrew Lambert supervised this project, and to him I owe my thanks for his encouragement and wise counsel. In addition, I am particularly grateful my friends Douglas Austin, Glenn Fisher, and Tony Margrave for the considerable help they have given while pursuing our common interest in the Crimean War; we have had great fun! I would like to thank additionally Douglas Austin for commentating on presentational matters, Tony Margrave for generously sharing his knowledge of the contents of The National Archives, and in particular the WO series, Colin Robins for permitting me to use some of his maps, and my long-time colleague Alan Hedges for advice on statistical matters. It is also a pleasure to acknowledge the assistance I have received over the years from the following; listed in alphabetical order: James Austin, John Barham, Michael Trevor-Barnston, Ann Bates, Jeff Bennett, Brian Best, Walter Bonnici, John Clewlow, Dave Cliff, Janet Corry, Larry Crider, Bill Curtis, Mark Davidson, Geoffrey Copus, Marianne Gilchrist, Tony and Jo James, Aled Jones, David Jones, David Kelsey, Norman Kirby, Peter Knox, Jérôme Lantz, James Mackie, René Maussion, Mike Hargreave Mawson, Tom Muir, Iffet Ozgonul, David Pick, Tim Pickles, Matt Pizzo, Helen Rappaport, Rod Robinson, Hugh Small, Colin Smith, Keith Smith, Pete Starling, Megan Stevens, David Thurlow, Lee and Ken Tough, Paul Watkins, David Williams, Abigail Woods, and Gill Woods; and those no longer with us: Brian Abbott, Ken

Horton, Bob Glover, Tony Lucking, and Michael Springman; and last, but certainly not least, to my wife Sheila for her forbearance during the whole enterprise.

Over the years I have spent many happy hours in libraries and museums, for example, the Army Medical Services Museum, Bristol University Library, British Library, Florence Nightingale Museum, ss *Great Britain* Archive, Kings College Library, London Guildhall Library, London Metropolitan Archive, London School of Hygiene and Tropical Medicine Library, National Army Museum Archive, National Archives of Scotland, National Library of Scotland, Nottingham University Library, Royal College of Surgeons' Library, Royal College of Veterinary Surgeons' Library, Royal Society of Medicine's Library, Society of Apothecaries Archive, Society of Genealogists' Library, The National Archives, Tunbridge Wells Library, and Wellcome Trust Library, as well as a number of county record offices, particularly those in Gloucestershire and Wiltshire. I have always been received with unfailing courtesy, and I am obliged to the staff of all these institutions.

There are relatively few authoritative contemporary assessments of the medical aspects of the Crimean campaign, and I wish to acknowledge the considerable contribution to the subject made by Lieutenant General Sir Neil Cantlie, RAMC, and John Shepherd, a former Surgeon Captain in the RNR and a senior lecture in surgery at Liverpool University. I have read and re-read their books '*The history of the Army Medical Department*' and '*The Crimean Doctors*' respectively, and they have provided me with an invaluable foundation on which to build, and for their scholarly endeavours I am most grateful.

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Abbreviations

Add MSS: Additional manuscripts
AG: Adjutant General, also A(Assistant)AG and D(Deputy)AAG
AoT: Agent of Transports
AC: Ambulance Corp
AMD: Army and Ordnance Medical Department
AMJ: *Association Medical Journal*
AWC: Army Works Corps
AS: Assistant surgeon, a regimental appointment.
ASS: Assistant staff surgeon
BFIs: Battle field injuries
BL: British Library
BMJ: *British Medical Journal*
CEC: Civil Engineering Corps
CO: Commanding Officer
CG: Commissary General
Deputy Secretary: Deputy Secretary at War (Benjamin Hawes)
DG: Director General
DIGH: Deputy Inspector General of Hospitals
DJAG: Deputy Judge Advocate General
DMS: Director of Medical Services
GOC: General Officer Commanding
HT&SC: *Hampshire Telegraph and Sussex Chronicle*
HAC: Hospital Ambulance Corps
HRO: Herefordshire Record Office
ILN: *Illustrated London News*
IGH: Inspector General of Hospitals
IoWO: *Isle of Wight Observer*
JRAMC: *Journal of the Royal Army Medical Corps*
KIA: Killed in action
LTC: Land Transport Corps
LG: *London Gazette*
MO: Medical Officer
MSC: Medical Staff Corps
MT&G: *Medical Times and Gazette*
NAM: National Army Museum
NCO: Non-commissioned officer
OR: Other ranks
PMO: Principal Medical Officer
POW: Prisoner of war
QMG: Quartermaster General, also A(Assistant)QMG and D(Deputy)AQMG
R&F: Rank and file
RA: Royal Artillery
RE: Royal Engineers
RS&M: Royal Sappers and Miners
RUSIJ: *Royal United Services Institution Journal*
SAS: Staff Assistant Surgeon
SS1 and SS2: Staff Surgeon, 1st and 2nd Class
TNA: The National Archives
TWC: *The War Correspondent* (Journal of the Crimean War Research Society)]
Undersecretary: Undersecretary at War (Frederick Peel, MP)
VC: Victoria Cross
W&SHC: Wiltshire and Swindon History Centre, Chippenham.
WB&CA: *West Briton and Cornwall Advertiser*.

Chapter 1
Introduction

The research reported in this thesis was carried out under the aegis of the War Studies Department, King's College London. The study focused principally on the events occurring in, and directly relating to, the Black Sea theatre of war between September 1854 and June 1856, and which involved about one year of active hostilities.

The surviving records have been evaluated from first principles in order to explain the causation, consequences, and resolution of the health problems that beset the Army during the years 1854 and 1855. Methods of analysis employed include those appropriate for large sets of numerical data on medical and surgical conditions in contemporary published and unpublished documents at a level of detail never attempted hitherto. A guiding principle adopted throughout was that events should be addressed strictly in the order of occurrence, in order to minimize bias introduced by knowledge based on hindsight, while primary sources have been accorded greater significance than more recent secondary sources. For example, letters, despatches, and reports in the War Office (WO) and Foreign Office (FO) series in the National Archives (TNA) at Kew; the Royal Army Medical Corps (RAMC) archive; and the official and personal papers of key individuals preserved in various archives including the National Army Museum (NAM) and county record offices, as well as published and unpublished diaries and letters of other participants, both medical and military. In addition, digitized versions of Parliamentary Papers (Blue Books), *The Times*, *London Gazette*, *Illustrated London News*, and other national and regional journals have been consulted extensively.

The focus has been on events which influenced the health and well-being of the British Army in the Crimea, and how these affected what occurred in the camps, on the hospital transport ships and in the general hospitals, including those on the Bosphorus. References will be made where appropriate to the Royal Navy (particularly the Royal Naval Brigade serving ashore), Land Transport Corps (LTC), and French Army.

Two contrasting formats have been adopted for the presentation of the principal results. Chapters 2-8 are based principally on the analyses of numerical data and in which use has been made of tables and graphs; while a narrative style, albeit strictly evidence based and in which comprehensive supporting evidence is presented in a tabular format, proved more appropriate in Chapters 9-11 which deal with recruitment, the supply of the necessaries for life, provision of facilities for invalids and

convalescents, including those repatriated, and the various commissions of enquiry into the conduct of the war.

War with Russia, 1853-1856

The Crimean War is the term frequently used to define the conflict that took place during 1853-1856 between Russia and the Ottoman Empire and the British, French, and Piedmont-Sardinians. This term is misleading however as hostilities took place in present day Romania and Bulgaria, eastern Turkey, the Caucasus, the Baltic, the White Sea, and on the Russian Pacific coast. A more accurate title is the War with Russia, a term not infrequently used in contemporary accounts.

The conflict was the only one in Europe between 1815 and 1914 that involved British troops and although the conduct of the campaign tended to follow 18th and early 19th century military principles in several respects 'with authority concentrated in the commander and his small staff; [a system which proved] wholly unsuited to […] operations [requiring] co-ordination between the different branches of the Army, as well as between the Army and Navy.'[1] On the other hand, it also involved the employment of modern technology including rifled muskets, steam powered ships, an electric telegraph, a railway network, steam-powered saw mills, and a floating bakery and factory ship.

From a British perspective the war was fought to curb Russian expansion into south east Europe at the expense of Turkey, the 'Sick man of Europe', as this would have altered the balance of power in the region, and threatened Britain's trade routes to the east, particularly India. The French involvement was for different motives since they had lost prestige following the defeat of Napoleon Bonaparte and this conflict provided an opportunity for his successor, Napoleon III, to restore French pride, and to play a part in influencing world events. Similarly, the Kingdom of Sardinia, or Piedmont, participated on the side of the allies as a means of winning a place at the peace conference when convened, and thereby facilitating the move towards the unification of Italy under Piedmont's ruling house at the expense of Austria.[2]

1 Harrison (2004), p. 11.

2 For further details see Collier (2008).

Turkey declared war on Russia on 5 October 1853 following its occupation of the Danubian principalities of Moldavia and Wallachia (modern day Romania) on the pretext of preventing internal disorder. The prospect of an escalation in hostilities increased following the Russian's destruction of a Turkish flotilla moored at Sinope on 30 November 1853.[3] The British government responded by ordering the Mediterranean fleet to enter the Black Sea during January 1854, several regiments to embark for Malta on 22 February, and for a fleet to sail for the Baltic early in March. Relations with Russia continued to deteriorate and the British and French governments declared war on 28 March 1854.

The first allied troops arrived in Turkey during April 1854 and after some two months the British and French Armies moved to Bulgaria to support the Ottoman Army engaged with the Russians along the River Danube. The Turks put up a stout resistance and following the raising of the siege of Silistria on the 22 June 1854 the Russians withdrew across the River Pruth thus bringing the initial phase of hostilities to an end. Austria, which remained neutral, then occupied the principalities thus separating the combatants.

The allied armies remained in Bulgaria until shortly before landing in the Crimea on 14 September 1854. The main battles took palace in the weeks that followed: at the Alma (21 September), Balaklava (25 October), and Inkerman (26 October and 5 November). Thereafter the conflict continued as static trench warfare. There was a further battle at the river Tchernaya on 16 August 1855, which involved the French and Sardinians, and two major assaults on Sevastopol on 18 June and 8 September. The French captured the Malakov tower on the second occasion and this resulted in the Russians evacuating the city; which was then occupied by the British and French. There was little serious fighting following this and hostilities ceased officially on 27 April 1856 with the ratification of the Treaty of Paris signed on 30 March 1856. The bulk of the allied armies had left the Crimea by the end of June with the last British troops leaving Balaklava on the 12 July 1856.

Within the Crimean theatre, the principal focus of this thesis, the forcing of the river Alma was seen as a heroic military success and earned Raglan a field marshal's baton while the battles of Balaklava and Inkerman were also perceived as impressive feats of arms. However, the outcome of these engagements was indecisive and the

3 For a Turkish account see Hinton (2012).

stalemate that ensued, coupled with the worsening conditions in the Crimea during the winter of 1854-55, had a destabilizing effect on the political situation at home. The result was that Lord Aberdeen and his coalition resigned on 30 January 1855 although the Chancellor of the Exchequer in the new Government, Sir George Lewis, did not consider that the 'substitution of Lord Panmure for the Duke of Newcastle' would 'change the course of the campaign, or to convert failure into success.'[4] In the event the news from the Crimea continued to cause concern for Palmerston's Government, as confirmed by Lewis shortly before the fall of Sevastopol: 'As long as our Army remains in the trenches before Sebastopol, no Government can have any stability, our domestic politics are dependent on the events of the siege as they occur from day to day;'[5] a view that echoed a remark made by Clarendon to Stratford before the invasion: 'Until Sebastopol is taken there is no chance of […] a binding peace. […] the command of the Black Sea and the fate of Constantinople are in the hands of Russia and England and France are disgraced.'[6]

The War with Russia has been considered an inappropriate and pointless adventure by some commentators because it proved inconclusive since 'we had only driven the robber from the gates of Turkey but we have refused to take him into custody' and that it was a peace that 'France insisted upon, and which the British people sulkily acquiesced in',[7] and in consequence the Black Sea only remained demilitarized for fourteen years. On the other hand, Small, in his revisionist analysis of events concluded that the conflict was not a 'historically irrelevant mistake' but suggested that (1) the Allies had fought a 'just' war, and that they had the moral support of all Europe in going to war in defence of the principle that nations, despite their differing ideologies, should coexist and not seek to expand their territory at their neighbours' expense; (2) the war was winnable given that Britain, the world's only superpower, with a relatively powerful France 'had a mighty ascendancy over unindustrialized Russia'; and (3) the objectives were limited and achievable, i.e. the liberation of the Russian peripheral vassal states and the prevention of Russian advances into British and French spheres of influence.[8]

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4 Sir George C. Lewis to Sir Edmund Head, 2 Feb. 1855; Lewis (1870), p. 292.

5 Lewis to Head, 17 Aug. 1855; Lewis (1870), pp. 297-8.

6 Clarendon to Stratford, 23 Aug. 1854; quoted by Royle (1999), p. 193.

7 *ILN*, 10 May 1856, p. 798.

8 Small (2007).

By contrast evidence of Russian propaganda suggests the war was viewed in a very different light. For example, a POW reported that it was 'implicitly believed in by Russian serfs' that:

> The Turks massacred the Russian Bishop and several Russian priests at Jerusalem. God, in his wrath, sent a squadron of angels to carry away the tomb of Christ, which remains at this moment suspended in the heavens, and he commissioned the Czar to avenge the pagan sacrilege. When the Emperor Nicholas shall enter Jerusalem a conqueror, as, by the aid of Heaven, he certainly will do, Christ's tomb will be restored to its place. The phalanx of angels will line the road along which the conquering Russian army will pass, and will present arms to them. Then the Czar will be master of the whole world, which will renounce its errors and become converted to the orthodox faith.[9]

Military campaigns, 1808-1852

Mark Harrison observed: 'Each theatre of operation [is] ecologically distinct and [presents] unique problems,'[10] and in this respect Crimean theatre posed a number of specific challenges which had to be resolved. It is, therefore, inappropriate to compare the medical aspects of different campaigns; except possibly in a superficial manner; and of the campaigns involving British troops during the first half of the 19th century it is only the Walcheren expedition that has certain similarities with the Crimean War. For example, both involved a sea-borne invasion, were of relatively short duration, had only a limited objective, were fought in a temperate rather than a tropical region, and were characterized by a high incidence of infectious diseases. However, the absence of detailed medical records from 1809 makes it impossible to make more than the simple comparisons set out in Table 1.1. The table includes reference to the Gallipoli campaign of 1915 as this has features similar to the other two. One attribute that distinguished the Crimean campaign from the other two was that the occupation continued after hostilities ceased and this allowed time to demonstrate that the medical problems had been overcome to provide a Sanitary Success. By contrast, the Sanitary Disaster was not resolved in the other campaigns, and it is this aspect of the Walcheren expedition which is particularly remembered.[11] A commission of enquiry convened after the Walcheren

9 *ILN*, 20 Nov. 1855.

10 Harrison (2010), p. 291.

11 See Howard (2012).

expedition exonerated the doctors but blamed the Medical Board; the members of which were dismissed, for 'poor planning and a failure to cope urgently with the disaster.'[12]

Increased public awareness of the disasters in the Crimea and Turkey has led some commentators to conclude the Crimean War was in some way exceptional. However, it was not unusual for deaths from disease to exceed those from the fighting by *c*.4:1[13] while overall the mortality was not dissimilar to several other wars fought during the 19th and early 20th centuries (Table 1.2). The reviews of Cantlie and Shepherd of the medical aspects of earlier campaigns indicate that many of the successes and failures recorded in the Crimea resonate to a degree with some of those encountered previously.[14, 15]

For example, faults in organization such as the absence of stretcher bearers and trained orderlies, the want of a mobile field medical unit, and the limited number of ambulance waggons resulted in the delay in attending the wounded after battles in the Peninsula. The 'means of transporting the sick and wounded have ever been deficient and cruel, as all testify who attended the bullock cars of the Peninsula,'[16] and though the situation was ameliorated to an extent when sprung waggons were introduced these were heavy and cumbersome and frequently blocked the roads.

Overcrowded general hospitals were recognized as being an 'artificial cause of the destruction of armies' because the 'effect of accumulation evidently corrupts the air, and this generates an artificial malignancy' and 'relapses are the leading cause of mortality.'[17] Soldiers 'sent to general hospitals [were] rarely restored to [their] corps during the campaign' and thus regimental hospitals were preferred because 'not collecting soldiers into one spot reduces the chances of contagion.' and 'the average duration of sickness is always less in regimental hospitals.'[18]

The shortage of hospital mates [orderlies] during the Peninsular War coupled with their lack of training was perceived as the weakest link in the medical services, while

12 Shepherd (1991), pp. 4-5.
13 Ponting (2004), p. 334.
14 Cantlie (1974), I, pp. 292-493.
15 Shepherd (1991), pp. 1-72.
16 Fergusson (1846), p. 62.
17 Jackson (1803), pp. 345-6.
18 Fergusson (1846), p. 60.

the employment of convalescents for hospital duties 'denuded' the regiments, which would have been rendered unnecessary if there had been a medical corps.[19]

Some lessons learnt during the Peninsular War had seemingly been forgotten by the battle of Waterloo as many of the wounded were operated upon on the battle field or in crude regimental posts by inexperienced MOs, and there were considerable delays in moving casualties to makeshift general hospitals in Brussels.[20] Given this example of a short corporate memory span it is perhaps not surprising that the British Army proved ill-prepared for a campaign prosecuted forty years later and considerably futher from home.

There were, however, examples of good practice. The rapport between Wellington and his PMO McGrigor resulted in improvements in the medical services due to attention to sanitary discipline and the provision of abundant food, and better clothing coupled with the increase in the experience gained by the MOs. In addition, improvements in the regimental hospitals resulted in patients being treated in the forward areas and were thus spared an arduous trek back to base hospitals. This reduction of movements, together with the separation of surgical and medical cases and convalescents in general hospitals, and regimental hospitals when static, reduced the risk of cross-infection and thereby improved the chances of survival.[21] Hospital Regulations issued in 1813 stipulated that there should be separate hospital buildings for cases of continued fever, dysentery, surgical cases, and convalescents.

Despite McGrigor's best intentions there was little reform of the Army Medical Department (AMD) between 1815 and 1854. For example, Millingen's proposal for a Hospital Ambulance Crops made in 1819 went unheeded,[22] while the need for an army medical school, which had been 'strongly advocated […] by such reformers as Richard Brocklesby [d.1777] and Robert Jackson [retired in 1819],' and was one of McGrigor's 'most cherished ambitions,' never materialized.[23]

19 Cantlie (1974), I, pp. 312, 339, & 506.

20 Cantlie (1974), I, p. 440 and Shepherd (1991), p. 6.

21 Cantlie (1974), I, pp. 338-9, 357 & 368.

22 Cantlie (1974), I, p. 375 and van Millingen (1819) quoted by Shepherd (1991), p. 7.

23 Cantlie (1974), I, p. 439.

Furthermore, Surgeon Maclean speculated that if newspaper correspondents had covered the China War of 1839-1842, which was 'one of the most disgraceful episodes in military history [and] which cost so many lives', it is probable that 'public opinion would have been so effectively called to the defects in our military and sanitary organization, as to have led to reforms in both that would have gone far to prevent the miserable breakdown in the Crimea.'[24]

Military medical knowledge in the mid-19th century

The health of the general public, particularly the urban poor, obtained an increasingly high profile during the 1840s[25] with the Health of Towns Commissioners concluding that 'defective drainage, neglect of house and street cleansing, ventilation, and imperfect supplies of water, contribute to produce atmospheric impurities, which affect the general health and the physical condition of the population.'[26] Legislation was subsequently enacted,[27] and it resulted in progress being made, albeit not universally, with the appointment of qualified surveyors and inspectors of nuisances. Medical practitioners were originally employed on an ad hoc basis, a policy the editor of the *AMJ* considered unsatisfactory as he considered preventive medicine a legitimate new branch of medicine that was equally important as that of healing, being 'but sister branches of the same tree.'[28] However, despite this positive opinion preventive and community medicine, as we now know them, did not exist as disciplines in their own right; and in this respect military surgeons were probably no more or less ineffectual than the majority of their civilian counterparts, whether they were Miasmatists or Contagionists.[29] In consequence 'many of the subsequent criticisms of the medical

24 Maclean (1895), pp. 96-7.

25 For an assessment of urban sanitary issues see Gavin (1848). Gavin, a Sanitary Commissioner, died following a shooting accident shortly after he arrived in the Crimea.

26 1st and 2nd Reports of the Health of Towns Commissioners dated June 1844 and Feb. 1845, and quoted in the *AMJ*, 11 May 1855, p. 434.

27 The Nuisances Removal and Diseases Prevention Act 1855 defined 'nuisances' as any 'filthy, unwholesome, or dilapidated house, building, or premises; any foul or offensive pool, ditch, gutter, watercourse, privy, urinal, cesspool, drain, or ashpit; any animal so kept as to be injurious to health; any decaying to offensive accumulation or deposit.' The background to this legislation and current medical opinion were discussed *in extenso* in seven editorials published in the *AMJ* between 4 May and 4 July 1855 under the title of 'Sanitary Legislation'.

28 *AMJ*, 4 May 1855, pp. 411-2.

29 For further comment see Miles (2009), pp. 112-3.

services in the Crimea are unfair because they ignore the state of medical knowledge and treatment available at the time.'[30]

Certainly, 'the army doctor before 1854 received little specialised instruction in the medical or surgical problems encountered on service,' and 'there was a near total neglect of teaching of the principles of hygiene and preventive medicine.'[31] Nevertheless, despite these shortcomings, the concepts of proverbs, such as 'Prevention is better than cure'[32] and 'Prevention is so much better than healing, because it saves the labour of being sicke,'[33] would have been appreciated by most medical men. However, at that time there were only two diseases for which specific methods of prevention were available, viz. vaccination against small pox and the issuing of lime juice to prevent scurvy, although the control of cholera would have been feasible, if Snow's explanation for the mode of transmission by contaminated water had been generally accepted.[34]

An important principle of hygiene for an army on campaign was enunciated in Deuteronomy 23:12-13: 'Thou shall have a place also without the camp, whither thou shalt go forth abroad: and thou shalt have a paddle upon thy weapon; and it shall be, when thou wilt ease thyself abroad, thou shalt dig therewith, and shalt turn back and will cover that which cometh from thee.' The MOs would have been known of these verses as well as the writings of 18th century military surgeons such as Pringle[35] and Monro[36] who championed the importance of basic hygiene, and of the need to supply troops with an adequate diet and a supply of pure water, as well as keeping them well clothed and protected by adequate accommodation, while Luscombe, writing after the Napoleonic wars, made several sensible proposals about the care and effective management of soldiers which were equally as good as any of those recommended in 1858 by the Royal Commission chaired by Sidney Herbert.[37]

Pringle, who is considered the 'father of modern military hygiene', was well ahead of his times since 'even in the twentieth century' his ideas 'are thought by many

30 Ponting (2004), p. 192.

31 Shepherd (1991), p. 14.

32 Latin proverb in Browning (1988), p. 406.

33 T. Adams (1618) quoted by Simpson (1981), p. 146.

34 These issues persist in the 21st century since it has been suggested that priority should have been given to sanitation and the provision of a clean water supply when tackling the cholera epidemic in Haiti, rather than the introducing a vaccination programme; Wampler (2011).

35 Pringle (1752).

36 Monro (1780), pp. 1-159.

37 Luscombe (1821), pp. 108-15.

doctors to be a comparatively recent discovery,'[38] a view that echoes that of the editor of the *AMJ* who noted on 4 May 1855 that: 'Preventive medicine has within a few years been called into active existence, or [rather] revived; for many facts and opinions which seem to us novelties were well understood by older physicians.'

When war appeared inevitable the Director of the AMD, Dr Andrew Smith, had the foresight to send Drs Dumbreck, Linton, and Mitchell to make a reconnaissance in the Balkans and Turkey. Dumbreck visited the Danubian Provinces and made a number of sensible suggestions in his report.[39] For example, the need for more appropriate summer and winter clothing, prophylaxis against malaria, the adoption of strict hygiene measures, and the filtration of water. Smith requested the military authorities to implement Dumbreck's recommendations but in the most part no action was taken.

In the event Smith had 'to create a wartime organization from scratch,' and, as only a short war in the principalities of Moldovia and Wallachia was envisaged there would have been little incentive for 'the Army Medical Department [and the Army as a whole it should be said] to have laid contingency plans for an invasion and prolonged campaign in the Crimea.'[40] The potential for a Sanitary Disaster was therefore present from the start, and when it came to pass its conversion into a Sanitary Success was not due to advances in the understanding of disease or other aspects of medical science, or the achievement of any one person, group of persons, or one military department. Rather, as will be described in later chapters, it was due to the incremental improvement in the living standards during 1855, with the provision of an improved diet, better clothing and hutted accommodation, etc. Progress towards this end was associated, inter alia, with the application of simple sanitary measures by the military authorities, improvements in primary health care and facilities in the regimental and general hospitals, and the conditions obtaining during the transport of patients to the base hospitals in Turkey and thence back to England; developments which were clearly facilitated by the use of modern industrial technologies, such as railway and steam powered shipping to solve basic logistical problems.

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38 Starling (2002).

39 *M&SH*, I, Appendix 1; and summarized by Cantlie (1974), pp. 18-9, Shepherd (1991), p. 39, and Scotland and Heys (2013), pp. 212-3.

40 Royle (1999), p. 205-6.

Status of the Medical Officer

'Surgeons were ranked above washerwomen and below tailors' during the reign of Henry V while by the time of Elizabeth I they were 'coupled with drummers and paid accordingly.'[41] Matters had improved by the beginning of the 19th century although MOs remained in 'one of the lowest positions on the military hierarchy [and were] often regarded as neither a soldier nor a gentleman;' a situation that prompted Jackson to recommend in 1803 that they should have military rank and powers equivalent to those of military officers and that a sanitary officer should be appointed to provide advice on the location for camps and hospitals; and to ensure compliance with regulations introduced to control epidemics.[42] Needless to say these suggestions went unheeded, and although McGrigor during his time as DG had endevoured to enhance their status,[43] MOs still 'occupied a hybridized and inequitable position. Occupationally and geographically removed from civilian counterparts […] they were not fully integrated into the mainstream of the medical profession, neither were they equals, in terms of rank, pay, status, or conditions of service, of their fellow officers in the services.'[44]

As a consequence MOs still had little or no executive authority in 1854 and hence Hall, whose rank was equivalent to a Brigadier, was not involved with operational planning; surprising perhaps given that Raglan had been Wellington's military secretary during the Peninsular War and would have seen first-hand the advantages of the beneficial relationship between him and McGrigor.[45] Hall was thus 'kept in total ignorance of the movements of the army […] until the last moment,'[46] although when things went wrong he was 'held accountable, both by [the military authorities] and the public, for its medical arrangements' and as a result 'no small measure of abuse was heaped on him and the department for what they termed its shortcomings;'[47] an issue that will be considered later in the thesis.

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41 Sweetman (1975).

42 Jackson (1803), quoted by Shepherd (1991), p. 7.

43 Blanco (1971).

44 Bartrip (1996), p. 114.

45 Cantlie (1974), I, pp. 338-9, 357 & 368.

46 Hall made this point to the Royal Commission on 22 June 1857; BPP (1857-58), No. 2318 and Mitra (1911), p. 316.

47 Hall to Smith, *PoL*, II, Appendix 42. A 'rough copy' entitled 'Report of the Medical Arrangements for and Army in the Field rendered by Inspector General of Hospitals Sir John Hall, KCB,

Literature review

The literature on the medical aspects of the Crimean campaign is best described as a series of distinct sources. Among the most important are documents relating to the Crimean War in TNA, particularly the WO and FO series, and the RAMC archive, now at the Army Medical Services Museum, which includes, inter alia, Hall's official papers. In addition, papers in the NAM associated with Lord Raglan, General Wetherall, Hall and other participants have been consulted as have those of Herbert and Major Generals Estcourt and Airey in county records offices, as well as the letters and diaries of other individuals listed in the bibliography.

The Director of the AMD kept copies of the letters he sent and received from the time he was told to prepare for service in the East until the end of war. A synopsis of these documents entitled *Précis of letters written and received by the Director-General of the Army Medical Department in reference to the medical arrangements required at the commencement and during the War with Russia 1854-55-56* (*PoL*) was printed in two volumes after the war, but not officially published. In addition to abstracts of numerous letters there are a number of appendices comprising tables of statistical data and listing of personnel, and drugs and equipment issued.[48]

A second group of records are contemporary official publications. *Hansard* and the *London Gazette* were well established sources of information when the war commenced while contemporary official publications, commonly known as Blue Books, provide a wealth of statistical and documentary evidence, albeit usually with little or no analysis. Several of relevance to various aspects of the war are referred to in later chapters,[49] with the most important being the '*Medical and Surgical History of the British Army which Served in Turkey and the Crimea during the War Against Russia in the Years 1854-55-56*' (*M&SH*),[50] and it is analyses of data contained therein that form a significant component of this thesis.

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formerly Principal Medical Officer, British Army, Crimea, 20th Jan. 1857' is preserved as RAMC/527. There are some minor textual differences between the two versions.

48 The original documents or copies of them in out-letter books can frequently be found in the RAMC archive, TNA, and other archives.

49 The full list of titles is included in the Bibliography.

50 BPP (1857-58), No. 2434 and referred to as the *M&SH* in the text.

The first of the two volumes provides, inter alia, details of the medical problems encountered during each month by 14 cavalry and 52 infantry regiments, including a comprehensive table that lists the number of 'admissions into hospital and deaths' each month together with a separate column for the those who 'died in general hospitals during the war', but not those killed in action. The second volume comprises two principal parts that cover disease (pp. 34-252), and wounds and injuries (pp. 253-396). The section on disease concludes with five comprehensive tables, designated General Returns A-E, of which A is the most important as it summarizes the reasons for the primary admission of NCOs and men into the 'hospitals of the Army of the East' during each month,[51] together with all the deaths that 'occurred in regimental and general hospitals, in hospital ships, or suddenly, or from violence, with the exception of those which occurred in action with the enemy'. The reasons for admission and deaths are listed in 19 categories and General Return A alone provides some 7,344 items of information, including nil returns. The two sets of data in the Return are not directly comparable, however, as they were prepared from separate sources. This means that mortality rates cannot be determined by expressing the deaths in any month as a proportion (%) of the admissions as individuals may have died some weeks after admission to hospital and at a location other than the Crimea.[52]

On the other hand, the calculation of the ratio (%) of 'total deaths' to 'total admissions' in General Return A provides an approximation of the overall mortality rate and these are included in the right hand column of Table 1.3. The highest ratio was 59.5% for cholera. It was 19.5% and 8.5% for two scourges of the first winter, frostbite and scurvy, and *c*.10% over the whole campaign for fever, gastrointestinal disease, and wounds or injuries. Incidentally, several conditions which occurred infrequently also had relatively high ratios, viz. nervous disease (20.5%), eruptive fever (20%), and cardiovascular disease (15.5%). This topic will be considered in detail on Chapter 6.

The second volume concludes with an Appendix which includes tables with a similar format to General Return A for nine General Hospitals, viz. Scutari,[53] Varna, Abydos, Smyrna, Renkioi, and four in the Crimea (see Figures 1.1 to 1.4), together with

51 The totals in General Return A omit 5,113 primary admissions for disease when the month was not known; and there is 'no reference to commissioned officers or men of the LTC, Mounted Staff Corps, and the MSC.'

52 The time between admission and death are given in the *M&SH*, II, General Return C.

53 The General and Barrack Hospitals were the largest hospitals on the Asian side of the Bosphorus with those known as Haidar Pasha, Palace a and Kuleli (also spelt Kululi, Koulali, and Koulalee) hospitals were smaller and opened after the two others came in to use.

details of 187 voyages in which the sick and wounded were evacuated from the Crimea to Turkey.

It was reports in newspapers published during the autumn and winter of 1854-55 that alerted the British public to the serious health problems in the Army. Correspondents, such as W.H. Russell and E.L. Godkin of *The Times* and *Daily News* respectively, were permitted to reside within the allied camps and their uncensored reports resulted in the public at large becoming aware not only of the problems of mismanagement but also of 'the privations and sufferings, the courage and stubborn endurance displayed by the private soldier.'[54] They also provided a considerable amount of unbiased and sometimes commonplace factual information on daily life in the camps and elsewhere.[55]

The government mindful of mounting disquiet among the British public engendered by the newspaper reports sent three commissions of enquiry to investigate matters on the spot, viz, the Hospital, Supplies, and Sanitary Commissions.[56] After the resignatation of Aberdeen's administration the House of Commons convened a Select Committee chaired by Mr J. Roebuck, MP, to ascertain what had been going wrong, and who was to blame.[57] The reports of these initiatives provide an incomparable source of information of what transpired during the critical months after the invasion. For a more detailed discussion of these Blue Books see Chapter 11.

Two relatively recent texts that provide detailed and well balanced factual information on the medical problems encountered during the Crimean campaign were published by Lieutenant General Sir Neil Cantlie, RAMC, and John Shepherd, a retired surgeon, in 1973 and 1991 respectively.[58] A more recent publication by two surgeons, Thomas Scotland and Steven Heys, considered the evolution of military medicine and surgery during the 19th century and included chapters on the Crimean campaign and the medical reforms that that took place thereafter.[59] These topics are of relevance to this thesis but their reliance on secondary texts for much of the narrative, rather than

54 Troubetzkoy (2006), pp. 44-5.

55 The reports in *The Times* can be viewed on-line in *The Times* Digital Archive. Those in other newspapers can be accessed via the British Library 19th Century Newspapers website.

56 BPP (1854-55), No. 1920; BPP (1856), No. 422 & 2007; and BPP (1857) 2196.

57 BPP (1854-55), Nos 156, 218, 247, & 318. For details see Shepherd (1991), pp. 373-411.

58 Cantlie (1974) and Shepherd (1991).

59 Scotland and Heys (2013), pp. 204-76.

consulting primary sources, including the Blue Books, limits its value as a source of reference.

Cantlie considered the Crimean War in the context of developments which took place 'from the creation of the Standing Army in 1660 until the formation of the RAMC in 1898' and this includes an account of the medical and surgical aspects of the campaign set within the framework of the ongoing military operations. References were made to the *M&SH* and Smith's *PoL* as well as the reports of the Roebuck Committee, and the Hospitals, Sanitary and Royal Commissions, but not the Supplies Commission. Cantlie had access to the RAMC archive but there only two references to Hall's diary and none to his other papers, or to diaries and letters of other participants, except Dr Cattell. There are no references to medical journals or newspapers, the *London Gazette*, *Hansard*, or documents in TNA, NAM and other archives. There are eleven simple summary tables on medical matters and four on the number of available hospital beds, but otherwise there are no detailed analyses of the numerical data in the *M&SH* or elsewhere.

By comparison Shepherd's account is more comprehensive as it included two chapters on the Royal Navy, a topic beyond the scope of this thesis, three on Miss Nightingale and the Scutari hospitals, and one each on commissions and committees, civilian surgeons, and the Turkish contingent. He made extensive use of reports in the medical press and scientific journals, personnel letters and diaries, *The Times* and *ILN*; and the text includes extracts from these sources. He also quoted secondary sources of a general nature. Shepherd considered *M&SH* an 'indispensable text' and although he had access to the RAMC archives there are no references to the *PoL*, Hall's papers, or to documents in TNA and NAM.

It should be noted that Shepherd's account, like that of Cantlie, is essentially descriptive and there are only 27 simple summary tables based on data from the *M&SH*, and no graphs. In addition, neither author expounded on the reasons for the improvement in the health of the troops in the latter part of the campaign.

General accounts of the Crimean War, on the other hand, tend to concentrate on the causes and the conduct of the conflict; and several comprehensive books on the subject

having been published within the last 25 years.[60] Most, but not all, touched on medical matters but most references were made *en passant* as part of a general narrative and contain little or no detailed clinical or epidemiological information which might inform the analyses presented in later chapters (see Table 1.4).

There is but one biography each for Drs Smith and Hall;[61] while in contrast there is an extensive literature on Miss Nightingale, both her own writings and numerous biographies.[62] As a consequence some commentators have tended to overemphasize events in Scutari and to overlook what took place in the Crimea where the main Army was located; and, as will be demonstrated, where the causes of the serious health problems experienced during the first winter were largely overcome. While Nightingale soon became immersed in dealing with the consequences of what was occurring at the front her terms of engagement did not extend to the Crimea, and hence reports of her achievements in the Barrack Hospital are inevitably of limited relevance to the objectives of this thesis. Similarly, several of the accounts listed in Table 1.4 mention the Scutari hospitals in varying amounts of detail but give little or no information about the medical arrangements in the Crimea.

Nightingale became seriously ill when in the Crimea during May 1855 and any influence that she might have exerted was never realized. She paid two further visits to the Crimea after the fall of Sevastopol but by this time the health of the Army was much improved; and the troops were routinely cared for in the camps where no female nurses were employed. As a consequence there would have been little justification for the authorities to introduce any changes in management practices that she might have suggested, or to invest in infrastructural improvements, particularly after the signing of the Peace Treaty in March 1856 when it became the priority to evacuate the Crimea as soon as possible.

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60 For example: Hibbert (1961), Curtiss (1979), Lalumia (1984), Conache (1987), Sweetman (1993), Goldfrank (1994), Royle (1999), Keller (2001), Fletcher & Ishchenko (2004), Ponting (2004), Troubetzkoy (2006), Rappaport (2007), Small (2007), Badem (2010), Figes (2010), and Lambert (2011) with Kent (2016) providing an account of the complex history of the Crimea from the classical times to the present day.

61 Kirby (1965) and Mitra (1911), plus two essays on Hall by Major General Barnsley, RAMC, viz. Barnsley (1963 & 1966).

62 For example, Cook (1913), Woodham-Smith (1950), Goldie (1997), Small (1999, 2013), Gill (2004), Bostridge (2008), and McDonald (2010a, b).

While it would have been desirable to have included a comparative element in this thesis there is no equivalent body of literature on the French, Turkish, Sardinian and Russian armies, thus making it impossible to make any detailed comparisons, though some general comments on the French experience are included in Chapter 6. The French authorities never published official casualty figures; suffice it to state that Bodart's summary suggests that despite initial praise for the French medical services it would appear that overall the French Army fared worse than the British during the campaign (Table 1.5), and particularly during the final months.[63] The number of Russians who died was probably over 450,000 but 'the records are so poor it is impossible to analyse the causes of death;'[64] and although Nikolai Pirogov is renowned as a surgeon who employed triage to manage massed casualties it was not a new concept having been introduced in the 1790s by D.J. Larry, Surgeon-in-Chief to Napolean's Imperial Guard.[65] An account of Pirogov's career has been published,[66] while other summaries of his achievements are in general terms;[67] and none can be validated numerically for comparative purposes.

Visual arts

Up until the Napoleonic wars it was oil paintings, tapestries, and murals that 'espoused Georgian England' by depicting heroic military exploits 'as the ultimate stage for the highborn',[68] but in general these works of art would only have been available to upper class families, and their visitors and households. However, by the time the Crimean War commenced it was possible to reproduce images such as lithographs and woodcuts relatively easily and cheaply, and in large numbers. This resulted in 'picture journalism' in the 'illustrated press' which provided a more realistic presentation of the campaign, than hitherto; and featured principally the 'rank and file as the principal actors' rather

63 Royle (1999), p. 441.

64 Ponting (2004), p. 334.

65 Robertson-Steel (2006). Incidentally, no reference to the term triage has been found in contemporary British documents, though it is likely the surgeons would have automatically categorized their patients in a similar manner, given it was a matter of common sense so to do.

66 Hendricks et al. (2016).

67 For example, Curtiss (1979), Porudominsky (1995), Royle (1999), Fletcher & Ishchenko (2004), and Figes (2010).

68 Lalumia, (1984), p. 150.

than the 'aristocratic martial caste;' a topic considered *in extenso* by Lalumia[69] and Keller,[70] while other authors have published invaluable illustrated catalogues of Crimean War artefacts of different artistic genre.[71]

Prints and lithographs: The published images were based on sketches provided by both professional artists and talented amateurs, including military officers,[72] and were published in journals such as the *Illustrated London News*[73] and *Illustrated Times*, or as collections in albums, and thus reached a wide audience, particularly among the increasingly influential and vociferous middle class.[74]

From the point of view of the objectives of this thesis the depictions of the battles are not particularly informative as they did not include the activities of the surgeons during the action. On the other hand, those illustrating the burying of the dead and the various ways by which invalids were conveyed from the camps to the ports do provide an indication of the conditions near the front (Figures 1.5A-C and 1.6A-F).[75] On the other hand, the appearance of the Crimea during the first winter portrayed by Simpson when conditions proved so difficult for the Army tend to understate the situation as his scenes would not have been dissimilar to those experienced during a hard winter in the British Isles (Figure 1.7A-C).

Similarly the portrayal of the military hospitals failed to support the harrowing accounts of the conditions reported in private letters and by the press. An issue on which Keller opined:

> Remarkably, in the contemporary arts spectrum from press illustration to academic painting […] save for an indifferent view of a ward at Scutari and a somewhat mythologizing image

69 Lalumia (1984).

70 Keller (2001).

71 For example, Massie (2003), Koç (2006), and Hutchinson et al. (2009).

72 Several military officers were gifted artists and some of their watercolours are particularly graphic in nature; though the majority would have been for private consumption and would not have been available to the general public. For reproductions of the paintings by Colonel the Hon. G. Cadogan, Grenadier Guards, Major the Hon. H.H. Clifford, Rifle Brigade, and others see Calthorpe (1979), Kerr et al. (1997), and Massie (2003).

73 The *Illustrated London News* was sufficiently successful to have its own artists in the Crimea, such as Crowe and Guys. As a consequence: 'In 1855 *Punch* had quipped that the Crimean War was undertaken for the benefit of the *Illustrated London News*;' Keller (2001), pp. 77& 252. For details on the artists employed by the journal see pp. 71-106.

74 Incidentally, the circulation of newspapers would have been boosted during 1855 by the repeal of the 1712 Stamp Act.

75 For paintings of the evacuation of an officer on a stretcher and the French ambulance by Captain Wilkinson and Colonel Cadogan respectively see Massie (2003), pp. 295 & 277.

> devoted to the 'Lady with the Lamp' (Figure 1.8A), the great *Illustrated London News* showed no interest in how the sick and wounded were housed ─ and this was not for lack of evidence. The Crimea and Bosphorus were littered with hospitals which […] accommodated a large percentage of the British expedition forces.[76]

Keller suggested that this omission may have occurred because: 'At a certain threshold of horror, it seems, art stopped serving eyewitness functions, considering itself bound to contemporary standards of propriety;'[77] and although scenes, 'some fictitious', were circulated as lithographs, they were bereft of anything likely to cause revulsion and tended to emphasize the beneficial involvement of female nurses in the wards (Figures 1.8A-D).[78] This is in contrast to the disarray found in a Russian hospital in Sevastopol after the evacuation of the city (Figure 1.8E),[79] though even this image fell well short of reality given that AS Wrench reported to home that: 'The scenes in the hospitals were awful, quite too disgusting to narrate […] some of the dead are supposed to have been so for a few day if not weeks. Many of our men fainted who were employed removing them;'[80] while Airey noted in his diary on 12 September that he had visited the barracks: 'whence they were bringing out the dead, which were lying in some of the large rooms […] the effluvia from the bodies was dreadful and the appearance of some of the bodies defies description.'[81]

Photography: Roger Fenton, who was sent to the Crimea by Thomas Agnew and Sons, 'consistently *avoided* all controversial subjects from hospital to trench conditions' which meant that none proved specifically relevant to the topics covered in this thesis; except perhaps the 'studio style', and hence contrived photograph of a cantinière treating a wounded zouave (Figure 1.9). Fenton also failed to 'document the numerous improvements which, according to all accounts, including his own letters, had began to make themselves felt by March 1855,' and thus, when all things are considered, he 'missed the very war that had drawn him to the Crimea,' principally because he 'had [seemingly] come to photograph heroes

76 Keller (2001), p. 106.

77 Keller (2001), p. 107.

78 For analysis of these images see Keller (2001), pp. 109-12.

79 For the original in colour see Massie (2003), p.315/

80 Wrench to his sister Sara, 14 Sept. 1855; Nottingham University: Wr C/152/2 (Copy of original).

81 HRO: BY/53/2.

[principally officers] not places.'[82] In addition it was also necessary for the images to be 'commercially appealing' and not 'embarrass the sitting ministry' while Agnew would regard 'photographs of the battle dead unmarketable.'[83]

The other principal photographers were James Roberson and his collaborator Felice Beato who generally 'eschewed individual and group portraiture for subjects that better revealed the destructive forces of war' and the 'unaltered reality of the siege' and hence 'achieved the most faithful version of the Crimean War with the camera,'[84] though the images were not taken until evidence of the carnage had been removed.

The impact of images captured by Fenton, Robertson, and others would have been limited because the large scale reproduction of the photographs was not then possible. Only a relatively small number of copies would have been available, therefore, for exhibition and purchase, 'unless [they were] translated into line engraving' for mass distribution though this would inevitably result in the image being 'robbed of its specific character;'[85] as exemplified by the images of Sergeant Thomas Dawson, Grenadier Guards, an amputee who received the Crimea medal from the Queen on 16 May 1855.[86] The photograph taken at Chatham by J.J.E. Mayall[87] is particularly striking while the subsequent augmentation to include his wife and the medal resulted in a distinctly less impressive engraving that was published in the *Illustrated Times* on 9 June 1855 (Figure 1.10A & B).

There is no doubt that the general public's engagement in the Crimean War was influenced by the considerable amount of uncensored information published in the press; and in some instances these accounts were enhanced by including illustrations based on paintings and sketches sent back home by people on the spot. However, there was clearly a limit on how far the publishers were prepared to go in terms of realism and this unofficial censorship clearly limits the value of the majority of the images entering the public domain as historical documents,

82 See Keller (2001), pp. 123-50.

83 Lalumia (1984), p. 118. For examples of Fenton's *oeuvre* see Baldwin et al. (2004) and Jones (2012).

84 Lalumia (1984), pp. 123-4. For a selection of photographs taken in the Crimea and in and around Constantinople see respectively Jones (2013) and Öztuncay (2013).

85 Keller (2001), p. 171.

86 *The Times*, 17 May 1855.

87 Royal Collection Trust, RCIN 2500126.

although they did go some way to indicating how things were in the camps and trenches before Sevastopol, especially when dealing with scenes of a more peaceable or non-military nature.

Misleading statistics

The science of statistics was in its infancy during the mid-19th Century and some of the methods of data-handling appear unusual by today's standards. Nevertheless, the debate that followed the publication of the 3rd edition of Nightingale's '*Notes on Hospitals*' during 1863 illustrated some of the muddled thinking current at the time. The topic was re-evaluated in a paper entitled '*100 apples divided by 15 red herrings: a cautionary tale from mid-19th century on comparing hospital mortality rates.*'[88] It is not intended to enter into this debate in detail, but the two examples of misrepresentation described below illustrate the importance of analyzing data from first principles, as has been done in this thesis, and not to accept what has been previously published, and from which it may be possible to draw the wrong conclusions.

Colonel Tulloch's denominator: It is nonsensical to calculate the average weight of a growing child by adding the weights on each birthday and dividing the sum by the age in years. It is inappropriate, therefore, to adopt a similar approach for estimating the numbers at risk in the Army as this is influenced by gains from reinforcements and returning convalescents and losses from enemy action, disease, and redeployment. It is for this reason that the method adopted by Tulloch is questioned, viz. the summing the number of deaths during 'n' months and dividing the total by the average monthly strength during that period. His data are summarized in Table 1.6[89] with the overall mortality rate estimated at 39%. However, Tulloch's approach produces an exaggerated approximation as the denominator is bound to be less than the total number at risk. This is illustrated clearly when the whole campaign is considered (Table 1.7). Tulloch's denominator of 37,324 men was far too low given that the number sent to the East was *c.*2½-times greater at *c.*94,000.[90]

88 Iezzoni (1996).

89 Tulloch (1857), p. 152.

90 Returns provided by the AG on 29 Apr. 1856, and summarized in Sayer (1857), p. 415

Nightingale's mortality rates: Death is a once in a lifetime experience and so quoting a mortality rate in excess of 100% is illogical. Yet, Nightingale did so; as illustrated in Table 1.8. The cause of this distortion is the scaling up the rate to per cent per annum. She justified this by suggesting that giving a percentage figure 'is simply misleading to the authorities, unless indeed, which is hardly likely, they are thoroughly *au fait* at statistical inquiries' because the 'standard comparison all over the civilized word would be in percentages *per annum*.'[91] This approach may be useful for persuading policy makers to introduce change but it was not necessary because the valid statistic presented in the third column makes the point equally forcibly.

Health of the British Army during the Eastern campaign, 1854-1856

A number of important factors which influenced the disease status of the British Army cannot be quantified. For example, the inherent instability of the population of the various armies and the numerous civilians who came to the peninsular either on government business, such as merchant seamen, or unofficially in search of employment or the opportunity to trade, would certainly have favoured the dissemination of infectious pathogens and hence made matters more difficult for the medical services.

This section summarizes some of the salient features of the health of the Army during the campaign based on data in General Returns A and B in the second volume of the *M&SH* by way of introduction to the detailed analyses presented in later chapters. The results are presented in Figures 1.11-1.12 and the following conclusions can be drawn:

Primary admissions to regimental hospitals for disease: Admissions for disease peaked in the summers of 1854 and 1855 and the winter of 1854-55 and then declined to low levels after the fall of Sevastopol until the end of the campaign (Figure 1.11).

Primary admissions to regimental hospitals for wounds or injuries: Admissions reflected the times of greatest military activity, viz. September to November 1854 and the spring 1855 until the fall of Sevastopol (Figure 1.5).

91 BPP (1857-58), No. 2318, p. 367.

Deaths from disease at all locations: Most of deaths from disease occurred between July 1854 and August 1855 with the worst months being December 1854 to April 1855 (Figure 1.12).

Deaths from wounds or injuries at all locations: Deaths from wounds or injuries were far fewer than from disease and mirrored admissions for these reasons (Figure 1.12).

Deaths from disease: Non-cholera deaths exceeded 4:100 during December 1855 and March 1855 while in the spring and summer of 1855 the rate was in the region of 1:200 before it fell to even lower levels after the fall of Sevastopol (Figure 1.13). The graph also demonstrates the timing of the two epidemics of cholera in 1854 and 1855.

The presentation of summary statistics for the cavalry, infantry and ordnance allows general conclusions to be drawn about the health of the troop but these provide no indication of differences between divisions, brigades, or regiments which may have experienced very different conditions of service.

This issue will become apparent in the description of several diseases in later chapters but the topic is introduced here by comparing the reported incidence of eye disease in the 47 infantry regiments remaining in the Crimea in May 1856 when the epidemic was at it worst (Figure 1.14). The admissions for eye disease were <15‰ for three quarters (35) of the regiments, while the seven with a rate of >20‰ were in different brigades, and between them accounted for nearly half of the 417 cases hospitalized during the month, thereby illustrating that differences between the different corps is an expected occurrence.

The assessment of a hospital's performance is a vexatious topic and it emerged as an issue following the publication of reviews of Nightingale's '*Notes on Hospitals*'[92] in the *MT&G*[93] and *The Lancet*.[94] These notices, together with letters from others, criticized Dr William Farr's[95] method of judging a hospital on mortality rates alone, as this ignored the case load, number of doctors employed and their experience, nature of the cases admitted, ratio of medical to surgical cases, and age and gender of patients.

92 Nightingale (1863).

93 *MT&G*, Jan. 1864, pp. 129-30, with further correspondence on pp. 186-9, 211, 242-3, & 491-2.

94 *The Lancet*, 27 Feb. 1864, pp. 248-50, with further correspondence on pp. 338-9, 365-6, 420-2, & 451-2.

95 Farr was an epidemiologist and statistician employed in the General Register Office.

An overall conclusion to be drawn from these discussions is the need to compare like with like; and in the context of the Eastern campaign this is only possible for general hospitals in operation at the same time, as illustrated in Table 1.9.

Format of the thesis

The thesis reports a detailed assessment of the medical history of the British Army while in Bulgaria and the Crimea and how the Sanitary Disaster of the winter of 1854/55 evolved into a Sanitary Success. The achievement of this objective necessitated the investigation of several topics that have not been considered in depth by other commentators, and which involved where appropriate the evaluation of how circumstances changed on a monthly basis, particularly with respect to disease.

In contrast to civilian populations, which tend to remain relatively stable, the Army's composition changed continually with the arrival of new regiments and other units, changes in deployment for strategic reasons, and the turn-over of personnel due to losses from enemy action and disease and the arrival of new drafts and the return of convalescents.

A summary of the general development of the Army forms the basis of Chapter 2 while recruitment is considered separately in Chapter 3 as the quality of recruits evoked complaints from both the military and medical authorities. Taken together these chapters provide a backdrop to the task faced by the AMD in providing medical care for the troops, and how it expanded to meet this challenge during the campaign is described in numerical terms in Chapter 4.

The War with Russia was the first major European conflict that took place during a cholera pandemic and the devastation it caused is considered in Chapter 5, together with the morbidity and mortality associated with diarrhoea and dysentery. The epidemiological features of other important diseases are the described in Chapter 6, and when considered together these analyses provide strong circumstantial evidence that it was primarily poor conditions in the field in the Crimea, rather than the unsatisfactory state of the base hospitals in Scutari, that was responsible for the Sanitary Disaster.

The analysis of battlefield injuries in Chapter 7 includes an evaluation of an important return prepared by the AG's department not previously analyzed, and preserved in Hall's papers.

A salient feature of the Crimean campaign was the urgent necessity to evacuate sick and wounded troops to Turkey by sea during the six months after the invasion. A summary of the problems associated with the transportation of patients from the camps to Balaklava and an analysis of voyages by which the men were evacuated is considered in Chapter 8.

It emerged early in the campaign that provision was required for patients who could rejoin their unit within a reasonable time (convalescents) and those rendered ineffective and who required repatriation to England, and possible discharge from the Army (invalids). This presented a complex logistical challenge and the way it was resolved is discussed in Chapter 9.

The Sanitary Disaster was associated principally with a collapse of the supply of the Army with the necessities of life following the hurricane of November 1854 and how this tragedy unfolded and was rectified is covered in Chapter 10. News of this tragic turn of events prompted the government to despatch three Commissions to the East (the so-called Hospital, Supplies, and Sanitary Commissions) to assess conditions on the spot, and, following the resignation of Lord Aberdeen's coalition administration a Select Committee of the House of Commons, under the chairmanship of J.A. Roebuck was convened. The proceedings of these initiatives were published and their impact, if any, on the course of the war is assessed in Chapter 11.

A notable post-war development was the convening of the Royal Commission to enquire into the sanitary state of the British Army. In the event the Commissioners concentrated more on future developments than on the past, and its legacy is considered in Chapter 12 in the context of how experience in some of the future conflicts resonated with what occurred in the Crimea; while the final pages comprise a retrospective discussion on the whole project.

Terminology: In the interests of consistency and accuracy the following terms will be used in this thesis, except when quoting the words of others.

War with Russia: Turkey declared war on Russia on 5 October 1853 following the Russian occupation of the Danubian principalities of Moldavia and Wallachia. Hostilities ceased officially on 27 April 1856 with the ratification of the Treaty of Paris signed on 30 March 1856. The allied armies finally left the Crimea on 12 July 1856.

The Eastern campaign: The period the British and French armies spent in Turkey, Bulgaria, and the Crimea: April 1854 to July 1856.

The Crimean campaign: The active campaign for the British and French Armies commenced following the invasion of the Crimea on 14 September 1854, and ended on 12 July 1856.

The Allies: The British and French governments officially became allied with the Ottoman Empire when they declared war on Russia on 28 March 1854; the Sardinians joined the alliance on 26 January 1855.

Army of the East: The official title for the army under the command of Lord Raglan and his successors.

Spelling: There has been much debate about the spelling of place names; should it be Sevastopol or Sebastopol; Chernaya, Tchernaya or Chernaia; Woronzoff, Verontsov or Woronsoff? In general the names of countries and regions are spelt according to conventional English usage, i.e. Crimea and these will be used except in quotations when the original spelling will be used. Elsewhere it is intended to follow contemporary practices for 'Romanizing' the Russian place names, e.g. Sevastopol.[96]

The '*New Oxford Dictionary for Writers and Editors'* has been consulted for other aspects of spelling and the use of abbreviations.[97]

Analysis of numerical data: The published medical statistical data can be analysed effectively to explain what occurred during the campaign in general terms, though they should never be considered as completely reliable for the following reasons:

There were no accurate definitions for the individual afflictions comprising important groups of diseases, for example, the causes of fever and gastrointestinal diseases.

The returns were frequently prepared under difficult conditions, and it is probable they are not complete.

96 See Robins (1995 & 2003).

97 Ritter (2005).

Inevitably there would have been bias due to the personal preferences or beliefs of the MOs, especially as the conflicting views of Miasmatists and Contagionists had yet to be resolved.[98]

There was no provision for recording more than one illness, and hence the most dramatic may have been chosen, for example, diarrhoea or dysentery. Similarly the reason for admission may not have caused death, particularly if it co-existed with a potentially a more life-threatening illness.

The records provide no information on the numbers treated as outpatients because the illness was too slight or there were insufficient hospital capacity during times of crisis,[99] while virtually no individual case records have been preserved.

These crucial constraints taken together militate against the employment of established statistical techniques such as analysis of variance, regression or multivariate analysis. A simpler, and what proved an effective approach, was to use Minitab[100] to collate and organize the data in order to provide summary tables and the totals needed to prepare simple plots and bar charts using Cricket Graph.[101] Trends in incidence in some graphs were calculated using the Resistant Smooth command in Minitab; the algorithm being based on a calculation termed 'running medians' a consequence of which is the elimination of extreme values.[102]

98 See Miles (2009), pp. 112-3.

99 *M&SH*, II, p. 79.

100 *Minitab Statistical Software*, release 8.2; Minitab Inc., 3081 Enterprise Drive, State College, PA 16081-3008, USA.

101 *Cricket Graph*, release 1.2.2; Cricket Software, 40 Valley Stream Parkway, Malvern, PA 19355, USA.

102 Selvin (2004), pp. 22-7.

Tables 1.1-1.9

Table 1.1: Summary of three amphibious invasions with limited objectives involving British forces, 1808, 1854, and 1915

Topic	Walcheren	Crimean campaign	Gallipoli
Dates	July-December 1809	September 1854-July 1856, with the fall of Sevastopol on 8 September 1855	March 1915-January 1916
Invasion	Limited opposition	Unopposed	Opposed
Principal strategic objective	Destruction of Flushing's port facilities: *Achieved*	Destruction of Sevastopol's port facilities and prevention of Russian control of the Bosphorus: *Achieve*d	Control of the Bosphorus and access of the Black Sea: *Failed*
Principal forces	Army with essential naval support	Army with essential naval support	Army with essential naval support
Principal belligerents	British v. French and Dutch	British, French, Turks, and Sardinians v. Russians	British, Empire forces, and French v. Turks
Lines of communication	Short	Long	Long
Military actions	Occupation and siege	Pitched battles and trench warfare	Principally trench warfare
Naval losses	Minimal	Minimal	Considerable
Disease problems	Serious epidemic of malarial fever that remained unresolved by the time of the evacuation	Serious epidemics of cholera and enteric disease that were resolved during the campaign	Serious losses particularly from enteric disease and PUOs; problems that remained largely unresolved by the time of the evacuation
Casualties	No large scale evacuation of casualties	Many casualties evacuated by sea to base hospitals	Many casualties evacuated by sea to base hospitals
Supplies	Some supplies obtained locally, except munitions	All supplies brought by sea	All supplies brought by sea
Evacuation	Unopposed	Unopposed	Largely unopposed

Table 1.2: Losses sustained in conflicts in the 19th and early 20th centuries

War	Date	Average casualty loss (%)
Turkish-Russian War	1828-9	14
Polish-Russian War	1830-1	14
Sardinian-Austrian War	1848, 1849	4
Hungarian insurrection	1848,1849	4
Crimean War	1853-6	12
Italian War	1859	9.5
American Civil War	1861-5	14
War of 1866	1866	8
Franco-German War	1870-1	7.5
Turkish-Russian War	1877-8	13.5
Boer War	1899-1901	5
Russo-Japanese War	1904-5	14

[Bodart (1916), p. 16]

Table 1.3: Principal reasons for primary admissions into the hospitals of the Army of the East and also the deaths which occurred in the regimental and general hospitals and hospital ships with the exception of those killed in action, April 1854-June 1856

Diagnostic category*	Number of conditions	Admissions to hospitals	Proportion (%) of all admissions	Number of deaths	Proportion (%) of all deaths	Ratio (%) of deaths to admissions (c5/c3)*100
I Fever	4	31204	19	3446	19	11
II Eruptive fever	4	29	-	6	-	20.5
III Respiratory disease	9	12382	7.5	644	3.5	5
IV Cardiovascular disease	6	266	-	41	-	15.5
V Diseases of liver and spleen	4	1138	0.5	40	-	3.5
VI Gastrointestinal disease	13	55765	34	5950	33	10.5
VII Nervous disease	7	736	0.5	160	1	21.5
VIII Cholera	1	7574	4.5	4512	25	59.5
IX Rheumatic disease	5	5131	3	233	1.5	4.5
X Boils and ulcers	4	12542	7.5	37	-	-
XI Venereal disease	7	3717	2.5	4	-	-
XII Urogenital disease	9	270	-	6	-	2
XIII Wounds and injuries	8	18283	11	1761	10	9.5
XIV Punishment (*Punitis*)	1	1733	1	0	-	-
XV Frostbite	2	2398	1.5	463	2.5	19.5
XVI Scurvy	1	2096	1.5	178	1	8.5
X VII Eye disease	1	3307	2	0	-	-
XVIII Skin disease	1	749	-	1	-	-
XIX Other diseases	34	3353	2	576	3	17
Totals	121	162673	100	18058	100	11

[Summarized from the *M&SH*, II, General Return A]

* Listed in the order in the Return.

Table 1.4: Index entries to topics of relevance to medical and supply matters in selected accounts of the Crimean War

Topic*	Conache (1987)	Curtiss (1979)	Figes (2010)	Fletcher & Ishchenko (2004)	Goldfrank (1994)	Hibbert (1961)	Lambert (2011)
Army Medical Dept	-	-	-	-	-	●	-
Disease	-	●	-	-	-	-	-
Cholera	●	See disease	●	-	-	●	●
Scurvy	-	-	●	-	-	-	-
Wounded/sick/casualties	-	●	●	-	-	●	-
Ambulance	-	-	-	-	-	-	-
Hospital ships	●	-	-	-	-	-	-
Railway	●	-	●	-	-	-	●
Commissariat/supplies	-	●	●	-	-	●	-
Land Transport Corps	●	-	-	-	-	-	●
Hospital Commission	●	-	-	-	-	●	-
Supplies Commission	●	-	-	-	-	●	-
Sanitary Commission	●	-	-	-	-	●	-
Roebuck Committee	●	-	-	-	-	●	-
Board of General Officers	●	-	-	-	-	●	
Royal Commission	-	-	-	-	-	-	-
Pages	229	568	493	537	304	300	347

Topic*	Ponting (2004)	Rappaport (2007)	Royle (1999)	Small (2007)	Sweetman (1993)	Troubetzkoy (2006)
Army Medical Dept	●	●	●	-	-	-
Disease	-	-	See cholera	-	-	-
Cholera	●	●	●	●	-	●
Scurvy	-	-		-	-	-
Wounded/sick/casualties	-	-	-	-	-	●
Ambulance	●	-	●	-	-	-
Hospital ships	-	-	●	-	-	-
Railway	●	-	●	●	-	-
Commissariat/supplies	-	●	●	●	●	-
Land Transport Corps	●	●	●	-	●	-
Hospital Commission	-	-	●	-	●	-
Supplies Commission	●	-	●	●	●	-
Sanitary Commission	●	-	●	●	●	-
Roebuck Committee	-	-	-	●	-	-
Board of General Officers	-	-	-	-	-	-
Royal Commission	-	●	-	-	-	-
Pages	341	240	523	196	348	323

* In the case of the Commissions some of the index entries were to one or more of the Commissioners involved, rather than the Commission itself.

Table 1.5: Losses sustained by the British and French armies during the Crimean campaign

Nationality	Effective strength put into the field	Killed or died of wounds (%) = (c3/c2)*100	Died of disease (%) = (c4/c2)*100	Total fatalities (%) = (c5/c2)*100
British	98000	4602 (4.7)	17580 (17.9)	22182 (22.6)
French	310000	20240 (6.5)	75375 (24.3)	95615 (30.8)

[Bodart (1916), p. 141]

Table 1.6: Calculation of mortality rates according to Colonel Tulloch's method, October 1854-April 1855

Month	Mean strength of infantry*	Total deaths	Cumulative mean monthly strength (from c2)	Cumulative deaths (from c3)	Tulloch's method (c5/c4)*100
October	19430	338	19430	338	1.7
November	22360	848	20895	1186	5.7
December	25003	1453	22264	2369	11.9
January	26073	2462	23216	5101	22.0
February	25780	2146	23729	7247	30.5
March	24414	1239	23843	8486	35.6
April	23333	529	23770†	9015	37.9
General total	23770†	9015‡	Not relevant		

[Tulloch (1857), p. 152]

* These figure are presumably the monthly totals of infantrymen in each month, and from this Tulloch calculated the average strength for the seven months

† The average strength calculated on the basis that the campaign had finished during the month in question, i.e. the sum of the strength for 'n' months in column 2 divided by 'n'.

‡ In his analysis Tulloch deducted 608 deaths from wounds and injuries and added 841 (10%) to allow for deaths that were not reported. This gave a total of 9,248 deaths and a mortality rate of 39%, i.e. (9,248/23775)*100.

Table 1.7: Mortality rate for the whole campaign calculated using Colonel Tulloch's method, April 1854-June 1856

Comparable data to Table 1.5				Comparable calculations to Table 1.5		
Year	Month	Estimated monthly strength*	No. of deaths†	Cumulative average monthly strength‡	Cumulative deaths	Tulloch's mortality rate (c6/c5)*100
1854	Apr.	8265	3	8265	3	<0.1
	May	21789	21	15027	24	0.2
	June	25122	17	18392	41	0.2
	July	28722	379	20975	420	2.0
	Aug.	30226	852	22825	1272	5.6
	Sep.	30329	858	24076	2130	8.8
	Oct.	30607	624	25009	2754	11.0
	Nov.	29791	937	25606	3691	14.4
	Dec.	32799	1847	26406	5538	21.0
1855	Jan.	32469	3076	27012	8614	31.9
	Feb.	31027	2478	27377	11092	40.5
	Mar.	30082	1377	27602	12469	45.2
	Apr.	31328	531	27889	13000	46.6
	May	35063	543	28401	13543	47.7
	June	39226	830	29123	14373	49.4
	July	42919	414	29985	14787	49.3
	Aug.	44414	507	30834	15294	49.6
	Sep.	48243	208	31801	15502	48.8
	Oct.	48812	145	32696	15647	47.9
	Nov.	49942	206	33559	15853	47.2
	Dec.	50089	116	34346	15969	46.5
1856	Jan.	50881	87	35098	16056	45.8
	Feb.	50319	39	35759	16095	45.0
	Mar.	55000	49	36561	16144	44.2
	Apr.	54452	37	37277	16181	43.4
	May	47472	24	37669	16205	43.0
	June	25935	6	37234	16211	43.5
General total		37234	16211	Not relevant		

* Calculated from the *M&SH*, II, p. 43, column 2 and 6.

† Transcribed from the *M&SH*, II, pp. 43 and 44, column 2, respectively, being the sum of those numbers recorded for the cavalry, ordnance (RA and RS&M), and foot guards and infantry.

‡ The average strength calculated on the basis that the campaign had finished during the month in question, i.e. the sum of the strength for 'n' months in column 3 divided by 'n'.

Table 1.8: Mortality in the hospitals in England, Scutari, and Kuleli

Location	Mortality	
	Rate per cent per annum of sick population	Per cent. of cases treated
Eleven London General Hospitals	82	7.6
Fever Hospital	110.5	11.3
Military and Naval Hospitals in London	39	2.4
Scutari and Kuleli General Hospitals during 4 months*	203	19.8
During 4 weeks	319	32.1
During 4 week	415	42.7
Kuleli during 4 week	608	52
Scutari and Kuleli, summer 1855	34	2.2

[Adapted from Nightingale (1859), p. 6]

* The dates are not stated but the context indicates that these losses occurred during the first winter.

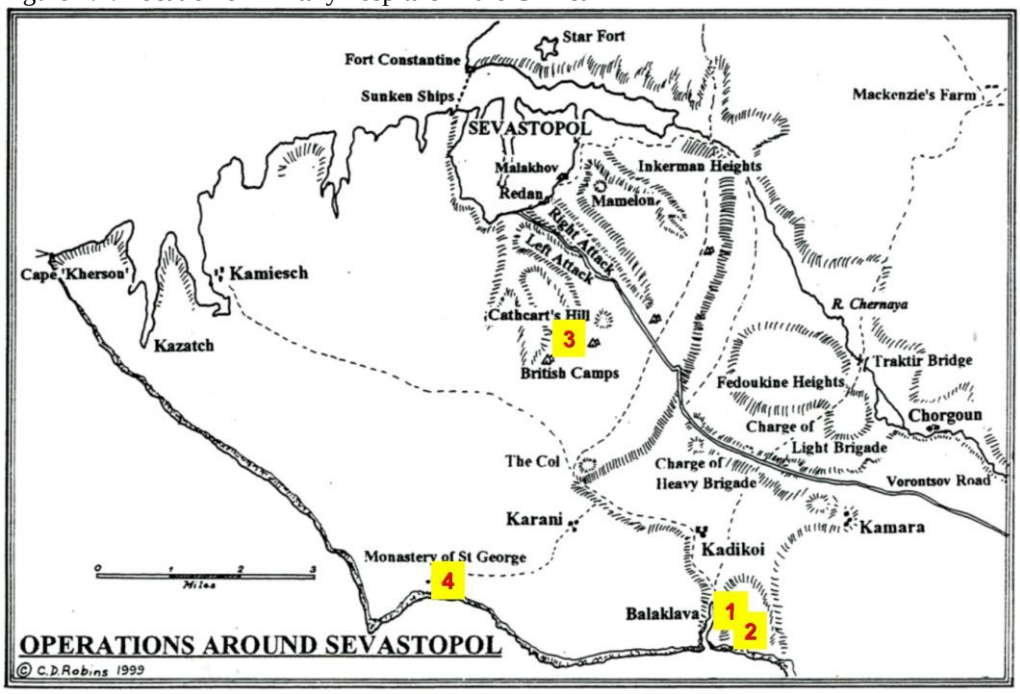
Table 1.9: The months during which the hospitals of the Army of the East were in operation, April 1854-June 1856

Hospital*	1854			1854-55						1855-56		
	A-M	J-S	O-N	D-J	F	M	A-M	J-S	O-N	D-A	M	J
Regimental hospitals	●	●	●	●	●	●	●	●	●	●	●	●
Scutari		●	●	●	●	●	●	●	●	●	●	●
Varna		●	●	●								
Balaklava General			●	●	●	●	●	●	●	●	●	●
Abydos				●	●	●	●	●				
Smyrna					●	●	●	●	●			
Castle General						●	●	●	●	●	●	●
Camp General							●	●	●	●		
Monastery								●	●	●	●	
Renkioi									●	●	●	●
Number operational	1	3	4	5	5	6	7	8	8	7	6	5

[Details of the hospitals of the cavalry and infantry regiments are included in the *M&SH*, I, while the tables for the general hospitals, designated 1-IX, are in the appendix in the *M&SH*, II.]

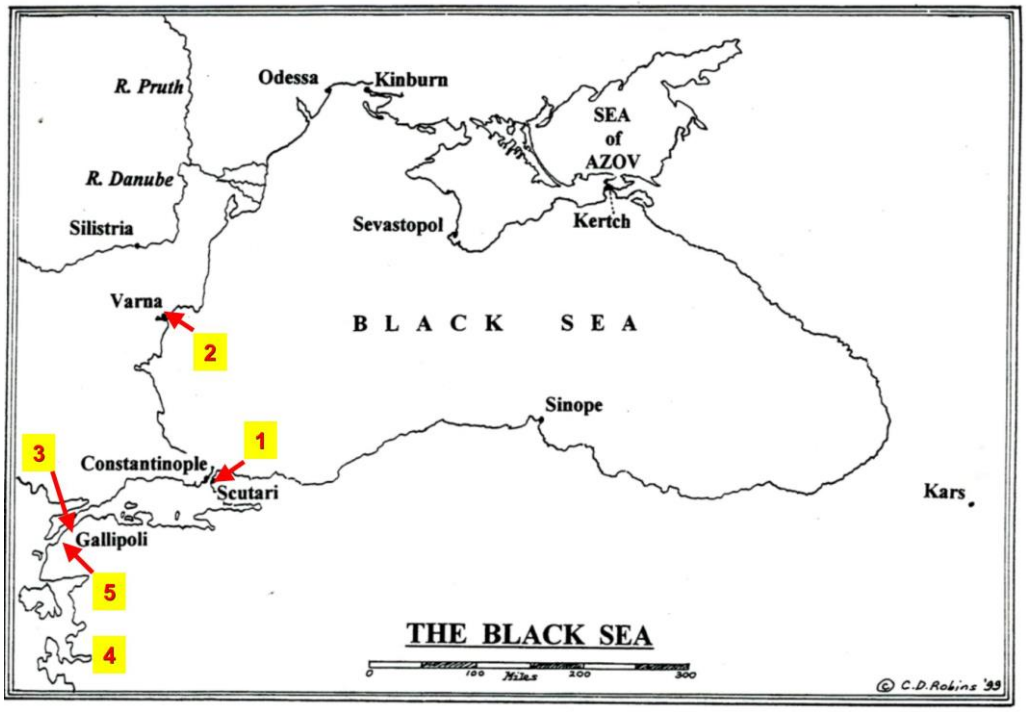
Figures 1.1-1.14

Figure 1.1: Location of military hospitals in the Crimea



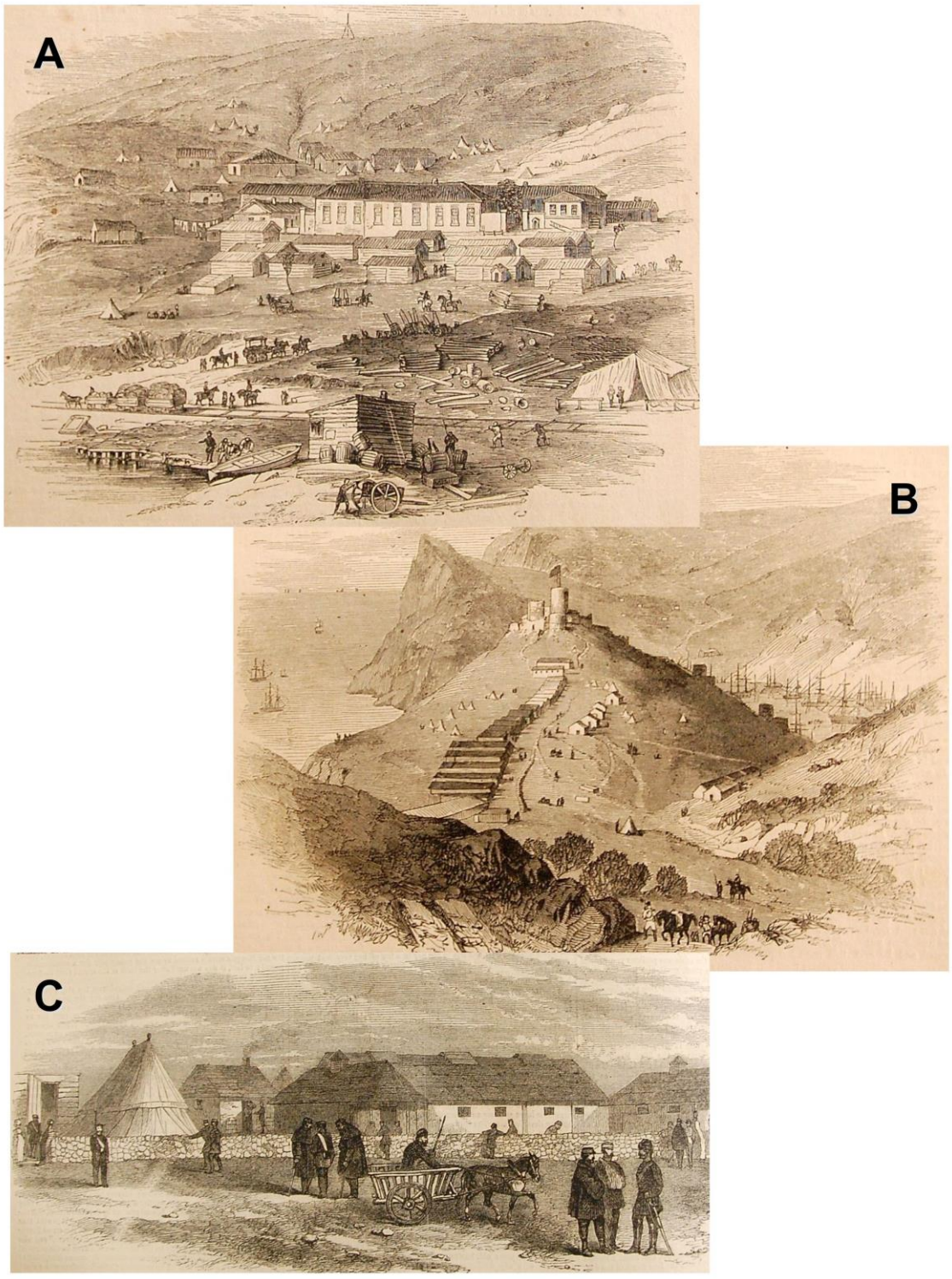
1, Balaklava General Hospital; 2, Castle Hospital;
3, Camp General Hospital; 4, Monastery Hospital

Figure 1.2: Location of military hospitals in the Turkey and Bulgaria



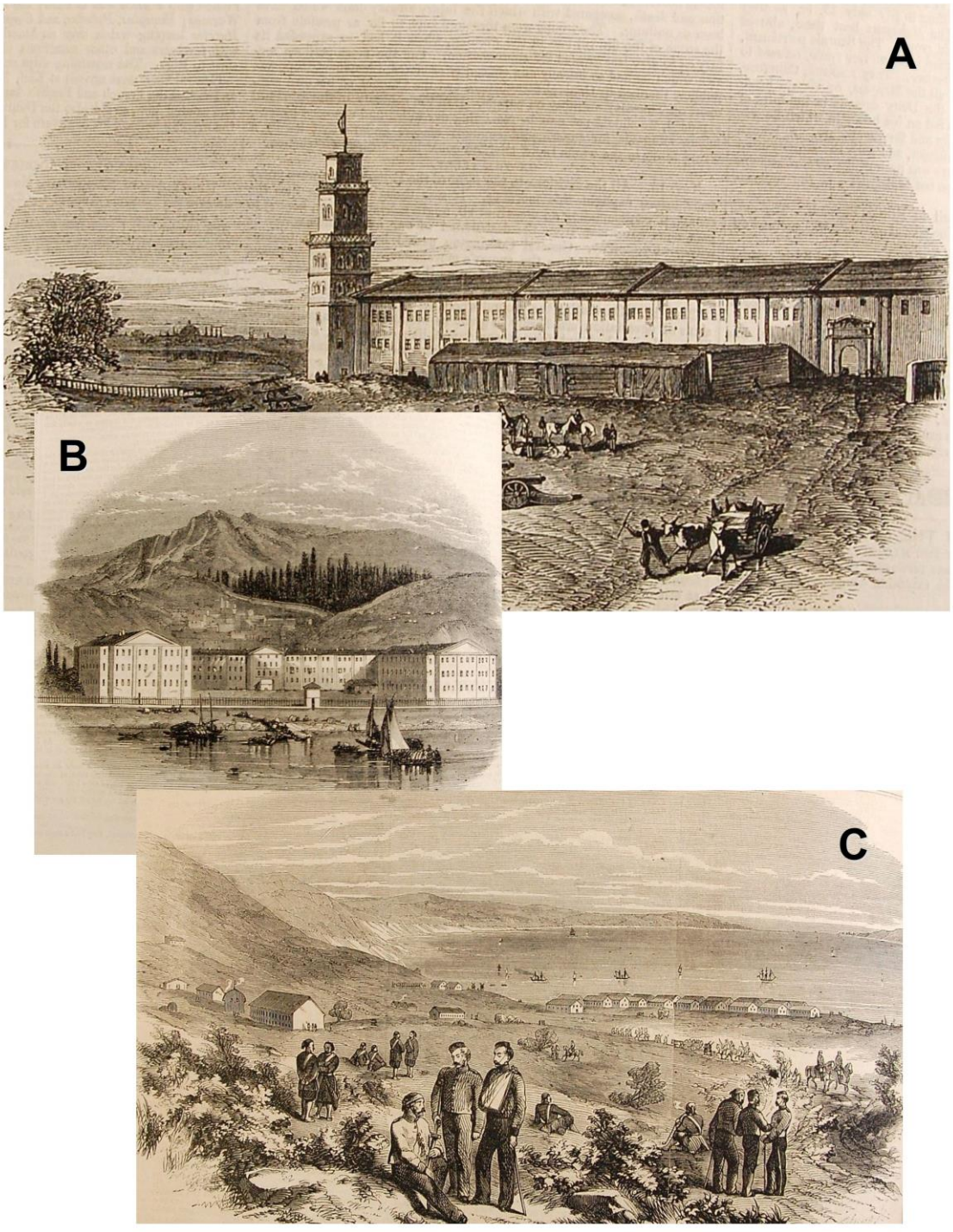
1, Scutari; 2, Varna; 3, Abydos; 4, Smyrna; 5, Renkioi

Figure 1.3: Military hospitals in the Crimea



A: General Hospital, Balaklava; *Illustrated Times*, 11 August 1855.
B: Castle Hospital, Balaklava; *Illustrated Times*, 11 August 1855.
C: Light Division Hospital; *Illustrated Times*, 12 July 1856.

Figure 1.4: Military hospitals in Turkey



A: Barrack Hospital, Scutari; *Illustrated Times*, 8 December 1855.
B: General Hospital, Smyrna; *Illustrated Times*, 24 November 1855.
C: Prefabricated hospital, Renkioi; *Illustrated Times*, 1 December 1855.

Figure 1.5: Burying the dead







A. The Siege of Sebastopol – Burial of the dead in front of the Malakoff Tower after Captain H.J. Wilkinson, 9th Regiment; *Illustrated London News*, 21 April 1855.
B. Interior of the Malakoff with the remains of the Round Tower. Lithograph after William Simpson.
C. Graves at the head of the harbour of Balaklava, 1854. Lithograph after W. Simpson.

Figure 1.6: Conveyance of invalids

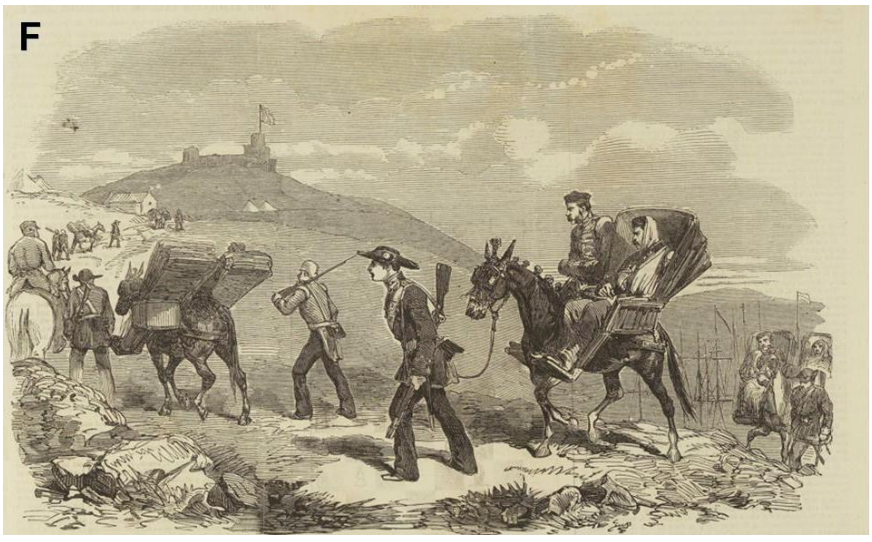


A: Siege of Sebastopol ─ Dr Smith's hospital; *Illustrated London News*, 3 November 1854.
B: French ambulance before Sebastopol; *Illustrated London News*, 16 December 1854.
C: Carrying the frost-bitten to Balaklava; *Illustrated London News*, 3 March 1855.

Figure 1.6: Continued







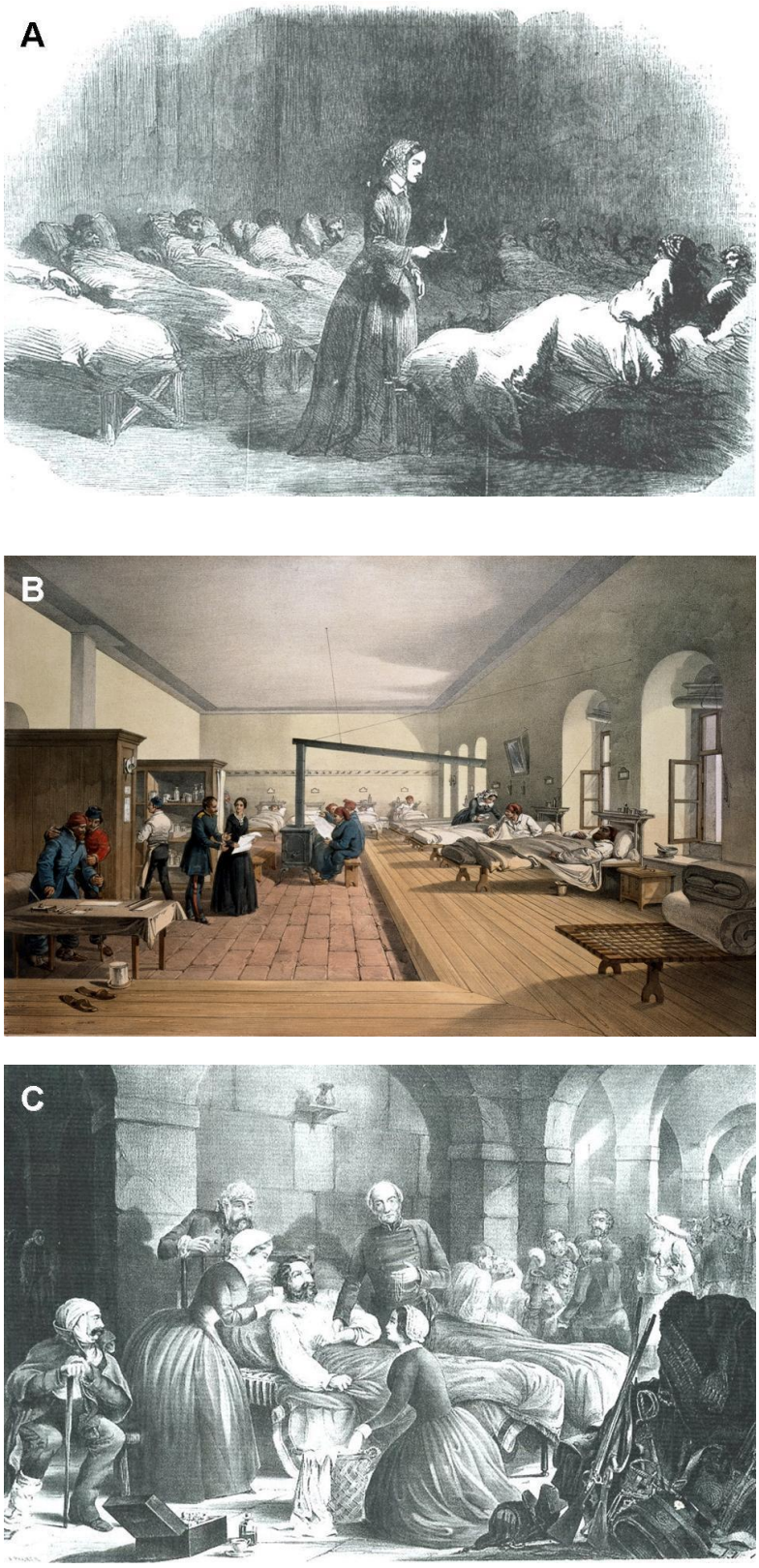
D: Turks conveying the sick to Balaklava after Constantine Guys; *Illustrated London News*, 17 March 1855.
E: Near Sebastopol ─ Ambulance waiting for wounded; *Illustrated London News*, 2 June 1855.
F: New Ambulance Transport Service; *Illustrated London News*, 4 August 1855.

Fig 1.7: Winter scenes in the Crimea, 1854-1855



A. Huts and clothing for the Army. Lithograph after W. Simpson
B. Sentinel of the Zouavas, before Sebastopol. Lithograph after W. Simpson
C. The Second Division camp. Looking East; Lithograph after W. Simpson

Figure 1.8: Wards in military hospitals



A. Miss Nightingale in the Hospital at Scutari; *Illustrated London News*, 24 February 1855.
B. Ward in the Hospital at Scutari. Lithograph after William Simpson
C. The Great Military Hospital at Scutari. Lithograph published by Stannard and Dixon, 24 February 1855.

Figure 1.8: Continued





D. Works of Mercy, Therapia Hospital. Lithograph by J.A. Vinner after H. Barraud and published by Ackerman, 19 February 1855.
E. Dr Durgan attending Russian soldiers in a hospital in Sevastopol after E.A. Goodall; *Illustrated London News*, 6 October 1855.

Figure 1.9: A cantinière tending a wounded Zouave by Roger Fenton

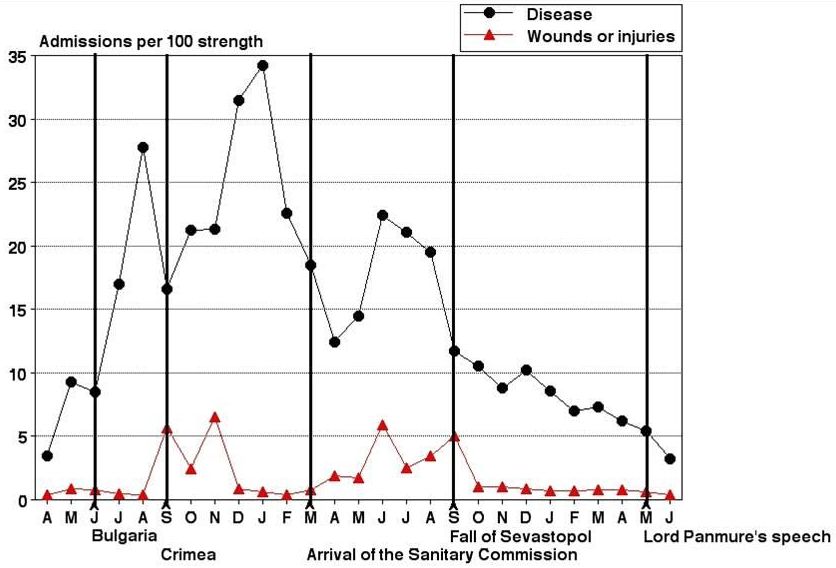


Figure 1.10: Sergeant Dawson with his family



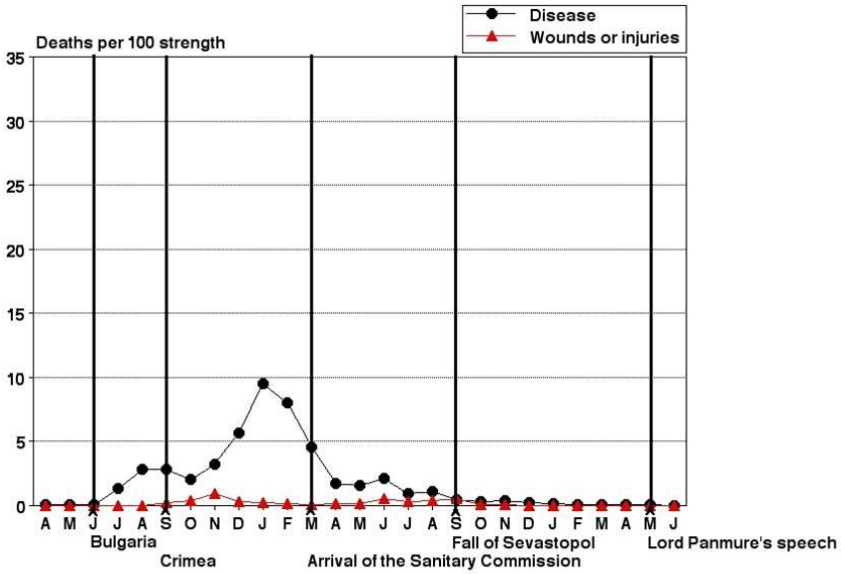
A: Sergeant Dawson and his daughter at Chatham by J.J.E. Mayall [Royal Collection Trust/© Her majesty Queen Elizabeth II, 2016]
B: A convalescent from Inkerman [*Illustrated Times*, 9 June 1855]

Figure 1.11: Primary admission of NCOs and men to hospitals in Turkey, Bulgaria and the Crimea, April 1854-June 1856



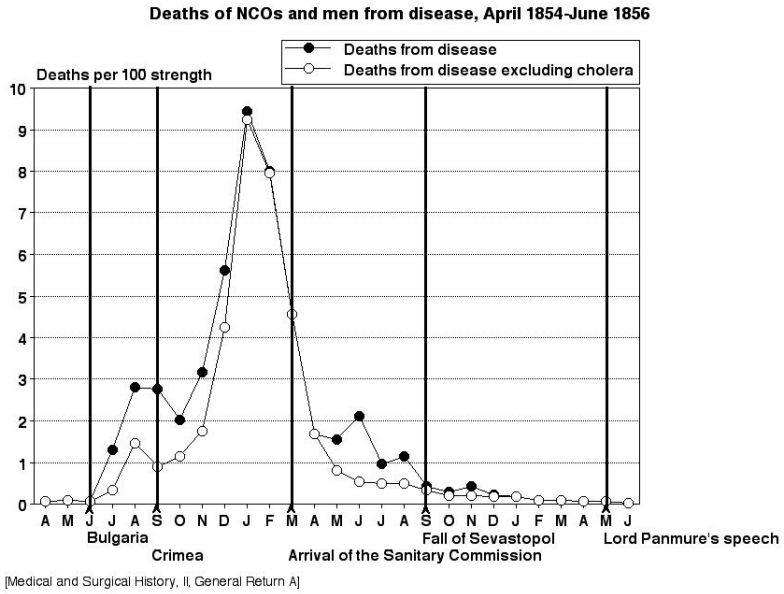
[Medical and Surgical History, II, General Return B]

Figure 1.12: Deaths of NCOs and men in regimental and general hospitals and on board ship, April 1854-June 1856



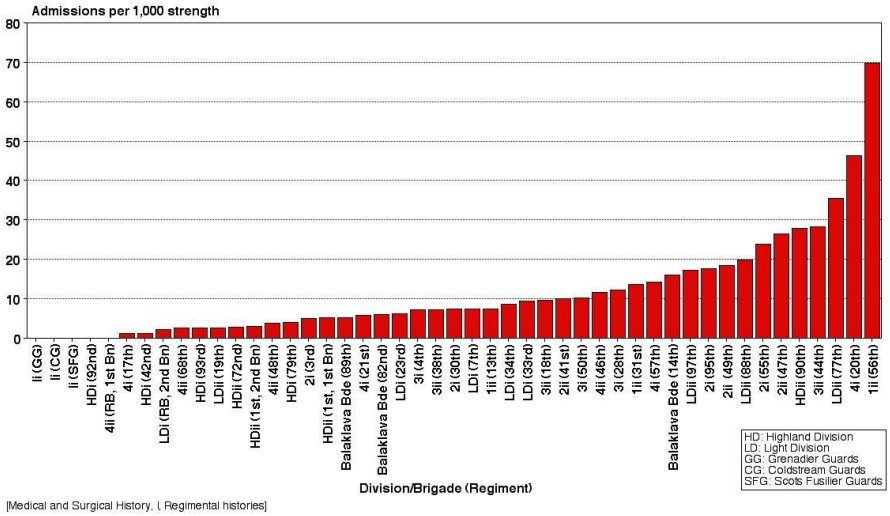
[Medical and Surgical History, II, General Return B]

Figure 1.13: Deaths from disease among NCOs and men in all locations, with and without cholera being included in the total, April 1854-June 1856



[Medical and Surgical History, II, General Return A]

Figure 1.14: Primary admission of NCOs and men in the infantry regiments with eye disease into the regimental hospitals, May 1856



[Medical and Surgical History, I, Regimental histories]

Chapter 2
Organization and strength of the British Army of the East

The complex structure of the Army illustrates the organizational challenges that the AMD faced in providing health care during the occupation of Bulgaria and the Crimea. In addition, there was a large population of civilians and camp followers within the allied lines for which the AMD was not directly responsible. Nevertheless, some of these had to be provided for, although not necessarily at the public expense, given Simpson's response to a letter from Hall dated 16 Aug. 1855: 'There is hardly any person in Balaklava, who does not receive some pay […] and I therefore recommend that no patient be treated free of expense, but be charged hospital stoppages.'[103]

When fully constituted, the Army comprised, inter alia, 14 cavalry and 52 infantry regiments[104] together with the RA, RE/RS&M,[105] AMD, which will be considered in Chapter 4, and Chaplains' Department. In addition, the Commissariat, a civilian department, initially under the control of the Treasury, but later the War Department, was responsible for supplying provisions, including food, clothing, and other necessities. During 1855 a LTC[106] and AWC were established with the aim of relieving military personnel from transporting stores and equipment, and assisting with civil engineering projects.

The contemporary documents consulted are identified in the footnotes. Other sources identified but not utilized include: summaries of the state of the Army of the East prepared each month by the AG and sent to Horse Guards;[107] returns provided for the Cabinet by Horse Guards on 9 February 1854 and 8 February and 31 July 1855;[108] seven returns of the morning state of the British Army between 1 October 1854 and 13

103 *PoL*, II, Appendix 7.

104 The 2nd battalions of the 1st Regiment and the Rifle Brigade were considered as separate regiments in the 'order of battle'.

105 The RE (officers) and RS&M (NCOs and men) were amalgamated during 1856 to form the Corps of Royal Engineers.

106 The LTC was the precursor of the Royal Corps of Transport.

107 WO/17/1730-1731. These detailed returns, which were not published, cover the period May 1854-July 1856, except Sep.-Nov. 1854, which are wanting.

108 WO/33/2B.

January 1855;[109] and details on the strengths and mortality in the cavalry, infantry, RA, and RS&M up to the fall of Sevastopol.[110]

Organization of the Army

Preparation for the Eastern campaign commenced early in 1854 when several cavalry and infantry regiments, together with elements of the RA and a small number of Engineers, were mobilised for service overseas. The first regiments embarked during February 1854 while the last regiment to arrive, the 92nd, landed after the fall of Sevastopol.

The time of arrival of the regiments between April 1854 and September 1855, together with their principal location during each month of the campaign, is summarized in Table 2.1 and illustrated in Figures 2.1-2.3. The 66 regiments were only together in the Crimea during September and October 1855 when 13 of the 14 cavalry regiments were withdrawn to Turkey for the winter.[111]

The infantry and cavalry regiments can be divided into four groups depending on the time spent on active service (Tables 2.2 and 2.3 respectively): Group 1 passively supported the Turkish Army in Bulgaria before the invasion; Group 2 spent two weeks or more in Turkey before continuing to the Crimea; Group 3 travelled directly to the Crimea and were present during all or part of the winter of 1854-55; and Group 4 arrived during May to September 1855.

Initially the Army comprised five infantry divisions (Light, 1st, 2nd, 3rd, and 4th)[112] and one cavalry division with a Heavy and Light Brigade. Raglan's successor, Simpson, reorganized the Army during August 1855 into seven divisions; the additional division being the Highland Division that incorporated the Highland Brigade as the 1st Brigade. The Cavalry Division was restructured into three brigades, a third 'Hussars' brigade being formed with the 8th, 10th, and 11th Hussars, and 17th Lancers while of the infantry divisions, the Guards Brigade and the 1st Division were augmented with a second brigade. The composition of several of the brigades remained essentially the same; for

109 Elphinstone (1859), pp. 156-7.

110 BPP (1857), Session I, No. 42. The report included four official returns dated between August and October 1856 which summarized the strength and mortality in various units in the cavalry, infantry, RA, and RS&M.

111 The Cavalry Division, excepting the 11th Hussars, left the Crimea by the 16 Dec. 1855; WO/28/143.

112 The 4th Division was not completed until after the landing in the Crimea.

example, the Guards Brigade, and both brigades in the Light Division and 2nd Division. On the other hand, the regiments in other brigades, particularly the 3rd and 4th Divisions, changed during the campaign. Table 2.4 provides a summary of the 'order of battle' of the British Army of the East on five occasions, viz. prior to the landing in the Crimea in September 1854, January 1855, August 1855 following Simpson's reorganization, January 1856, and April 1856 when the Treaty of Paris was signed.[113]

A further reorganisation to form two *corps d'armée* of three divisions each was planned for the spring of 1856 though this was not proceeded with, apart from the formation of an independent brigade based at Balaklava.

Strength of the Army

The ten cavalry regiments mobilised between April and July 1854 comprised between 313 and 319 individuals at embarkation, while the regiments arriving in the spring and summer of 1855 were larger at 698 and 557 (10th and 12th Dragoons from India) and 377 and 373 (1st and 6th Dragoon Guards from England).

In contrast, nearly all the infantry regiments embarked between February and July 1854 had 900-1,000 men while those arriving later were generally smaller: for example, between April and August 1855 all but two of the nine regiments numbered 500-850 (Figure 2.4).

The initial strength of the expeditionary force was *c*.26,000 with a ratio of officers to men of *c*.1:28 (Table 2.5).[114] The value of this information is limited, however, because the date of the return and the corps included were not given. Nevertheless, it gives an indication of the numbers of troops that Raglan might have had at his disposal when planning the invasion of the Crimea if many of the troops had not been rendered partially or totally ineffective as a consequence of disease.

The *M&SH* listed the number of men in the Army admitted to hospital between April 1854 and June 1856 and the ratio per cent to strength, and from this the number of personnel in the cavalry, infantry, and ordnance can be estimated (see Table 2.6 and

113 The organisation of the cavalry and infantry is based on McGuigan (2001), pp. 6-8, 32-5, 48-52, 64-8, & 72-6. McGuigan summarized the order of battle for the Alma, Balaklava, and Inkerman; the assaults on the Quarries (7 June 1855), Redan (18 June and 8 Sep. 1855); and the expeditions to Kertch (May/June 1855), and Kinburn (Oct./Nov. 1855).

114 Sayer (1857), p. 416. This figure is similar to the estimated strength at the battle of the Alma, viz. 22,000 infantry, 3,100 artillery, and 1,100 cavalry (p. 418).

Figures 2.5 and 2.6).[115, 116] The infantry arrived first and by the time the Army landed in the Crimea they comprised *c*.80% of the total strength. Thereafter the proportion fluctuated; though it was never less than *c*.70% and increased after the signing of the peace treaty as the majority of the cavalry regiments and RA were sent home (Table 2.6).

The *M&SH* recorded the strength of the 14 cavalry and 52 infantry regiments each month and these figures were used to prepare Table 2.7. The results obtained are similar to the estimates in Table 2.6 and any discrepancies will not influence conclusions on how the size of the Army changed with time (Table 2.7).

Using information provided by the AG's office on 29 April 1856 Sayer calculated that out of *c*.94,000 NCOs and men sent to the Crimea up until the signing of the peace treaty; *c*.80% were infantry, *c*.10% each RA and cavalry, and 2% RS&M (Table 2.8).

Changes in the size of the Army during the campaign

The size of the Army fluctuated as a result of losses due to combat and disease, the arrival of fresh drafts, and the return to duty of convalescents. A table published by Sayer was used to summarize the overall changes in numbers in the principal corps during the campaign (Table 2.9).[117] The decrease in the strength, as a proportion (%) of the total number of individuals that served in the guards, infantry, RA, cavalry, and RS&M (i.e. the sum of strength on embarkation and the number of reinforcements) varied considerably, being 49%, 39%, 34%, 27%, and 26% respectively.

Irrespective of the numbers of individuals recorded in the several returns the Army increased in the size during the summer of 1854. Numbers remained relatively stable during the winter of 1854-55 with the build-up recommencing during May 1855 and this continued until the fall of Sevastopol when the numbers stabilized once again. A final augmentation occurred early in 1856; presumably in anticipation of a possible campaign later during the year (see Figures 2.5 and 2.7).

115 *M&SH*, II, p. 43.

116 The Ordnance included the RA and RS&M.

117 Sayer (1857), endpaper. The regiments of cavalry, guards and infantry are listed together with the RA and RS&M. Comparable information of for the LTC, British German Legion and British Swiss Legion has not been considered as they were formed after the first winter (LTC) or after the fall of Sevastopol (German and Swiss Legions).

Number of officers and men in the cavalry and infantry

The numbers of officers and men in the cavalry and infantry regiments comprising each brigade of each division in August 1854, January 1855, August 1855, January 1856, and April 1856 are summarized in Table 2.4.[118] The totals for the officers and men are illustrated in a bar chart together with the comparable information from Sayer for 1 April 1856.[119] His estimated total, presumably based on different returns, was greater at >50,000 (Figure 2.8).

On 1 April 1855 the Army, exclusive of the German and Swiss Legions, numbered *c*.67,000. The proportional (%) strength of the principal corps being infantry including the Guards (67%), RA (11%), LTC (10.5%), cavalry (9.5%), and RS&M (2%).

Changes in the relative strength of cavalry and infantry regiments during the campaign

Sayer listed the strength of each regiment when it embarked for the East[120] while the returns in the *M&SH* furnished a figure for the monthly strength of each regiment. By using Sayer's embarkation figures as the denominator and the monthly strength of each regiment as the numerator the proportion (%) of the embarkation strength was calculated and the results obtained for the cavalry and infantry regiments.

A scatter plot reveals considerable differences between the regiments in the Cavalry Division for any month although there was a tendency for numbers to fall following their arrival in the East until the spring of 1855 when the numbers increased towards the end of the campaign, by which time most regiments were stronger than they were initially (Figure 2.9).[121]

The numbers of personnel in infantry regiments varied month by month and Figures 2.10-2.13 illustrate the fluctuations on the Guards and nine line regiments that remained in the same brigade during their service in the East.

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118 The composition of the brigades within division on five dates was adapted from McGuigan (2001), while the numbers of officers and men were collated from the regimental returns in the *M&SH*, I.

119 Sayer (1857), endpaper.

120 Sayer (1857), endpaper. There are inconsistencies between Sayer's embarkation figures and those recorded in other sources, e.g. the *M&SH*. No attempt has been made to reconcile these differences as they will have little bearing on the topics covered in this thesis.

121 The 1st Dragoons, 6th Dragoon Guards and 11th Hussars were below strength in June 1854 because only part of these corps had arrived by this time.

The Guards Brigade suffered particularly severely during the first winter. They were then reinforced from time to time thereafter so when the peace treaty was ratified the regiments were stronger than when they left England (Figures 2.10).

Overall the strength of regiments was reduced during the winter of 1854-55 with this increasing thereafter, though there were differences between them, even in the same brigade. In the event, three regiments (the 30th, 33rd, and 95th) were still <80% below strength when hostilities officially ended (Figures 2.11-2.13).

The topics of reinforcements and recruitment, together with the management of new arrivals, are considered in Chapter 3.

Other military units

The Royal Artillery comprised, inter alia, the field artillery, attached to the cavalry and infantry divisions, and the siege train, which, with the Royal Naval Brigade was responsible for bombarding Sevastopol.[122] The RA comprised rather more than a tenth of the Army on 1 April 1856 (Table 2.9) while the monthly strength between September 1854 and September 1855 is set out in Table 2.10 and expressed graphically in Figure 2.14. The numbers of personnel involved in siege activities increased from *c*.1,200 at the end of 1854 to nearly 3,000 when the allies occupied Sevastopol. In contrast, the strength of the Field Artillery remained reasonably constant at *c*.2,000 until the summer when it was reinforced to *c*.3,500 at the end of the siege, perhaps in anticipation of the possibility of an active campaign in the field during 1856. In September 1855 the Siege Train comprised 29 companies of RA while on 1 October 1855 and 1 April 1856 the corps was 7,540 and 7,123 strong according to Jocelyn and Sayer respectively.[123]

A small number of Royal Engineers and Royal Sappers and Miners were sent on a reconnaissance mission to Turkey and Bulgaria early in 1854 and several became involved unofficially with the hostilities involving the Turkish and Russian armies on the Danube. The Engineers played a vitally important part during the siege yet only comprised *c*.2% of the Army on 1 April 1856 (Table 2.9).

122 For details of the structure of the RA see Jocelyn (1911) and McGuigan (2001).

123 Jocelyn (1911), p. 452 and Sayer (1857), endpaper.

The Royal Naval Brigade served ashore from October 1854 until September 1855. The brigade averaged *c.*1,200 officers and men and the numbers of who were either killed in action or died of wounds, died of disease or were wounded were, respectively, 8, 3, and 30, and 116, 41, and 43.[124] The Royal Marine Brigade landed from the fleet on 29 September 1854 and re-embarked on 12 November 1855. The brigade was initially 1,216 strong and received reinforcements totalling 831. The numbers either killed in action or died of wounds, died of disease or were wounded were, respectively, 0, 0, and 4, and 10, 1, and 212. Three accidental deaths were also recorded.[125]

Mawson provided a description of the organization of the Chaplains' Department. Among 105 chaplains identified the denominations were: Church of England, 72; Roman Catholic, 23; Presbyterian, 9; and Non-Conformist, 1.[126]

The Commissariat Department, which will be considered in more detail in Chapter 10, was commanded initially by Commissary General William Filder. Despite its obvious importance to any war effort it was hopelessly ill equipped in terms of both manpower and resources, including wheeled transport and pack animals, to deal with the demands that were placed upon it in Bulgaria and during the first winter in the Crimea.[127] A summary of the numbers of officers and clerks employed during the campaign as given in Table 2.11.

The rank of commissary general was equivalent to a brigadier although, being a civilian, he was never considered on an equal footing with his military counterpart, the QMG, whose rank was initially that of brigadier until 12 December 1854 when Airey was promoted to major general.

The department was under the control of the Treasury until it was transferred to the War Office during December 1854 as this arrangement proved unsatisfactory.[128] The deficiencies of the Commissariat became a serious political issue during January 1855 when J.A. Roebuck, MP, moved in the House of Common that a Select Committee be appointed to 'inquire into the condition of our army before Sebastopol and into the

124 Colborne & Brine (1857), Appendix 17.

125 Colborne & Brine (1857), Appendix 18.

126 Mawson (2002).

127 See Sweetman (1973), pp. 44-7.

128 See Sweetman (1984) and a memorandum on the topic was prepared by the AG, Horse Guards, 25 July 1854; WO/123/157.

conduct of the those governmental departments whose duty it has been to minister to the wants of the army'. The motion was carried, and Lord Aberdeen's administration fell. The report of Select Committee was presented to Parliament by Sir Denis le Marchant on 18 June 1855; ironically, the same day as the first unsuccessful assault on the Redan (see Chapter 11).

Additional units in the Army

Several other units were formed during the campaign to augment the Army, of which the Land Transport Corps was the most important.

The problems of transport in Bulgaria and the Crimea, and the subsequent development the LTC, whose formation was authorized by a Royal Warrant dated 24 January 1855, has been reviewed by Sweetman.[129] Its functions were to distribute stores (equipment, ammunition, and building materials) and supplies (consumables such as food, fuel, and forage), though sourcing and issuing remained the responsibility of the Commissariat. The corps eventually numbered >6,000 men with *c*.24,000 horses, and in February 1856 it comprised 16 battalions; two with each division and the commissariat, and two for the reserve small arms ammunition.[130] Codrington was of the opinion that the corps should have been formed using 800 men from each division,[131] but in the event only the commissioned officers and NCOs were recruited from the Army with the majority of the men being 'not British' civilians with 'Asiatics' forming the great proportion. The ratio of officers to men was wider than in the Army as a whole, viz. 1:40-1:65 as compared to 1:25 (Tables 2.4 and 2.12). Sweetman concluded his essay with following succinct paragraph:

> The ineffectiveness of the commissariat's land transport service […] led to the development of the land transport corps. In turn found unsatisfactory, this new corps was in process of reconstruction as the war closed. Experience […] emphasized the need for a permanent land transport force […] under the command of the General Officer Commanding. In this respect the Crimean War was invaluable for the British army. The Duke of Newcastle maintained that if a land transport corps had been proposed at the commencement of the war [...] it would have been laughed at as an extravagance and absurd. At the close it was not.[132]

129 Sweetman (1973), and a commentary on the LTC by the AG, Horse Guards, 10 Jan. 1856; WO/123/157.

130 Codrington to Panmure, 18 Feb. 1856; WO/1/382/ff. 378-404.

131 Codrington to Panmure, 3 Dec. 1855; WO/1/380.

132 Memorandum on a Military Train by AG, Horse Guards, 15 Oct. 1856; WO/123/157.

The Turkish Contingent and Osmanli Irregular Cavalry, not to be confused with the Turkish Army commander by Omer Pasha, were in British pay and were concentrated sometime at Kertch. It comprised eight cavalry and 16 infantry regiments together with artillery,[133] while Osmanli Irregular Cavalry had seven regiments.[134] The absence of any worthwhile medical records precludes any further consideration of these units.

'Ad hoc' support services

Sweetman used the term 'ad hoc' in his review of the Mounted Staff Corps (MSC), the Civil Engineering Corps (CEC), and the Army Works Corps (AWC). He considered all were unsuccessful ill-conceived ministerial initiatives and 'that their collective experience supports the popular conclusion that Britain went into the Crimean War ill-prepared.'[135]

A memorandum prepared by the AG in London during July 1854 outlined the functions of the Provost Marshal, and recommended the employment of 'home police' to form a Mounted Staff Corps.[136] Volunteers from the Irish Police and Constabulary Force and the Metropolitan Police arrived in at Balaklava on 21 November 1854, after embarking horses at Gibraltar. The personnel suffered severely from disease and by mid-February their strength was reduced to 25 'effectives'.[137]

At the beginning of January 1855 Raglan proposed, on the basis of a report by Major Grant, that the MSC should be re-organized along the lines employed by Wellington and that the men should be recruited from cavalry regiments and not the civilian constabulary as these had proved inefficient.[138] The MSC, which was unpopular with the troops as the civilians were paid more, was disbanded in July 1855 and replaced by NCOs and men from several cavalry regiments who formed a Corps of

133 McGuigan (2001), pp. 78-79.

134 Stevenson (2015).

135 Sweetman (1988), pp. 135-40.

136 WO/123/157.

137 In a letter dated 22 Dec. 1854 the DJAG referred with a hint of sarcasm to the 'fine Corps of Mounted Police whose effective strength had been reduced from an initial 52 to 25.' Robins (2005), p. 54.

138 Raglan to Newcastle, 2 Jan. 1855; WO/1/370.

Mounted Police; the remaining MSC men were then employed as mounted guards under the control of the army post office.[139]

A Civil Engineering Corps was formed on the initiative of the civil engineering company Peto, Brassy & Betts in order to build the railway network to facilitate the supply of the British and Sardinian armies.[140] The navvies arrived in the Crimea during February 1855 and the railway commenced transporting supplies from the end of March. Between April and June 1855 the average number on the payroll was 530.[141] Most returned to England when construction was complete, leaving a few to operate the railway. Of the three 'ad hoc' corps it was the most successful, presumably because it had a well defined purpose under experienced civilian management, and its objectives were achieved without the need for integration into the management structure of the Army, although 'it did not [succeed] without the aid of military personnel.'[142]

Sir James Paxton[143] proposed the formation of an Army Works Corps with the aim of providing manpower for civil engineering projects, thus relieving the army personnel of these tasks. The corps, commanded by a civil engineer, William Doyne, was more formally organized than the railway navvies, although this was modified in the light of experience; a process uncompleted when the campaign ended.[144]

Personnel began to arrive in the Crimea during August 1855. Most were civilians not bound by the Mutiny Act thus making the maintenance of discipline difficult as they could not be tried by Courts Martial, except for 'heavy faults', and all that could be done was to impose a fine for their misdemeanours. The men were also paid more than the soldiers who worked along side them and this caused resentment.

Summary

The first troops embarked for the East during February 1854 and in all 14 cavalry and 52 infantry regiments were involved in the conflict, together with the RA and RS&M.

139 *The Times*, 6 Oct. & 14 Dec. 1854, and 1 Mar. & 11 Oct. 1855; McGuigan (2001), pp. 10, 36, & 69. There is no reference to the MSC in the *M&SH* or Sayer (1857).

140 Cooke (1997); Cooke was probably unaware of Sweetman (1988) as he did not refer to it.

141 Cooke (1997), p. 27.

142 Sweetman (1988).

143 Sir James Paxton is remembered for his work at Chatsworth for the 6th Duke of Devonshire.

144 The AWC, a forerunner of the Pioneer Corps, was disbanded in 1856.

The last infantry regiment arrived after the fall of Sevastopol with all regiments being present in the Crimea for about two months before 13 cavalry regiments were withdrawn to Turkey for the winter of 1855/56.

The initial six divisions of the Army were reorganised in August 1855 into seven each with two brigades, except the cavalry that had three. A further reorganisation to form two *corps d'armée* was planned after the fall of Sevastopol but this was not put into effect.

The infantry regiments sent to the East early in the campaign were between 900 and 1,000 strong; thereafter the new regiments usually numbered between 500 and 850. The cavalry regiments were smaller; the first ten to arrive numbered a little over 300.

The RA and the RS&M comprised a little over a tenth and about a fiftieth of the total force, respectively.

The Army increased in size during the summer of 1854; thereafter numbers remained relatively stable during the winter of 1854-55 indicating that losses from enemy action and the effects of disease were balanced by the arrival of reinforcements. The build-up recommenced in May 1855 and continued until the fall of Sevastopol when the numbers stabilized once again. A final augmentation occurred early in 1856, presumably in anticipation of a campaign that never materialized.

The strength of individual regiments varied considerably during the campaign. Despite differences between individual corps the trend was for numbers to fall following the invasion and during the first winter. Numbers increased during the spring and summer of 1855 although the complement of most infantry regiments never equalled that when they first landed. In contrast, most of the cavalry regiments were stronger in 1856 than when they first arrived in the East.

The monthly ratio of officers to men varied in the cavalry regiments from about 1:13 to 1:25. The ratio was more stable in the infantry regiments and was typically *c*.1:25. On the other hand, the ratio of officers to men in the LTC was wider at between 1:40 and 1:65.

The Army numbered *c*.26,000 at the beginning of the campaign while a return dated 1 April 1856 indicated that despite the losses, it had increased to *c*.67,000. The proportional strength of the principal corps at that time being: infantry including the guards (67%), RA (11%), LTC (10.5%), cavalry (9.5%), and RS&M (2%).

Three 'ad hoc' corps, the MSC, CEC, and AWC, were raised in response to the manpower crisis that became apparent soon after the invasion. The CEC which

constructed the railway was probably the most effective although in Sweetman's opinion all were 'ill-planned and largely unsuccessful', though the MSC and the LTC eventually evolved into permanent military organizations.

Tables 2.1-2.12

Table 2.1: Summary of the time of arrival in the East and the subsequent location of the 14 cavalry and 52 infantry regiments

Quarter commencing April 1854									Regiments listed in the order of their arrival
I	II	III	IV	V	VI	VII	VIII	IX	
Infantry regiments									
T/B	B/C	C	C	C	C	C	C	C	Grenadier Guards, Coldstream Guards, Scot Fusilier Guards, 1st bn 1st, 19th, 23rd, 28th, 30th, 33rd, 38th, 41st, 44th, 47th, 49th, 50th, 55th, 77th, 79th, 88th, 93rd, 95th, 2nd bn RB
T	B	C	C	C	C	C	C	C	7th
T	T/C	C	C	C	C	C	C	C	4th
B	B/C	C	C	C	C	C	C	C	42nd
-	T/C	C	C	C	C	C	C	C	20th, 68th, 1st bn RB
-	C	C	C	C	C	C	C	C	21st, 57th, 63rd
-	-	C	C	C	C	C	C	C	9th, 17th, 18th, 34th, 46th, 62nd, 89th, 90th, 97th
-	-	-	C	C	C	C	C	C	14th, 39th, 71st
-	-	-	-	C	C	C	C	C	2nd bn 1st, 3rd, 13th, 31st, 48th, 72nd
-	-	-	-	-	C	C	C	C	56th, 82nd, 92nd
Cavalry regiments									
T/B	B/C	C	C	C	C	C/T	T	T	17th L, 8th H
B	B	C	C	C	C	C/T	T	T/-	1st D, 5th DG, 11th H, 13th LD
-	T/C	C	C	C	C	C/T	T	T	2nd D
-	B/C	C	C	C	C	C/T	T	T	4th DG, 4th LD,
-	B	C	C	C	C	C	C	C	11th H,
-	-	-	-	C	C	C/T	T	T	6th DG, 10th H, 12th L,
-	-	-	-	-	C	C/T	T	T	1st DG

[Collated from the regimental returns in the *M&SH*, I]

Abbreviations: T, Turkey; B, Bulgaria; C, Crimea; bn, battalion; RB, Rifle Brigade; L, Lancers, H, Hussars, D, Dragoons, DG, Dragoon Guards

Table 2.2: Grouping of the 52 infantry regiments in the Army of the East according the time they spent on active service

Group	Number of regiments	Period of active service (months)*	Location where stationed	Regiment
1	24	23-27	Turkey, Bulgaria, and Crimea†	Grenadier Guards, Coldstream Guards, Scots Fusilier Guards, 1st bn 1st, 7th, 19th, 23rd, 28th, 30th 33rd, 38th, 41st, 42nd, 44th, 47th, 49th, 50th, 55th, 77th, 79th, 88th, 93rd, 95th, 2nd bn, Rifle Brigade
2	4	23-27	Turkey and Crimea	4th, 20th, 68th, 1st bn, Rifle Brigade
3	15	16-22	Crimea	9th, 14th 17th, 18th, 21st, 34th, 39th, 46th, 57th, 62nd, 63rd, 71st, 89th, 90th, 97th
4	9	10-14	Crimea	2nd bn, 1st, 3rd, 13th, 31st, 48th, 56th, 72nd, 82nd, 92nd

[Collated from the regimental returns in the *M&SH*, I]

Abbreviation: bn, battalion.

* The *M&SH* records that the 68th Regiment arrived in the Bosphorus on 14 August; it then joined the main Army on 3 September 1854. The 3rd and 97th Regiments spent six months in Greece prior to reinforcing the Army in the Crimea; the 71st regiment was stationed in Kertch for most of its time in the Crimea; while the 92nd Regiment arrived after the fall of Sevastopol.

† The 42nd Regiment went straight to Bulgaria.

Table 2.3: Grouping of the 14 cavalry regiments in the Army of the East according the time they spent on active service

Group	Number of regiments	Period of active service (months)*	Location where stationed	Regiment‡
1	9	22-25	Bulgaria, Crimea, Turkey†	4th DG, 5th DG, 1st D, 6th D, 4th LD, 8th H, 11th H, 13th LD, 17th L
2	1	23	Turkey, Crimea, Turkey	2nd D
3	2	13-15	Crimea, Turkey	10th H, 12th L
4	2	11-12	Crimea, Turkey	1st DG, 6th DG

[Collated from the regimental returns in the *M&SH*, I]

* This includes the time spent in Turkey when the cavalry regiments were withdrawn there for the winter of 1855/56.

† The 17th Lancers spent a short time in Turkey when on route to Bulgaria while the 11th Hussars remained in the Crimea until the end of the campaign.

‡ DG, Dragoon Guards; D, Dragoons; LD, Light Dragoons; H, Hussars; L, Lancers.

Table 2.4: Summary of the strength of the cavalry and infantry regiments in the Army of the East 1854-56

Division	Brigade		August 1854 Officers/Men	January 1855 Officers/Men	August 1855 Officers/Men	January 1856 Officers/Men	April 1856 Officers/Men
Cavalry	1st Brigade (Heavy)	*Brigade total*	68/1111	79/1066	111/1999	99/2344	99/2290
	2nd Brigade (Light)	*Brigade total*	106/1371	67/853	78/1430	64/1750	74/1704
	3rd Brigade (Hussars)	*Brigade total*	-	-	80/1508	75/2025	59/1517
	Division total		174/2482	146/1919	269/4937	238/6119	232/5511
Light	1st Brigade	*Brigade total*	120/3834	76/2992	93/2480	130/3355	170/3880
	2nd Brigade	*Brigade total*	81/2643	109/2804	99/2616	109/2602	132/3249
	Division total		201/6477	185/5796	192/5096	239/5957	302/7129
First	1st Brigade	*Brigade total*	99/3169	100/2379	98/2353	98/2837	121/3320
	2nd Brigade	*Brigade total*	-	-	141/3575	124/2766	128/3057
	Division total		99/3169	100/2379	239/5928	222/5603	249/6277
Second	1st Brigade	*Brigade total*	92/2545	74/2147	93/2433	104/2596	122/2943
	2nd Brigade	*Brigade total*	83/2603	63/1909	95/2416	110/2217	136/2849
	Division total		175/5148	137/4056	188/4849	214/4813	258/5792
Third	1st Brigade	*Brigade total*	87/2558	128/3567	140/3435	116/2902	106/2345
	2nd Brigade	*Brigade total*	55/1498	108/2297	110/2910	117/2832	105/2323
	Division total		142/4056	236/5864	250/6345	233/5734	211/4668
Fourth	1st Brigade	*Brigade total*	-	82/2466	131/2872	130/3343	169/3928
	2nd Brigade	*Brigade total*	-	88/1535	100/2307	117/2545	144/3153
	Division total		-	170/4001	231/5179	247/5888	313/7081
Balaklava Brigade*		*Brigade total*	-	-	-	54/1379	130/3244
Other Corps	Turkey and at sea		168/4889	-	-	-	-
	Kertch		-	-	26/890	30/870	33/870
	Total		168/4889	-	26/890	30/870	33/870
Grand total			1049/29002	1119/28191	1598/38111	1690/41835	1974/46471
Ratio of officers to men			1:27.5	1:25	1:24	1:25	1:23.5

[Collated from the regimental returns in the *M&SH*, I]

* This independent brigade, commanded by Brigadier Charles Warren was formed from the Highland Division during February 1856 and located near Balaklava. This represented the start of a further reorganization of the Army into two *corps d'armee* that was never completed.

Table 2.5: General total of troops originally embarked for the East under Lord Raglan

Officers	Serjeants	Buglers, trumpeters and drummers	Rank and File	Total
933 (3.5%)	1257 (5%)	432 (1.5%)	23473 (90%)	26095

[Adapted from Sayer (1875); p. 416. The title for the table is that used by Sayer.]

Table 2.6: Return showing the number, ratio per cent. to strength, of primary admissions for disease alone*, in the Army, and in several arms of the service†, together with a calculated estimate of the strength Army and its component parts

Year	Month	Admitted to hospital				Ratio per cent. of strength				Estimated strength‡			
		Army	Cav.	Ord.	Inf.	Army	Cav.	Ord.	Inf.	Army	Cav.	Ord.	Inf.
1854	Apr.	281	-	-	281	3.4	-	-	3.4	8265	-	-	8265
	May	1961	32	41	1888	9.0	10.7	16.6	8.9	21789	299	247	21213
	June	2060	65	90	1905	8.2	4.1	8.5	8.5	25122	1585	1059	22412
	July	4854	591	526	3737	16.9	28	31.4	15	28722	2111	1675	24913
	Aug.	8433	1318	771	6344	27.9	49.9	46.1	24.4	30226	2641	1672	26000
	Sep.	5156	641	373	4142	17	22	20.7	16.2	30329	2914	1802	25568
	Oct.	6550	936	618	4996	21.4	35.4	22.8	19.7	30607	2644	2711	25360
	Nov	6286	910	657	4719	21.1	35.7	22.5	19.4	29791	2549	2920	24325
	Dec.	10299	691	885	8723	31.4	28.6	25.4	32.4	32799	2416	3484	26923
1855	Jan.	11072	522	992	9558	34.1	22.9	31.1	35.4	32469	2279	3190	27000
	Feb.	6919	322	537	6060	22.3	17.2	17.3	23.3	31027	1872	3104	26008
	Mar.	5475	261	360	4854	18.2	13.9	8.8	20.1	30082	1878	4091	24149
	Apr.	3822	319	454	3049	12.2	13.7	10.7	12.3	31328	2328	4243	24789
	May	5049	598	627	3824	14.4	17.8	13.3	14.1	35062	3360	4714	27121
	June	8669	1021	1501	6147	22.1	30.6	26.2	20.3	39226	3337	5729	30281
	July	9013	1491	1397	6125	21	32.6	21.6	19.8	42919	4574	6468	30934
	Aug.	8483	1933	1174	5376	19.1	37.6	18.1	16.4	44414	5141	6486	32780
	Sep.	5548	1250	676	3622	11.5	21.2	9.5	10.3	48243	5896	7116	35165
	Oct.	4930	934	590	3406	10.1	16.5	8.9	9.3	48812	5661	6629	36624
	Nov	4295	663	534	3098	8.6	11	7.2	8.5	49942	6027	7147	36447
	Dec.	5059	888	812	3359	10.1	13.5	10.4	9.4	50089	6578	7808	35734
1856	Jan.	4274	632	718	2924	8.4	9.7	9	8.1	50881	6515	7978	36099
	Feb.	3472	523	610	2339	6.9	8	8.8	6.3	50319	6538	6932	37127
	Mar.	3960	598	511	2851	7.2	8.6	7.8	6.8	55000	6953	6551	41926
	Apr.	3376	456	441	2479	6.2	7.6	6	6	54452	6000	7350	41317
	May	2516	227	397	1892	5.3	5.1	7.2	5	47472	4551	5514	37840
	June	804	98	138	568	3.1	4.3	4.7	2.7	25935	2279	2936	21037
Total admissions		142616	17920	16430	108266								

Abbreviations: Cav., Cavalry; Ord., Ordnance; Inf., Foot Guards and infantry.

* The first eight columns are transcribed from the table in the *M&SH*, II, p. 42; admissions for wounds, mechanical injuries, and corporal punishment are not included.

† The wording used is the published rubric.

‡ The estimated numbers were calculated using the formula 100(Admissions/Ratio per cent of strength). Rounding errors contribute to the inconsistencies between the estimate in column 11 and the sum of columns 12, 13, and 14.

Table 2.7: Strength of the 52 infantry and 14 cavalry regiments, April 1854-June 1856

Year	Month	Infantry regiments			Cavalry regiments			Cavalry and Infantry combined		
		Officers	Men	Total	Officers	Men	Total	Officers	Men	Total
1854	Apr.	438	13519	13957	-	-	-	438	13519	13957
	May	714	21521	22235	21	297	318	735	21818	22553
	June	791	22049	22840	97	1382	1479	888	23431	24319
	July	795	23362	24157	151	2247	2398	946	25609	26555
	Aug.	857	26222	27079	192	2780	2972	1049	29002	30051
	Sept.	828	24245	25073	171	2588	2759	999	26833	27832
	Oct.	762	21876	22638	152	2352	2504	914	24228	25142
	Nov.	720	24148	24868	143	2302	2445	863	26450	27313
	Dec.	824	24840	25664	143	2059	2202	967	26899	27866
1855	Jan.	973	26272	27245	146	1919	2065	1119	28191	29310
	Feb.	988	26060	27048	146	1741	1887	1134	27801	28935
	Mar.	978	24725	25703	138	1732	1870	1116	26457	27573
	Apr.	1046	25491	26537	159	2165	2324	1205	27656	28861
	May	1179	28255	29434	211	3206	3417	1390	31461	32851
	June	1241	30227	31468	223	3612	3835	1464	33839	35303
	July	1188	31847	33035	231	4325	4556	1419	36172	37591
	Aug.	1329	33174	34503	269	4937	5206	1598	38111	39709
	Sep.	1496	35065	36561	263	5518	5781	1759	40583	42342
	Oct.	1494	35581	37075	274	5577	5851	1768	41158	42926
	Nov.	1506	36363	37869	251	5623	5874	1757	41986	43743
	Dec.	1465	35905	37370	239	6191	6430	1704	42096	43800
1856	Jan.	1452	35716	37168	238	6119	6357	1690	41835	43525
	Feb.	1528	36371	37899	241	6039	6280	1769	42410	44179
	Mar.	1724	40537	42261	255	6013	6268	1979	46550	48529
	Apr.	1742	40960	42702	232	5511	5743	1974	46471	48445
	May	1599	38012	39611	194	4134	4328	1793	42146	43939
	June	882	22192	23074	113	2201	2314	995	24393	25388

[These totals were obtained by aggregating the monthly strength of each regiment given in the returns contained in the *M&SH*, I]

Table 2.8: Return showing the total number of NCOs and men sent to the Crimea from the commencement of the war to the end of March 1856

Corps	NCOs and bandsmen	Farriers and rank and file	Total	Proportion (%) of total
Cavalry	479	7814	8293	9
Royal Artillery	443	10280	10723	11.5
Royal Sappers and Miners	81	1563	1644	2
Infantry	4001	69298	73299	78
Total	5004	88955	93959	

[Returns provided by the Adjutant General on 29 April 1856 and summarized in Sayer (1857), p. 415]

Table 2.9: Total strength of the cavalry, Royal Artillery, Royal Sapper and Miners, and the infantry when they embarked for active service in the East, and their subsequent increase or decrease, and strength on 1 April 1856

Corps	Strength on embarkation		Reinforcements		Decrease from all causes*		Strength on 1 April 1856†	
	Officers	Men‡	Officers	Men	Officer	Men	Officers	Men
Cavalry	287	4868	140	3425	183	2188	264	6089
Royal Artillery	120	3095	268	7628	168	3600	220	7123
Royal Sappers and Miners	3	403	92	1241	51	402	44	1242
Guards	95	2798	130	3706	125	3203	103	3363
Infantry of the line	1402	40841	1368	25954	1261	26057	1588	40524
Total	1907	52005	1998	41954	1788	35450	2219	58341

[Summarized from the endpaper in Sayer (1857), but excluding the LTC and the British German and Swiss Legions]

* This total includes those who died in the East, or were invalided, taken prisoner, and in the case of NCOs and men, deserted.

† Transcribed from Sayer's original table. No explanation was provided for the inconsistencies between the strengths listed in cols 8 and 9 and the totals obtained by calculation using either cols 2, 4, and 6, or 3, 5, and 7.

‡ Men including NCOs.

Table 2.10: Strength of the Royal Artillery, September 1854-September 1856

Year	Month	Monthly returns* for the:						Grand total
		Field Artillery, including the troops, batteries and ammunition reserves (all ranks)			Siege companies†			
		Effective	Sick‡	Total	Effective	Sick‡	Total	
1854	Sep.	1853	127	1980	940	76	1016	2996
	Oct.	1634	351	1985	953	147	1100	3085
	Nov.	1706	343	2049	962	219	1181	3230
	Dec.	1576	438	2104	839	343	1182	3286
1855	Jan.	1348	675	2023	1363	430	1793	3816
	Feb.	1293	603	1896	1198	482	1680	3576
	Mar.	1373	487	1860	1134	470	1604	3464
	Apr.	1416	405	1821	1882	437	2319	4140
	May	1829	318	2147	1727	496	2203	4350
	June	2715	323	3038	2025	380	2405	5443
	July	2986	634	3620	1924	295	2219	5839
	Aug.	2923	638	3561	2413	405	2818	6379
	Sep.	3158	527	3685	2394	496	2890	6575

* Adapted from Jocelyn (1911), p. 542. The original returns are in WO/17/2691.

† Includes detachments at Varna and Kertch.

‡ NCOs and men only.

Table 2.11: Number of officers and clerks who served with the Commissariat in the Crimea, 1854-56

Rank	Return*				Total
	I	III	IV	V	
Commissary General (CG)	-	1	-	2	3
Acting CG	-	1	-	-	1
Deputy CG	2	1	2	1	6
Acting Deputy CG	-	-	1	-	1
Assistant CG	1	3	6	11	21
Acting Assistant CG	3	-	2	5	10
Deputy Assistant CG	4	3	11	7	25
Acting Deputy Assistant CG	-	-	5	14	19
Clerk	-	2	16	6	24
Acting Clerk	-	-	2	2	4
Total	10	11	45	48	114

[BPP (1857), Session 1, No. 133]

* Return I: Officers who served throughout the whole campaign; Return III; Officers who were absent for an interval and returned; Return IV: Officers who arrived after the first landing and remained in the Crimea for the rest of the campaign; Return V: Officers who left the Crimea before the end of the campaign.

Table 2.12: Numbers of officers and men in the Land Transport Corps, May 1855-March 1956

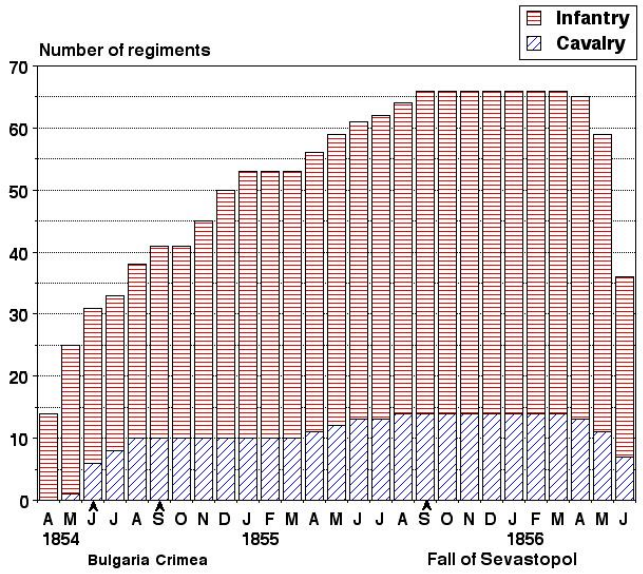
Year	Month	Number of personnel		
		Officers	Men	Officers:Men
1855	May	22	43 (*sic*)	1:20*
	June	28	505	1:18
	July	29	1029	1:37
	August	40	1851	1:46
	September	46	1883	1:41
	October	46	1899	1:41
	November	52	2793	1:54
	December	63	3231	1:51
1855	January	76	4835	1:64
	February	107	6122	1:57
	March	103	6566	1:64

[Summarized from the *M&SH*, I, p. 460]

* Assuming there was a typographical error and the strength was 430.

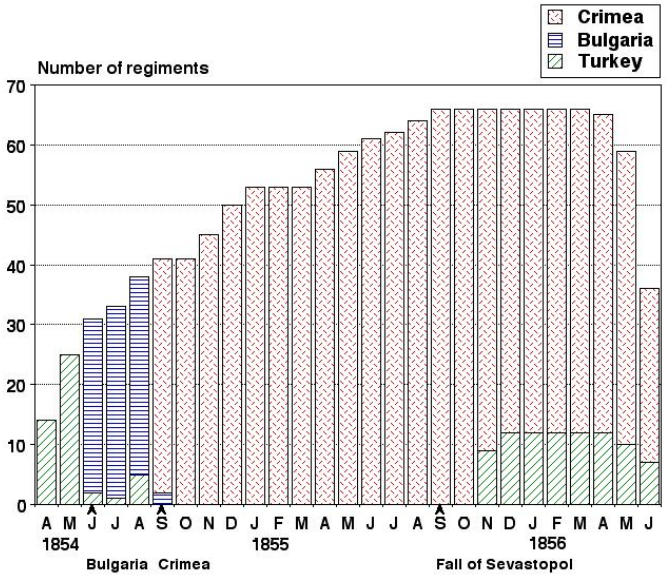
Figures 2.1-2.14

Figure 2.1: Number of cavalry and infantry regiments in the Army of the East, April 1854-June 1856



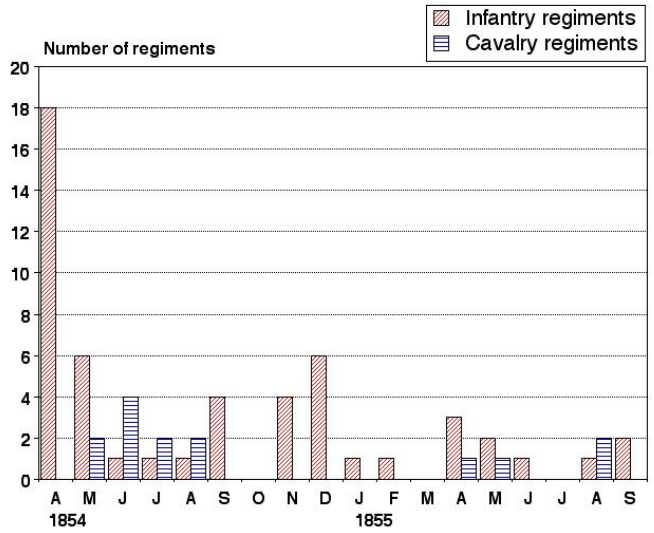
[Collated from the regimental returns in the Medical and Surgical History, 1]

Figure 2.2: Location of cavalry and infantry regiments during the Eastern campaign, April 1854-June 1856



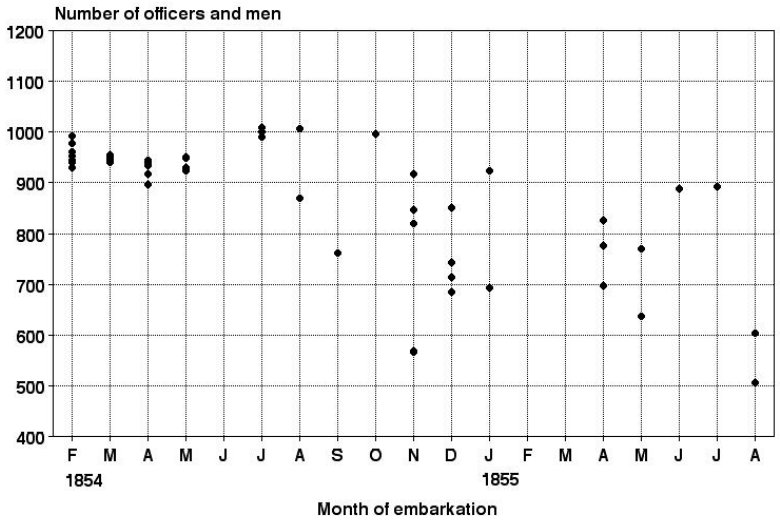
[Collated from the regimental returns in the Medical and Surgical History, 1]

Figure 2.3: Months when the 14 cavalry and 52 infantry regiments joined the Army of the East, April 1854-September 1855



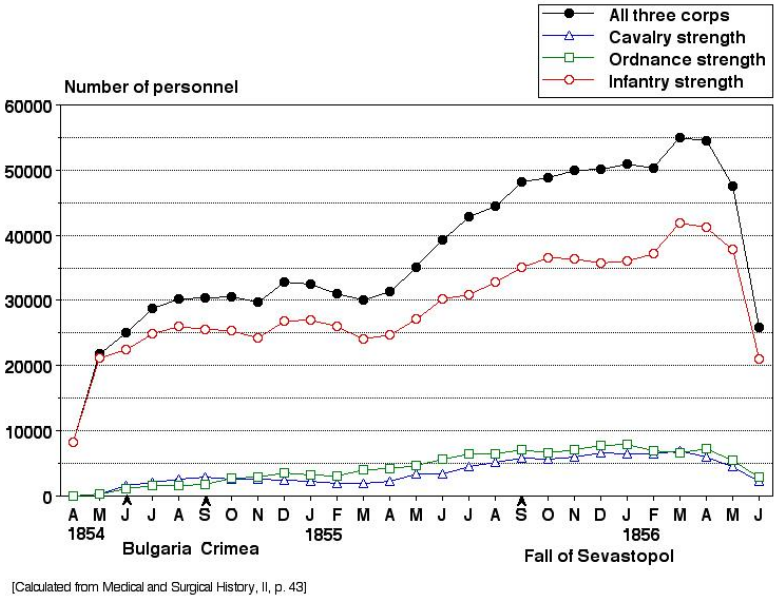
1 [Adapted from Sayer Dispatches and Papers, pp. 420-3]

Figure 2.4: Strength of each of the 52 infantry regiments at the time the headquarters embarked for the East, February 1854-April 1855



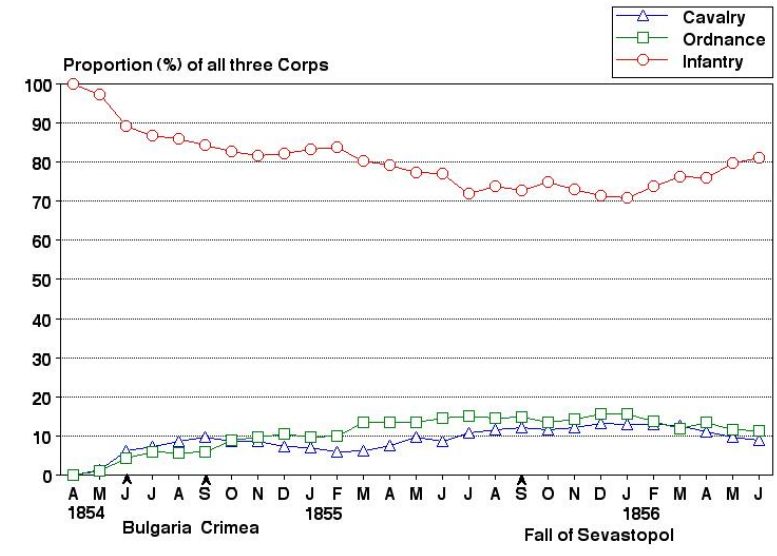
[Adapted from the end paper of Sayer, Dispatches and Papers]

Figure 2.5: Estimated strength of the cavalry and infantry regiments, and the ordnance, during the Eastern campaign, April 1854-June 1856



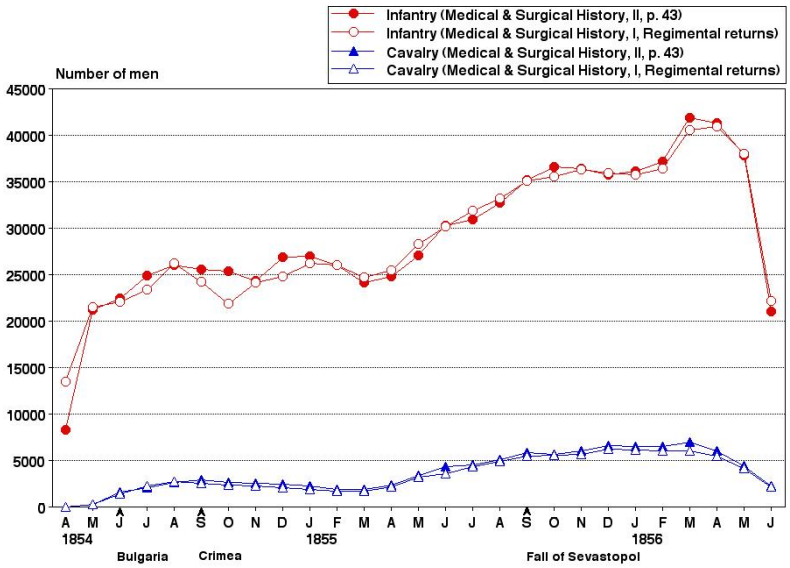
[Calculated from Medical and Surgical History, II, p. 43]

Figure 2.6: Estimated strength of the cavalry and infantry regiments, and ordnance, as a proportion (%) of the combined total, April 1854-June 1856



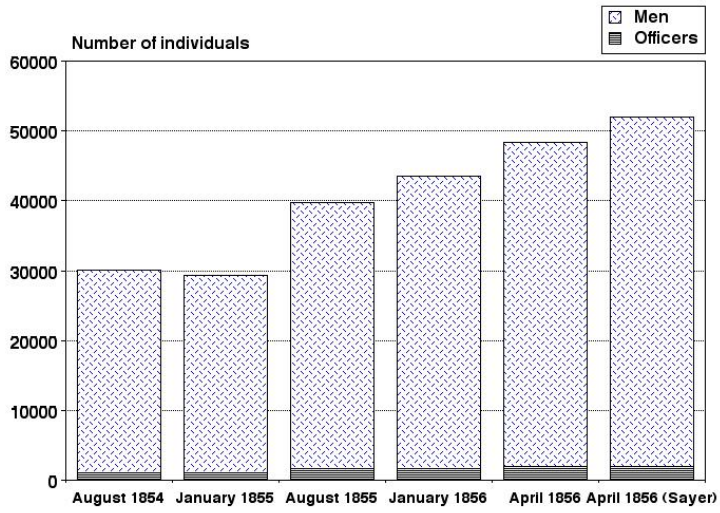
[Calculated from Medical and Surgical History, II, p. 43]

Figure 2.7: Estimated strength of the cavalry and infantry regiments, during the Eastern campaign, April 1854-June 1856



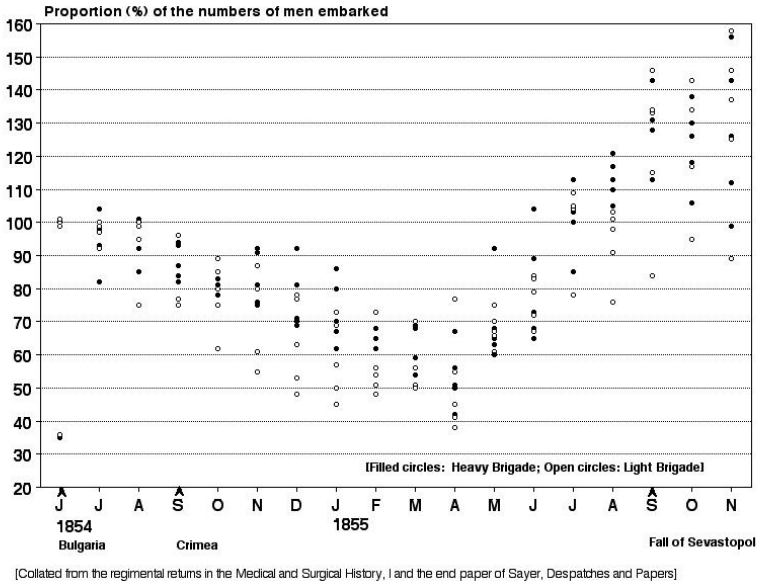
[Calculated from the Medical and Surgical History, I and II]

Figure 2.8: Total strength of the cavalry and infantry regiments of the British Army during the Eastern campaign



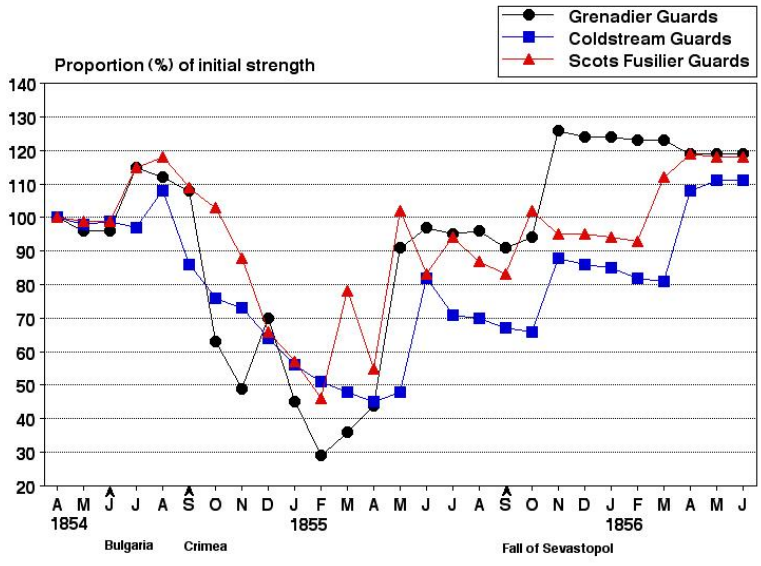
[Collated from Volume 1 of the Medical and Surgical History and the endpaper of Sayer Despatches and Papers]

Figure 2.9: Strength of ten cavalry regiments that served in Bulgaria and the Crimea as a proportion (%) of the numbers originally embarked, June 1854-November 1855



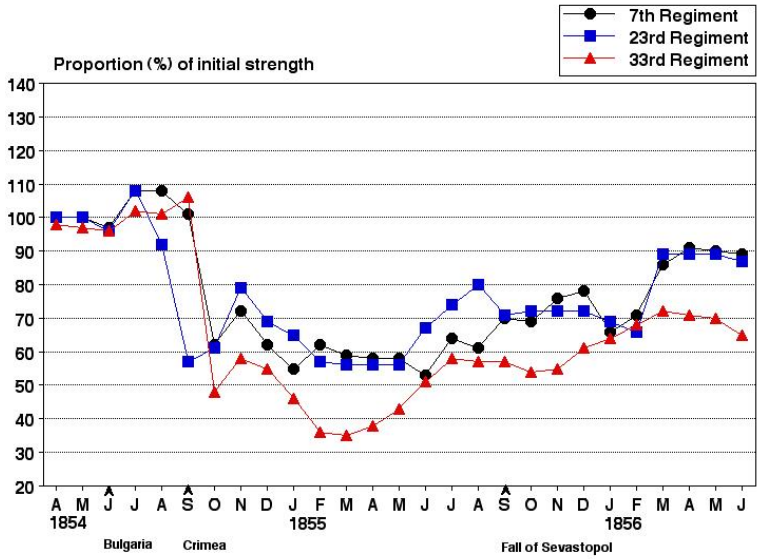
[Collated from the regimental returns in the Medical and Surgical History, I and the end paper of Sayer, Despatches and Papers]

Figure 2.10: Strength of the three regiments in the 1st Brigade, 1st Division that served in Bulgaria and the Crimea as a proportion (%) of the numbers originally embarked, April 1854-June 1856



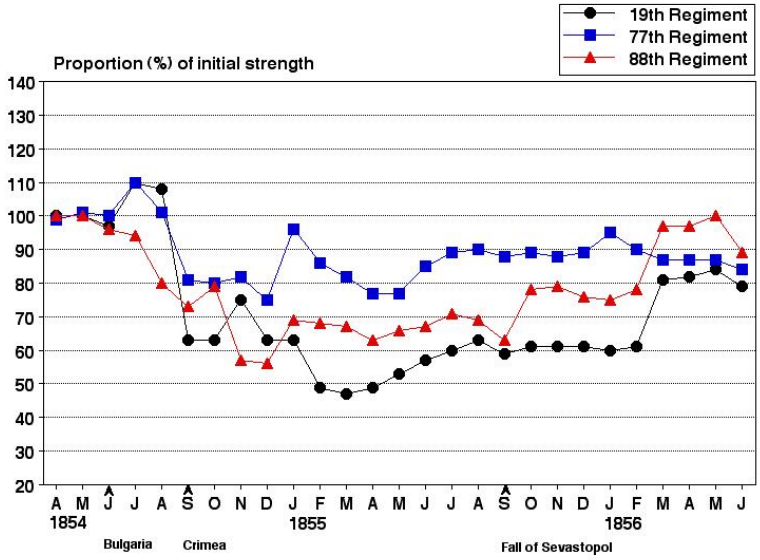
[Collated from regimentaL returns in the Medical and Surgical History, 1]

Figure 2.11: Strength of three regiments in the 1st Brigade, Light Division that served in Bulgaria and in the Crimea as a proportion (%) of the numbers originally embarked, April 1854-June 1856



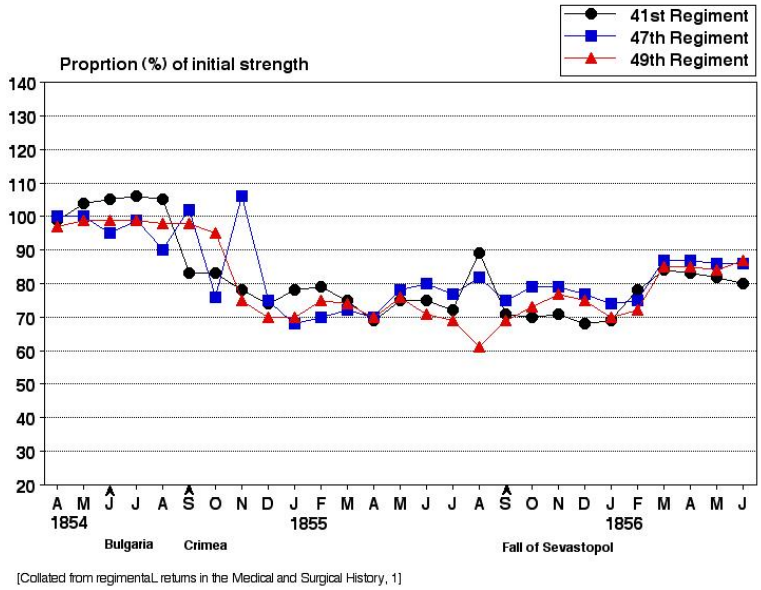
[Collated from regimentaL returns in the Medical and Surgical History, 1]

Figure 2.12: Strength of the three regiments on the 2nd Brigade, Light Division that served in Bulgaria and in the Crimea as a proportion (%) of the numbers originally embarked, April 1854-June 1856



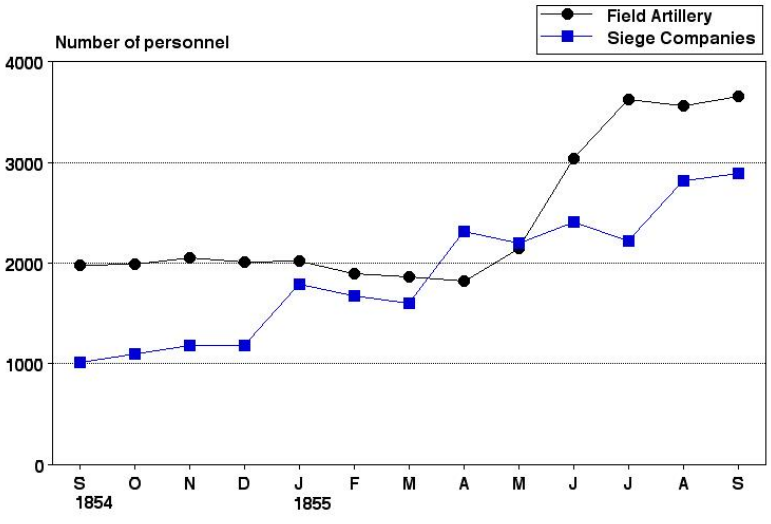
[Collated from regimentaL returns in the Medical and Surgical History, 1]

Figure 2.13: Strength of the three regiments in the 2nd Brigade, 2nd Division that served in Bulgaria and the Crimea as a proportion (%) of the numbers originally embarked, April 1854-June 1856



[Collated from regimentaL returns in the Medical and Surgical History, 1]

Figure 2.14: Strength of the Royal Artillery during the Eastern campaign, September 1854-September 1855



[Collated from Medical and Surgical History Vol. 1]

Chapter 3
Selection of recruits and its impact on the health of the Army

Disease and active warfare soon precipitated a serious manpower shortage and this was highlighted by the DJAG a month after invasion: 'We do not have half enough artillery men, engineers, sappers or doctors;'[145] while after the hurricane of 14 November 1854 the QMG informed the AG, Horse Guards privately: 'If we don't get reinforced strongly […] we shall go to the wall, and the English Army be lost! We can't re-embark before an offensive army […] Our Govt always looks alive too late;'[146] similarly. *The Times* correspondent in Constantinople opined:

> The British have received […] a total of 2,800 men. The *Queen of the South* is expected daily with 1,200 more […] but if the campaign is to last throughout the winter […] this must not be occasional, but constant. The army is sickly, and men become *hors de combat*, at a fearful rate. […] to keep the British Army to even its present diminished standard of 16,000 or 17,000 bayonets, we require a constant reinforcement to the extent of two full regiments a week.[147]

This state of affairs could not have been lost on the government but the reduction in the size of the Army following 1815 meant the deficiency could not be corrected within weeks and this was to have an impact on the health of the troops in the Crimea.

Recruitment into the Army

It can be deduced from Hardinge's evidence to the Roebuck Committee on 10 May 1855 that since 1815 there had been little strategic need to maintain a permanent reserve of trained troops, and since then existing regiments had been reduced in strength.[148]

The augmentation of infantry regiments from 850-900 to 1,000 was authorized during February 1854, and the rewards for recruiting parties increased.[149] The declaration of war resulted in the need to encourage more men to join up and to facilitate this the selection criteria were amended by a General Order and several

145 Romaine to C.J. Selwyn, 22 Oct. 1855; Robins (2005), p. 33.

146 Airey to Wetherall, 13 Nov. 1854; NAM-1962-10-94-1.

147 *The Times*, 29 Nov. 1854.

148 BPP (1854-55), No. 247, p. 234. Hardinge conceded that as the 'peace establishment [was] very low indeed; […] after […] we made the first effort to send out 25,000, we could do nothing but send out young recruits.'

149 Circular Memoranda No. 842 & 843, 11 Feb. 1854; WO/123/151.

Circular Memoranda issued by Horse Guards.[150, 151] For example, the minimum height for the cavalry was reduced on 24 March 1854 and the maximum age for enlistment into infantry of the line was raised from 25 to 30 years on 3 July 1854; changes which where subsequently consolidated in a General Order (Table 3.1).[152] No minimum age was specified though a Memorandum of 5 January 1855 stipulated that no lad under 17 should be recruited into the infantry as it was 'desirable' that they 'should be of sufficient age and strength to immediately enter upon the duties of soldiers.'[153, 154, 155]

Men with a good character who had previously served in the cavalry and infantry were permitted to re-enlist up to a maximum age of 38 and 36 years respectively,[156] while the bounty paid to successful recruits was increased on 30 October 1854 and again on 22 January 1855 (Table 3.2). A further inducement was made on 30 April 1855 when men aged between 24 and 35 years who volunteered for two years were offered the same bounty as those signing up for a longer period. This was subsequently amended on 10 July 1855 to include only 'infantry regiments in the Crimea.'

Herbert, the Minister at War, contributed to the initiative by issuing a circular letter to officers commanding militia regiments on 20 November 1854. The need to augment the regular army was stressed although it was intended to limit the demand to a quarter of the regimental strength, while the bounty payable was to be increased by £1 to £7.[157]A further increase to £10 and £8 was authorized early in 1855 for cavalry and infantry recruits respectively.[158]

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150 WO/123/141.

151 The reduced criteria for height, but not age, for the cavalry, infantry, and RA, were summarized in a return supplied by the AG, Horse Guards on 24 Apr., and issued by the War Department on 10 May 1854; BPP (1854-55), No. 247, p. 353.

152 For a discussion on the problems of recruitment into the cavalry after the first winter see Dawson (2014), pp. 193-5.

153 WO/123/151.

154 A total of 2.3% of men in the line regiments were ≤17 years of age; *M&SH*, II, General Return D.

155 The AG, Horse Guards wrote to the AG, Crimea on 14 Feb. 1855: 'Ascertain if you can whether any drafts have gone out during the months of Nov., Dec., and Jan. containing men under 18 years of age […] Every care is taken to prevent it;' WO/28/180. Estcourt's reply has not been found though he probably sought the information since Lt Col. Dacres, RA, informed him that there had been only one recruit aged 17 between 1 Nov. 1854 and 7 Mar. 1855; WO/28/193/2.

156 In all 3% and 2.5% of the cavalry and line regiments were aged ≥38 and ≥36 years respectively; *M&SH*, II, General Return D.

157 *The Times*, 21 Nov. 1854. The recruitment of over 700 men into the Army from several militia regiments was recorded in *The Times* on 30 Nov. and 7 & 29 December 1854. Incidentally, on 1 Nov. 1854 'an order […] from the Admiralty increasing the bounty for recruits entering the Royal Marines from £3/17/6d to £6 per man; a development which 'will bring men forward if anything will;' *Hampshire Advertiser*, 4 Nov. 1854.

158 Circular Memorandum No. 912, 22 Jan. 1855; WO/123/151.

An indication of the progress of recruitment during the previous 12 months was made available to ministers by Horse Guards on 21 October 1854,[159] and in a Cabinet paper on 18 August 1855[160] (Table 3.3). Information supplied to the Roebuck Committee recorded that between March 1854 and March 1855 4,106, 40,316, and 4,755 men were recruited into the cavalry, infantry, and RA respectively, giving a total of 49,177.[161] The numbers recruited each month fell during the summer of 1854 but increased between November and January 1855 when >18,000 were selected for the three corps (Figure 3.1).

The problem of recruitment continued to be vexatious as the campaign progressed and this prompted Palmerston to instruct Panmure on 10 June 1855 not to 'let departmental or official or professional prejudices and habits to stand in our way; we must override all such obstacles and difficulties. The only answer [is] the thing *must* be done. We *must* have troops.'[162] It is fortunate perhaps that significant warfare ceased some four months later, and there was no campaigning during 1856.

After the conclusion of hostilities the AG in London reported that the service companies in the Army of the East had been reinforced with 26,302 men up to 29 March 1856. A total of 8,197 men joined from the depot battalions at home during 1854 while during 1855 and 1856 the numbers embarked for Malta and the East were 15,656 and 2,449 respectively.[163]

A return prepared by the AG recorded that of 10,268 reinforcements sent to the East by April 1855 the majority were either teenagers or in their early twenties, viz. <18 years, 162 (1.5%); 18-21 years, 5,318 (52%); 21-24 years, 2,132 (21%); 24 years, 545 (5%); 24-30 years, 1,699 (16.5%); and >30 years, 412 (4%).[164]

The age structure of the cavalry (14 regiments), foot guards (3) and infantry (49) is summarized General Return D in the *M&SH* with a listing of the ages of 70,425 (86%) of 81,838 NCOs and men who participated in the Eastern campaign (Table 3.4). Two thirds were ≤25 years with nearly a quarter being teenagers (Figure 3.2). The

159 W&SHC/2057/F8/B/80c.

160 WO/33/3B/76/55.

161 AG, Horse Guards, 24 Apr. 1855; BBP (1854-55) No. 247, p. 351.

162 Douglas & Ramsay (1908), I, p. 232.

163 Sayer (1857), p. 416.

164 AG, Horse Guards, 16 Oct. 1855; Sayer (1857), p. 417.

infantry recruited men at a younger age than the foot guards, with the cavalry occupying an intermediate position (Figure 3.3).

Hardinge informed the Roebuck Committee that the new recruits were 'pretty perfect in drill in the course of sixty days' (see Appendix 3.1), although Newcastle opined that 'it would have been very advisable to [keep the recruits] in this country another year, if possible.'[165] Hardinge admitted that many of the recruits were 'too young' as they were 'almost gristle' rather than 'bone and muscle', and he conceded, but without admitting it directly, that this policy must have influenced the losses sustained during the first winter as 'it was impossible to expect [them to] stand the inclemency of the climate and the hard work in the trenches in the same manner as a similar number of soldiers would have done in 1808,' when a substantial reserve of trained troops aged between 25 and 35 years would have been available.[166, 167]

It was suggested that while in Malta recruits should become accustomed to living in tents, cooking with camp kettles, and performing the 'duties incidental to a soldiers' life in the field.'[168] It was as also recommended that if the weather became too inclement to remain under the canvas the men should return to England.

The Queen's Regulations stated that the officers commanding regiments and depots were responsible for ensuring that 'no one is selected […] who is not in every respect calculated for the performance of the duty required of him.' The selection procedure involved a medical inspection and though no contemporary returns have been found some records from a decade earlier have survived.[169] Briefly, in 1844 and 1845 10,172 (33%) of 30,910 potential recruits were rejected although the proportion varied between 19% in Cork and Newry, and 45-46% in Edinburgh and Leeds. Rejections were principally for physical defects with relatively few for specific diseases such as syphilis (1.8%), diseases of the heart (1.5%), consumption or pulmonary disease (1.2%), and testicular disease or injury (1.1%); see Table 3.5.

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165 BPP (1854-55), No. 218, p. 124.

166 BPP (1854-55), No. 247, p. 234. Hardinge stated incorrectly that no men under 19 had been sent to the East.

167 In a letter dated 10 Jan. Sir George Ballingale pointed out that immature recruits were more prone to disease; *The Lancet*, 20 Jan. 1855, pp. 77-9.

168 Wetherall to GOC, Malta, 8 Dec. 1854; WO/3/117.

169 RAMC/397/C/CO/2/5 & 6.

Instructions were issued that required that men embarked should be 'fit and efficient for active duties' and that 'growing lads under 18 years' should be rejected,[170] while the need to examine extra men during 1854 and 1855 required the assistance of private medical practitioners. In January 1855 the Deputy Secretary at War (Hawes) sent a circular to Inspecting Field Officers of recruiting districts, and COs of regiments and depots outlining the procedures that should be adopted in these circumstances.[171]

There is evidence that that not all 'medicals' were as thorough as they might have been. For example, *Tamar* and *Great Tasmania* both returned to port after sailing to land cases of smallpox,[172] while towards the end of 1855 Smith asked how the health of drafts was ascertained after the surgeon on HMS *Assistance* reported that men had embarked with venereal disease.[173] Smith subsequently recommended to the Military Secretary that men should be inspected before embarkation and that the Admiralty should make facilities available at Portsmouth and Southampton for the purpose:[174] later he advised that the men should be examined at least weekly while on the voyage.[175]

Not surprisingly, inadequacies in the system became apparent in the Crimea as confirmed in Hall's monthly summary of the health of regiments during the summer of 1855 (Table 3.6).[176] It is probable that Smith's letter to the Military Secretary referred to above prompted the issue of a Circular Memorandum on 12 December 1855 to the regimental depots of the Army of the East:

> The Field Marshal Commanding in Chief desires, that every man […] about to proceed to Malta or direct to the Crimea, may be examined by a Medical Officer […] and […] the list of the ages of men […] forwarded with the embarkation return [and] a certificate be appended […] that each man has been found to be free from disease.[177]

It cannot be ascertained whether this instruction benefited the health of the Army as by this time it was generally satisfactory, and, with the exception of the civilian element of the LTC Hall made no specific reference to the health of recruits arriving during 1856.

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170 AAG to GOC, Portsmouth, 28 Oct. 1854; WO/3/116.

171 War Office Circular No. 1173, 5 Jan. 1855; WO/123/181.

172 *The Times*, 18 Dec. 1854 & 10 May 1855.

173 Smith to PMO, Woolwich, 8 Oct. 1855; *PoL*.

174 Smith to Military Secretary, 7 Dec. 1855; *PoL* and BPP (1857-58), No. 2379, p. 81.

175 Smith to PMO, Portsmouth, 30 Jan. 1856; *PoL*.

176 RAMC/397/F/RT/1/1.

177 WO/123/141 and WO/123/151.

Dr R. Battersby, a MO at Chatham, who saw the problem from a different perspective when he tended soldiers repatriated from the East, concluded that: 'In consequence of the pressing demand on soldiers, the relaxed the criteria relative to the examination of recruits […] was carried too far' and the 'physical force' of the Army was:

> by no means augmented. […] The consequences were soon manifest […] lads […] quickly succumbed while men who had lost the elasticity of youth […] found the education and discipline of a soldier too irksome, and many feigned or exaggerated ailments for the purpose of getting discharged. It was useless trying to retain such men; they could never be made soldiers.

He concluded, however, that the 'half-grown, sickly-looking men, who should never have been enlisted' should be more 'pitied than condemned for having undertaken duties, the nature of which they were ignorant of, and physically unable to perform.'[178]

A return issued by Horse Guards on 22 March 1855 indicated that drafts did not arrive in numbers until a couple of months after the invasion, with most being destined for the infantry regiments, particularly those that spent time in Bulgaria (Table 3.7).

The bad news received from the front did not seem to stem the flow of men volunteering to join up; and *c.*70,000 did so during the campaign. The British Army was thus composed of volunteers, and this might account in part for their tenacity and forbearance in the face of adversity. For example, letters written by two civilians, Bracebridge and Maxwell, refer to their stoicism,[179] and this could explain why there were only twenty suicides during the whole campaign.[180] The AG also noted that: 'The regiments which fought their way here are the best; they bear their hardships wonderfully,'[181] while AS Taylor wrote on 14 February 1855 that: 'The men never complain, and in this respect the officers […] might take a creditable example from [them].[182]

Further evidence of the devotion to duty of the troops is provided by a report sent to the Ambassador in Constantinople on 3 February 1855:

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178 *M&SH*, II, pp. 228-9.

179 Bracebridge, letter, 13 Nov. 1854; RAMC/494 and Maxwell to Herbert, 8 Jan. 1855; W&SHC/3057/F8/II/B/363.

180 *M&SH*, II, General Return A.

181 Estcourt to Wetherall, 8 Jan. 1855; NAM-1962-10-95.

182 Quoted by Cantlie (1974), II, pp. 142-3.

> When the draft was mustered on deck [in Constantinople] some soldiers joined them from below, and requested [the MO] to let them go also. Several [were] so weak that they supported themselves on their muskets, but there they were equipped in heavy marching order [and begged] to be allowed, not to go home, but to return to the trenches. […] If this is not real heroism, I know not what is, and, as such devoted gallantry is displayed in a manner which rarely attracts notice.[183]

Similarly evacuees landing at Falmouth during February 1855 reported that 'they had undergone considerable hardships, but no more than troops were often exposed to by the contingencies of war; and that they firmly believed that their sufferings were unavoidable, and produced by causes over which their officers had no control,' and that Raglan had been 'universally kind and attentive to their condition and interests, and was continually to be seen in the lines,' while many of the men were 'so redolent of *esprit de corps* in the cause' that many declared they would be delighted to return and have 'another slap at the Russians.'[184] Similarly, many of those arriving on *Tynemouth* also expressed 'a desire to go out again.'[185]

It is a testimony to the phlegmatic nature and good discipline of the British soldier that despite having lethal weapons within easy reach and living cheek by jowl in less than satisfactory conditions only three men were arraigned during the campaign specifically for killing a fellow soldier, and only one was hanged.[186] In like manner, an assessment of the prospects at the end of 1854 in an unpublished draft of a history of the war prepared at Horse Guards concluded:

> Great as the sufferings of the Army were it is gratifying to record the fortitude and cheerfulness with what the soldiers bore up against them, and continued to the last a strict performance of their duties and a regard to discipline which must now reflect great credit upon the British Army.[187]

Enlistment of Foreigners Act 1854: One of the consequences of the shortage of man power was the passing of the Enlistment of Foreigners Act in December 1854; a controversial policy as the mercenaries would be citizens of neutral countries and there would be complex implications as a consequence of both the countries' domestic legislation and international law. The topic is outwith the objectives of this thesis;

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183 Skene to Stratford, 3 Feb. 1855; FO/352/41B. James Henry Skene was appointed a Consul on 26 Mar. 1855 and sent to the Dardanelles on 6 July 1855 to help organize the Bashi Bazouks.

184 *WB&CA*, 9 Feb. 1855.

185 *Daily News*, 7 May 1855.

186 Hinton (2011b).

187 WO/28/199/2. The paragraph was annotated 'omit' suggesting it would not have appeared in a definitive version.

suffice it to say mercenaries were recruited into the British German, Swiss, and Italian Legions and these were held in reserve at Kuleli, Smyrna and in Malta respectively, and none saw active service.[188]

The possibility of recruiting men from North America was also investigated. This proved impractical but the initiative increased diplomatic tension between Great Britain and the USA with the result that President Piece dismissed 'the British minister to the United States, J.F.T. Crampton and [revoking] the exequators of the British Consuls at New York, Philadelphia, and Cincinnati' on 28 May 1856.[189]

Organizational problems encountered after arrival

The Royal Navy was responsible for transporting the troops to the East with the military authorities, particularly the QMG's department, taking charge once they landed; but only when 'tents and blankets were ready for them.'[190] These instructions were subsequently amplified a few weeks later:

> Officers in command of troops coming to join the Army [are] responsible that every article of equipage (blankets, camp kettles, water canteens, haversacks, tents, hospital marquees, intrenching tools, and hospital panniers) are disembarked and in a state of readiness to be carried on the march by the soldiers themselves, together with two days rations.[191]

And again, on 6 June 1855 the QMG had to remind Captain Heath, RN, of the importance of landing the men by divisions with their own camp equipment, and none after 2 p.m.[192]

On some occasions disembarkation was delayed by 'boisterous weather' and once ashore things did not always go smoothly, and, judging from various reports, matters deteriorated noticeably from the beginning of November 1854, although not all dispatches were entirely pessimistic:

> A few young recruits fresh from the comforts of home, felt severely such a rude initiation into the realities of the profession, and seemed to think they could not be expected to go into the trenches in this bad weather, but they were soon shamed out of this unwillingness by the spirit of their comrades.
>
> The draughts (*sic*) of the regiments which I met on their way out to join looked with a curious air of disgust and horror at 'this charming paradise of the Crimea' but they were stout

188 Sayer (1857) gave the strength of the German and Swiss Legions as 3,738, and 2,036 respectively.
189 For details on the 'enlistment controversy' see Brebner (1938).
190 QMG to Captain Hamilton, 28 Nov. 1854; WO/28/137.
191 QMG, Memorandum, 22 Dec. 1854; WO/28/196.
192 WO/28/138 and WO/28/192.

> young fellows, and would soon become accustomed to all the combinations of earth and water which is possible for natural chymistry (*sic*) to effect.[193]

Newcastle complained to Raglan on 6 January that he had heard that a detachment of Guards had marched to camp without a guide, and, after getting lost found on arrival in camp that nothing had been prepared from them.[194] The tribulations encountered by three other regiments are described below, while the misfortunes that befell other regiments between mid-November 1854 and January 1855 are summarized in Table 3.8.

An officer in the 46th Regiment recorded that after marching eight miles from Balaklava on 8 November, singing and with the band playing, they found on arrival 'no one expecting us, or knowing about us […] neither tents nor rations had been provided […] so without food or shelter we passed out first night […] in the open air under heavy rain,'[195] while similar sentiments were expressed in the official history:

> On the afternoon […] moved up to the heights […] the men being in a state of fine health. The tents did not arrive […] until 4 o'clock the following morning […] on the 9th […] upwards of 500 men were detailed for duty in the trenches, and on the 10th cholera broke out.[196]

Hall also recorded the event in his monthly report to the AG at Horse Guards:

> The 46th Regiment arrived here on the 8th of the month, on the 11th it was attacked with cholera, and on the 14th all the tents were blown down in the storm […] and the men both sick and well were exposed to the inclemency of the weather for many hours. This exposure served to aggravate the disease, and before the end of the month 414 cases of cholera out of strength of 485 had been admitted to hospital and of these 80 died.[197]

Hall noted that after landing on the 27 November the 9th Regiment marched at once to the lines and was put on duty in the trenches. Cholera appeared two days later, and the next day 6 of 13 cases died.[198] This episode was reported in several newspapers and described in the regimental history (see Appendix 3.2). It was also brought to the notice of Newcastle by a 'gentleman of high standing, […] upon whom […] every reliance can be placed,' and on 22 January 1855 he requested Raglan to provide an explanation

193 Dispatch by Russell, 14 Nov.; *The Times*, 12 Dec. 1854.

194 WO/6/70/111.

195 Robins (1994), p. 9.

196 *M&SH*, I, p. 294.

197 WO/17/1730.

198 RAMC/397/F/RT/1/1.

why 'the regiment marched to camp in the dark and had slept on wet ground before being sent almost immediately into the trenches.'[199]

Airey provided his explanation (see Appendix 3.3), while Estcourt convened a court of inquiry under the presidency of Sir George Brown.[200] The conclusions were forwarded to London on 6 March, and to these Panmure's replied on 13 April (Appendix 3.4). Briefly, it was concluded that the only matter of concern was the delay occasioned by the exchange of their muskets for Miniés, and that the subsequent health of the regiment was due more to the 'enervated state of the regiment' when it arrived than the 'hardships and exposures to which it was subjected after it had landed.'

A draft of the 23rd Regiment arrived on 28 November and the PMO of the Light Division informed Hall that:

> They were landed at 4 p.m. […] and sent off to camp – a distance of seven miles – without guides or notice to the regiment.[201] About 30 of the men found the camp […] between 10 and 11 o'clock; but the rest wandered about, and found shelter as best they could in other camps.

Hall forwarded the letter to the AG with the request that 'more care may be taken in future in the disembarkation of troops arriving during this inclement season of the year.'[202] This incident also came to the notice of E.L. Godkin of the *Daily News* who reported on 2 December:

> A very careless occurrence took place on the 29th ult. Some drafts […] were disembarked shortly before sunset, and ordered to march to their respective regiments […] the roads almost impassable and quite obliterated from sight by mud. No officer of the Quartermaster-General's [showed] them the route […] none arrived at their destination until nearly an hour before midnight, many remained out all night, some were taken care of in the French camps, and one man [became] so ill that he died some hours afterwards. No notice was given of their coming […] so no food was prepared, no tents for their reception. No reason could be ascertained why they should have been sent on at so late an hour […] instead of remaining on board till the following morning.[203]

Hall referred to the matter in his monthly report for January 1855: 'The great mortality in the 23rd Regiment has arisen from dysentery and diarrhoea and has been

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199 Newcastle to Raglan, No. 213, 22 Jan. 1855; WO/33/1/9/55 and W&SHC/2057/F8/III/C/91a. The letter opened 'I deeply regret to be again compelled to bring before your Lordship a report of a very serious nature, reflecting strongly on the conduct of […] your Lordship's staff.'

200 WO/28/198.

201 It got dark a little after 5 p.m.

202 Hall to QMG, 1 Dec. 1854; RAMC/397/F/CO/1/1/990 and BBP (1857-58), No. 2379, p. 106.

203 *Daily News*, 19 Dec. 1854.

confined chiefly to the young and weakly lads who joined as recruits from England in November last, and who were quite unequal to the duties of a campaign.'[204]

It is possible that this series of potentially avoidable episodes prompted a change in policy for new arrivals as letters of 2 and 13 December noted that 'Lord Raglan has ordered that they shall not go into the trenches for the present,'[205] and 'Now they allow no new arrivals to go into the trenches for the first week.'[206]

The official history of several regiments reveal that this policy did not necessarily make it easier for the men as they did not did not escape exhausting fatigues, cholera or other enteric diseases (Table 3.9). The policy was not formally ratified in General Orders but it was apparently in operation early in September 1855 when members of the 63rd Regiment landed: 'A respite of a few days at least from trench and guard duties, and other heavy work, was we found, customary […] in order that the men might recuperate a little after the confinement on board ship.'[207]

The general public became aware of some of these problems before Christmas 1854 and so it is surprising it was not until 6 January 1855 that the Minister for War made his concern known to Raglan:

> Amongst other reports […] one relating to the landing, and march to camp of a strong detachment for the Brigade of Guards, [when] there was neither officer in attendance upon their landing, nor a guide furnished to conduct them to the camp, so, that in consequence they lost their way; and when at length after a march of unnecessary length they [found] neither tents or other accommodation provided for them. […] upon their first introduction to action in the field are compelled to lie out without shelter, when ample provision might with ordinary care have been made I can not be surprised at the appalling number of sick.[208, 209]

204 WO/17/1730; RAMC/397/F/RT/1/1 (a similar version in Hall's hand), and BPP (1856), No. 2007, p. 160.

205 Letter from an officer, 30 Nov.-2 Dec.; *The Times* and *Reynold's Newspaper*, 21 & 24 Dec. 1854 respectively.

206 Letter from an officer, 13 Dec. 1854; *Cheshire Observer*, *The Examiner*, and *Manchester Times*, 6 Jan. 1855.

207 Vieth (1907), pp. 28-9.

208 Newcastle to Raglan, No. 202, 6 Jan. 1855; WO/6/77, ff. 136-43 (longhand) and WO/33/1/7/55 (printed).

209 It is not clear to which draft Newcastle was referring as the Guards were reinforced on several occasions, for example, by the arrival of the *Queen of the South* during the evening of the 20 Nov. (Russell, 20 Nov.; *The Times* 8 Dec. 1854), the *Robert Lowe* which left Portsmouth on 26 Nov. (*The Times*, 27 Nov. 1854), and the *Royal Albert* which arrived on 20 December (Letter from a gentleman, 21 Dec.; *The Times*, 12 Jan. 1855).

It is not known how Raglan responded as there is no official dispatch in WO/1/370. Incidentally, Hall recorded a similar incident in his diary on 24 November 1854:

> A party of 200 Guards marched in the rain to cut fascines without a Medical Officer and cholera has broken out. The AG […] requested arrangements might be made for the transport of the sick and supply of medical aid. Requested Captain Grant to send an ambulance cart at once and directed Dr Linton to detach a Medical Officer […] to attend them.[210]

Illness following arrival

Many men landing during the first nine months after the invasion fell ill, often with a fatal result (see Table 3.8) and Newcastle sent Raglan his assessment of the health problems in the Crimea in no uncertain terms:

> The sad prevalence of sickness at this season amongst the newly arrived troops also requires explanation, and especially [as] the regts best placed have in many instances suffered most. I cannot keep thinking that due enquiry […] will bring to light the fact that there has been great want of proper precaution.[211]

Raglan presumably passed the letter to Hall for reply, who pointed out with good reason that the poor health was due to several interrelated factors which if corrected should result in improvement:

> It is quite true that all newly arrived regts and […] recruits […] have suffered more than others from disease. Cholera [appeared] about the middle of November and proved very destructive. […] The weather was wet, cold, and tempestuous, the duty necessarily severe, and the exposure of the men in the trenches necessarily very great. Supplies of all kinds were obtained with great difficulty for want of transport, and from the almost impassable state of the roads […] Fuel was exceedingly scarce, and cooking consequently imperfectly performed. The shelter of bell tents, many of which were old, thin and torn, was inadequate to the climate and season of the year. There was no want of disposition on the part of any one to remedy the evils that existed, but at one time means were wanting, and the difficulties […] almost insurmountable. Of late […] the men are better clad, and fed, and the duty is lighter, and great efforts are made to get them more comfortably housed […] At a distance it is not easy to comprehend all the difficulties […] and a number of unforeseen accidents […] have added to embarrassment perplexing enough in themselves.[212]

Dr Robert Lyons, the pathologist, also recognized the problem when he noted in his official report that:

> Amongst even well-matured constitutions the hardships and fatigues, trials, privations, and exposure of campaigns, such as those of the past year in the Crimea, must almost of necessity prove largely productive of disease, and induce much mortality. But in the

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210 RAMC/524/15/6.

211 Newcastle to Raglan, No. 202, 6 Jan. 1855; WO/6/70, ff. 136-43 (longhand) and WO/33/1/7/55 (Cabinet paper).

212 Hall to Military Secretary, 25 Jan. 1855; RAMC/397/F/CO/1/1/1333.

> undeveloped frames and the unripe strength of the ill-seasoned recruit, such causes operated with two-fold energy, and with more than doubly fatal effect.[213]

Incidentally, this issue was revisited after the war by Kinglake, who candidly summarized the position after the storm of 14 November 1854, and thereby supported Hall's assessments:

> [The] reinforcements […] did not effect a […] sustained augmentation of the number of men […] for the new-comers [when] subjected to the hardships […] fell sick with appalling rapidity [to become] a superadded assemblage of hospital sufferers than an actual accession to strength. […] the 9th Regiment […] sickened so fast, that [after a few days they had] only a small remnant left. The Guards had received some strong draughts of men […]; yet [at the end of January] the three battalions could only muster […] 312 men. […] The 63rd Regiment may almost be said to have disappeared.[214]

As the living standards and the weather improved the health of the new arrivals became less of a concern and after the fall of Sevastopol Hall was able to write more optimistically: 'The newly arrived regiments are getting acclimatized and we may reasonably expect […] improvements in the general health of the Army, as duty will be less severe, and the weather is becoming cool and pleasant.'[215] Nevertheless, cholera claimed the lives of several recruits during October although 'otherwise the health of the troops was good.'[216]

Venereal diseases were the most prevalent in new recruits, although this may reflect in part the relative ease of detection by superficial examination. Cases were diagnosed throughout the campaign and in all 3,717 men were admitted to regimental hospitals.[217] A third was diagnosed before the invasion of the Crimea, with the highest rates in May and June 1854 (18‰ of strength). The rates were also somewhat higher than in previous months during May to October 1855 (4.2-5.8‰), presumably as a result of the augmentation of the Army with new regiments, and drafts for others (Tables 3.6 and 3.10).[218]

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213 BPP (1857). Session I, No. 2229, pp. vii-viii. For a review of the report see *Glasgow Medical Journal*, IV (1857), pp. 129-46.

214 Kinglake (1891), pp. 178-9.

215 Hall to Simpson, 19 Sep. 1855; RAMC/397/F/CO/1/2/3134.

216 Hall's monthly summary for the 28th Regiment, Oct. 1855; RAMC/397/F/RT/1/1.

217 *M&SH*, II, General Return A.

218 It is not improbable that 'ladies of the night' frequented the bazaars, and they would have been at risk from their clients and vice versa. However, there are no references to prostitution in the Crimea in the indexes of books by Shepherd (1991), Gill (2004), Rappaport (2007), and Bosteridge (2008).

Tuberculosis was endemic in the British Isles during the 19th century but the disease did not prove a serious clinical problem with only 279 cases being admitted to the regimental hospitals and no more than 20 in any month. On the other hand, phthisis was not an uncommon reason for discharge from the Army (see Chapter 9).

Mortality in different age groups

The age distribution of the men in the cavalry, foot guards, and infantry who died from disease and wounds were derived from General Return D in the *M&SH* (Table 3.11). The mortality rates were calculated using the figures in Table 3.11 as the numerator, and the number of men in Table 3.4 as the denominator. Overall the mortality rate tended to increase with age (right hand column in Table 3.11 and Figure 3.4). The trends in the mortality rates with age are expressed graphically in Figure 3.5. The rate was lower in the cavalry and was only ≥300‰ in two age groups. Conversely, the rates were always higher in the foot guards, and exceeded 400‰ among men in their 30s. The infantry occupied an intermediate position with 400‰ being recorded only for men in their late 30s.

Land Transport Corps and Army Works Corps

The LTC and AWC were raised during early 1855. The physical quality of many recruits was poor and Hall made several references to the unsuitably of the civilian 'lads'. For example, in January 1856 he noted that many joining the LTC were 'objectionable […] for the most part feeble boys recruited in the purlieus of London and […] would prove inefficient.'[219] The next day he wrote to Smith that 'the Corps has been filled up with young lads from London, and other places is very inconsiderate, and very expensive to government,'[220] while a few days later he opined that recruits for the AWC 'were totally unfit and were sent back to England,' and that 'men were recruited to make up numbers without consideration of their efficiency.'[221]

Hall recorded his concern to Codrington officially on 18 February 1856 by stating that many admissions to the LTC hospital that week were 'weakly, sickly, and

219 Diary entry, 4 Jan. 1856; RAMC/397/PC1/6-8.

220 Hall to Smith, 5. Jan. 1856; RAMC/397/F/CO/1/2/3924.

221 Hall to Smith, 22 Jan. 1856; RAMC/397/F/CO/1/3/4063.

dissipated lads fit for little more than occupying a bed in the hospital;'[222] and he returned to the topic the next week:

> Things in the LTC not so favourable. […] I was much struck by the youthful appearance of one poor boy [in hospital] he said he was 15, but he was told to say he was 20 when he enlisted. In point of comforts the LTC is as well supplied as any other part of the Army.[223]

Hall's unfavourable opinion of the civilian personnel in the LTC subsequently received unequivocal support from the Sanitary Commissioners:

> The first thing that struck us was the difference in the physical constitution between the men in the [Land Transport] Corps and […] the Army. Many of the former were puny, ill nourished, and badly developed. Altogether they were an inferior race, a large proportion of whom would not have been accepted as recruits; many bore the marks of intemperance and bad habits, and the previous occupations of most of those we examined had not been such as to fit them for the severe duties and exposure incident to the service. […] It was stated to us that about a fourth part of the men who arrived had syphilis.[224]

The high incidence of sickness in the LTC prompted Panmure to request information, and to this Hall responded forthrightly:

> The cause is simple, the corps was filled up with weak lads who arrived here in the winter in great numbers, were unorganized, and not looked after, as the number of officers in the corps at first was far too few, and sickness was the consequence. Many […] were not more than 16, and one boy told me he was only 14 last birthday, but this will not appear on the returns as they were all instructed by the recruiting sergeant to say they were 18.'[225]

Codrington clearly agreed with Hall's assessment since he informed Panmure in an earlier despatch that 'the greater proportion of sickness arises from causes which are detailed in Sir John Hall's reports.'[226]

Fortunately the health of these men improved during the spring of 1856 as 'they were getting into shape,'[227] while Hall could report that the PMO 'thinks the men […] are looking healthier. […] getting better organized and acquiring the habits of soldiers.'[228] The benefits of organization and discipline on the health of the LTC were also emphasized in the *M&SH*: 'The men were sent out undisciplined, not organized, often insufficiently clothed; some too old, others too young and generally helpless in

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222 Hall to Codrington, 18 Feb. 1856; WO/1/382/459-62.

223 Hall to Codrington, 25 Feb. 1856; RAMC/397/F/CO/1/3/4303 and *The Times*, 4 Mar. 1856.

224 BPP (1857), No. 2196, p. 179.

225 Hall to Smith, 15 June 1856; RAMC/397/F/CO/1/3/4987.

226 Codrington to Panmure, 9 Apr. 1856; WO/1/383/231/669-70.

227 Pakenham to Wetherall, 26 Feb. 1856; NAM-1962-10-97-1. Pakenham thought it 'objectionable to officer [the LTC] from the ranks. […] First rate serjeant majors make poor cornets in many cases.'

228 Hall to Codrington, 17 Mar. 1856; RAMC/397/F/CO/1/3/4451.

their new life.' The health in general was better in 'the detachments stationed with the Divisions of the Army' as opposed to that in the two main wings of the corps because these 'were much better organized, with a much better staff of commissioned and non-commissioned officers to carry out orders and supervise the rationing and messing of the men.' The value of military discipline and organization was made clear as the health of the regular soldiers detached to the LTC, and who worked along side the civilians, was satisfactory.[229]

Summary

Luscombe writing after the Napoleonic War recommended that recruits should be over 19 and that those employed in agriculture or by outdoor 'manufacturers' were preferable to the town dwellers working in sedentary occupations.[230] However, it was clear that the serious shortage of manpower necessitated a relaxation of selection criteria and this probably had a detrimental effect on the health status of the troops, although this cannot be quantified exactly as the recruits' health records have not survived.

The Eastern campaign took place during a cholera pandemic and not surprisingly the disease was commonly diagnosed in the reinforcements following their arrival when the disease was prevalent (See Chapter 5). The atrocious conditions experienced during the first winter took a serious toll on new arrivals committed to the rigour of camp life and trench warfare without having time to become acclimatized, or to receive instruction on how to deal with the conditions to which they were exposed.

Hall complained about the poor physical condition of recruits several times and with obvious justification.

The arrangements for the new arrivals were inadequate on occasions and this had a detrimental effect on their health. The faults lay principally with the military authorities who eventually attempted to ameliorate the situation by allowing them some time to acclimatize before moving to the plateau, although this was not an unalloyed success.

The importance of training and leadership, and the provision of satisfactory living conditions, were illustrated by the experience of the LTC during the second winter. Many recruits were too young and callow to cope and they sickened and died in

229 *M&SH*, I, p. 462.

230 Luscombe (1821), pp. 108-15.

relatively large numbers in comparison with the regular soldiers working alongside them who generally remained fit and capable of work. However, the employment of sufficient officers and NCOs to enforce discipline and order, and the improvement in the weather and living conditions, benefited their health towards the end of the campaign.

Nearly a third of the men joining the Army during the campaign were <21 years of age. It is understandable, perhaps, that Hall concluded that these youths had a higher rate of mortality than the older troops, as nearly a quarter of the deaths from disease occurred in the younger lads. However, when the mortality rate was calculated with respect to age the converse was true as a higher proportion of the older troops died although the fatalities among those aged ≥36 accounted for only *c*.5% of all the deaths from disease (Figure 3.4).

Tables 3.1-3.11

Table 3.1: Criteria for recruitment specified in General Order No. 633 issued by Horse Guards on 30 October 1854

Corps	Height		Maximum age (years)*
	Minimum	Maximum	
Heavy Cavalry	5 feet 5½ inches	5 feet 9 inches	25
Light Cavalry	5 feet 5½ inches	5 feet 8 inches	25
Infantry of the Line	5 feet 4½ inches†	Not stated	30

[Summarized from WO/123/141]

* No minimum age was specified in the General Order but a Memorandum of 5 January 1855 stipulated that no 'growing lad' below the age of 17 should be recruited into the infantry.

† The minimum height was reduced to 5 feet 4 inches by a memorandum dated 19 December 1854 and this remained in force until 26 March 1856 when the height was increased to 5 feet 5 inches.

Table 3.2: Bounty paid to men successfully recruited into the cavalry and infantry

Corps	Bounty*		
	1 March 1854	30 October 1854	22 January 1855
Cavalry	£5 15s 6d	£7 15s 6d	£10
Infantry	£4	£6	£8

[BPP (1854-55), No. 247, p. 352]

* £1 would be equivalent to *c*.£635 today based on average earnings.

Table 3.3: Recruitment into the British Army during 1854 and 1855

Corps	Year to 21 Oct. 1854	Year to 18 Aug. 1855
By regiments of infantry in the East (including the Guards)	11773	15493
Regiments at Home, and the depôts of regiments in the Colonies (exclusive of the above)	9289	10289
Cavalry	1624	3333
Subtotal	22686	29115
Artillery	2577	4178
Marines	2657	1829
East India Company	2911	1261
Grand total	29831*	36383

[RAMC/397/C/CO/2/5 & 6]

* The figures given indicate that the grand total should be 30,831.

Table 3.4: Ages of men in the cavalry and infantry sent to the East, 1854-56

Age (years)	Cavalry		Foot Guards		Infantry		Total	
	No. of men	Proportion (%) of total	No. of men	Proportion (%) of total	No. of men	Proportion (%) of total	No. of men	Proportion (%) of total
17	23	0.3	36	0.6	1330	2.3	1389	2.0
18	522	7.4	184	3.0	6586	11.5	7292	10.4
19	785	11.1	495	8.0	6382	11.2	7662	10.9
20	811	11.5	505	8.2	5392	9.4	6708	9.5
21	624	8.8	517	8.4	4320	7.6	5461	7.8
22	591	8.4	562	9.1	3848	6.7	5001	7.1
23	511	7.2	592	9.6	3559	6.2	4662	6.6
24	463	6.5	543	8.8	3543	6.2	4549	6.5
25	423	6.0	526	8.5	3646	6.4	4595	6.5
26	349	4.9	372	6.0	3348	5.9	4069	5.8
27	291	4.1	327	5.3	2535	4.4	3153	4.5
28	246	3.5	249	4.0	2393	4.2	2888	4.1
29	222	3.1	201	3.3	1990	3.5	2413	3.4
30	208	2.9	178	2.9	1833	3.2	2219	3.2
31	139	2.0	133	2.2	1342	2.3	1614	2.3
32	136	1.9	133	2.2	1195	2.1	1464	2.1
33	137	1.9	104	1.7	1001	1.8	1242	1.8
34	110	1.6	110	1.8	817	1.4	1037	1.5
35	100	1.4	99	1.6	713	1.2	912	1.3
36	100	1.4	88	1.4	519	0.9	707	1.0
37	63	0.9	70	1.1	338	0.6	471	0.7
38	60	0.8	56	0.9	242	0.4	358	0.5
39	42	0.6	35	0.6	160	0.3	237	0.3
40	39	0.6	18	0.3	86	0.2	143	0.2
≥41	75	1.1	27	0.4	77	0.1	179	0.3
Totals	7070	100	6160	100	57195	100	70425	100
Age not known (%)	1223 (14.7)		344 (5.3)		9816 (14.6)		11383 (13.9)	

[Summarized from the *M&SH*, II, General Return D]

Table 3.5: Causes of rejection of potential recruits for the Army during 1844 and 1845

Cause of rejection	Number (%)		
	1844	1845	Total
Weak intellect	12 (0.2)	8 (0.2)	20 (0.2)
Unsound health (marks of cupping, leeching, setons, etc.)	499 (8.3)	351 (8.5)	850 (0.35)
Muscular tenuity	458 (7.6)	158 (3.8)	616 (6.1)
Afflictions of the eye	396 (6.6)	226 (5.5)	622 (6.2)
Loss or decay of teeth	291 (4.8)	197 (4.75)	488 (4.8)
Deformity of the spine	359 (6)	213 (5.1)	572(5.6)
Want of due capacity or malformation of chest	391 (6.5)	364 (8.8)	755 (7.4)
Defective superior extremities	244 (4)	141 (3.4)	385 (3.8)
Hernia (inguinal, femoral, umbilical)	229 (3.8)	227 (5.5)	456 (4.5)
Tendency to rupture from laxity of loins	321 (5.3)	289 (7)	610 (6)
Varicose spermatic cord veins	424 (7)	264 (6.4)	688 (6.8)
Disease or injury of testicles	59 (1)	56 (1.4)	115 (1.1)
Varicose leg veins	582 (9.7)	517 (12.5)	1099 (10.8)
Defective inferior extremities	694 (11.5)	468 (11.3)	1162 (11.4)
Cicatrices, ulcers, wounds	380 (6.3)	252 (6.1)	632 (6.2)
Consumption or pulmonary disease	83 (1.4)	37 (0.9)	120 (1.2)
Diseases of the heart	91 (1.5)	64 (1.5)	155 (1.5)
Impaired hearing	46 (0.8)	43 (1)	89 (0.9)
Impediment of speech	25 (0.4)	13 (0.3)	38 (0.4)
Syphilis	105 (1.7)	81 (2)	186 (1.8)
Marks of corporal punishment	32 (0.5)	32 (0.8)	64 (0.6)
Marked with letter D	13 (0.2)	17 (0.4)	30 (0.3)
All other causes	292 (4.8)	128 (3)	420 (4.1)
Totals	6026	4146	10172

[RAMC/397/C/CO/2/5 & 6]

Table 3.6: Dr Hall's comments on the health status of newly arrived drafts

Date	Regiment	Comments
June 1855	5th Dragoon Guards	The Regiment continued healthy until a draft of some 40 men arrived several of whom were in a debilitated state of health previous to starting.
	11th Hussars	Venereal cases were discharged to duty. The surgeon states that if proper attention had been paid before embarkation on the voyage the majority of men would have landed fit for duty, instead of hospital, and in the next month: 13 men from England admitted at once with various forms of venereal diseases. The men of the draft were found to be in a state of great filth both as to their clothes and persons, the surgeon reported this to the officer commanding.
July 1855	1st Royal Dragoons	Strength increased by 141 men from England, a great number are sickly, weak and young boys.
August 1855	47th Regiment	The recruits are now mere delicate boys, no stamina and physically unfit for the field. […] these useless birds should be detained at the depot.
September 1855	17th Lancers & 28th Regiment	Venereal disease in new recruits.

[RAMC/397/F/RT/1/2]

Table 3.7: Numbers of reinforcements joining infantry and cavalry regiments during the six months after the invasion

Corps (No. of regiments)	1854				1855		Total (Ave./Regiment)
	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	
Initial besieging force (B+) (21)*	3	159	1637	1551	1809	1122	6281 (314)
Initial besieging Force (B-) (7)*	0	0	444	158	371	213	1186 (198)
Infantry joining in November (4) †	NA	NA	0	146	251	82	479 (120)
Infantry joining in December (4)‡	NA	NA	NA	1	513	180	694 (173)
Infantry joining in January (3)§	NA	NA	NA	NA	0	465	465 (155)
Cavalry Division (10)¶	0	0	3	0	0	0	3 (0.3)
Highland Brigade (3)#	0	100	0	92	0	54	246 (82)
Totals	3	259	2084	1948	2944	2116	9354

[Adapted from BPP (1854-55), No. 218, pp. 472-9: Adjutant Generals Office, Horse Guards, 22 March 1855]

NA Not applicable.

* B+, served in Bulgaria: Grenadier Guards, Coldstream Guards, Scots Fusilier Guards; 1st bn, 1st Regiment; 7th, 19th, 23rd, 28th, 30th, 33rd, 38th, 41st, 44th, 47th, 49th, 50th, 55th, 77th, 88th, 95th Regiments, and 2nd bn, Rifle Brigade.
B-, from Turkey or direct by sea: 4th, 20th, 21st, 57th, 63rd, 68th, and 1st battalion Rifle Brigade.

† The 9th, 46th, 62nd, and 97th Regiments. The hospital admissions of two companies of the 46th Regiment that landed in September have been excluded from the analysis.

‡ The 17th, 18th, 34th, 89th, and 90th Regiments. No hospital admissions were recorded for the 18th Regiment in December and so it has been included with the January arrivals for other analyses.

§ The 14th and 39th Regiments.
Heavy Brigade: 4th and 5th Dragoon Guards, 1st, 2nd and 6th Dragoons; Light Brigade: 4th and 13th Light Dragoons, 8th and 11th Hussars, and 17th Lancers.

Balaklava defences: 42nd, 79th, and 93rd Regiments.

Table 3.8: Summary of reports from medical officers and others on the health and suitability of personnel joining the Army, November 1854-January 1855

Date	Corps*	Comment [Reference]
16 Nov.	62nd Regt	The regiment […] disembarked […] on the 16th […] was moved up to the plateau […] the soldier was only in procession of the usual service kit and one blanket, the troops soon began to experience the ill effects of exposure; the duties […] were extremely severe […] The health of the regiment soon became seriously compromised, and suffered serious deterioration […] [*M&SH*, I, p. 340]
20 Nov.	97th Regt	[…] the regiment immediately disembarked […] the weather was […] cold and wet, and the men were insufficiently provided with clothing suited to the climate […] encamped on damp ground on the heights […] the duties […] of such a nature to prove highly detrimental to the health of the soldier. [*M&SH*, I, p. 439] Hall, diary entry: The 97th were landed and kept in the rain for many hours and then ordered to encamp outside [Balaklava]. Why were they not allowed to remain on board ship like the Guards […] I cannot tell. At this time of year it is a hazardous experiment. [RAMC/524/15/6] On 26 November Hall forwarded a letter from the regimental surgeon to Smith which stated that five recruits had died, and eight others were dangerously ill [due to] want of fuel, camp kettles, and blankets, as well as proper shelter. [BPP (1856), No, 2007, p. 162]
21 Nov.	17th Regt	102 recruits joined […] from England and cholera which had been absent since 14th October, once more appeared […] confined […] almost entirely to the men comprising this draft. [*M&SH*, I, p. 193]
21 Nov.	1st Regt (1st Bn)	A draft of 122 recruits, mostly boys, arrived on the 21st, and cholera soon made its appearance. [*M&SH*, I, p. 132] On the 28 November an officer wrote: We landed […] last Tuesday [21 November] and were first ordered to encamp near Balaklava, but I had no sooner marched up to the ground indicated about a mile from the bay, and got already for the tents, than an orderly came up with orders […] to march up to the front […] we got our ammunition served out to us […] and began our weary march about 12 o'clock. […] Well, we proceeded on as best we could through the mud till dark, and to every enquiry as to how far the 3rd Division was 'five miles' was the invariable answer. As it became perfectly dark we began to suspect that our guide, an orderly from the 13th Dragoons, did not know much about the country. […] at last we reached our camp about 8 o'clock, after having by our wanderings converted a march of six miles into nearly 20. [*The Times*, 21 Dec. 1854]

Table 3.8: Continued

22 Nov.	Scots Fusilier Guards	A second draft of 101 joined […] composed of young inexperienced soldiers, and the change from the comforts they enjoyed […] on *Queen of the South* to the severe duty of camp during inclement weather, the salt diet, and the cold muddy tents, was most disastrous. [*M&SH*, I, pp. 125-6] The regimental surgeon noted on 25 November: […] several of the men of the draft having been attacked with cholera of a passive, but fatal type. Severe diarrhoea and dysentery is prevalent amongst them. Possibly as the majority are young lads with little stamina, the voyage out may have weakened and predisposed them to the malady. [Robinson (1856), p. 222]
28 Nov.	7th Regt	Cholera was diagnosed in the drafts received on 21 and 28 November. [*M&SH*, I, p. 159] On 1 December Hall noted in his diary: Even no later than today the surgeon of the 7th Fusiliers writes that a draft of recruits [arriving] on 28 November, 100 strong, were landed at about 4 p.m. (it gets dark a little after 5) and ordered to march to the camp […] a distance between 7 and 8 miles. No notice was sent to regiments, no tents were provided, and no guide for the unfortunate strangers furnished. Only 30 reached camp between 10 and 11 at night, about 30 more have since come in, but there still some missing .. and others were picked up on the road by parties who pitied their forlorn condition, and carried their knapsacks for them. [RAMC/397/524/15/6]
28 Nov.	Medical report	The amount of sickness is considerable; cholera appeared in newly arrived troops. [Hall to Smith, 28 Nov. 1854; RAMC/397/F/CO/1/1/976 and *PoL*]
28 Nov.	News report	Weather drizzly, dreary, and cold, is trying our stamina. Our young recruits are suffering seriously from their new mode of life under a changeable climate. This cannot surprise […] the poor boys, who are like children as regards campaigning, return from the trenches wet, cold, and tired, and throw themselves down to sleep, reckless of the injury which must result to the vital powers from daring an opposition to the common laws of existence. […] a disease, call it cholera […] happily it is confined to the new arrivals, and will, I trust, disappear when the dry winds and bracing frosts set it. [From Our Own Correspondent, 28 Nov. 1854; *The Morning Post*, 19 Dec. 1854]
30 Nov.	Letter	An officer reported that the 46th have lost 90 men in the short time they have been out here, and the 62nd 70; the 9th came from Malta two days ago, and they are knocked up fearfully. The men are in such a state of desperation that they say when going into the trenches, 'They would rather be shot by the Russians than to come back and die by inches.' [*The Times*, 21 Dec. 1854]
Nov.	19th Regt	The recruits suffered more than the old soldiers. [Hall's monthly summary; RAMC/397/F/RT/1/1]
Nov.	30th Regt	The mortality took place principally among the young men lately arrived from England, who, not possessing mature physical development, speedily succumbed to the unaccustomed privation and hardships of camp life. [*M&SH*, I, p. 236]
2 Dec.	Medical report	[…] there is a considerable increase in sickness confined chiefly to the recruits and new regiments. The duty is very severe in […] the trenches. The weather for the last three weeks has been wet, cold, and tempestuous; the men are indifferently clad and not well fed […] [Hall to Smith; BPP (1857-58) No. 2379, p. 22]
2 Dec.	News report	A draft [mostly boys], arrived on the 21st, and cholera soon made its appearance […] Unless the troops are hutted, and provided with warm clothing and fuel […] the exertions of the medical officers [will be] of little avail. [Medical report from the Crimea; *Nottinghamshire Guardian*, 28 Dec. 1854]
2 Dec.	Letter	The armies, both English and French, are receiving recruits every week, and on these fresh troops the fresh outbreak of cholera has fallen. They die in hundreds. [Bostock (1897), pp. 212-3]
3 Dec.	Diary entry	I [Mrs Duberly] know that the mortality amongst the newly-arrived regiments is very great; nor can any one wonder at it! We, who are acclimatized, can hardly make head against the hardships of the life, – what, then, must those feel who have just left an English barrack, or even the crowded discomforts of a transport! [Kelly (2007), p. 117]
6 Dec.	News report	Some unfortunate drafts […] disembarked at sunset […] to march five miles to their encampments, ankle deep in sticky clay, and in almost utter darkness, this was, of course, not intended and messengers, in the shape of Dragoons, were sent by the Commander-in-Chief to meet them, and order them to halt, where they were placed under cover, and got a ration of rum. This was a fortunate accident for the poor fellows. […] Some of the drafts that had lost their way marched in this morning – they had met with kindness from the French and had 'much talk' without having been able to understand one word. [A correspondent, 14 Nov.; *Dublin Evening Mail*, quoted from the *Daily News*, 6 Dec. 1854]
6 Dec.	Medical report	The increase in sickness is mainly in the recruits and new regiments. [Hall to Smith, 6 Dec. 1854; RAMC/397/F/CO/1/1/1032, *PoL*, I, pp. 216 & 128, and BPP (1857-58), No. 2379, p. 22]

Table 3.8: Continued

9 Dec.	Letter	The constant exposure to rain, fatigue in the trenches, and scanty food introduce the plague (cholera) among them. Poor fellows! We bury upwards of 15 from the 9th almost daily. [A Catholic chaplain; *The Times* 30 December 1854]
15 Dec.	Medical report	Cholera is raging in all the newly-arrived regiments, and many of the puny youthful recruits are so broken down by duty and the hardships of their position that they have not sufficient energy left to cook their rations, and they die, when attacked with any disease, from sheer exhaustion. [Hall to an unnamed recipient, 15 Dec. 1854; BPP (1857-58), No. 2379, p. 23]
19 Dec.	89th Regt	[…] on the 19th […] disembarked, and joined the 3rd Division on the plateau. […] the troops were soon introduced to the hardships and privations of camp life […] the men were detailed for duty in the trenches in the same clothing they had used in the Mediterranean. […] The regiment […] was unfortunately attacked the first night of encamping with cholera and severe diarrhoea. [*M&SH*, I, p. 406]
21 Dec.	News report	We can state on official authority that on the 21st of December (1854) […] that cholera (is) confined almost exclusively to the recruits and newly-arrived regiments. [*MT&G*, 13 Jan. 1855]
23 Dec.	21st Regt	The recruits of 18 and 19 years of age are totally unfit […] the first exposure in the trenches produces generally an attack of cholera, or brings on symptoms of collapse, from which their recovery is protracted, but which not unfrequently passes on to a fatal termination. [Surgeon D.R. McKinnon; BPP (1854-55), No. 1,920]
8 Jan.	3rd Division	Hall forwarding a complaint from the PMO, 3rd Division, to the QMG which reported that men were marched up to camp without bringing a blanket with them. [BPP (1857-58), No. 2318, p. 112]
9 Jan.	Letter	The men are too young; they die fast when put to work. [Estcourt privately to Wetherall, AG, Horse Guards; NAM-1962-10-95] (Incidentally, in a letter dated 6 Feb. the AG refers to the inadequate training of the new arrivals.)
15 Jan.	63rd Regt	[…] the 63rd Regiment […] is gone. Gone in men, gone in spirit. […] The men I saw were mere boys […] Raw fellows and so cast down with disease and disgust at their fate, the hardships they have to bear; that they cannot stay here. [Estcourt privately to Wetherall, AG, Horse Guards; NAM-1962-10-95-2]
25 Jan.	Medical report	It is quite true that all newly arrived regts and that all the recruits that have joined the Army of late have suffered more than others from disease. [Hall to Military Secretary, 25 Jan. 1855; RAMC/397/F/C/O1/1/1333]
26 Jan.	Rifle Brigade, 2nd Bn	Of our last draft of miserable boys, four fifths are already dead. [Colonel A.J. Lawrence, Rifle Brigade, privately to Wetherall, AG Horse Guards; NAM-1962-10-97-15]
30 Jan.	Report	... newly arrived regiments and recruits, who are suffering much from diarrhoea, and a great many of whom have already been swept off by disease to an extent that is perfectly appalling. [Hall to PMO, Scutari, 30 Jan. 1855; RAMC/397/F/CO/1/1/1360]
Jan.	44th Regt	The recruits were mere boys physically unfit for the duties of a campaign. [Hall's monthly summary; RAMC/397/F/RT/1/1]
Jan.	Coldstream Guards	I have frequently been reminded of the utter uselessness of young soldiers being sent out from England to share duties of this campaign, which have been severe, and not altogether devoid of hardships and privations of an unexpected character. Many of the new arrivals have succumbed almost immediately after landing. Report to Col. the Hon. G. Upton, Commanding, Coldstream Guards, Jan. 1855; Wyatt, '*History*', pp. 48-53, with an extract in *M&SH*, I, pp. 114-5

* The 9th, 23rd, and 46th Regiments are not included as they are covered in the main body of the text.

Table 3.9: Experience of regiments that did not go directly to the plateau after disembarkation as summarized in the *Medical and Surgical History*, December 1854-August 1855

Date	Corps	Notes [Reference]
5 Dec.	90th Regt	On the 5th […] disembarked, and encamped a little distance from the town. The site […] was bleak and much exposed to the weather […] it overlooked the head of the harbour, where accumulations of offal and filth were too frequently observed […] On the 13th December the regiment moved to the front. […] On the 8th […] cholera appeared […] [*M&SH*, I, p. 410]
9 Dec.	34th Regt	Landed at Balaklava on the 9th […] For the next three days it was encamped in the immediate neighbourhood of Balaklava, and hardly had the men been placed under canvas than they began to be affected with cholera and diarrhoea […] On the 12th the regiment marched to the front. [*M&SH*, I, p. 256]
21/22 Dec.	Grenadier Guards	A draft of 411 men [were] encamped about a quarter of a mile beyond the head of the harbour. The site […] after rain soon became broken up […] sickness, especially diarrhoea and dysentery, soon became prevalent, from the combined effects of cold and damp. […] The draft joined the battalion at the front on the 29th […] The reason of its detention at Balaklava for ten days was with the view that being exempted from trench duty for a short period […] a measure […] not attended with the good effects expected […] owing to the state of the ground and the of the weather, combined with the pestiferous exhalations arising from the polluted harbour of Balaklava. [*M&SH*, I, p. 100. The arrival of the drafts for the Coldstream Guards and Scots Fusilier Guards was mentioned on pages 113 and 126 respectively, but without comment.] A letter dated the 21 December described the same event: [The men] were disembarked and encamped for a day or two, on the sides of the hills opposite [Balaklava] before they go up to the front. It has been observed that by this plan [they] escape a good deal of sickness; it is a kind of acclimatizing before they are put to hard work in the trenches. December is a bad time to begin living in tents, and if hard work and bad accommodation have to be tried at the same time, great sickness is inevitable, as several newly arrived regiments have experienced. [Letter from camp, 21 Dec.; *The Times* 17 Jan. 1855]
22 Dec.	71st Regt	[A detachment] […] landed at Balaklava in December. During the first ten days […] they were in tents pitched near the head of the harbour, close to the Turkish burial ground. The weather was cold and wet. Numerous cases of diarrhoea, and two of cholera occurred […] but no deaths. [*M&SH*, I, p. 363]
30 Dec.	18th Regt	Landed at Balaklava on the 30th […] encamped on the slope of a hill about a quarter of a mile from the town. […] the Corps […] was provided with new tents, and was constantly employed […] carrying Commissariat stores to the camp […] and the harassing nature of the duties, and the constant exposure of the men after returning so recently from a tropical climate was productive of much sickness. About the middle of January the regiment was moved to the front […] [*M&SH*, I, p. 186]
1 Jan.	39th Regt	[…] on arrival at Balaklava [the regiment] was detained on […] *Golden Fleece* for 27 days on account of the severity of the weather […] [but] sickness has prevailed considerably […] attributable to the crowded state of the ship […] [*M&SH*, I, p. 270]
19 Jan.	14th Regt	[…] for a time remained quartered on board […] they were immediately employed on garrison duties and public fatigues of a very harassing description during very inclement weather, the severity of which was the more acutely felt in consequence of their sudden transfer from […] Malta. Diarrhoea soon became prevalent, and on the 27th two cases of cholera […] the right wing was landed on the 30th […] and placed under canvas on the hill side about half a mile out of Balaklava […] [*M&SH*, I, p. 175]
Aug.	1st Dragoon Guards	The regiment arrived on 10, 17, and 28 August and they were encamped near Kadikoi, where the water was of 'indifferent quality' and cholera broke out almost immediately. It was noted that 'an amount of tolerance to [the cholera poison] appeared […] to have been […] established among the men composing the bulk of the Army […] it was chiefly among the newly-arrived drafts for the infantry regiments that it showed itself […]' [*M&SH*, I, p. 1.]

Table 3.10: Primary admissions to the regimental hospitals for venereal diseases, April 1854-June 1856

Year	Month	Total admissions	Incidence (‰ of strength)		
			Syphilis/gonorrhoea*	Other venereal complaints†	Total
1854	April	99	7.9	4.1	12.0
	May	382	11.0	7.0	18.0
	June	407	12.8	5.4	18.2
	July	217	5.2	3.6	8.7
	August	123	2.4	2.3	4.7
	September	51	0.9	1.1	2.0
	October	103	3.0	1.1	4.1
	November	78	2.1	1.1	3.2
	December	85	1.7	1.5	3.2
1855	January	90	2.1	1.2	3.3
	February	80	1.7	1.3	3.1
	March	58	0.9	1.5	2.4
	April	83	1.7	1.6	3.3
	May	149	3.5	2.0	5.5
	June	128	2.2	2.0	4.2
	July	173	3.2	2.4	5.6
	August	142	2.2	2.1	4.3
	September	195	3.1	2.5	5.5
	October	213	3.6	2.2	5.8
	November	121	1.9	1.5	3.3
	December	129	1.5	2.1	3.6
1856	January	103	1.7	1.1	2.9
	February	132	2.0	1.5	3.6
	March	153	2.1	1.6	3.6
	April	112	1.2	1.5	2.7
	May	79	1.0	1.1	2.1
	June	32	1.0	0.5	1.5

[*M&SH*, II, General Return A]

* These comprised 1,546 and 525 cases of syphilis and gonorrhoea respectively.

† Ulcerated penis (266 cases), bubo (622), verrucae et condylomata (76), and hernia humoralis (682).

Table 3.11: Mortality among NCOs and men in cavalry and infantry regiments during the Eastern campaign, 1854-56

Age (years)	Cavalry		Foot Guards		Infantry		Total	
	No. of deaths	Proportion (‰) in the age group*	No. of deaths	Proportion (‰) in the age group	No. of deaths	Proportion (‰) in the age group	No. of deaths	Proportion (‰) in the age group
17	1	43	3	83	131	98	135	97
18	21	40	51	277	1002	152	1074	147
19	68	87	119	240	1359	213	1546	202
20	81	100	125	248	1251	232	1457	217
21	85	136	123	238	958	222	1166	214
22	87	147	154	274	925	240	1166	233
23	82	160	154	260	752	211	988	212
24	84	181	171	315	881	249	1136	250
25	56	132	150	285	836	229	1042	227
26	63	181	83	223	893	267	1039	255
27	49	168	89	272	662	261	800	254
28	47	191	84	337	573	239	704	244
29	42	189	68	338	450	226	560	232
30	39	188	69	388	448	244	556	251
31	31	223	58	436	310	231	399	247
32	30	221	66	496	360	301	456	311
33	29	212	33	317	276	276	338	272
34	33	300	48	436	250	306	331	319
35	22	220	40	404	191	268	253	277
36	27	270	41	466	179	345	247	349
37	13	206	33	471	146	432	192	408
38	12	200	23	411	98	405	133	372
39	14	333	15	429	59	369	88	371
40	11	282	10	556	41	477	62	434
≥41	11	147	10	370	30	390	51	285
Totals	1038	-	1820	-	13061	-	15919	-

[Summarized from the *M&SH*, II, General Return D]

* The denominators were taken respectively from columns 2, 4, 6, and 8 in Table 3.4.

Figures 3.1-3.5

Figure 3.1: Number of men successfully recruited into cavalry, infantry regiments and Royal Artillery, March 1854-March 1855

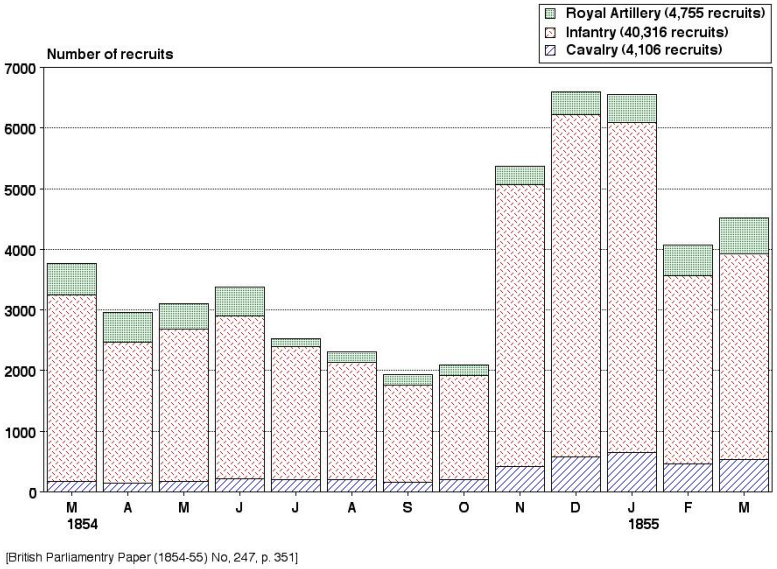


Figure 3.2: Age distribution of 70,425 NCOs and men in cavalry and infantry regiments sent to the East

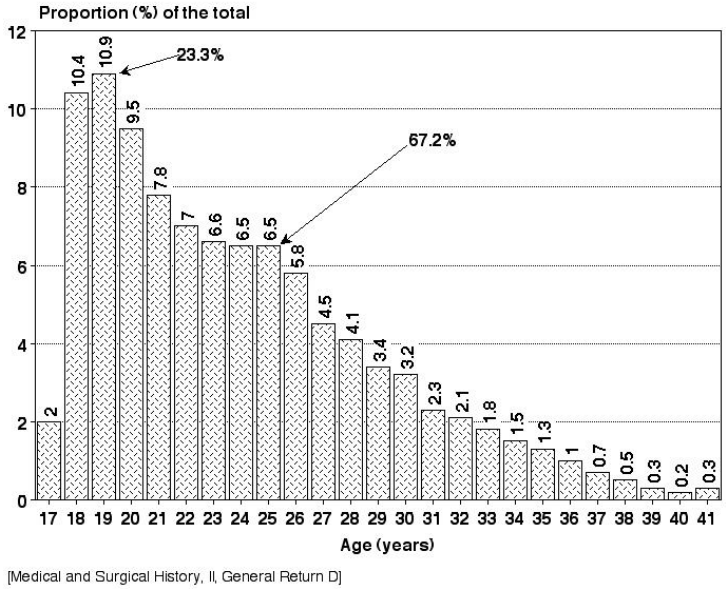
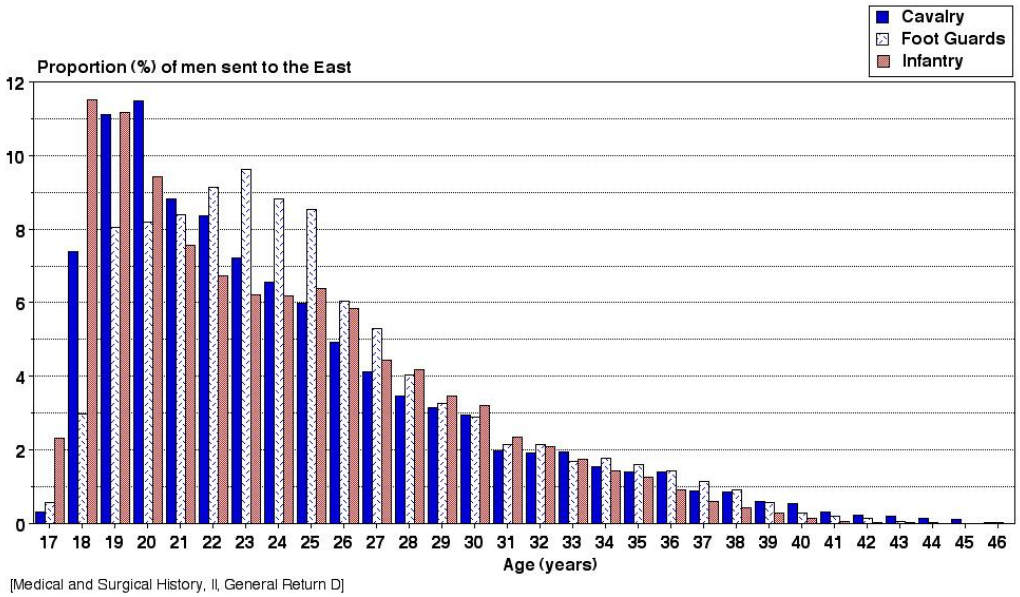
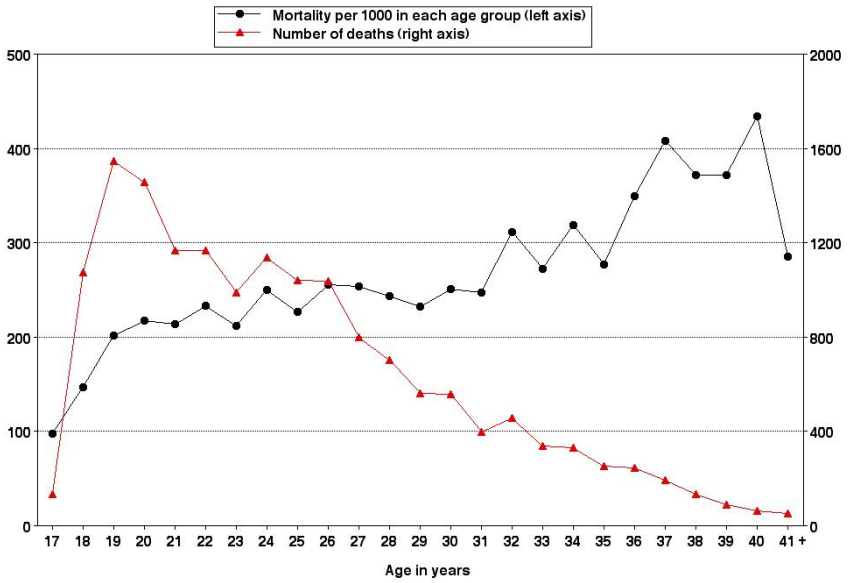


Figure 3.3: Age distribution of 70,425 NCOs and men in the cavalry, foot guards, and infantry regiments sent to the East



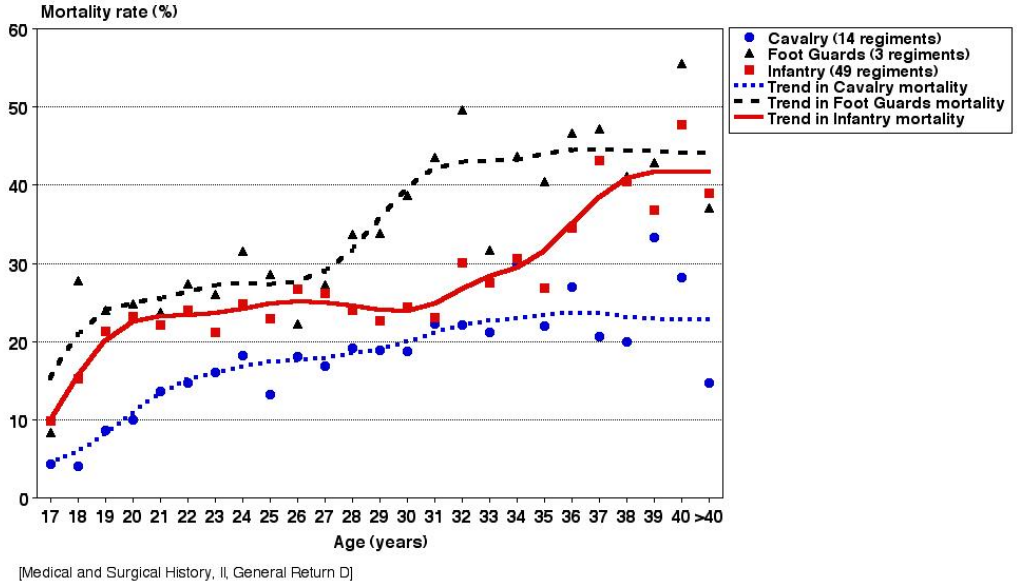
[Medical and Surgical History, II, General Return D]

Figure 3.4: Relationship between the numbers of NCOs and men in each age group and the mortality rate



[Medical and Surgical History, II, General Return D]

Figure 3.5: Trends in the rates of mortality from disease and wounds in NCOs in the cavalry, foot guards, and infantry regiments during the Eastern campaign, 1854-55, according to age



[Medical and Surgical History, II, General Return D]

Appendices 3.1-3.4

Appendix 3.1: Circular Memorandum issued by the Adjutant General, Horse Guards, 28 August 1855

The time for the instruction for the detachments at Malta being limited, and it having been found impossible that the whole of the men should be thoroughly trained in the theory and practice of musketry before they are ordered on to the Crimea, it is of the utmost importance that the attention of instructors at the former station should be devoted principally to those men who most require instruction and particularly to those who may not have gone through a course of training at home. The General Commanding in Chief accordingly desires that a return […] may be forwarded with each draft […] detailing the exact amount of training which each man has received. By these means the instructors at Malta can take up the training of each man where it left off in this country.[231]

Appendix 3.2: Extract from the official medical history of the 9th Regiment

The 9th […] arrived at Balaklava on the 26th November 1854 […] and disembarked on the following day. Although the landing was effected at an early hour, the men were kept loitering upon the beach until the evening, for the purpose of exchanging the arms [and] did not reach the camp […] until 10 o'clock at night. […] no preparations made for their reception, except that tents had been pitched, but as this had been only recently done, and the weather was wet, the covered surface was in no better condition than the ground elsewhere. The men […] left Malta without winter clothing; and thus, after many hours exposure in Balaklava [and] a toilsome night march through the sea of mud which covered the roads and whole face of the camp − tired and exhausted, without straw or other bedding − without baggage − and without covering, beyond what each carried − men and officers slept on the wet ground. […] The following day the Regiment was on duty in the trenches discomforts rapidly accumulated round it − the soldiers […]

231 WO/123/141.

often, hungry and worn out, threw themselves on the ground unable or unwilling to undergo the labour of seeking the means of properly preparing their food, such as it was.[232]

Appendix 3.3: Report prepared by Major General Airey, QMG, 9 February 1855

The 9th Regiment arrived at Balaklava on the 26th November 1854 and disembarked on the following morning an officer of the QMG's Department, Captain Ewart, having been sent from headquarters to conduct them to camp […] Colonel Borton states that should the weather prove fine the regiment would have been ready to march off from the place of landing by 10 a.m. had it not been for the exchange of arms […] ordered […] by the Adjutant General just as the troops were leaving the vessel. This exchange delayed them till about 5 p.m. consequently they did not reach their camp till 10 or half past at night, but the tents having been sent in the morning were ready pitched for the men to go into on arrival. The men landed with two days provisions ready cooked, viz. for the 27th and 28th. On the evening of 28th November, the regiment furnished a covering party, and on the morning of the 29th a working party for the trenches. The ground occupied by the 9th Regiment is probably the most healthy of any in camp, being very dry, and facing South West, and sheltered from the North. The sickness and mortality in this regiment since its arrival in the Crimea may be associated for as follows:- The regiment passed the summer in Malta and suffered severely, from fever, the average number on hospital being between 80 and 90, nearly every man of the Corps having been affected. When the order for embarkation was received several men (upwards of 20) whom the regimental surgeon had drafted as unfit to accompany the regiment upon service, were ordered to embark by the Principal Medical Officer of the island. The Colonel states that the whole of these men have died. Three were unable to proceed further than Scutari. When at Malta the sickness of the regiment was in part attributed to the dampness of the walls of a new barrack in which they were placed, as will appear by the correspondence of the Principal Medical Officer at that station. The opinion that the sickness of this regiment may be traced to the sudden change of climate of Malta to that of an exceedingly wet season in the Crimea, rather than to the bad selection of its camp or neglect of the responsible authorities, is strengthened by the circumstances that a draft of 90 men which arrived from England on the 8th January had been remarkably well and has not lost a single man by death.[233]

Appendix 3.4: Lord Raglan to Duke of Newcastle, No. 190, 6 March 1855 and Lord Panmure to Lord Raglan, No. 74, 13 April 1855

Raglan to Newcastle: With reference to […] dispatch No. 213 […] transmit the proceedings of the Board […] [concerning] the sickness and mortality […] in the 9th Regiment […] all the prominent matters of charge have been disproved […] with the exception of the men having been detained […] in affecting the exchange of the smooth bore arms for Miniés, the whole of the allegations are without foundation. […] the 9th arrived at a moment when additional troops were urgently required […] I accordingly ordered that the regiment should disembark the following day if it should not be wet […] I expressly directed […] that the exchange should take place before the march commenced. Unfortunately it took [longer] and the regiment reached the 3rd Division late; but the tents were pitched and ready for its reception and the provisions for two days had been cooked previously to the landing in the morning. With reference to the 9th being called upon for duty the afternoon following their arrival in camp, I may […] remark that a regiment which has just arrived might be fairly be supposed to be more equal to fatigue than one which had been exposed to arduous duty for some very considerable time. (The official report is followed by a transcription of the evidence.)[234]

Panmure to Raglan: I am happy to learn […] the alleged cause of the mortality were proved unfounded and that the sickness and mortality originated rather in the enervated state of the regiment on it's leaving Malta than in the hardships and exposures to which it was subjected after it had landed in the Crimea.' Panmure also agreed that 'it is to be regretted that the exchange of arms had not been effected before they left the vessel.[235]

232 *M&SH*, I, p. 106.

233 WO/1/371 and a longhand draft; WO/28/198.

234 WO/1/371/109.

235 WO/6/70/74.

Chapter 4
Army Medical Department

McGrigor retired as DG in 1852 and his place was taken by Smith who was paid less than half of his salary, and whose status would inevitably have been been diminished thereby. At the time of Smith's appointment there were 667 MOs distributed between the staff (185) and regiments including the RA (482) stationed in the UK, Colonies, and India. Smith had control over the medical staff officers, but little over the regimental MOs who were under the orders of their COs. There were also 80 regimental MOs and a few others in India, paid for by the HEIC, and over whom Smith had no authority.[236]

On 25 February 1854 Smith proposed a medical establishment for 12,000 men as 48 regimental surgeons (39 in 13 infantry regiments, 4 in 2 cavalry regiments, and 5 in the RA and RS&M), 20 staff MOs, 1 purveyor, and 1 purveyor's clerk.[237] He also recommended that Hall, serving in India, should be promoted to IGH and take medical charge;[238] Orders to proceed to Constantinople within three days,[239] and he arrived there on 18 June 1854.[240]

When the proposed size of the army was increased to 27,000 Smith informed the then PMO (Dr Burrell) that the staff personnel should comprise 1 IGH, 4 DIGH, 12 SS1, 13 SS2, 49 SAS, 1 chief apothecary, 3 dispensers of medicines, 3 purveyors, 6 purveyor's clerks, 2 medical clerks, 1 cutler and assistant. At the regimental level he recommended 1 surgeon and 3 AS for infantry regiments of 850; 1 surgeon and 1 AS for cavalry squadrons of 250; 1 AS for troops of horse artillery and field batteries; plus 1 surgeon for general duties. The total of 205 MOs gave a ratio of 1:132 men. Smith also recommended a reserve of 68 MOs.[241]

A considerable number of medical personnel and support staff served during the campaign and as none of the several published and unpublished returns appear

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236 Cantlie (1974), II, pp. 3-4.

237 W&SHC/2057/F8/III/B/229. Equivalent to one MO to 175 men.

238 Smith to Military Secretary, 1 Mar. 1854, RAMC/397/F/CO/2/2a.

239 Smith to Hall, 3 Mar. 1854, *PoL* and RAMC/397/F/CO/2/1.

240 General Order; WO/28/48.

241 Smith to PMO, Army of the East, 17 May 1854; RAMC/397/F/CO/2/3. The figures were published in (1) *MT&G*, 13 May 1854; (2) a printed pamphlet dated 20 June 1854; W&SHC/2057/F8/III/B/239a; and (3) *The Times*, 18 Oct. 1854, with a letter from Smith reporting the ratio of MOs to strength at the Alma was 1:97, compared to 1:154 in the Peninsular War.

complete there are inconsistencies between them.[242, 243] In order to demonstrate how the medical services evolved during the campaign the foregoing analysis will be restricted to two returns. The first is an appendix in the *M&SH* listing the names and periods of service of surgeons, apothecaries, dispensers of medicines, hospital dressers, civil surgeons, storekeepers, book-keepers, and medical clerks on the medical staff in British pay (Table 4.1). The return does not include those employed in the RA, the Turkish Contingent, and German, Swiss, and Italian Legions.[244] The second analysis is of an unpublished summary table prepared by Hall listing the numbers of personnel employed on the medical staff, and in the regiments, from April 1854 until April 1856 (Table 4.2 with a summary in Table 4.3).[245] In all Smith reported that 752 medical officers were sent to the East up until April 1856, and of these 418 (56%) had been sick for sometime, 186 (25%) were invalided to England, and 47 (6.25%) died.[246]

Military Surgeons

***Medical and Surgical History*, I, Appendix VIII:** Of 418 staff surgeons listed 64 (15%) served in Turkey or Bulgaria, 135 (32%) in Turkey or Bulgaria and the Crimea, 66 (16%) in Turkey, Bulgaria, and the Crimea, and 153 (37%) only in the Crimea (Table 4.1).

Thirty-two of the surgeons were absent for a period and served two tours of duty, making 450 tours in total. The numbers of arrivals and departures were calculated for each month and from these figures the number of staff MOs potentially available was obtained by difference There were *c.*100 when the Crimea was invaded increasing to *c.*250 by March 1855 when the number stabilized with new arrivals being balanced by losses due to disease, detached duty, and death. The ratification of the peace treaty in

242 Unpublished: (1) A monthly return on the Army's strength prepared by the AG contained the names of these individuals in the grades; WO/3/1730-1731; (2) The medical staff serving in the Army of the East; WO/33/3B/68-56/11-2 (Cabinet paper) and RAMC/397/F/RT/2 (Hall's longhand version); and (3) An incomplete collection of longhand monthly returns of the strength of the AMD in WO/28/193.

243 Published: BBP (1854-55), No. 126 and 428; BPP (1857), Session 1, No. 133; BBP (1857-58), No. 2434; *PoL*, I, Appendix VIII; the *Army Lists* for the years of the campaign; and General Orders.

244 *M&SH*, I, Appendix VIII.

245 The Army's monthly numerical strength is included in a printed version (WO/33/3B/68-56/11-2) but not a longhand draft (RAMC/397/F/RT/2). It is not clear if this table included surgeons in the RA.

246 Smith to Undersecretary at War, 2 Mar. 1856; *PoL*.

April 1856 resulted in a fall in numbers during the three months prior to the evacuation of the Crimea to leave only a few retained for the final withdrawal from Turkey (Figure 4.1).

Hall's summary: The number of regiments increased throughout the campaign until shortly after the fall of Sevastopol (see Figure 2.1) and hence the number of regimental surgeons in post increased from April 1854 until the end of 1855 when the numbers stabilized at *c*.240 (Figure 4.2). When the staffing levels were related to the size of the Army the ratio of men to surgeon reduced from *c*.320-335:1 while in Bulgaria to *c*.170-155:1 in the spring of 1855, after which the ratio widened to *c*.210-245:1 (Figure 4.3).

Relatively few staff surgeons were employed in Bulgaria; the numbers increased after the invasion to reach *c*.200 during the summer of 1855, after which time the strength decreased to *c*.175 by April 1856. (Figure 4.2) The ratio of men to staff surgeon widened during the build up of the Army in Bulgaria to exceed 400:1. It then reduced to 150-160:1 during the first winter before gradually widening to just over 300:1 when peace was declared (Figure 4.3).

When the complement of surgeons was considered in relation to the mortality rate it can be seen that the increase in the rate during the winter of 1854-55 occurred in spite of an improvement in the ratio of men to MO (from *c*.160:1 to 80:1). This suggests that the combined effects of overwork, malnutrition and exposure, and the shortage of medicines and medical supplies were together so serious that the increased number of MOs was insufficient in itself to ameliorate the situation and mortality only decreased when living standards and the weather improved (Figure 4.4).

The shortage of MOs was appreciated by Hall before the invasion;[247] and by the DJAG soon after:

> We do not have half enough artillery men, engineers, sappers or doctors. In some cases doctors are doing the work of five men, where five men [would] be amply employed, you may imagine how many sick men have suffered in consequence.[248]

The provision of sufficient MOs on hospital ships and in the general hospitals prompted Hall to ask Raglan to permit the transfer of the third assistant regimental surgeon to the medical staff so they could be deployed on detached duty when

247 Newcastle to Smith, 2 Sep. 1854; NAM-2007-07-16-6.

248 Romaine to Selwyn, 22 Oct. 1854; Robins (2005), p. 33.

required.[249] Newcastle subsequently indicated that he favoured an increase in the complement of both regimental and staff assistant surgeons[250] and on 29 January 1855 informed Raglan that that the third assistant surgeon should be transferred to the medical staff, as the size of the regiments had been reduced and the numbers in hospital increased.[251] Hall also pointed out it was usual for regiments to be 'dissembarrassed of their sick' by placing them 'under treatment in General Hospitals,' thus leaving the remaining surgeons 'free to meet contingencies as they arise.' Hall concluded that 'No injury can accrue for the proposed alteration as it is equally easy to attach a staff medical officer temporarily to regiments when required.'[252] This opinion was forwarded to the War Office with the following comment by Raglan:

> I am not disposed to question [Hall's] opinion, but I attach so much importance to the maintenance of the regimental hospital system so long as circumstance[s] […] allow, that I earnestly recommend that this diminished number may be kept as efficient as possible, and that [surgeons] should not be transferred from [their] Corps […] on slight grounds, the advantage of them knowing the men […] being incalculable.

In rely to Raglan Panmure wrote:

> I […] suppose that the varying requirements of the service will best be met by empowering your Lordship to make […] such disposition of the medical strength […] whither staff or regimental, as with the assistance and advice of the senior medical officer, you may judge expedient.[253]

The shortage of surgeons remained an issue, and later in the year Smith informed Hall efforts were being made to supply replacements for absent surgeons, and suggesting that staff officers should be attached to regiments during their absence.[254]

In the latter part of 1855 the possibility of replacing the third assistant surgeon with a dispenser of medicines was discussed,[255] and Panmure approved of this policy, at

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249 Hall, diary entry, 27 Nov. 1854; RAMC/524/15/6. Incidentally, assistant surgeons on detached duty were 'exempted from mess and band subscriptions;' Wetherall to Raglan, 19 Aug. 1854; WO/3/116.

250 *Hansard*, 12 Dec. 1854.

251 WO/6/70.

252 Hall to Military Secretary, 13 Feb. 1855; RAMC/397/F/CO/1/1/1442 and WO/1/371/463-6. The Hospital Commissioners endorsed this as they considered that under normal circumstances a surgeon, an assistant surgeon, and a apothecary (*sic*: ? a dispenser) should be sufficient for an infantry regiment; BPP (1854-55), No. 1920, p. 49.

253 Panmure to Raglan, 16 Feb. 1855; WO/6/70/232-3. The despatch was annotated by Lieutenant Colonel Lefroy: 'Lord Panmure's despatch […] seems to close this correspondence.'

254 Smith to Hall, 7 Aug. 1855; *PoL*.

255 Cantlie (1974), II, pp. 176.

least initially.[256] A few weeks later dispensers, many of whom had worked with chemists, were sent to the Crimea for regiments not having a third assistant surgeon,[257] an initiative that probably accounted for the increase in the number of dispensers recorded by Hall during early 1856 (Table 4.2 and Figure 4.5). In the event this policy did not find favour at Horse Guards and was 'withdrawn in consequence of the opinion of the Commander-in-Chief;' a decision opposed by Smith who considered that the continued want of staff assistant surgeons 'would be more felt if the Army took to the field in the spring.'[258]

Incidentally, the appointment of dispensers to regiments raised problems regarding their status, as most had not completed a medical training and did not equate to surgeons of the lowest rank. This dilemma necessitated Hall to inform Smith of:

> the anomalous, and unpleasant position, in which the dispensers attached to regiments are placed. The appointments being a new one and not defined by authority some Commanding Officers have objected to consider them as officers belonging to the mess of the regiments. It is probable this difficulty will be obviated by a new warrant, but if not, it would be well […] to have the question defined and settled by authority.[259]

Smith replied to say that the 'Secretary for War has decided that dispensers attached to infantry regiments are to be regimental officers, and have been commissioned accordingly;'[260] Hall passed this information to the AG[261] who informed a divisional commander of the decision that dispensers should be 'received in every respect as such.'[262]

Dispensers of medicines

***Medical and Surgical History*, I, Appendix VIII:** About half the dispensers were employed in Turkey and about a quarter each in Turkey and the Crimea or solely in the Crimea (Table 4.1). The original complement of dispensers recommended for an army of 27,000 was only three and, although this number increased to nine by November 1854, it was not until the next month that it increased further to 29 and it remained between that number and 39 until the peace treaty was signed, after which numbers

256 Smith to Undersecretary, 14 Sept. 1855, *PoL*; Smith to Hall, 5 Oct. 1855, *PoL*.

257 Smith to Hall, 7 Nov. 1855; *PoL*.

258 Smith to Undersecretary, 24 Jan. 1856; *PoL*.

259 Hall to Smith, 29 Feb. 1856; RAMC/397/F/CO/1/2/4323.

260 Smith to Hall, 18 Mar. 1856; *PoL*.

261 Hall to AG. 13 Apr. 1856; RAMC/397/F/CO/1/2/4617.

262 AG to GOC, 1st Division, 14 Apr. 1856; W0/28/125.

were reduced so that only a few remained at Scutari when the hospital closed (Figure 4.5). All the dispensers who joined the Army up until April 1855 remained in post after which time only a relatively small proportion departed until the Peace Treaty was ratified (Figure 4.6).

Hall's summary: The number of dispensers increased following the invasion of the Crimea to 24-38 between February 1855 and April 1856 when the number increased to 54; presumably reflecting the attachment of dispensers to regiments in lieu of the third assistant surgeon (Table 4.1 and Figure 4.5).

Hospital dressers

***Medical and Surgical History*, I, Appendix VIII:** Hospital dressers were mainly medical students who volunteered to gain experience.[263] It would appear that there was no provision for them prior to the invasion but the onset of military action prompted their recruitment with 23 arriving during December 1854, 13 in March, four in October and one each in November and December 1855. The numbers declined month on month thereafter, presumably as the need for their services decreased despite the continuation of the siege (Figures 4.7 and 4.8); of the 42, three died.

Hall's summary: The difficulty in obtaining sufficient qualified medical practitioners prompted Smith to send out twelve dressers and their arrival was recorded during the following month, December 1854.[264] The numbers increased to 36 in March to May 1855 before declining gradually to eleven in April 1856 (Table 4.2 and Figure 4.7).

Apothecaries, purveyors, and support staff

A Royal Warrant delineating conditions of service for apothecaries was signed on 23 October 1854.[265] Only three were employed during the campaign, namely, G.H. Reade, who died at Scutari on 28 November 1854 and was succeeded by J. Mackintosh, and F. Fernandez who served in the Crimea from October 1854 until July 1856.

263 For further details see Shepherd (1991), pp. 419-20.

264 Smith to Hall, 9 Nov. 1855; *PoL*.

265 *The Lancet*, 18 Nov. 1854.

The duties of the Purveyor included the provision of hospital equipment, the rations for patients and staff, hospital extras and medical comforts, the cooking of meals and diets, washing of hospital and patients' clothes, cleanliness of all parts of the hospital except the wards, payment of staff, arrangement of funerals, and drawing up of wills.'

Smith and Hall made no reference to purveyors in their returns, possibly because they were not part of the AMD until the issuing of a Royal Warrant on 31 October 1855.[266] However, an analysis of the arrivals of purveyors and purveyor's clerks recorded in the General Orders revealed that the staff of this department did not increase significantly until the beginning of 1855 with new arrivals joining the Army throughout the rest of that year. Five clerks were promoted to Purveyor during February and March 1855 and their number was deducted from the number of clerks (Figure 4.9).

The provision of medical services during the campaign was a considerable undertaking but it appeared from Smith's return that despite this there were few store keepers employed and little clerical assistance.[267] For example, two storekeepers only were employed at Scutari from February and May 1855 respectively with one book keeper in Scutari and in the Crimea from October and December 1855.

Five of the fourteen medical clerks served only in the Crimea while one, who did two tours of duty, served in Scutari, Bulgaria and the Crimea. The number of clerks available for duty did not exceed three until July 1855. Thereafter, staffing increased regularly until April 1856. Some clerks were retained in Scutari until August 1856, presumably to assist with organizing the final departure from Turkey (Figure 4.10).

Hospital orderlies

Before war was declared Smith proposed the creation of a 'Hospital Corps of at least 600 men to serve as hospital orderlies and ambulance waggon drivers.'[268] The suggestion was accepted in principle by Newcastle and Hardinge, but nothing was decided in advance of the troops arrival in Turkey and consequently the PMO at Scutari had to 'recruit wardmasters, ward orderlies, stewards, storekeepers, and cooks, from men left behind at Scutari, many of whom would have had 'no formal training and in all

266 Cantlie (1974), II, p. 60.

267 *M&SH*, Appendix VIII, p. 525.

probability would be the poorest soldiers in their respective units' being 'bad characters with long crime sheets.'[269, 270]

A General Order dated 4 July 1854 required the 3rd Division to provide orderlies and attendants at the General Hospital in Varna and the provision of hospital staff in the Crimea continued on this 'ad hoc' basis until a General Order of 11 May 1855 (see below), although 55 volunteers from the depots at Chatham were sent out to Scutari towards the end of 1854.[271]

Maxwell, one of the Hospital Commissions, informed Herbert privately that that 'the hospital is not sufficiently provided with orderlies' and that:

> evil arises from the practice of removing hospital orderlies […] well enough to return to their regiments, so that surgeons have always to deal with wretched and unskilled convalescents […] this might be attended with great advantage if the soldiers [taken] to do duty as orderlies, were left in that situation, [because, if they] shewed a capacity for learning their business, they would seem very efficient, and a smaller number would probably suffice than is now required.

He then pointed out that 'most of [the hospital's] bad points would disappear if an efficient body of orderlies could be organized,' but 'the system will not work well [if] such duties are entrusted to rude uneducated men of sickly health, miserable habits, and more miserable propensities [and] it is but natural to shrink in dismay from the consequences of entrusting such duties to such men.'[272]

The points made by Maxwell were reiterated officially by the Hospital Commissioners who regarded 'this branch of the hospital service as most unsatisfactory' and added that:

> The ward-masters and assistant ward-masters are generally intelligent and respectable non-commissioned officers but they do not possess that degree of experience […] which ought […] be an indispensable condition to their employment […] in our military hospitals [and] the cooks are but indifferently acquainted with the peculiar style of cooking required in hospitals. [273]

Later Maxwell gave evidence to the Roebuck Committee:

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268 Smith to Military Secretary, 18 Feb. 1854; *PoL* and WO/43/987.

269 Cantlie (1974), II, pp. 11 & 20.

270 Hall issued a printed document on 13 Aug. 1854 outlining the duties of hospital stewards and wardmasters; RAMC/397/F/CO/2/1.

271 AG, Horse Guards to Raglan, 15 Dec. 1854; WO/3/116.

272 Maxwell to Herbert, 10 Nov. and 5 & 10 Dec. 1854; W&SHC/2057/F8/III/B/356 & 359-60.

273 BPP (1854-55), No. 1920, p. 32

> The whole system of hospital orderlies was radically defective […] The men were […] not of a strong constitution, but very often convalescents […] or not sufficiently strong to stand the hard work of the trenches. They did not volunteer, but were ordered […] Their work was incessant […] and they were very ignorant of their duties [and] upon being sufficiently recovered [were] ordered back to active service […] and raw recruits […] substituted in their place.[274]

One of the nurses at Scutari recognized that some men 'thought well of as patients' showed 'a negligence, hardness, and indifference' after becoming orderlies. She also indicated that no orderly 'come back sober' after leave to go out, although she accepted that they had some excuse, given that they were 'confined day and night to the pestilential air of the sick words' and 'had to perform offices for the dead and dying much more trying than any we had to do; they were expected in addition to their day's work sit up every third night.'[275]

Staffing levels

At the end of 1854 nearly 800 men were employed at Scutari 'as orderlies, wardmasters, charge of stores, etc.' which gave a ratio of 1:6-7 patients and that 'the regulation of 1:10 at home could not be carried out here' as 'attending the sick being very hard'. It was concluded, however, that 'most of the men are efficient and fit for service.'[276]

In April 1855 the ratio was still *c.*1:7 overall, the General Hospital had space for 905 patients and 129 orderlies, the Barrack Hospital, 1,683 and 240, and the Palace Hospital, 400 and 63,[277] while another return listed the deployment of 577 non-medical hospital staff as: 14 head wardmasters, 50 assistant wardmasters, 450 orderlies, 8 head cooks, 35 assistant cooks, 11 surgery men. 2 bath men, 4 dead house men, and 3 barbers.[278] Similarly, the scale of the commitment in the Crimea can be gauged by a return made in July 1855 listing the names of 21 NCOs and 222 privates employed as orderlies in the 'Hospital establishments in Balaklava and on […] sick ships.'[279]

The allowance of one orderly to ten patients could prove inadequate in General Hospitals with smaller wards, and particularly those in the Crimea, since one man in a ward could not carry out the routine duties in the day, attend to seriously ill patients, and

274 BPP (1854-55), No. 156, p. 671.

275 Terrot (1898), p. 38.

276 Paulet to AG, 30 Dec. 1854; WO/28/186.

277 PMO, Scutari to Smith, 5 Apr. 1855; *PoL*.

278 Deputy Secretary at War to Smith, 31 July 1855; *PoL*.

279 Commandant, Balaklava to AG, 27 July 1856; WO/28/194.

then undertake night duty on a regular basis.[280] Hall, therefore, informed the AG that three orderlies for two wards was the minimum to ensure they were kept clean and the sick properly cared for; hence 19 orderlies for the 21 wards in the General Hospital was inadequate and an additional 13 was required.[281]

Information on the 'number of orderlies and other hospital attendants employed' in regimental hospitals, and their 'general fitness for their duties' was sought by a questionnaire circulated by the Hospital Commissioners on 3 December 1854. The answers suggest that most surgeons were relatively satisfied with their hospital staff, all of whom were soldiers of the regiment, although problems arose when the regular personnel became sick, and had to be replaced by inexperienced men, while on occasions the number allowed by regulation could prove inadequate, although there was scope to draft in fatigue men on occasions (Table 4.4).

Early in 1855 Newcastle informed Paulet that Smith was engaged in:

> the organization of a permanent hospital staff to supersede the use of orderlies taken from the ranks [as it was] obvious that the hospital duty cannot be well performed by a succession of fresh and inexperienced hands possessing no interest in the permanent well-being of the establishment.[282]

Similarly, Cumming was told privately that 'We are also sending out stewards and wardmasters, selected by Smith, and we hope gradually to give you a corps of permanent hospital orderlies to replace your ever changing body.'[283] Paulet also received similar advice from the Hospital Commissioners who noted that:

> one of the most obvious defects […] is the utter absence of a trained body of orderlies [also hospital sergeants, wardmasters, and cooks]. The task which devolve on these men requires [the employment] of persons of intelligence and respectable character, good constitution and active habits [and who have] undergone some training. […] and those who prove themselves duly qualified should not be removed except for misconduct or incapacity.[284]

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280 Dr Matthews to PMO, Balaklava, 30 Apr. to 16 May 1855; BPP (1857-58), No. 2379, pp. 191-2.

281 Hall to AG, 7 May 1855; RAMC/397/F/CO/1/1/2031.

282 Newcastle to Paulet, 5 Jan. 1855; WO/33/1/8/55, WO/6/70 and W&SHC/2057/F8/III/C/65.

283 Herbert to Cumming, 5 Jan. 1855; W&SHC/2057/F8/III/C15.

284 Commissioners to Paulet, 26 Jan. 1855; BPP (1854-55), No. 1920, p. 346. Incidentally, on 12 Feb. Paulet informed Raglan that he 'never withdrew or changed [orderlies] except for gross misconduct;' NAM-1968-07-393-8.

The shortage of manpower meant that men could not be spared from the Crimea and hence additional orderlies would have to be sent from England [285] Despite the apparent interest of ministers, progress was slow and Smith continued to hear 'of inefficiency of the orderlies [and stressed] the necessity for some remedy being immediately adopted to remedy [this] evil.'[286] (For a selection of other complaints, including the problem of drunkenness, Table 4.5).

The temporary assignment of convalescent and other soldiers detached from their regiments for hospital duties could cause considerable problems following their recall for regimental duty at short notice,[287] but it was not until a General Order of 11 May 1855 obliged infantry regiments to select four 'efficient' men as permanent orderlies for the General Hospitals at Balaklava and the sick ships. The Order was amended on 7 June to require regiments to replace orderlies who became non-effective.

The work of the orderlies was arduous, and some requested to return to their regiments on that account,[288] while others succumbed to disease, and some died. This situation probably provided the stimulus for a further Order on 17 May authorizing hospital serjeants and orderlies to receive free rations and an extra 8d and 4d a day as an inducement.[289] This payment was backdated to 1 May and on 22 May the terms were extended to orderlies on hospital ships etc., while on 10 October 1855 the payment of a 6d field allowance, in addition to these allowances, was confirmed.[290]

Problems persisted however and the need for a Hospital Corps, which could cater for 1,500 sick, and the provision of an 'extensive' Purveyor's Department remained an

285 AG to Paulet, 13 Jan. 1855; WO/28/186

286 Smith to Military Undersecretary, 26 Mar. 1855; BPP (1854-55), No. 156; BPP (1857-58), No. 2379, p. 46; *PoL*; *The Lancet*, 28 July 1855.

287 For example, Hall informed Raglan on 28 Dec. 1854 that the absence of orderlies when the QMG visited the General Hospital in Balaklava was because those from one regiment had be withdrawn by the military authorities before a new draft had arrived; RAMC/397/F/CO/1/1/1204 and NAM-1968-07-293.

288 For correspondence on orderlies see BPP (1857-58), No. 2379, p. 191-5.

289 Hall informed Smith on 19 May that the increase in pay and free rations was to encourage recruiting; RAMC/397/F/CO/1/1/1219 & 2127 and *PoL*. Smith replied on 8 June to say he hoped that this policy would ease matters until the Hospital Corps could be organized; *PoL*.

290 WO/1/369. The allowance of 6d a day was granted to NCOs and men by a Royal Warrant dated 16 Aug. 1855. It was back-dated to 1 July and announced in a General Order on 21 Sep.

imperative,[291] although the issue was not resolved until the arrival of members of the MSC a little before Christmas, 1855.[292]

Medical Staff Corps

The embodiment of the MSC was authorized by an Order in Council on 30 June 1855 and confirmed by Royal Warrant on 20 September 1855.[293] The objective was to recruit literate men of 'intelligence and highest character'[294] with the recommendation from Panmure that the NCOs should be fit enough for hospital duty though 'not quite so robust' as required 'for active duty in the field'.[295] The bounty and levy money was the same as for line regiments at home; the term of enlistment, ten years; age, 25-35 years; minimum height, 5ft 2ins; and pay, 2/- per day,[296] and their principal duties were 'to attend upon and assist generally […] patients, to apply […] simple portions of their treatment, to keep clean the portion of their ward under their charge, to collect the foul linen and distribute clean linen […] and generally to attend to the wants of the patients.'[297]

The HQ was at Chatham and the full complement was to be 10 companies of 120 men. Each would cater for 500 patients and would comprise two sections of 102 and 18 NCOs and men in the Surgeon's and Purveyor's Department respectively (Table 4.6).[298] Smith suggested that officers promoted from the ranks would be 'less likely to be sensitive, or apt to take umbrage at the light in which their position and duties might be received and perhaps remarked on by the officers of the more strictly combatant class.'[299]

On 15 September 1855 the AG at Horse Guards ordained the MSC should be 'under the general superintendence and control of the PMO of each hospital' but 'military discipline [will] be maintained and enforced by the officer commanding on

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291 Hall to Smith, 8 Oct. & 5 Nov. 1855; RAMC/397/F/CO/1/2/3322 & 3524.

292 NAM-1968-07-380-8B.

293 For details see Sweetman (1975), pp. 113-9 and Cantlie (1974), II, pp. 149-50 & 171.

294 Deputy Secretary at War to Wetherall, 11 May 1855; WO/123/141 and RAMC/397/FGO2/6; *The Lancet*, 7 July; and *AMJ*, 27 July 1855.

295 Deputy Secretary at War to Wetherall, 11 May 1855; WO/123/151.

296 Circular Memorandum, 25 June 1855; WO/123151.

297 See W&SHC/2057/F8/III/B/237 for the proposed regulations for the Corps.

298 Cantlie (1974), II, p. 426.

299 Cantlie (1974), II, p. 149.

the station.'[300] Smith, nevertheless, requested Hall to keep a 'defaulters book' and that the men should be informed that a record of their offences would thus be retained.[301] Smith also considered the Corps should remain under the control of the AMD and not be employed for military duties, and he informed Hall that he was endeavouring to 'place within his reach men whom no military authorities can affect.'[302]

Smith was informed in mid-June that 37 sergeants, 27 corporals and 178 privates had volunteered,[303] and by the next month recruiting ceased as there were sufficient men for eight companies.[304] The first contingent of 300 men, including hospital stewards and wardmasters arrived at Scutari during November 1855. Some replaced regimental orderlies,[305] while others were sent to the General and Castle Hospitals in Balaklava.[306] Incidentally, the AG made the point privately to the AG at Horse Guards that the men had been 'enlisted under several warrants' and as a consequence they were 'in a fix' as the 'mode of dealing with them was very confused.'[307]

Several drafts of men 'perfected in their respective duties' were sent to the East from time to time[308] until the depot was broken up during May 1856, although last detachment did not return to Chatham until 17 August, after leaving Scutari on 31 July.[309]

Ambulance Corps

Of 341 volunteers sent to Bulgaria with the HAC 27, 30, 141, and 121 were were <35, 35-40, 40-45, and 45-50 years old respectively, and two were >50.[310] The men had the reputation for drunkenness and bad behaviour although subsequent enquiries by Tulloch concluded this unjust as all had 'received good characters from their corps' with sixty having between one and six good conduct badges, and seven the Good Conduct Medal. The aim was to have *c*.100 drivers selected from cavalry regiments with the remainder

300 WO/123/151, RAMC/397/F/CO/1/3 and RAMC/F/GO/2/5.
301 Smith to Hall, 23 Nov. 1855; RAMC/397/F/CO/1/3.
302 Smith to Hall, 22 Nov. 1855; *PoL*.
303 *PoL*.
304 *The Times*, 24 July 1855.
305 Cantlie (1974), II, p. 171.
306 Medical Department Memorandum, 18 Dec. 1855; NAM-1968-07-380-8B.
307 Pakenham to Wetherall, 26 Feb. 1856; NAM-1962-10-97-1.
308 *The Times*, 24 Nov. 1855; 1 & 25 Jan., 19 Feb., 13 Mar. & 10 May 1856.
309 *The Times*, 18 Aug. 1856.
310 Memorandum prepared by Colonel Tulloch; BBP (1856), No. 2007, pp. 194-6.

‘employed as hospital orderlies and servants for medical staff.’ However, this came to nothing as sickness diminished their ranks and the Corps became all but ineffective and by December 1854 it became necessary to:

> solicit the aid of the French ambulance to transport our sick down to Balaklava: artillery waggons were ordered to afford assistance, and finally the cavalry horses were employed for that purpose, by which means such men as were able to sit on horseback were got away, but a great number of sick, whom it was not desirable to remove, were left in the field hospitals by this arrangement.[311]

The AMD was let down by the government and military authorities because they failed to provide adequate land transport for the sick and wounded, and it was essential that any unit employed for this purpose should comprise trained able-bodied men, be equipped with spring carriages and pack animals with pannier seats, and be supported by farriers, wheelwrights, and other tradesmen.[312]

Smith favoured having ambulances under the control of AMD, and not the QMG, because the divisional PMO was the best judge of the invalids’ needs and should possess the ‘power of independent action.’ He also stated that the Army would never derive full advantage of its AMD if it was rendered ineffective by regulations that made subservient to the judgment and interference of Military Officers.[313] In the event his view did not prevail and neither did it for ‘the PMO of every campaign fought in the remainder of the 19th Century.’[314]

The integration of the AC into the LTC was under consideration during March 1855,[315] though it may have been Raglan’s support for the recommendation made on 24 May by the DG, LTC (McMurdo) for integration[316] that prompted Panmure to order for this to be done in July 1855.[317] McMurdo noted in early September that he thought that the AC ‘would fall to pieces if [he took] it up just now; it is so fragile,’ and it would be ‘better

311 Hall’s comments to Smith on the Supplies Commission report; Mitra (1911), p. 484.

312 Fisher (2013b).

313 Smith to Military Secretary, 31 July 1855; *PoL*.

314 Cantlie (1974), II, p. 147.

315 Commandant, AC to QMG, 12 Mar. 1855; WO/28/197.

316 WO/1/374/313.

317 Military Secretary separately to Smith and Simpson, 17 July 1855; *PoL* and WO//28/175.

to leave it where it is in its present state.'[318] In the event it was not until December 1855 that integration was finally achieved.[319]

Age distribution of personnel in the Army Medical Department

This section is based on information in an unpublished 2nd edition of Margrave's '*British Officers*', to which I had privileged access.[320] The year of birth has been ascertained for a proportion of the surgeons, dispensers, dressers, and purveyors who served in the East in various locations and at different times. The results are summarized in Table 4.7 and Figure 4.11 and indicate clear differences in the age distribution of the personnel in the different groups.

The majority of the older military surgeons were on the staff while nearly half of the younger surgeons were born in 1830 or later and would have been in the their mid-twenties or younger. The civil surgeons tended to be older while almost all the dispensers and dressers were relatively young, not surprisingly perhaps given that many were medical students who had not completed their studies. The Purveyors comprised a number of experienced men and these were assisted by younger men, many in their mid-twenties or younger.

Mortality among personnel of the Army Medical Department

Of 752 MOs employed during the campaign, 418 (56%) reported sick, 48 (6.4%), died, and 186 (25%) were invalided home;[321] and the loss of MOs during the summer of 1854 and the first winter would have compounded the medical problems during this period.

The ranks of MOs who died and their location are summarized in Tables 4.8 and 4.9. Almost half the staff surgeons died in the Crimea and half in Turkey, while the preponderance of regimental surgeons died near the front. Incidentally, a further list of

318 Memorandum prepared by the DG, LTC on 4 Sept. in response to a General Order to be issued 6 Sep. 1855; WO/28/110.

319 General Order 28 Dec. 1855.

320 Margrave (2008). For additional information on MOs see Peterkin and Johnston (1968).

321 Smith to Undersecretary at War, 3 Mar. 1856; *PoL*.

surgeons and support staff who died on the Dardanelles and Bosphorus during the campaign was included in the *PoL*.[322]

The mortality rate among MOs during the first year of the campaign was 132‰ and in the second 26.5‰ (Table 4.10); a figure within the range of the annual rate recorded during 1839-1854, viz. 21-56‰ (median 31‰).[323]

Problems of communication during the campaign

An army is run on a top down basis through a chain of command and hence Smith would have been expected to direct all communications on management matters to Hall. However, the distances between the Crimea and London meant that it could take at least a month, and frequently longer, for letters to pass between them. This resulted in Smith disregarding protocol and corresponding directly with the PMO at Scutari, and merely informing Hall that the exigencies of the Service demanded it.[324] By so doing the DG effectively assumed executive control of the Scutari hospitals and the PMO, who held the same rank as Hall, looked to London for instructions. As a consequence Hall 'began to fade out of the picture, although there was nothing to indicate that he made any formal protest against this whittling away of his powers.'[325] This practical solution meant that there was little justification for Hall to visit Scutari a second time and hence any criticism leveled against him for not doing so is unjustified.[326]

It would seem that the Minister of War also appreciated this problem, because, from early January 1855, he began to correspond directly with the military commandant on the Bosphorus; with his first despatch containing detailed instructions and advice on what was required of him.[327]

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322 *PoL*, II, Appendix XXXV. There names were subsequently inscribed on a memorial at Netley but this was destroyed when the hospital was demolished.

323 BPP (1857-58), No. 2318, Appendix VIII.

324 Smith to Menzies and Smith to Hall, 2 Nov. 1854; *PoL*.

325 Paraphrased from Cantlie (1974), II, p. 70.

326 For example, Shepherd (1991), p. 609.

327 Newcastle to Paulet, 6 Jan. 1855; WO/6/70/112-33 (longhand copy) and WO/33/1/8/55 (Cabinet paper).

Status of the military surgeon

The Queen's Regulations provided basic instructions on the management of hospitals and duties of MOs but there was no guidance on the expected relationship between them and their commanding officer.[328] This lack of clarity proved a problem at times since some senior officers did not consult them on any matter, particularly those who thought that surgeons were there only 'to treat sickness, not to prevent it.'[329] In essence MOs had little or no executive powers, a problem summarized by an unnamed military officer in the Light Division:

> Attached to the Division is a Deputy Inspector General of Hospitals, who is said to be 'in medical charge;' and to each brigade a Staff Surgeon of the 1st class, having more direct charge in general matters of each regiment in his brigade. […] in no one instance has the medical officer […] been consulted as to the [camp] site occupied. Surely this demands an enquiry. […] It is the duty of military medical men to acquaint themselves […] with such sanitary subjects that prevent sickness, always more important than its cure. No such study is requisite before [military] officers in the British Army are placed upon the staff, whereas in France and Germany [they are instructed in] the particular duties they are called on to perform.[330]

Not unexpectedly these sentiments were echoed in the medical press, since the problems encountered were exacerbated by 'the want of fuller power and authority in the heads of the AMD' and not 'from any absence of ability or deficiency of skill, is a sufficient proof of the necessity there is for entrusting all purely sanitary arrangements to properly qualified medical men.'[331]

It would seem that some politicians and other commentators failed to appreciate the weak position of MOs within the military hierarchy. For example, Charles Newdegate, MP, suggested to the House of Commons that the failings in the Crimea were not due to 'the regimental service of the army, which some hon. Members condemned as being aristocratic,' but to the Medical Department and Commissariat, which were 'not in the hands of the noblemen and gentlemen of the army.' […] and that he [Newdegate] 'trusted that hon. Members would speak with common fairness of the noblemen and gentlemen who, as officers of the army, had done their duty, and not

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328 *Queen's Regulations* (1844), pp. 285-90.

329 Cantlie (1974), II, p. 26. For example, General Brown's response to a reasonable request about the provision of medical stores on 10 June 1854, viz. 'Refer […] to the PMO informing him that I by no means approve of the tone of this, and that in my judgement Dr Alexander had better defer such suggestions and strictures until they are asked for;' BPP (1857-58). No. 2379, pp. 136 & 160.

330 Letter, 2 Sep. 1854; *Daily News*, 21 Sep. 1854.

331 Editorial, *AMJ*, 4 May 1855.

attribute to them discredit for calamities for which they were in no way accountable.'[332] This defamatory slur was subsequently supported publicly by Palmerston, an intervention considered by Russell to be as a 'most extraordinary and uncalled-for insult',[333] and not surprisingly it provoked an angry editorial in the *AMJ*:

> If, then, as Lord Palmerston affirms, the army surgeons have shown a 'want of capacity, a want of energy, a want of intellect and vigour', it must be for some reasons peculiar to the army – the army system. The charge commonly made against army surgeons, is a want of moral courage in boldly making complaints, for fear of the injury to their promotion. And to what is this moral cowardice owing? Is it not to the practice of the higher military authorities to depress in every way the 'doctor', to consider him as belonging to an inferior class, and to treat him as such, until he believes it, and loses his spirit? And having done this, the authority who has depressed him and his branch of the service blames him for a want of energy, intellect, and vigour, when he sees the men rotting like sheep.[334]

The dissatisfaction of the MOs at the front was compounded by Raglan's tendency to name only senior staff and regimental officers in official despatches, and thereby omitting to acknowledge other combatants. This prompted the editor of *The Lancet* to decry Raglan's failure to 'acknowledge the devoted services of the Army surgeons', while a couple of weeks later a trenchant editorial in the *MT&G* listed the injuries sustained by several MOs during combat (Table 4.11).[335] Hall also expressed his concerns privately to the PMO, Scutari:

> A thankless office we doctors have to perform. We work hard with no reward […] Had we neglected or abused means placed at our disposal, then we might have been ashamed, but circumstanced as we have been I feel that we have all done our duty.[336]

Hall was not a lone voice, however, as exemplified by a graphic account penned by a surgeon at the front:

> For a considerable period [I was] within twenty-five yards of the advancing Russian columns, and amid a perfect hailstorm of grape, canister, round shot, shell, and bullets […] when three round shot passed close by me […] each shot striking a man, killing two outright, […] and mangling in a frightful manner the right arm of the third. The 'thud' with which the formidable missiles struck against the accoutrements and bodies of the men, was the strangest and most appalling sound I ever heard.[337]

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332 *Hansard*, 19 Feb. 1855.

333 Despatch dated 13 Mar.; *The Times*, 29 Mar. 1855. The tendency to snobbishness among officers was exemplified by Captain Goodlake, Coldstream Guards who wrote on 23 Apr. 1855: 'Colonel McMurdo offered to make me his ADC. I declined […] the class of people with whom I would have to mix were not suitable to my position as I would wish;' Springman (2005). p. 116.

334 *AMJ*, 18 May 1855.

335 *MT&G*, 11 Nov. 1854. On 13 Jan. 1855 the editor accused Raglan of 'cowardly and unjust' behaviour towards MOs.

336 Hall to Menzies, 7 Dec. 1854; RAMC/397/F/CO/1/1/1042.

337 *MT&G*, 30 Dec. 1854 and Shepherd (1994), p. 232.

This report prompted the journal's editor to comment: 'Surely, when medical men incur such dangers […] it is too bad to deny them a share of the honours and rewards so ungrudgingly bestowed upon other classes of officers.' Smith was also anxious that MOs should receive recognition and requested Hall to 'send him, periodically the names of all the officers he can recommend,' as he wished to show MOs that 'laudable and successful exertions do not pass unnoticed.'[338] Smith's anxieties persisted, however, and a few weeks later he wrote to Horse Guards:

> It is generally admitted that highly valuable services have been rendered [by] Medical Officers […] exposed to hardships and dangers from the enemy, as well as from disease, fully equal to any other class. Rewards for good service [have] been liberally granted, but not to […] MOs, which […]. has tended to produce discouragement likely to operate unfavorably to the interests of the service. […] When the morbid excitement roused by misrepresentations against the Medical Department shall have subsided […] the public will applaud […] the services of the MOs […] the public generally […] recognise the self-denying labours of the devoted men, who […] did so much to mitigate the sufferings, and to console […] those whom their professional skill could not preserve from the grave. [339]

The continued failure of the establishment to acknowledge the contribution made by the medical profession also elicited a degree of bitterness at the front:

> I cannot tell you how depressing the continued slight of the services of the Regimental Surgeons is to us all. The [*London*] *Gazette* [reports] honours and promotions to the regimental officers […] But we have no friends, no parliamentary interest, and are not merely passed over unnoticed, but absolutely maltreated.[340]

Clearly the medical profession remained unhappy and shortly after the conclusion of peace the editor of *The Lancet* returned to the issue: [341]

> The want of proper appreciation […] of medical officers is shown in many ways, in none more so than the conferring of decorations. […] medical officers are entitled to double distinction, first, as soldiers; and, secondly, as professional men. The surgeon of the 7th Hussars who rallied some of the Guards on the heights of Inkermann (*sic*), gallantly led them to [rout] the Russians, and [save] the Duke of Cambridge, was entitled to distinction as a soldier; but are not […] the late Dr Jackson, Dr. Trotter, or Dr John Davy, entitled to distinction for their services in the army in a professional and scientific point of view?

In the event a number of the senior MOs were accorded appropriate recognition by the award of the Order of the Bath and other orders bestowed by Britain's French, Turkish and Sardinian allies, as well as the Victoria Cross (see Chapter 12).

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338 Smith to Hall, 16 Feb. 1855; RAMC/397/F/CO/1/2/2892.

339 Smith to Military Under-Secretary, 17 Aug. 1855; *PoL*.

340 Undated letter from a regimental surgeon; *MT&G*, 2 June 1855.

341 *The Lancet*, 19 Apr. 1856.

Growing discontent amongst the military surgeons about pay and conditions was exacerbated by the better employment conditions offered to civilian surgeons and this resulted in three memorials being sent to the War Office between July 1855 and April 1856.[342] The first from 49 assistant surgeons did not receive Smith's support and Panmure subsequently rejected it because it had been published in *The Lancet* before he had considered it.[343] The second memorial was from more senior regimental surgeons who, inter alia, were aggrieved because they did not receive a share of the honours accorded to combatant officers, especially as they were also exposed to enemy fire, and this differentiated them from the other civilian departments.[344] This memorial was forwarded to Panmure by the Smith and it was anticipated that a new Royal Warrant would be issued, but this proposal was rejected by the Treasury. A third memorial, however, prompted the convening of a House of Commons Select Committee on the Medical Department chaired by Augustus Stafford, and it was on their recommendation that a new Royal Warrant was promulgated.[345] It redefined the terms of service, remuneration, and the status of military surgeons and was signed by Her Majesty's command on 1 October 1858 by the Minister of War.[346] (See Chapter 11)

The AMD was a civilian department and MOs, unlike their military counterparts, were not entitled to a soldier servant. The daily allowance for hiring a servant was increased from 1/6d to 3/-[347] but this was insufficient to met the high rates of pay demanded by civilians. In consequence, some surgeons were forced 'to draw their own rations, cook their own food, and water their own horses,' and 'carry out these tasks under the eyes of their brother officers made an undignified spectacle which brought contempt upon the Department.'[348] Matters were compounded by the need for senior medical staff to have three or more horses in order to fulfill their duties, and, as their care would take much of

342 For details see Cantlie (1974), II, pp. 181-3.

343 *The Lancet*, 8 Sep. 1854. The editor strongly supported 'our military brethren [who] should be classed amongst the purely military branches of the service, and should reap its share of the honours accorded to them.'

344 *MT&G*, 13 Oct. 1855.

345 BPP (1856), No. 331.

346 The text, comprising 26 paragraphs, was reproduced in *The Lancet*, 28 Oct. 1858 and Cantlie (1974), pp. 428-32.

347 General Order, 30 Oct. 1854.

348 Cantlie (1974), II, p. 132.

a servant's time, a second servant was sorely needed, especially as the MO would suffer considerable hardship if his only servant was sick.[349]

Raglan eventually took up the surgeons' case when he enquired of Horse Guards, through his AG, if a scheme could be devised for improving the MOs circumstances with respect to servants. The shortage of military personnel would make it impractical to provide the numbers required,[350] and it was hoped that civilian servants could be procured from 'among the people who are constantly arriving from Constantinople or elsewhere.'[351] The matter was considered at the highest level because Smith was informed by the Deputy Secretary for War on 26 July 1855 that Panmure agreed that medical staff officers should not have to waste their time doing things that 'properly devolve on servants.' He suggested that men should be enlisted into the MSC for the purpose;[352] presumable from among the 50 servants allocated to each company of the Corps,[353] while after the war Smith recommended the servants allowed to MOs should be determined according his rank relatively to military officers.[354]

Civilian surgeons

A few civilian surgeons accompanied the Army to Bulgaria and the Crimea but these appeared to have been employed locally presumably on Raglan's authority and as they were not part of the Army establishment Hall made no reference to them in his returns.

Towards the end of 1854 Lord Blantyre suggested to Aberdeen that civilian surgeons should be recruited as additional MOs. His letter was forwarded to Smith via Herbert who commented that 'Lord Blantyre suggests improvement in our military hospitals by employment of civilians with better pay and allowances.' Smith stated his reservations the next day:

> [Blantyre's proposition is] wild and […] calculated to disorganize everything. If the Medical Department had power in itself to effect what it considers necessary we have no want of assistance from without. The Department has in itself men competent to all and every duty and I do hope they will not be insulted by the adoption of such a measure […] The time has

349 PMO, 4th Division to Hall, 18 Dec. 1854; BPP (1857-58) No. 2379, p. 166.

350 AG to AG, Horse Guards, 26 May 1855; WO/28/109.

351 AG to GOC, 3rd Division, 20 May 1855; WO/28/109.

352 *PoL*. This opinion was sent to the AG in the Crimea by Wetherall on 7 Aug. 1855; WO/28/180.

353 Deputy Secretary to Smith, 7 Aug. 1855; *PoL*.

354 BPP (1857-58), No. 2318, p. lxxii.

> arrived when the authorities must either support the servants of the public or sacrifice them and permit a chaos to be established.[355]

Not surprisingly Hall was against mixing civilian and military MOs in the same establishment,[356] while the Revd H.P. Wright, the principal chaplain, shared this reservation, when he suggested to Herbert that military surgeons were preferable to civilians as they would manage hospitals better under campaign conditions.[357] Conversely, in his assessment of the Scutari hospitals, S.G. Osborne recommended that they should be 'placed under the management and control of civilians';[358] and indeed this system of management came to pass at Smyrna and Renkioi, but not in any other military hospital.

Newcastle announced the employment civilian doctors on 29 January 1855 because the 'present state of the Army and of the hospitals, [makes it] necessary [despite opposition] to introduce into the Army Hospitals the civilian element.'[359] Their employment was thus a political initiative, although prompted to an extent by public opinion,[360] and the fact that physicians were needed as the principal clinical problems were medical, not surgical.

The policy proved controversial, not least because the 'civils' were paid better than their military counterparts and most were spared the dangers and privations of serving near the front.[361, 362] This caused resentment amongst the MOs and Hall called Smith's attention 'to the […] extravagantly high rate of remuneration they receive […] This inequality of pay has occasioned much discontent'[363] although he conceded that he could not say this of 'the gentleman who have been doing duty in camp who have […]

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355 Blantyre to Aberdeen, 19 Dec.; Aberdeen to Herbert, 22 Dec.; Smith to Herbert, 23 Dec. 1854; W&SHC/2057/F8/III/B/241.

356 Raglan to Panmure, 11 Mar. 1855; WO/1/272/202.

357 Wright to Herbert, undated; W&SHC/2057/F8/III/B/246. Wright also stressed the need for adequate support staff and suggested that these could be provided from militia regiments.

358 Osborne (1855).

359 *Hansard*, 29 Jan. and *MTG*, 3 Feb. 1855. For a discussion on civilian surgeons see Shepherd (1991), pp. 412-51.

360 Mr Augustus Stafford, *Hansard*, 19 Mar. 1855

361 The medical press was divided on the issue; the *AMJ*'s editor generally favoured employing civilians, while the editor of *The Lancet* supported for the military surgeons and pressed for improvement in their status.

362 The civilian orderlies were paid better making it difficult to recruit Maltese; DAQMG, Malta to QMG, 25 May 1855; WO/28/197.

363 The civilian director at Smyrna was reportedly offered £2,000 p.a. while Smith was paid £1,300; *The Lancet*, 17 Feb. 1855. Similarly, Cumming told Hall on 28 Apr. 1855 that Panmure's civilian pathologist [Lyons] was paid £100 p.m., with the caveat 'Hide your diminished head;' NAM-2007-07-16-24.

exerted themselves with great zeal and […] cordiality towards those whom they were associated […] we have been fortunate in securing their assistance.'[364]

Hall also supported a junior colleague when 'Civil Medical Officers of unknown reputation and totally unacquainted with military surgery' attempted to assume at Scutari 'a position much superior to that of Assistant Surgeons in the Army.'[365]

The hospital in Smyrna opened during February 1855 and was staffed by MOs for a few weeks until replaced by civilians from mid-March. Its location far from the front meant that was inappropriate to send seriously ill or wounded soldiers there and it was under-utilized, receiving only 1,887 patients during the ten months it was open. The prefabricated hospital at Renkioi, which received its first patients during October 1855, was strictly a civilian operation under the superintendence of Dr Parkes.[366]

Apart from the publication of tables that listed admissions and deaths each month at Smyrna and Renkioi there was no analysis in the *M&SH* of their performance, though Parkes published a report on the formation and management of the hospital in 1857;[367] while Hall expressed his view on civilian hospitals in the draft of his memoirs:

> Had the Medical Department [the same means and facilities] given to the civil establishments […] they would have accomplished as much, or more […] at considerably less cost to the public, and with equal efficiency, so far as the real wants of the sick were concerned […] and their admission into military establishments was of questionable utility.[368]

In like manner Hall pointed out to the Royal Commission during June 1857 that the civil hospitals proved expensive and, with the benefit of hindsight, unnecessary as sufficient beds were available in military hospitals.[369] This was not entirely an expression of bitterness, however, as Newcastle, a prime mover in the establishment of the hospital at Smyrna, entertained similar sentiments when he visited there some two months before the fall of Sevastopol:

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364 RAMC/397/F/CO/1/2/2884 and *PoL*. Incidentally, Hall's report to Raglan on the assault on the Redan included the names of the 'following gentlemen belonging to the civil establishment who did their duty zealously, viz. Dr Mcleod, Mr Wordsworth, Dr Frazer, and Dr Lyons;' RAMC/397/F/CO/1/2/2412.

365 Hall to Smith, 23 Apr. 1855, *PoL*.

366 For details see Toppin (1981) and Silver (2007).

367 Parkes (1857). Incidentally, the death of 50 (3.7%) of 1,330 patients admitted to the hospital at Renkioi might appear an endorsement for the undoubted brilliance of Brunel's design. However, this is not strictly the case as the comparable figures for the Army as whole were better, viz. 740 (2%) deaths from disease among 36,794 hospital patients; see *M&SH* General Return A & General Hospitals Return IX.T

368 RAMC/397/F/RT/2 and Mitra (1911), p. 378.

369 Evidence given on 19 June 1857; BPP (1857-58), No. 2318, p. 180.

> The present staff […] is decidedly too large, it consists of Colonel Storks, Dr Mayer, 25 other doctors, 13 lady nurses, 23 paid nurses, 47 military orderlies, and 36 civil orderlies. Besides these Colonel Storks has under him Major Chads and six other officers making in all a number about equal to the patients at the present time. […] That they are further from the seat of war than is desirable there can be no doubt, so indeed are those on the Bosphorus. […] I doubt whether any so good a location can be found between it and Constantinople, and if this is the case, the political importance of retaining our hold upon this place until the close of war is manifest.[370]

In his account of the AMD Cantlie noted that the Select Committee on the Medical Department condemned making the hospitals at Smyrna and Renkioi independent of Smith while he considered that the establishment of a hospital at Smyrna was unjustified in retrospect, while the opening of the hospital at Renkioi, when others were closing, was 'a step of doubtful administrative value' taken by the Secretary of State alone as Smith played had no part in it. 'Both hospitals were, therefore, examples of the futility of a dual method of hospital planning directed on the one hand by the Medical Department and on the other by the Secretary of State.'[371]

Thirty civilian surgeons were employed officially by the Army with three doing two tours of duties.[372] Between one and three were in post until February 1855 when the number increased to 15 by which time the troops' health was improving and mortality falling. The numbers employed remained between 15 and 22 until March 1855 when their services were dispensed with following the cessation of hostilities (Figure 4.12).

Female nurses

In 1803 Jackson referred to the employment of female nurses in medical, but not surgical wards,[373] while 'in the colonies coloured women were considered the best nurses in the world.'[374] Since then much has been written on the topic and opinions proffered on their suitability are conflicting, and frequently obscured by entrenched religious or chauvinistic attitudes. Suffice it to state, nurses were not deployed in the regimental hospitals where most men were treated, and, as relatively few were

370 Diary entry, 13 July 1855; University of Nottingham, Ne/2F/10/1.

371 Cantlie (1974), II, pp. 170 & 199.

372 *M&SH*, I, Appendix VIII. This total does not include surgeons employed at Smyrna and Renkioi.

373 Jackson (1803), pp. 82-3.

374 Fergusson (1846), p. 63.

employed in the general hospitals at any one time, their contribution was necessarily limited, and certainly not quantifiable.

Some pro-nursing commentators have criticized the military authorities, including the AMD, for a lack of enthusiasm towards their employment. Not surprising, perhaps, as it was a political initiative introduced without discussion or advanced planning. The nurses were, thus, superimposed on a management structure unprepared for employing civilians not bound by the Mutiny Act, and for whom no logistical provision had been made. In the event, responsibility for their maintenance was assumed by the military authorities although it has been inferred by some commentators that the AMD was remiss for not directly providing for their care. However, this is an unwarranted criticism, because there was no mandate for the AMD so to do without being authorized by the Commander of the Forces.

The services of the small number of nurses employed in the Crimea were generally appreciated. For example, following the resignation of Mrs Bridgeman and the Roman Catholic nurses, Codrington wrote the following appreciation to Hall on 4 April 1856:

> I request you to assure that lady of the high estimation in which her services and those of the nurses are held by us all; founded as that opinion is on the experience of yourself, the medical officers of the hospital and of the many patients, who during 14 or 15 months have benefited by their care. I am quite sure that their unfailing kindness will have the reward that Mrs Bridgman values, viz. the remembrance and gratitude of those who have been the subject of such disinterested attention.[375]

Several biographies of Nightingale deal *in extenso* with her relationship with Hall and the Purveyor in the Crimea, David Fitzgerald; particularly with respect to the management of the general hospitals in the Crimea and the employment of the nurses following the fall of Sevastopol. In the final analysis the debate was little more than a clash of personalities, and to some extent religious bigotry and a struggle for power, than anything else. It certainly had little obvious relevance to the general health of the troops who were principally cared for in regimental hospitals, and where no female nurses were employed. That the physical appearance of the general hospitals, and the way they were managed, could have been improved is not in question, but any upgrading would have been cosmetic rather than essential, and, by the end of 1855 there was little incentive for the authorities to invest in extensive infrastructural improvements in the camps or elsewhere.

375 NAM-1968-07-380-8B.

Mrs Mary Seacole, a colourful personality from Jamaica, ran the so called British Hotel with her business partner Thomas Day. She practiced herbal medicine but her impact on the health of the Army as a single handed doctress who arrived after the worst of the first winter was over would have been limited as she was not employed officially in the military hospitals where the soldiers would have been cared for.[376]

Recommendations for the medical staffing of the Army

The numbers of MOs and support staff sent to the East may have appeared reasonable at first sight but the numbers clearly proved inadequate, and hence Hall and Linton with their experience of campaigning under trying conditions were well placed to provide more realistic recommendations for staffing the field army and base hospitals in any future campaign. On 20 January 1857 Hall responded to a questionnaire from Smith and recommended the number of MOs and support staff for a field army of 40,000, a division of 10,000, and a brigade of three battalions given in Table 4.19.[377] Similarly, the PMO at Scutari, at Smith's request, suggested the number of medical staff required for base hospital with 3,000 beds was IGH, 1; DIGH, 4; SS1, 10; SS2, 9; AS, 76; dressers, 17; and dispensers, 17, giving a total of 134.[378] These figures were subsequently increased in a more detailed estimate provided by Linton, Cumming's successor, on 26 November 1855 (Table 4.20). The total staff for eight divisions of 375 patients was over 900, comprising 133 surgeons (1:22.5 patients), 36 dispensers and dressers (1:83), and 737 support staff (1:4).

Summary

The total number of regimental and staff surgeons increased from *c*.50 initially to *c*.320 at the end of 1854. There was a further increase to *c*.400 in the spring while after the fall of Sevastopol the number was higher still at *c*.420-440 (Table 4.3, column 6).

The size of the Army changed with time and this influenced the ratio of men to surgeons. It was *c*.150-160:1 prior to the invasion, after which it narrowed steadily to

376 See Robinson (2005) for a biography.

377 *PoL*, II, p. 493, Appendix 42 and *M&SH*, I, p. 497.

378 Cumming to Smith, 1 Nov. 1855; *PoL*.

c.80-90:1 during the spring of 1855. The ratio then widened to reach *c*.150:1 by the time the Peace Treaty was signed (Table 4.3, column 7).

A few dispensers of medicines but no dressers were employed on the medical staff prior to the invasion. Thereafter numbers in both categories increased to a peak early in 1855. The number of dressers then fell, despite the continuance of the siege; while the number of dispensers was not reduced until after the signing of the Peace Treaty.

About 40% of MOs and 80% of dressers and dispensers were born during 1830 or later and hence would have been relatively inexperienced when they commenced their active service.

The increased provision of medical care during the winter of 1854/54 was not sufficient to prevent the increased mortality, but this was not surprising as the principal predisposing causes were not medical in nature, rather it was the combined effects of exposure, overwork, malnutrition and living in unhygienic conditions that were principally responsible, and hence the health of the troops did not improve until their living standards improved and the weather became milder.

Military officers tended to regard surgeons as their social inferiors and this resulted in problems, both administrative and personal. The failure of Raglan to involve Hall in the planning process inevitably left the AMD ill-prepared for what was expected of it. Raglan was also criticised for failing to acknowledge the part played by the AMD in the face of the enemy, though a degree of recognition was ultimately achieved with the award of a number of orders and medals, including three VCs. (See Chapter 12)

A Select Committee addressed the conditions of service of MOs after the war and this resulted in the issuing of a Royal Warrant in 1858 which generally improved their status.

The employment of civilian surgeons on an official basis was a political initiative, taken when matters were very pressing. It proved controversial and caused resentment among MOs because their conditions of service were better, particularly with respect to pay and, for those stationed in the hospitals in Smyrna and Renkioi, life was much easier. Hall also expressed his displeasure at this situation although he paid tribute to those of whom he had first-hand experience. For example, after the war he wrote in his

Observations that he had 'much satisfaction' in praising their conduct, but they were not 'superior to military surgeons.'[379]

The employment of civilian doctors and female nurses was an 'experiment', which Shepherd considered was a 'failure both from the point of view of relieving the situation in the Crimea [and] promoting a closer liaison between the army medical services and the civilian doctors.' However, he concluded that overall 'much good came out of it' since the 'evolution, in time, of the territorial army medical officer and the RNVR medical officer who have supported the regular services in times of war may be thought to have stemmed from this Crimean interlude.'[380]

Tables 4.1-4.13

Table 4.1: Number (%) medical staff employed in the Army of the East

Country*	Staff MOs	Apothecaries and dispensers	Dressers	Support staff†	Civilian surgeons‡
T	62 (15)	24 (45)	23 (55)	11 (61)	21 (70)
B	1 (0.2)	0	0	0	0
C	153 (37)	13 (24.5)	7 (16.5)	6 (33)	5 (16.5)
T & B	1 (0.2)	1 (2)	0	0	0
B & C	5 (1)	0	0	0	0
T & C	130 (31)	14 (26.5)	12 (28.5)	0	4 (13.5%)
T, B & C	66 (16)	1 (2)	0	1 (6)	0
Total	418	53	42	18	30

[Adapted from *M&SH*, Appendix VIII]

* T, Turkey; B, Bulgaria; C, Crimea.

† Storekeepers, bookkeepers, and medical clerks.

‡ This return does not include civilian surgeons stationed at Smyrna and Renkioi as they were not part of the military establishment.

379 RAMC/397/F/RT/2 and WO/33/3B.

380 See Shepherd (1991), pp. 412-51.

Table 4.2: Monthly abstract of medical officers belonging to the Army serving in Turkey, April 1854-April 1856

	1854									1855		
	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Army strength	8047	21507	25644	29035	30924	28977	31322	33775	35948	32111	30903	30069
Inspectors General of Hospitals	-	-	1	1	1	1	1	2	2	2	2	2
Deputy IGH	4	3	3	3	3	3	4	5	6	6	8	9
Staff Surgeons, 1st class	9	13	13	13	13	13	14	18	20	19	18	21
Staff Surgeons, 2nd class	6	13	12	14	13	14	18	23	27	32	34	33
Staff Assistant Surgeons	7	37	40	42	41	45	59	101	83	72	73	73
Acting Assistant Surgeons	-	-	-	-	-	-	-	17	18	57	62	60
Regimental Surgeons	8	21	22	31	30	34	39	41	45	49	49	47
Regimental Assistant Surgeons	18	44	53	85	84	87	99	106	117	126	123	128
Apothecaries	-	1	1	1	1	1	2	1	1	1	1	1
Dispensers	-	3	3	3	3	3	5	7	18	27	34	37
Hospital Dressers	-	-	-	-	-	-	-	-	18	24	28	36
Total Medical Officers	52	131	144	189	185	197	234	313	318	369	369	373
Total Apothecaries, Dispensers, and Hospital Dressers	-	4	4	4	4	4	7	8	37	52	63	74

Table 4.2: Continued

	1855									1856			
	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Army strength	33019	37476	41128	45593	49672	55262	56762	58637	59141	58777	59374	63207	60862
Inspectors General of Hospitals	2	2	2	2	2	2	2	1	1	1	1	3	3
Deputy IGH	10	8	8	8	8	8	9	8	8	8	8	10	10
Staff Surgeons, 1st class	24	24	26	27	24	25	27	26	26	24	26	23	22
Staff Surgeons, 2nd class	38	39	32	35	35	38	36	32	39	38	34	32	30
Staff Assistant Surgeons	64	66	63	53	40	41	42	43	45	42	43	46	54
Acting Assistant Surgeons	59	77	78	55	80	81	79	76	77	70	62	64	56
Regimental Surgeons	53	58	58	62	59	62	58	65	71	70	68	69	69
Regimental Assistant Surgeons	120	133	134	161	150	161	168	174	175	173	170	167	169
Apothecaries	2	2	2	1	1	1	1	1	1	1	1	1	1
Dispensers	36	36	35	34	36	34	33	36	37	38	46	51	54
Hospital Dressers	36	36	29	28	23	23	22	17	15	15	13	12	11
Total Medical Officers	370	407	401	403	398	418	421	425	442	426	412	414	413
Total Apothecaries, Dispensers, and Hospital Dressers	74	74	66	63	60	58	57	54	53	54	60	64	66

[RAMC/397/F/RT/2 and WO/33/3B]

Table 4.3: Summary of the numbers of regimental and staff surgeons employed in the Army of the East, April 1854-April 1956

Year	Month	Army strength	Regimental surgeons	Staff surgeons	Total surgeons	Ratio of Men:surgeon (c6/c3)
1854	April	8047	26	26	52	155
	May	21507	66	65	131	164
	June	25644	69	75	144	178
	July	29035	73	116	189	154
	August	30924	71	114	185	167
	September	28977	76	121	197	147
	October	31322	96	138	234	134
	November	33775	166	147	313	108
	December	35948	156	162	318	113
1855	January	32111	188	175	369	87
	February	30903	197	172	369	84
	March	30069	198	175	373	81
	April	33019	197	173	370	89
	May	37476	216	191	407	92
	June	41128	209	192	401	103
	July	45593	180	223	403	113
	August	49672	189	209	398	125
	September	55262	195	223	418	132
	October	56762	195	226	421	135
	November	58637	186	239	425	138
	December	59141	196	246	442	134
1856	January	58777	183	243	426	138
	February	59374	174	238	412	144
	March	63207	178	238	416	152
	April	60862	175	238	413	147

[RAMC/397/F/RT/2 and WO/33/3B]

Table 4.4: Answers of regimental surgeons to a question posed by the Hospital Commissioners on the employment of men from their regiment as hospital orderlies

Page*	Date 1854-55	Regiment	Comment
68	24 Dec.	4th Dragoon Guards	One hospital sergeant, one cook, two orderlies. The hospital sergeant is an excellent man; the cook is suited to his position; and the orderlies moderately well, for a field hospital in standing camp. […] The most delicate men are selected […] to assist at the hospital. […] [They should be] […]. when practicable […] strong, willing, active, intelligent, trustworthy, and energetic soldiers […] [a] hospital depends in a great measure upon the excellence of the staff connected with it.
71	12 Dec.	5th Dragoon Guards	One hospital sergeant, two orderlies, in every respect satisfactory. Extra orderlies readily granted from the troops when required.
72	23 Jan.	2nd Dragoons	One sergeant, one cook, and one orderly, and in addition, one fatigue man told off daily to cut wood and carry water, etc. .... These hospital attendants are in every respect fit for the duties..
73	30 Dec.	4th Light Dragoons	One hospital sergeant and two orderlies. All good. […] Orderlies are given, on requisition to the commanding officer, in the ratio of 1 orderly to 10 sick men.
74	24 Dec.	8th Hussars	One hospital sergeant and one orderly. Both perform their duties to my entire satisfaction.
74	19 Dec.	11th Hussars	One hospital sergeant-major, two orderlies. Have been so employed for a long time; in every way up to their duties and efficient till within a short time ago, when both orderlies became knocked up, are now under treatment, and replaced by one man lately returned from Scutari.
75	23 Dec.	13th Light Dragoons	One hospital sergeant, with two orderlies, are employed at present; their essential fitness for their duties being as good as one can expect under our present system.
76	29 Dec.	17th Lancers	A sergeant and three orderlies. I consider them fitted for their several duties, as they have been carefully selected.
83	16 Jan.	Grenadier Guards	The number of orderlies are seven, with a sergeant who acts as an hospital steward, and a corporal who acts as dispenser; they are generally fit for their duties, and of good capacity.
84	20 Dec.	Grenadier Guards	One sergeant, one surgery-man, orderlies varying in number according to sick (average one to about 10 men), besides two cooks. There is no difficulty in obtaining orderlies on application to the commanding officer; they are men of good character and well fitted for their duty, otherwise they are immediately dismissed.
85	10 Jan.	Coldstream Guards	One sergeant, one cook, and five permanent orderlies, [and] a corporal, who […] takes charge of all requisitions […] These men are fitted for their capacity, or they would not be retained.
87	1 Jan.	SFG	Two sergeants, one corporal, one cook, one permanent orderly. Other orderlies have been taken from volunteers from the ranks as the number of the sick required. At the present […] ten. […] under […] the senior sergeant perform their duties [satisfactorily].
89	? Dec.	1st Bn, 1st	The number of orderlies employed [is] insufficient, owing to the amount [of] outside work […] procuring water, searching [for] fuel etc. […] at present eight attendants […] Fatigue parties can also be had […] as required. The hospital sergeant [has] nearly eight years [experience] and I could not have a more efficient or deserving man; the orderlies, under proper instructions and surveillance, generally perform their duties well, [although there] are men who volunteer […] to avoid other duties, or who are inflicted on the hospital establishment from their uselessness elsewhere.
91	26 Dec.	4th	Five orderlies […] also a sergeant and corporal […] employed temporarily in place of the hospital sergeant now sick […] Two […] orderlies have long been acting in that capacity, [and none are] better in the service. The others have been lately appointed to replace those […] sick. Sickness amongst the orderlies has caused many changes.
94	21 Dec.	7th	One hospital orderly, one man to cook, and three men of the band; a number insufficient to meet the exigencies and emergencies of the service.
97	6 Jan.	9th	One hospital sergeant, one cook, one orderly […] to cut firewood, and four ordinary orderlies. […] we have been furnished, as necessity requires, with two or more fatigue orderlies.

Table 4.4: Continued

Page*	Date 1854-55	Regiment	Comment
99	24 Dec.	19th	One hospital sergeant and four orderlies. When more orderlies are required […] I apply to the officer commanding […] it is difficult to get men to serve willingly in hospital who are not remunerated. The hospital sergeant is a most excellent non-commissioned officer, and the orderlies are attentive men; but they are taken from the ranks.
101	27 Dec.	20th	One orderly for every ten patients, and in addition; a cook and the hospital sergeant; and, so far as lay in their power, they performed their duties zealously.
108	23 Dec.	21st	One hospital sergeant, assisted while in the field by the band sergeant; that the hospital sergeant is well acquainted with the duty [and] orderlies possess average qualifications.
113	29 Dec.	23rd	One hospital sergeant and two orderlies are the only attendants […] whatever may be the number of sick. […] [There is] no inducement […] to remain [as] orderlies [as this] debars them from promotion, they leave often at the time they can be least spared. […] I have a cook, and on requisition to the colonel, I can obtain extra orderlies or fatigue men if necessary.
116	18 Dec.	28th	A hospital sergeant, a cook, and four orderlies, all well acquainted with their duties. The assistance also of three band boys.
123	21 Dec.	30th	One hospital sergeant and two orderlies are allowed ... They understand their duties, and perform them satisfactorily; fatigue men, when required, are procured from the regiment.
124	29 Dec.	34th	One hospital sergeant, three orderlies permanent, one sergeant and three fatigue men required to obtain wood and water and give general assistance, all fit for their duties.
124	22 Dec.	38th	The hospital orderlies and other attendants are in number four, and I am satisfied with their general fitness for their duties.
125	21 Dec.	41st	One hospital sergeant and nine orderlies, viz., one surgery orderly, one cook, and one brings water for the sick. The men are exceedingly attentive to the onerous duties .they have to perform. Payment is allowed to be made to the sergeant, and *two* of the *nine* orderlies only.
127	21 Dec.	42nd	Five orderlies […] under one hospital sergeant, and one hospital corporal, fit for their duties in that capacity. Convalescents in hospital made to render to their sick comrades such assistance as they are able for. The band is told off to carry the sick, and do fatigue duties for the hospital, when fatigue parties are not otherwise furnished.
128	20 Dec.	44th	A hospital sergeant, corporal, and cook; an orderly in the proportion to every ten patients. The hospital sergeant is most efficient; but most of the others, from sickness, have been changed recently, so from their inexperience in hospital matters they are not so efficient as could be desired; yet all are willing to do their best.
130	29 Dec.	46th	The hospital sergeant and other attendants who came out with the regiment performed their duties in an efficient manner; but most of them, including the sergeant, have been sent to Scutari […] in consequence of illness, and [their replacements] are not yet efficient
131	22 Dec.	47th	The number of orderlies is regulated by that of the sick, one man being allowed for every ten patients; they perform their duties as well as they can under the circumstances.
132	12 Dec.	49th	One sergeant and two orderlies; by no means sufficient Fatigue men are obliged to be obtained, and frequently changed, as they will not work properly without receiving pay, and there is only pay allowed for two orderlies.
133	21 Dec.	55th	A hospital sergeant and two orderlies; the highest number sanctioned ... Fatigue men are almost constantly employed. The sergeant and orderlies perform their duties [satisfactorily].
134	31 Dec.	57th	The hospital attendants are one sergeant, one cook and five orderlies, and are perfectly sufficient, and able to perform the duties required of them, aided occasionally by fatigue parties for the purpose of carrying wood and water.
136	23 Dec.	62nd	The number of orderlies were regulated by the number of sick as laid down by the rules of the service. They were quite fitted for their duties, most [have] previous experience in the regimental hospital at Varna and at Malta. Only two of these orderlies […] receive pay as such.

Table 4.4: Continued

Page*	Date 1854-55	Regiment	Comment
137	24 Dec.	63rd	The number of orderlies and other hospital attendants employed has been the usual number allowed by regulation, and they have been quite fit for their duties, being originally men […] employed [as such] at home; […] at present my hospital sergeant and several orderlies have been sent […] to Scutari […] and several of the latter have died […] Fatigue parties are obtained from the regiment to perform many duties [such] as obtaining firewood, water, etc. […]
139	26 Dec.	68th	The orderlies have been employed in sufficient numbers, and have shown general fitness for their duties […] two have been attached to the hospital prior to the regiment leaving Malta.
140	22 Dec.	77th	Hospital sergeant, one cook, and four orderlies […] perform their duties satisfactorily. When the sick list is great, any number is granted by the commanding officer.
141	?	79th	Besides one hospital sergeant, there is one orderly for every ten men in hospital. Being selected from those best suited, (and some of them having had considerable experience,) they are generally well fitted for the duties required of them.
144	?	88th	One sergeant, one acting corporal, three orderlies, and one man who has charge of hospital bat horse, and who assists the orderlies. The sergeant and corporal are both fit for all their duties. The orderlies as fit as orderlies usually are.
145	22 Dec.	90th	One hospital sergeant, two orderlies (receiving pay), and five fatigue men. Intelligent, and as well fitted for these offices as can be chosen from the regiment.
147	7 Jan.	93rd	On joining the regiment, on the 15th September 1854, there were one sergeant and four orderlies, to look after the hospital property, and to take care of sick […] They were all good steady old soldiers, and well-suited to the purpose.
150	29 Dec.	1st Bn, Rifle Brigade	One hospital sergeant, remarkably efficient. Four orderlies, all strong men and well fitted for their duties. Also, fatigue parties for carrying water, and every assistance the battalion can afford.
151	22 Dec.	2nd Bn, Rifle Brigade	Four; viz., one hospital sergeant, one cook, and two orderlies, and, in addition, a batman for the pannier horse, who are generally fitted for their duties in their several capacities.

* BPP (1854-55), No. 1920.

Table 4.5: Comments on problems associated with orderlies in general hospitals drawn principally from convalescent soldiers and others detached from their regiments

Sender	Recipient	Date (1854-55)	Abstract [Reference]
P.B. Maxwell	Sidney Herbert	10 Dec.	'It appears to me […] that as soon as their orderlies begin to get […] into something like a state of efficiency the military authorities interfere and send the men away to their regiments, substituting in their place a fresh dolts, drunkards, and slovens.' [W&SHC/2057/F8/III/B/360]
Nightingale	Lord Raglan	8. Jan	Complains about the frequent changes of orderlies and provided some advice on how matters may be improved. [NAM-6807-393-9]
PMO, Scutari	Dr Hall	17 Feb.	'Our wardmasters and orderlies are a most worthless set and not a day passes but they are found drunk and irregular. With such materials it is really wonderful how well we get on so well as we do.' [RAMC/397/F/CO/19/7]
Dr Humfrey, Smyrna	Dr Smith	3 Mar.	The hospital is full and there is a want of staff. The orderlies are quite ignorant, and many of them drunken and worthless characters. [*PoL*]
Dr Smith	Military Undersecretary	26 Mar.	Pointed out the constant receipt of reports about the inefficiency of the orderlies provided for hospitals in the East and suggested that some remedy needs to be adopted to prevent the evil. [*PoL*; *The Lancet*, 28 July 1855; BPP (1857-58), No. 2379, p. 46]
Dr Hall	AG	4 Apr.	Wrote to point out the inconvenience to the sick of employing Greeks who speak no other language as orderlies in the General Hospital. […] they have been engaged at high rates of pay […] they were to be employed on board ship but it strikes me they would be equally inefficient on board ship as they are on shore for the same cause. [RAMC/397/F/CO/1/1/1760]
Dr Smith	Deputy Secretary at War	26 May	Forwarding a letter from Dr Forrest, sometime PMO at Scutari which pointed out that it was 'utterly impossible to secure the welfare of soldiers in hospital unless immediate arrangement is made to secure eligible and qualified hospital servants for the care of the sick.' [*PoL*]
Dr Hall	AG	29 Sep.	Drunkenness and misconduct by Hospital Orderlies should be treated on its own merits by the military authorities. [*PoL*]

Table 4.6: Staffing of a company in the Medical Staff Corps comprising 120 NCOs and men

Department	Title	Army rank	Number
Surgeon's	Wardmaster	Colour sergeant	1
	Assistant wardmaster	Corporal	8
	Barber	Private	3
	1st class orderly	Private	20
	2nd class orderly	Private	70
Purveyor's	Steward	Sergeant major	1
	Assistant steward	Sergeant	4
	Issuer	Private	6
	Washerman	Corporal	2
	Cook	Sergeant	1
	Assistant cook	Private	4

[Summarized from Cantlie (1974), II, p. 426]

Table: 4.7: Year of birth of Army surgeons and other personnel who participated in the Crimean campaign

Year of birth	Military surgeons				Civil surgeons	Dispensers and dressers	Purveyors
	Staff	Regimental*	Staff† and regimental	Total			
≤1799	3 (1.6%)	2 (0.9%)	0	5 (0.9%)	0	0	1 (1.6%)
1800-1804	6 (3.2%)	1 (1.2%)	0	7 (1.2%)	2 (2.8%)	0	1 (1.6%)
1805-1809	12 (6.4%)	1 (2.8%)	3 (2%)	16 (2.8%)	3 (4.2%)	0	0
1810-1814	18 (9.6%)	3 (5.5%)	10 (6.6%)	31 (5.5%)	6 (8.3%)	0	2 (3.1%)
1815-1819	24 (12.8%)	35 (12.9%)	14 (9.2%)	73 (12.9%)	12 (16.7%)	0	3 (4.7%)
1820-1824	20 (10.6%)	34 (14.7%)	29 (19.1%)	83 (14.7%)	13 (18.1%)	1 (3.2%)	10 (15.6%)
1825-1829	29 (15.4%)	65 (21.8%)	29 (19.1%)	123 (21.8%)	19 (26.4%)	4 (12.9%)	14 (21.9%)
≥1830	76 (40.4%)	84 (40.2%)	67 (44.1%)	227 (40.2%)	17 (23.6%)	26 (83.9%)	33 (51.6%)
Total	188	225	152	565	72	31	64
Median year of birth	1828	1828	1829	1828	1824.5	1833	130.5

* Surgeons employed in the cavalry, infantry, and RA.

† Surgeons who served in both capacities; those seconded to the LTC and are also included in this total.

Table 4.8: Ranks of medical officers who died while on service in the East, 1 May 1854-30 April 1856

Rank	1 May 1854-30 April 1855	1 May 1855-30 April 1856	Total	Proportion (‰) of MOs
Deputy Inspector General	1	1	2	43
Staff Surgeon, 1st class	7	-	7	153
Staff Surgeon, 2nd class	1	2	3	65
Regimental surgeon	6	1	7	153
Regimental assistant surgeon	13	2	15	326
Staff assistant surgeon	3	-	3	65
Acting assistant surgeon	4	5	9	196
Apothecary to the Forces	1	-	1	n/a
Dispenser	-	2	2	

[BPP (1857-58), No. 2318, p. 405, Appendix IX]

Table 4.9: Location where medical officers and other staff died while serving in the East, 1854-56

Place of death	Staff surgeons (%)	Regimental surgeons (%)	Apothecaries and dispensers	Dressers	Total (%)
Turkey	12 (48)	6 (27)	3	0	21 (40)
Bulgaria	1(4)	2 (9)	0	0	3 (6)
Crimea	12 (48)	14 (64)	0	2	28 (54)
Total	25	22	3	2	52

[*PoL*, II, p.644]

Table 4.10: Mortality in the medical officers serving with the Army in the East from 1 May 1854-30 April 1856

		Medical officers	Apothecaries, dispensers and dressers
1 May 1854-30 April 1855	Average strength	266	28
	Total deaths	35	1
	Deaths per 1,000	131.6	35.7
1 May 1855-30 April 1855	Average strength	415	75
	Total deaths	11	4
	Deaths per 1,000	26.5	53.3

[BPP (1857-58), No. 2318, p. 405, Appendix IX]

Table 4.11: Injuries received by medical officers in action

Name	Corps	Nature of injury
Assistant Surgeon O`Leary	68th Regt	Killed by a cannonball which struck him on the chest while employed on duty with his corps in the trenches before Sebastopol [on 17 October 1854].
Surgeon Gordon	95th Regt.	Struck by a cannonball on the shoulder at the battle of the Alma, and, though one arm was disabled, he continued to use the other in the service of the wounded.
Assistant-Surgeon Gibbons	44th Regt	Wounded before Sebastopol, but we have received no particulars of the case.
Surgeon Mason	HMS *Albion*	Wounded while on duty in the ˙cockpit of his ship in the Naval attack on Fort Constantine.

[*MT&G*, 11 November 1854]

Table 4.12: Sir John Hall's recommendations for the medical staff required for an army on active service

Rank	For an army of 40,000*		For each of four divisions of 10,000†	For a detached brigade of three regiments
	Field duty	Fixed hospitals		
Inspector General of Hospitals	1	1	0	0
Deputy General of Hospitals	5	4	1	0
Staff Surgeons, 1st class	6	8	1	1
Staff Surgeons, 2nd class	6	16	1	0
Staff Assistant Surgeons	10	70	2	2
Apothecaries	1	1	0	0
Accountants	1	1	0	0
Dispenser's staff	8	12	1	0
Regimental Surgeons	44	0	11	3
Regimental Assistant Surgeons	103	0	25	6
Regimental Dispensers (NCOs)	59	0	14	1
Purveyor-in-Chief	0	0	0	0
Deputy Purveyor-in-Chief	1	1	0	0
Purveyors	4	6	0	0
Purveyor's Clerk	12	29‡	0	1
Army Cutler	1	1	0	0
Total	262	151	56	17

[*PoL*, II, p. 493, Appendix 42]

* Assuming 30 battalions of infantry of 1,000 men, ten regiments of cavalry of 500, 15 batteries of artillery of 200, and four battalions of the military train of 500.

† Assuming seven battalions of infantry of 1,000 men three regiments of cavalry of 500, three batteries of artillery of 240, one battalion of the military train of 500, and a commissariat and medical staff corps of 280. In addition, two assistant staff surgeons, one purveyor and two purveyor's clerks should accompany the division if it is detached from the main army.

‡ There would appear to be an error if the total 151 is correct the complement should be 30.

Table 4.13: Dr Linton's recommendations for staffing a base hospital for 3,000 patients

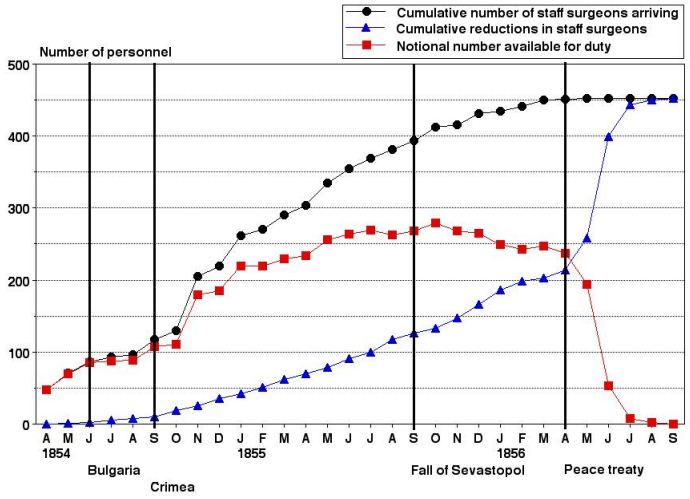
Department	Rank	No.	Remarks
Medical	Inspector General	1	
	Deputy IGs	4	1/1,000 sick + an Inspector of Transports
	Staff surgeons, 1st class	10	1/Division + 2
	Staff surgeons, 2nd class*	18	1/200 sick + 2
	Assistant surgeons	100	1/30 sick
	Dispensers	18	2/Division + 2
	Dressers	18	2/Division + 2
	Medical clerks	4	
	Book-keepers	4	
Hospital attendants	Wardmasters	8	1/Division
	Assistant wardmasters	16	2/Division
	Orderlies	540	90/500 sick as in Regulation for M. S. Corps
	Orderlies	6	
	Surgery men	8	1/Division
	Barbers	16	2/Division
Stores†	Medical storekeeper	1	
	Assistant store keeper	3	
	Book keepers	1	
Purveyor†	Purveyors	2	
	Purveyor's clerks	14	
	Stewards	8	1/Division
	Assistant stewards	16	2/Division
	Storemen	10	
	Storekeepers	4	
	Assistant store keepers	6	
	Pack-keepers	6	
	Orderlies in pack stores	6	
	Sanitary corporal	1	+ 4 fatigue men to attend soil pipes etc.
	Cooks	6	
	Assistant cooks	12	
	Cooks for divisional kitchens	8	1/Division
	NCOs for bathroom	2	
	Orderlies for bathroom	2	
	NCOs for kitchens	2	
	Issuers	8	1/Division
	Dead house	2	
	Washing establishment	15	

* Staff Surgeons, 2nd Class, cannot be fairly replaced by civilians.

† Labourers are not entered.

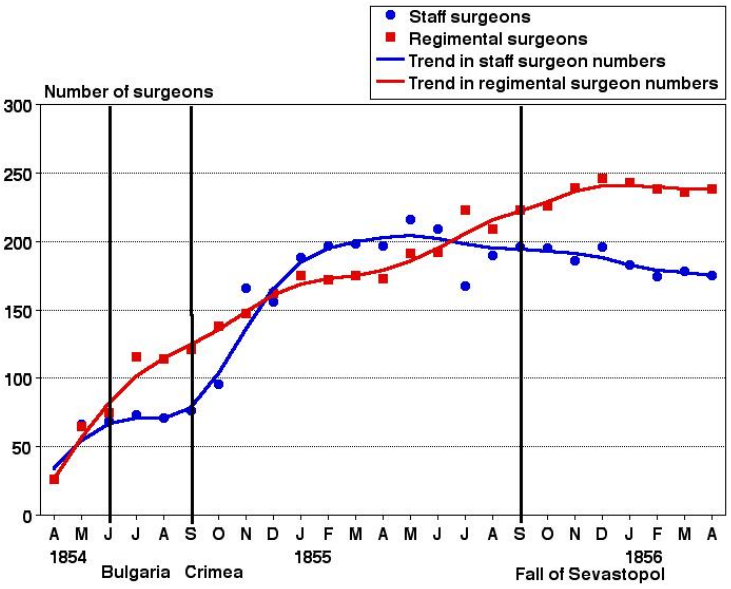
Figures 4.1-4.12

Figure 4.1: Notional number of military staff surgeons employed in the Army of the East, April 1854-September 1856



[Medical and Surgical History, I, Appendix VIII]

Figure 4.2: Numbers of staff and regimental surgeons each month, April 1854-April 1856



[RAMC/397/FRT2 and WO/33/3B]

Figure 4.3: Number of NCOs and men per surgeon each month, April 1854-April 1856

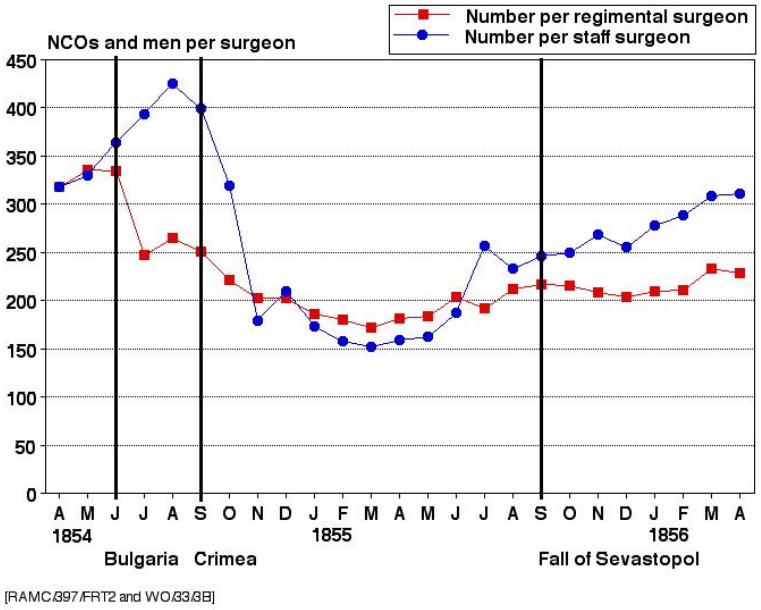


Figure 4.4: Relationship between the mortality rate among NCOs and men and the number of surgeons, April 1854-April 1856

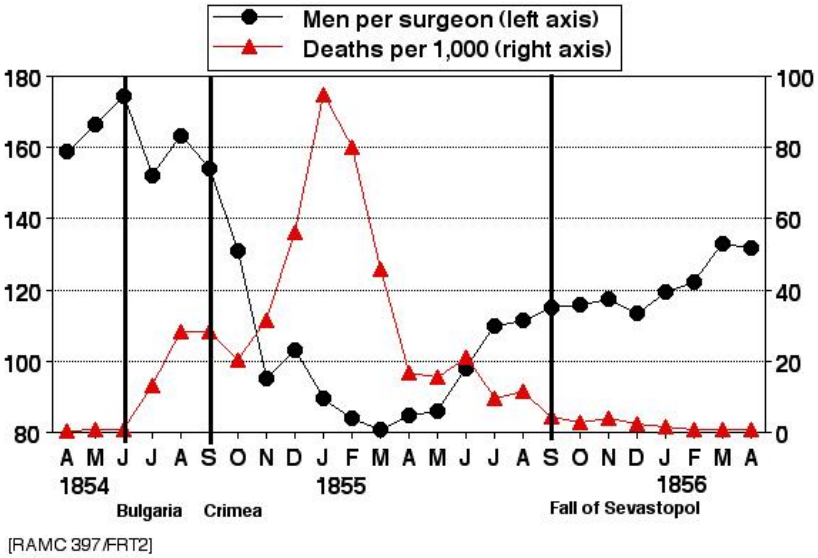


Figure 4.5: Number of dispensers of medicines each month, April 1854-June 1856

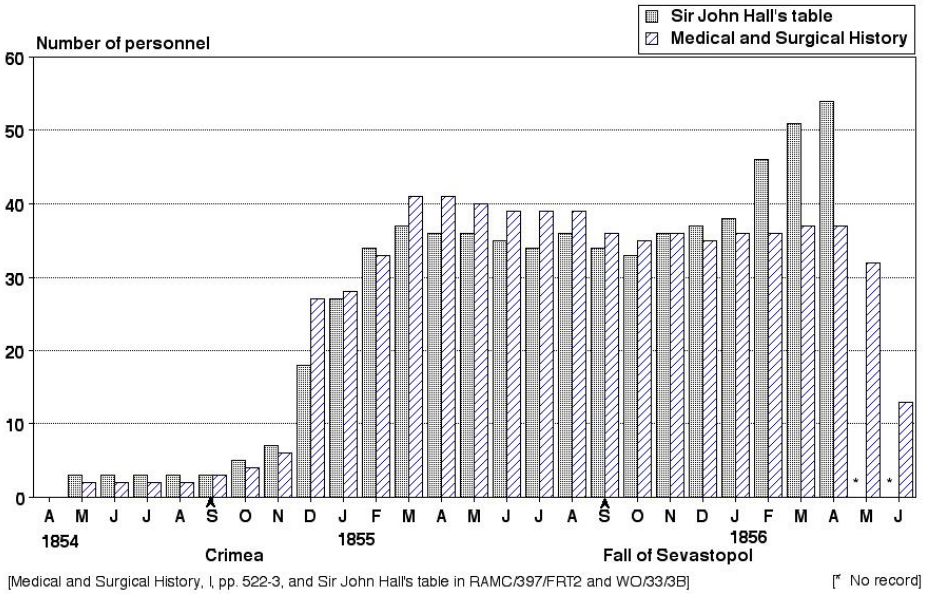


Figure 4.6: Notional number of dispensers of medicines employed in the Army of the East, April 1854-September 1856

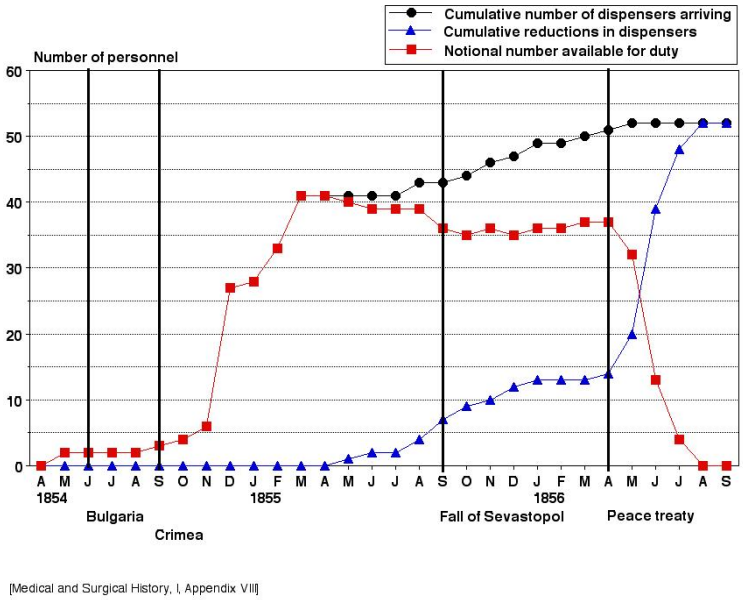


Figure 4.7: Number of hospital dressers each month, April 1854 to June 1856

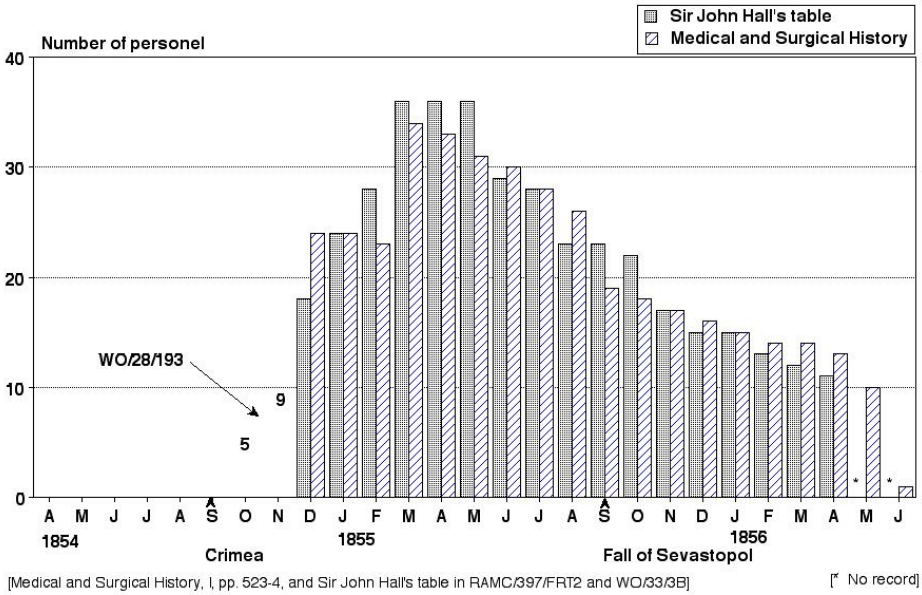


Figure 4.8: Notional number of hospital dressers employed in the Army of the East, April 1854-September 1856

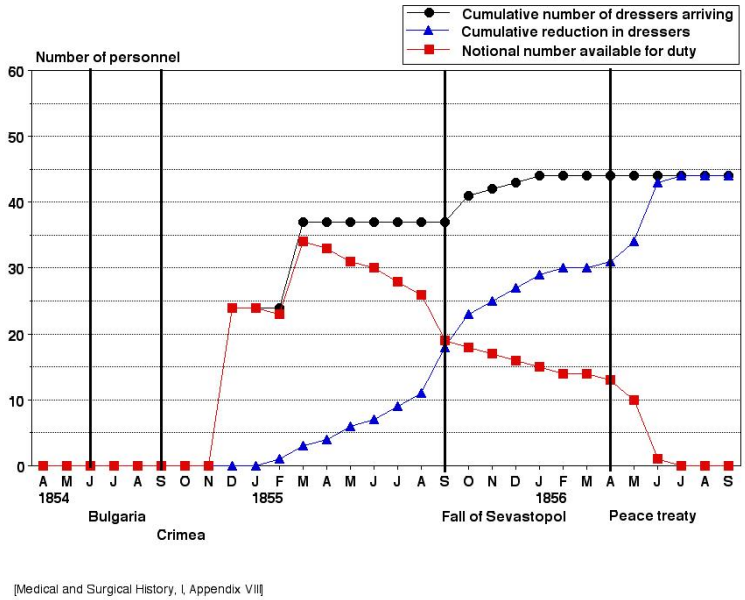


Figure 4.9: Cumulative number of purveyors and clerks joining the Army of the East, April 1854-June 1856

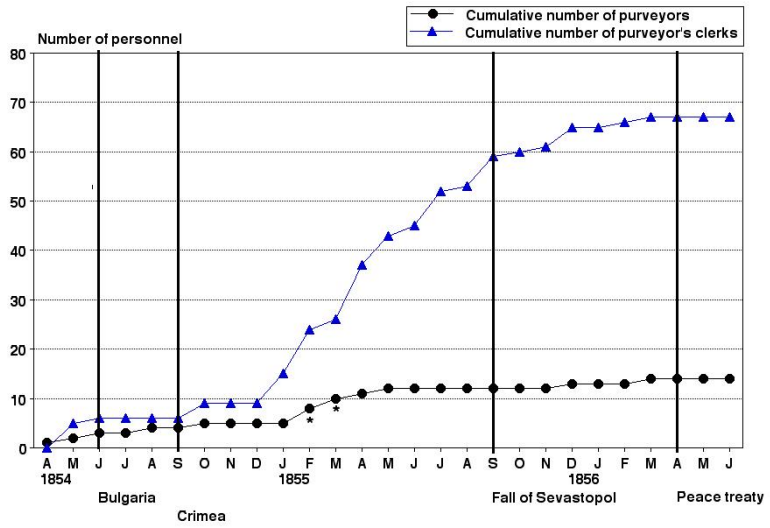


Figure 4.10: Notional number of medical clerks employed in the Army of the East, April 1854-September 1856

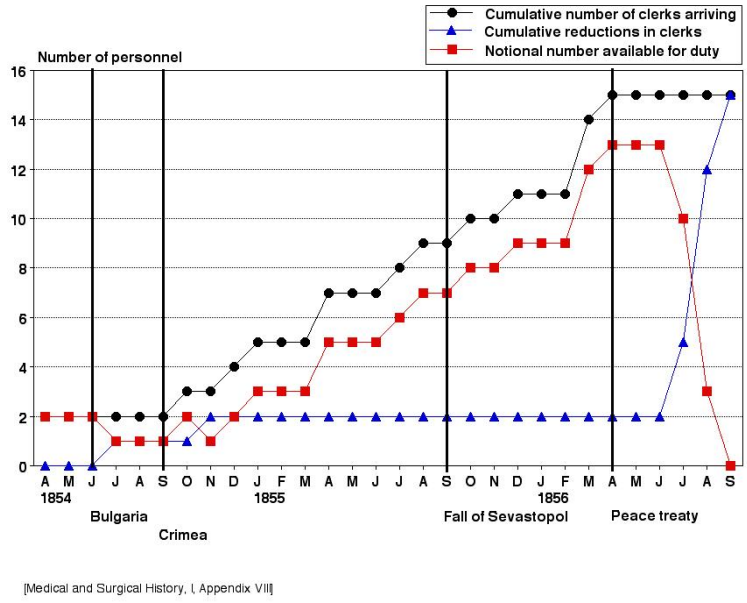


Figure 4.11: Age distribution of surgeons and other personnel in the Army of the East

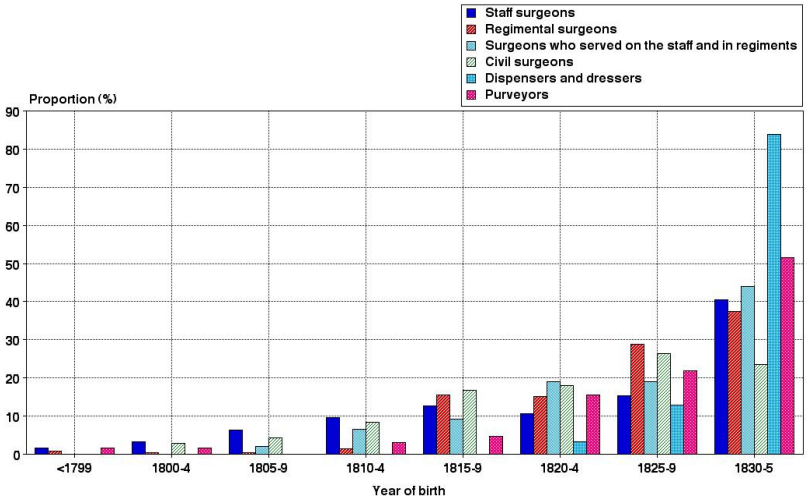
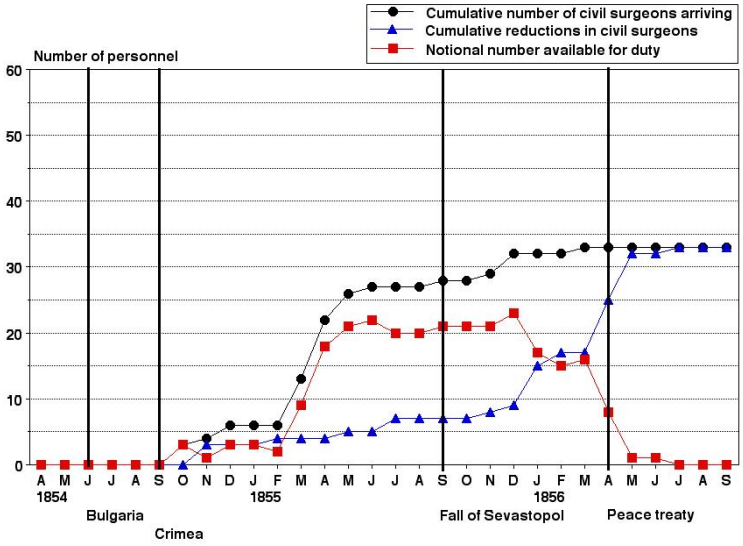


Figure 4.12: Notional number of civilian surgeons employed in the Army of the East, April 1854-September 1856



[Medical and Surgical History, I, Appendix VII]

Chapter 5
Cholera, diarrhoea, and dysentery

Over the centuries armies on active service had been plagued by epidemics of gastrointestinal diseases, particularly diarrhoea and dysentery, and in this respect the Eastern campaign was no different. However, the situation was complicated by cholera which alone accounted for about a quarter of hospital deaths from all causes, although comprising only 4.5% of primary admissions (Table 5.1).

It had been recognized for over 20 years that movement of people was important in the spread of cholera[381] and not surprisingly the disease followed the allied armies eastwards; and 'visited' Piraeus, Gallipoli, and the Bosphorus. The infection was introduced into Bulgaria by the French[382] with the first fatal case in the British troops occurring on 17 June.[383] The British public was informed by *The Times* on 17 July 1854,[384] and it is the development of the epidemics during the next 18 months that are discussed in this chapter,[385] together with an assessment of how diarrhoea and dysentery afflicted the troops during the campaign.[386]

Clinical features and treatment of cholera

The clinical diagnosis of cholera was dependent on its rapid onset and death associated with the characteristic symptoms:

> Lassitude, uneasiness of the stomach, frequent evacuations from the bowels without much griping; dejections gradually becoming thinner, paler, and of the appearance of rice water; sometimes voided easily in large quantities, at other times forcibly ejected; vomiting of whitish-looking fluid, devoid of bile; cramps in the hands and feet, accompanied by sinking and coldness of the surface; suppression of the urinary secretion. […] It was generally most fatal on its first appearance in a regiment, and diarrhoea invariably preceded it.[387]

381 *The Lancet* (1831), pp. 241-84.

382 A naval surgeon suggested that cholera was brought by a French vessel arriving on 14 July; *MT&G*, 30 Sep. 1854.

383 Hall to Smith, 2 July 1854; RAMC/397/F/CO/1/1/277 and *PoL*.

384 *The Times* 17, 18 & 21 July include further despatches dated 21 & 22 June and 8 July 1854, while a letter dated Malta, 21 July, reported cholera in Gallipoli and Dardanelles; *The Times*, 28 June 1854.

385 See *M&SH*, II, pp. 45-89 for a contemporary account.

386 The analyses are based principally on the tabulated data in the regimental histories of the cavalry and infantry regiments in the *M&SH*, I, and the General Hospital Returns in the *M&SH*, II.

387 *M&SH*, II, p. 60.

It is likely that most fatalities with pronounced pathonomonic symptoms[388] would have been recorded accurately but the milder form, now known to occur during epidemics, may have been returned as non-fatal diarrhoea.[389] It is unlikely that many of the deaths due to diarrhoea represented a misdiagnosis of cholera; however, as the 1854 epidemic was effectively over when fatalities from diarrhoea were at their worst. Similarly, the return of relatively few deaths from diarrhoea during the 1855 cholera epidemic suggests that cholera was not confused with other gastrointestinal diseases.

Ignorance of the cause of cholera means that many of the suggestions for risk factors, treatment and prophylaxis now appear bizarre. For example, accommodation in bell tents, the climate, the vicissitudes of temperature, heavy dews, defective diet, unripe fruit, and sour wines, and, only occasionally, the consumption of impure and dirty or muddy water. It would seem that not many MOs were 'impressed […] with the idea that the disease was transmissible' although some were 'disposed to regard it as possessing some power of self-extension' and that it had an 'eminently contagious nature under certain conditions.'[390]

There were several references to the unsanitary nature of camp sites and presumably the disregard of basic rules of hygiene 'helped [cholera] sweep through the allied army and navy,'[391] a point effectively made by Dr Cattell, 5th Dragoon Guards:

> Horses being watered at the fountains (which should have been reserved for other use) made a puddle around. […] thirsty men in a blazing sun and already suffering from diarrhoea […] would eagerly lap up water from the puddle […] The latrine was a deep trench, but Mosaic sanitation or use of dry earth was neglected and the pit was a hot bed of flies innumerable which spent their days between ordure of all kinds and our food. In the river men washed, washed clothes and bathed, and the butchers found it a convenient place for offal. Yet it still formed the chief supply for cooking, and what was of far more consequence it was eagerly drunk by men whose thirst became excessive. In vain was warning given against such practices.[392]

Another eyewitness, Private Harry Blishen, appreciated these events rather differently:

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388 *M&SH,* II, p. 80.

389 Soldiers were under closer medical supervision than civilians and hence the incidences recorded may be a closer approximation to the true incidence than those reported for epidemics in the British Isles.

390 *M&SH,* II, p. 48.

391 Royle (1999), p. 176. Royle suggested without providing evidence that there was an outbreak of amoebic dysentery at this time. This is unlikely since *Entamoeba histolytica* is usually associated with a tropical climate.

392 RAMC/391 and quoted by Cantlie (1974), II, p. 26.

> We have harder work against the cholera, dysentery and lake fever, than we should have had against five times our number of the enemy in Russia. The number of deaths [have] been fearful […] dear mother, if you can give me a better example of the 'frailty of life' than many of my comrades have offered me of late; that of being in robust health one hour, and the next hour groaning in the agonies of death; one poor fellow invoking the Almighty to forgive him his sins, and another raging with fever.[393]

A naval MO suggested that the 'dreadful calamity was attributed to drinking water from wells that had been poisoned by throwing in putrid carcasses,'[394] while he also provided some support to the theory that water is the medium by which 'cholera poison is conveyed' when he recorded that he had observed 'soldiers, wearied by marching from a focus of cholera infection […] washing their persons and clothing in the streams from which all the French ships of war, and the majority of the English fleet, obtained their water,' and following this 'the disease burst out with great violence among the crews of several ships.'[395] The possibility of spread being influenced by the 'impurity of the water' was also mentioned by Catell although he was probably a miasmatist as he noted that there was an 'offensive odour drafted over the place from some weeds which grew in the vicinity.'[396]

There are several references in the *M&SH* suggesting filtering polluted river water and water for hospital use but there is no suggestion in this document, or the 52 recommendations issued by Smith in 1953,[397] that water should be boiled or filtered as a control measure, as suggested by Snow. The value of improving hygienic standards was recognized, however, but principally because this reduced the 'emanation of miasmas', rather than as a means of breaking the cycle of infection.

The 1854 epidemic lasted longer than might have been expected because of a recrudescence following the invasion, possibly exacerbated by the arrival of new susceptible regiments and the unsanitary conditions that developed in the trenches and camp during the autumn. Nevertheless, there was a definite break of a few weeks between the epidemics of 1854 and 1855 when the weather was at its coldest. *Vibrio cholerae* is now known to persist in the environment in a viable but non-culturable state and this provides a scientific explanation for what was suggested in the *M&SH*:

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393 H.B. (1856), pp. 26-8.

394 Letter to Dr J.T. Veitch dated Baljik, 23 Aug. 1854; *MT&G,* 30 Sep. 1854.

395 *MT&G*, 30 Sep. 1854

396 RAMC/391.

397 *MT&G,* 1 Oct. & 10 Dec. 1853, pp. 369 & 596-7.

> No case [of cholera] was returned in March [1855]; it unfortunately, however, soon became apparent that the principle of this awful scourge was merely in a dormant state, for in April, instances of the disease were again presented […] the pestilence had only slumbered in the work of death, to burst forth again with fresh acquired vigour and still greater power of destruction.[398]

Calomel, opium, mineral acids, turpentine, quinine, chloroform, arsenic, hydrocyanic acid, lead acetate, and stimulants were all prescribed,[399] while 'the saline treatment has not apparently put to the test of experiment', a tragedy in retrospect, given that several contemporary reports recorded the beneficial effect of this therapy.[400] This admission probably reflected the prevailing attitude of the medical establishment as a whole, rather than the hard pressed MOs eschewing what would now be accepted as an early example of an approach to treatment that was evidence based.

Wearing cholera belts was considered beneficial for preventing the onset of symptoms. For example, Panmure, through the Military Undersecretary, requested Smith on 13 March 1855 to impress on PMOs the necessity of the men wearing woollen shirts and cholera belts. Smith concurred and wrote to Hall on the 19 March requiring him to direct MOs to ensure that in changeable and bad weather the men wear cholera belts, as 'excellent protection and a comfortable support.' Hall replied on 5 April stating that the men wear woollen undergarments but cholera belts 'are not much in repute as they preferred the broad woollen sash worn outside their clothes; Smith then ordered a supply of sashes.[401] A further example of an ineffective approach to prophylaxis was provided by a memorandum issued on 1 June 1855:

> Salt taken […] with food, to the extent one salt-spoonful night and morning, two salt-spoonfuls at dinner, is said by Dr Beaman to prevent cholera. This quantity may be doubled […] and the addition of a small quantity of Cayenne pepper is useful. The use of this simple precaution is recommended, as well as that of constantly wearing a cholera belt next the skin.[402]

In August 1854 the General Board of Health in London convened a Medical Council under the chairmanship of J.A. Paris, President of the RCP, to investigate the ongoing cholera epidemic and its reports, which were published in 1855, too late to influence events in the Crimea, have been reviewed critically by Dean (2016) who pointed out that 'Snow's empirically plausible explanation' for the spread of the disease

398 *M&SH*, II, p. 72.

399 *M&SH*, II, pp. 63-4.

400 For example, *MT&G*, 21 Aug. 1853. The restoration and maintenance of fluid and electrolyte balance remains the treatment of first choice to this day.

401 *PoL*.

402 WO/28/191.

was ignored by the Council which concluded that 'the theory that infection occurred by swallowing water and other items contaminated with faeces of choleraic patients as having been disproved "beyond the possibility of reasonable doubt".' Of the treatments that had been prescribed 'none could be confidently recommended […] a few treatments – calomel, castor oil, and sulphuric acid – were associated with higher than expected mortality, and others – opium and chalk – […] with lower than expected rates of death,' while Dean also provided evidence that the Council had attempted to suppress the more favourable recovery rates recorded at the London Homeopathic Hospital.

After the war Panmure issued instructions for MOs in the event of cholera being either suspected or diagnosed,[403] and it is clear that thinking on this matter remained unresolved since the provision of a clean water supply was not among the recommendations. This is surprising perhaps since the MO of the General Board of Health concluded in the same year that Londoners drinking dirty water were more likely to contract cholera than those receiving a cleaner supply.[404]

The *M&SH* was published in 1857 and it difficult to believe that Smith and his colleagues were unaware of Snow's publications,[405] and this suggests the report may have been completed well before the publication date and that those involved in its preparation had either retired or moved on, and there was little enthusiasm for updating the document. What ever the reason, it means that from a modern perspective the 'concluding observations' on pages 70-2 and 84-5 of the *M&SH* are of limited value.

Similarly, there is no evidence that the Sanitary Commissioners had espoused Snow's hypothesis when they published their report in the same year as they concluded that 'a more striking example of the deadly effects of impure air cannot be imagined' while Burnetts's official account of cholera in the Royal Navy 'constantly speaks about air, and never about water.'[406]

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403 Anon (1856).

404 BPP (1856), No. 2103. It has been suggested recently that priority should have been given to sanitation and providing a clean water supply when tackling the cholera epidemic in Haiti, rather than the introducing a vaccination programme; Wampler (2011).

405 For example, Snow (1855). Dr Buzzard, who served witht the Turkish Contigent was aware of Snow's work when in the Crimea: 'Whenever possible I refrained from drinking water that had not been boiled […] and if not taking tea or coffee' drank 'a light ale;' Buzzard (1915), p. 81.

406 *M&SH*, II, p. 56 and Lloyd & Coulter (1963), p. 142. Sir William Burnett was the DG of the Naval Medical Department.

Gastrointestinal disease in the Army, 1854-1856

Gastrointestinal diseases and cholera accounted for 55,765 (34%) and 7,574 (4.5%) of 162,673 primary hospital admissions, and 5,950 (33%) and 4,512 (25%) of 18,058 deaths (Table 5.1), with the proportions being 36.5% and 27.7% respectively if the 1,761 deaths from wounds and injuries are excluded.

The primary admissions for the specific gastrointestinal diseases were dominated by diarrhoea (70%) followed by dysentery (12.5%) and cholera (12%). Cholera was the principal cause of all deaths (43%), with diarrhoea and dysentery accounting for 35% and 20.5% respectively (Table 5.2).

A general summary of the admissions to, and deaths from, cholera, diarrhoea, and dysentery in the nine general hospitals is given in Table 5.3, together with the comparable figures for the cavalry and infantry regimental hospitals.

The recording of enteric diseases in the cavalry and infantry regiments: The table for each regiment in the *M&SH* lists: (1) the total number of admissions for each disease to the regimental hospitals; (2) the total number deaths; and (3) the total number of deaths that occurred in general hospitals and elsewhere. The difference between No. 2 and 3 gives the number of deaths in the regimental hospitals.

The records for cholera differ from the other diseases in that the admissions and deaths in the regimental and general hospitals are given separately (see Table 5.4 for examples for the Guards Brigade). The calculation of the ratio of deaths to admissions from these data may be justified for the regimental hospitals but not for the deaths in general hospitals and elsewhere, as the number of deaths could exceed admissions, as in the Coldstream and Scots Fusilier Guards, presumably because some men died before they could be admitted to any hospital.

Similarly, with the other diseases the number of deaths recorded in general hospitals and elsewhere was the total for the campaign and cannot be related to the monthly records of the regimental hospitals, for example, chronic dysentery in Table 5.5. This method of recording necessarily limits the number of possible analyses on mortality.

Cholera, diarrhoea and dysentery during the campaign: The epidemics of cholera in 1854, which assumed a biphasic form, and 1855 were separated by a short

interval when no cases were recorded, while there was no recrudescence of the disease in 1856 although a few cases were diagnosed during the first quarter may well represent a carry over from 1855 (Figures 5.1 and 5.2, and in an alternative format for cholera in Figure 5.3).

The epidemiological features of diarrhoea and dysentery differed from cholera with diarrhoea being more prevalent than dysentery in both 1854 and 1855 with its incidence increasing earlier, and persisting for longer. Deaths from both syndromes occurred principally between October 1854 and March 1855, with dysentery having a higher fatality rate.

The incidence of all three diseases was considerably reduced after fall of Sevastopol and none proved troublesome during 1856. The monthly mortality rates are summarized in Table 5.6 and Figure 5.4 and between them they accounted for over half the deaths in 15 of the 17 months July 1854-November 1855, with diarrhoea and dysentery combined being responsible for >30% of deaths other than those caused by cholera during November 1854-March 1855 and July-November 1855 (Table 5.6: col. 7+col. 9).

Cholera, diarrhoea, and dysentery in the cavalry and infantry, Analysis 1: April 1854-June 1856

In the foregoing analyses account has been taken of the month in which each regiment joined the Army, with a further sub-division depending on whether the regiments were principally involved in siege operations or other duties, such as the Cavalry Division and the defence of Balaklava (Highland Brigade).

The ratio of deaths to admissions in the regimental hospitals of the various groups of regiments was calculated for each month for cholera (Table 5.7) and diarrhoea and dysentery (Table 5.8) and these data provide the comparisons in Figures 5.5 to 5.8. As pointed out previously no account could be taken of deaths in general hospitals or elsewhere as the monthly numbers were not provided; only the total for the whole campaign.

Cholera in the infantry regiments besieging Sevastopol

1854: The incidence among regiments destined to do duty on the trenches reached a peak in August, and, after a decrease it increased again after the siege was joined with a

further peak in December, before petering out in the New Year. Regiments going directly to the Crimea during November and December suffered more severely than those that had spent time in Bulgaria or landed in September with those arriving in November being the worst affected. The 1854 epidemic was nearly over by the time three regiments arrived in January and only a few cases were recorded in these (Figure 5.5).

1855: The epidemic in the second year was shorter and proved more serious in the regiments arriving after the end of the winter. A few cases were recorded during the months after the fall of Sevastopol but cholera ceased to be problem in the Crimea thereafter.

Cholera in the Highland Brigade and Cavalry Division

1854: Both the Highland Brigade and the Cavalry Division were spared duty in trenches during the first winter and this may explain why there was no recrudescence of cholera following the invasion despite suffering similarly to the other regiments when in Bulgaria, (Figures 5.5 and 5.6).

1855: Cholera 'visited' both corps during 1855 with the problem being rather greater in the four cavalry regiments that arrived in that year. Thirteen of the fourteen cavalry regiments relocated to Turkey in the autumn of 1855 and cases of cholera occurred in twelve of these after their arrival (Figures 5.5 and 5.6).

Diarrhoea and dysentery

Deaths from diarrhoea or dysentery were restricted principally to regiments encamped before Sevastopol between November 1854 and March 1855, and, apart from the regiments arriving in January many suffered severe losses with those arriving in November being the worst afflicted (Figure 5.7). In contrast, these enteric diseases proved less of a problem in the Highland Brigade and Cavalry Division (Figure 5.8).

Cholera, diarrhoea, and dysentery in the cavalry and infantry, Analysis 2: July 1854-April 1855

In order to illustrate the nature of the epidemics of gastrointestinal disease, the ratio of admissions of NCOs and men to hospitals of the cavalry and infantry regiments for cholera, and diarrhoea and dysentery combined, to the regimental strength (‰) was calculated for each month from July 1854 to April 1855.

The regiments were grouped to take account of their exposure to the rigors of the campaign and the results for admissions summarized in Tables 5.9 and 5.10 and illustrated in Figures 5.9 and 5.10, which include the median figure for each group. The comparable data for deaths are given in Tables 5.11 and 5.12, with mortality rates for diarrhoea and dysentery between November 1854 and April 1855 in Figure 5.11.[407] The results for cholera are not illustrated as, unlike diarrhoea and dysentery, the ratios of deaths to admissions was generally similar in each month.

The final analysis involved the calculation of the ratio (%) of deaths to admissions for cholera and diarrhoea and dysentery in those regiments which reported these conditions during those months (Tables 5.13 and 5.14).

Two cases of cholera were diagnosed in the 19th Regiment during June 1854 but by the next month it was present in 31 of the 35 regiments in Bulgaria. Being generally more serious in the cavalry than the infantry during August it became a lesser problem in the cavalry during the succeeding months and disappeared by the end of the year, as it did for many the infantry regiments (Figure 5.9).

Cholera persisted throughout the autumn in the infantry regiments landing from Bulgaria but the incidence was never as high as in some of the infantry regiments going directly to the Crimea.

Cholera became less of a problem in the Highland Brigade and Cavalry Division following their move from the plateau to closer to Balaklava where the infection was less prevalent.

There were considerable differences in the monthly admissions rates of diarrhoea and dysentery within each group of regiments. The incidence overall increased during the

407 The data for July-Oct. 1854 have not been presented as the mortality rates for diarrhoea and dysentery were low (Table 5.12).

summer, and, after a fall in November, increased again until January when the rate of admissions to strength decreased (Figure 5.10). The regiments arriving in November and December tended to suffer as badly as those already on the plateau, but those joining in January were less severely afflicted.

The median ratio of deaths to admissions for cholera was >40% in all months for all groups of regiments and there was no obvious change with time (Table 5.13). Conversely, the median remained at <10% for diarrhoea and dysentery until December 1854 when it increased in all groups, and, with the exception of the Highland Brigade and those regiments that joined in January 1855, remained high despite an overall decrease in the incidence of admissions to strength (Table 5.14).

Cholera in infantry regiments, July 1854-January 1855

This analysis, based on the same data used for Table 5.9 and Figure 5.9, highlights the progress of the cholera epidemic at the divisional and brigade level. The median admission rates calculated for each month for each division are presented in Table 5.15, with the rate for each regiment in each brigade being illustrated in Figure 5.12.

The Light Division suffered worse overall than the other three infantry divisions during July while during the next two months the 2nd Division fared rather better than the rest. Six regiments forming the 4th Division landed during September and in four the admission rate for cholera at ≥75‰ was greater than that recorded in any of the infantry regiments while in Bulgaria. The disease did not persist at this high level in these regiments and was subsequently generally lower than in the other divisions, excepting the 2nd. The Highland Brigade suffered similarly to several other regiments that also landed on 14 September.

The incidence of cholera in the regiments that arrived during November and December was higher than in most of those with which they were brigaded, and this occurred despite a recrudescence in incidence in several regiments in the Light and 3rd Divisions during December.

No cholera was recorded in 24 of 39 regiments during January and involved >20‰ in only three, viz. the 46th (48‰) and 89th (22‰), that arrived in the Crimea in November and December respectively, and the Grenadier Guards (39‰), which received a draft of 411 men on 20 December.

Cholera, diarrhoea, and dysentery in general hospitals

It is only justifiable to compare hospitals when patients are admitted at the same time and this necessarily limits the scope for detailed analyses (see Table 1.9). Cholera accounted for 6.9% and 5.9% of the admissions of the general hospitals in Varna and Balaklava respectively with fatality rates of 75.1% and 42.3% (Table 5.3). In contrast, the disease was never a major problem at Scutari, there being only 388 (0.9%) cases among 36,822 patients admitted between June 1854 and June 1856 (Table 5.3).[408]

A few patients with cholera were admitted to the Castle Hospital and only one at Abydos while none were recorded in the Camp and Monastery Hospitals and those at Smyrna and Renkioi.

The data on diarrhoea and dysentery for the various hospitals are summarized in Table 5.16. Prior to the invasion the mortality was *c.*15-times greater in the general hospitals in Varna than in the camps (7.5% cf. 0.5%), presumably as the more serious cases were sent there, while the mortality rate in the camps and the Balaklava General Hospital between October and May were similar at *c.*10%; in contrast at Scutari and Abydos it was 35% and 16.4% respectively.

Despite the considerable difference in the overall fatality rate in the regimental hospitals and at Scutari between June 1854 and May 1855 (6.8% cf. 32.2%) the cumulative rate of mortality for diarrhoea and dysentery was almost identical (Figure 5.13), an observation that provides circumstantial evidence that as problems resolved in the Crimea matters improved simultaneously at Scutari, and hence the higher mortality there was associated principally with the evacuation of patients with a poorer prognosis, since it made sense to keep those most likely to recover close to the front.

408 The rapid onset of symptoms means that most cholera cases would be primary admissions, not referrals.

Interval between admission and death from cholera and gastrointestinal diseases

General Return C in the *M&SH* summarizes the 'duration of diseases, wounds and injuries that proved fatal' among the men in the cavalry and infantry regiments.

The time to death of patients with cholera was recorded for 3,481 (87%) of 4,012 deaths; half occurred within two days of admission and three-quarters within four (Table 5.17).[409]

The time to death for stomach and bowel diseases, together with comparable data for cholera, respiratory diseases, fevers, other diseases, and wounds and injuries are listed in Table 5.18. With the exception of cholera half of the deaths in the four disease categories were recorded during the second week with *c.*10-15% of patients lingering for ≥6 weeks.

Cholera in the Royal Artillery and Royal Sappers and Miners

The *M&SH* provides few details about disease in the RA and RS&M although the records for these Corps combined (the ordnance) for the first and second cholera epidemics indicated that the mortality tended to be higher in the ordnance than the cavalry and infantry in both years (Table 5.19).[410]

When the cumulative proportion for admissions were plotted for the two epidemics the curves are similar for ordnance and infantry (Figures 5.14 and 5.15), not surprising perhaps as the RA and RS&M, like most of the infantry regiments, were involved with siege operations. In 1854-55 the epidemic in the cavalry started and finished earlier, while in 1855, when they were then located at Kadikoi and not on the plateau, it started about a month later.

409 It is presumed the returns refer to hospitalized patients, although this is not stated, and hence these figures may or may not include those who died on the line of march or in the trenches.

410 *M&SH*, II, pp. 86-8.

Cholera in military and medical officers

The incidence of cholera in officers was not recorded but the loss of individuals, both senior and junior, would have made the management of the Army problematical, particularly during 1854.

An early casualty was Lieutenant Colonel Maule, a brother of Lord Panmure, while other senior officers included Brigadier Tylden, Purveyor Ward, Major General Estcourt, General Marmora, Sardinian Army, Rear Admiral Boxer, and Lieutenant Colonel Vico, the French Commissioner at the British Headquarters.[411] Several contemporary reports, and later commentaries, have suggested that Lord Raglan died of cholera, although the evidence of for this is not compelling.

The *Gentleman's Magazine* recorded that cholera caused the death of four lieutenant colonels, six majors, ten captains, fourteen lieutenants, and three ensigns, while details of surgeons and support staff that died from the disease are summarized in Table 5.20.

Cholera in the Royal Navy

The data in the official history for cholera, diarrhoea, and dysentery among sailors in the Black Sea fleet during 1854-56 are summarized in Table 5.21. The mortality from cholera was not dissimilar to that recorded in infantry regiments but was considerably lower for both diarrhoea and dysentery.[412]

The Royal Naval Brigade received support from the main fleet and was seemingly better managed than the Army because the CO, Captain Peel, ensured 'they had better cooking facilities in the trenches, warmer clothing, and tarpaulin shelters to dry their clothes. […] By a proper watch bill each man spent part of the night under cover.' Peel also paid particular attention to good sanitation and an uncontaminated water supply.'[413] In addition, the men were able to return to their ships for 24 hours every four days.

The health benefits derived from Peel's approach are illustrated by the comparison with the Army. Diarrhoea, dysentery, and cholera were all less important reasons for

411 *Gentleman's Magazine*, 1854 & 1855: Maule, Oct., p. 390; Tylden, Nov., p. 534; Ward, Mar., p. 328; Marmora & Boxer, July. pp. 93 & 95; Estcourt, Aug., p. 199; and Vico, Sep., p. 318.

412 For further details on disease in the Royal Navy see Hinton (2009, 2011a).

413 Lloyd & Coulter (1963), p. 147.

admission to hospital and the ratios of deaths to admissions were lower for diarrhoea and dysentery, though not cholera (Table 5.22).

A detachment of Royal Marines served ashore from the end of September 1854. The mean strength of brigade was 1,353 of whom 212 (15.5%) died of disease. Diarrhoea and dysentery together, and cholera, accounted for 78 (37%) and 42 (20%) of this total respectively.[414]

Cholera during 1856

One incentive for repatriating troops as quickly as possible after hostilities ceased was the apprehension of an epidemic of cholera during 1856.[415] In the event only thirteen cases were recorded in the Army during the first six months,[416] and, as eleven occurred during the first quarter they may represent the final cases of the 1855 epidemic.

There were twenty-three cases in Mediterranean Fleet during the year, with seven (30.4%) deaths. Most men became infected at Malta while a 'few cases were contracted at Lisbon, where the malady was prevalent.'[417] The comparable number of cases (deaths) of diarrhoea and dysentery were 1,498 (3, 0.2%) and 56 (8, 14.3%) respectively.

Summary

The epidemics of cholera in 1854 and 1855 were described at length in the *M&SH*,[418] and this, and other contemporary accounts generally agreed that the British Army and Royal Navy were cholera-free when they arrived in Turkey, and later in Bulgaria, and that the 'pestilence' was brought to the region by French troops.[419] It was suggested at the time that the infection may have laid dormant following an epidemic in the Danubian Principalities some years previously although this is unlikely in view of what is now known on the subject, while an unreferenced suggestion made by Miles that it

414 BPP (1857), Session I, No. 71, pp. 63-4.
415 *M&SH*, II, p. 45.
416 *M&SH*, II, General Return A.
417 BPP (1857-58), No. 71.
418 *M&SH*, II, pp. 45-89.
419 *M&SH*, II, pp. 46-7.

was brought to the East by British troops that passed through London is not supported by contemporary accounts.[420]

The epidemic was relatively simple to describe while the Army was in Bulgaria, but following the invasion it was more difficult to determine any pattern as the troops 'enjoyed too constant intercourse with every part of the camp to favour accurate analysis.' This is a fair conclusion given that the men who manned the trenches were exposed to 'an atmosphere, often unavoidably vitiated by the excretions of the masses engaged on such duty,' and were also employed collecting supplies from Balaklava, a place 'eminently favourable to the development and extension of cholera,'[421] and had contact with the camps of the French and Turkish armies, and the sutlers' bazaars.

It was concluded that once 'the choleraic poison had nearly exhausted itself on those who had been […] exposed to its influence […] it required […] fresh subjects upon which to develop its effects,'[422] while the 'most powerful predisposing cause' was considered to be the 'recent arrival of the soldiers.'[423] There is considerable anecdotal evidence to support this assertion though multivariate analyses yielded limited statistical evidence suggesting a link between outbreaks and the receipt of large drafts of new troops, the 'virgin soil' model (Appendix 5.1), but this may be more a reflection of the inadequacy of the data available for analysis than an accurate assessment of events.

During the height of the epidemic in Bulgaria an anonymous naval surgeon noted that 'this alarming visitation, which may appear […] quite unprecedented [has] conformed to laws already ascertained.'[424] This interesting conclusion prompts the question as to whether the cholera epidemic was worse in the British forces than might be expected in civilian populations and whether the exigencies of campaigning influenced the course of the epidemics. The short answer is a qualified 'No'; for the following reasons:

The role of shipping in the transmission of cholera was well recognised as it frequently appeared in ports and then spread inland along trade routes. That this

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420 Miles (2009), p. 113.

421 *M&SH*, II, pp. 75-6.

422 *M&SH*, II, p. 66. This can be explained by the development of immunity in those suffering mild symptoms or remaining asymptomic.

423 *M&SH*, II, p. 74.

424 *MT&G*, 30 Sep. 1854. The correspondent's view reflected that of Sutherland expressed a few years earlier, viz. 'cholera is by no means so capricious in its attacks as has generally been supposed […] on the contrary it is propagated according to certain fixed laws, although the limits of these have not yet been precisely defined;' Sutherland (1850).

obtained in Bulgaria was confirmed in the *M&SH* which noted 'that the pestilence strongly affects the estuaries of sea coasts, the towns built upon them, the courses of rivers […] for its extension' but as the distance from the sea and rivers increased 'the tendency of the disease to spread and commit ravages reduced', although this did not always hold good since the 'extraordinary fact was noticed' that the Highland Brigade quartered 'nearest the lake on [ground previously] occupied by the Light Division, suffered much less […] than the Brigade of Guards.'[425] Cholera subsequently accompanied the Army to the Crimea with deaths occurring on board ship and the march to Sevastopol.

Half the patients died within two days of the admission to hospital with only *c.*10% surviving beyond a week. The fatality rates in the regiments, and on naval ships, were within the range previously recorded in epidemics though the incidence might have been relatively higher as the MOs would have reported a greater proportion of the patients with 'symptoms […] pathognomonic for the disease', than their civilian counterparts.[426]

The symptoms were similar to those in previous epidemics and the fatality rates were not affected by the troops being located 'on a dry elevated mountain ridge, in a swampy malarious locality, or a filthy overcrowded town',[427] or being managed in an efficient, common-sense manner, as was the Naval Brigade (Table 5.23).

Small outbreaks may last a few days or weeks, but larger epidemics usually persist for two or three months before gradually petering out; a situation that occurred in the epidemics involving the cavalry and ordnance in Bulgaria, and the whole army in the Crimea in 1855. The pestilence followed the Army to the Crimea with the majority of the cases being diagnosed in the infantry regiments. However, the course of this secondary epidemic, which was in part associated with the arrival of new regiments, followed the typical pattern and was over early in 1855.

Anecdotal opinion suggested that severe diarrhoea made its appearance before cholera which implies that a fall in standards of camp hygiene facilitated the spread of cholera, although the MOs did not generally accept that contaminated water was the source of the 'pestilence,' a tragedy indeed, as otherwise many lives would have been saved by the simple expedient of boiling water used for drinking.

425 *M&SH*, II, p. 55.
426 *M&SH*, II, p. 80.
427 *M&SH*, II, p. 55.

Cholera would not be expected to persist year on year in non-endemic regions like the Crimea. Thus, the recording of only a few cases during the last months of the occupation is not unexpected, while the few cases involving Royal Navy personnel were associated with time spent ashore in Malta and Lisbon.

Despite the hype occasioned at the time, the commentary in the *M&SH* began with the following simple statement: 'Hitherto […] cholera was entirely an exceptional occurrence, the pestilence confining itself to small bodies of troops in camp, or on the line of march, appearing only for short periods, and generally in detached positions, but seldom constituting itself an agent of a widespread destruction.'[428] Although this retrospective assessment may not be far from the truth, it would be naïve to suggest that cholera is not a devastating disease. What illness that can kill a healthy soldier within hours would not have a profound effect on the morale and strike fear into the hearts of even the bravest of men? However, to suggest that cholera 'decimated', i.e. killed 1 in 10 of the Army, is an exaggeration,[429] especially as several other diseases, particularly diarrhoea and dysentery, coupled with the effects of exposure, overwork, and malnutrition, exacted a more terrible toll than cholera on the hapless soldiery, particularly during the autumn and winter of 1854-55.[430]

Diarrhoea and dysentery were were the most common syndromes associated with deaths, especially during the winter of 1854-55. The general epidemiological features of both were similar, but differed from those of cholera.

The improvement of living standards in the camps during the spring of 1855 was associated with a reduction in mortality and this was reflected in a simultaneous improvement in the Scutari hospitals during the weeks before the arrival of the Sanitary Commission. This suggests that the local conditions at Scutari were not themselves responsible for the high mortality but rather it was the receipt of patients from the Crimea with a poor or hopeless prognosis; a conclusion which was supported by Nightingale.[431]

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428 *M&SH*, II, p. 45.

429 'Decimation' was used by Smallman-Raynor & Cliffe (2004a); while Lloyd & Coulter (1963, p. 141) concluded 'cholera, and not malaria, which nearly destroyed the Army and Navy before hostilities began.'

430 H.B. (1856), pp. 26-8.

431 Nightingale to Panmure, 19 Aug. 1855; Douglas & Ramsay (1898), I, pp. 356-7.

Tables 5.1-5.22

Table 5.1: Principal reasons for the primary admission of NCOs and men to hospital, April 1854-June 1856, together with rates of mortality for each category

Diagnostic category	Number of conditions	Primary admissions to regimental hospitals	Proportion (%) of all admissions	Deaths in regimental and general hospitals and on ships	Proportion (%) of all deaths	Ratio (%) of deaths to admissions
I Fever	4	31204	19	3446	19	11
II Eruptive fever	4	29	-	6	-	20.5
III Respiratory disease	9	12382	7.5	644	3.5	5
IV Cardiovascular disease	6	266	-	41	-	15.5
V Diseases of liver and spleen	4	1138	0.5	40	-	3.5
VI Gastrointestinal disease	13	55765	34	5950	33	10.5
VII Nervous disease	7	736	0.5	160	1	21.5
VIII Cholera	1	7574	4.5	4512	25	59.5
IX Rheumatic disease	5	5131	3	233	1.5	4.5
X Boils and ulcers	4	12542	7.5	37	-	-
XI Venereal disease	7	3717	2.5	4	-	-
XII Urogenital disease	9	270	-	6	-	2
XIII Wounds and injuries	8	18283	11	1761	10	9.5
XIV Punishment (Punitis)	1	1733	1	0	-	-
XV Frostbite	2	2398	1.5	463	2.5	19.5
XVI Scurvy	1	2096	1.5	178	1	8.5
XVII Eye disease	1	3307	2	0	-	-
XVIII Skin disease	1	749	-	1	-	-
XIX Other disease conditions	34	3353	2	576	3	17
Totals	121	162673		18058		11

[*M&SH*, II, General Return A]

Table 5.2: Gastrointestinal diseases diagnosed in NCOs and men, April 1854-June 1856

Gastrointestinal disease (in the order listed)		Primary admissions to regimental hospitals	Proportion (%) of all admissions	Deaths in regimental and general hospitals and on ships	Proportion (%) of all deaths	Ratio (%) of deaths to admissions (c5/c3*100)
VI	Peritonitis	16	-	9	-	56
	Enteritis	36	-	11	-	30.5
	Dysentery	7882	12.5	2143	20.5	27
	Scorbutic dysentery	396	0.5	116	1	29
	Diarrhoea	44164	70	3651	35	8.5
	Colic	1514	2.5	5	-	-
	Gastritis	29	-	8	-	27.5
	Constipation	348	0.5	0	-	-
	Haematemesis	15	-	2	-	13
	Haemorrhoids	358	0.5	0	-	-
	Hernia	101	-	2	-	2
	Dyspepsia	906	1.5	3	-	-
VIII	Cholera	7574	12	4512	43	59.5
Totals		63339	100	10462	100	16.5

[*M&SH*, II, General Return A]

Table 5.3: Admissions of NCOs and men with cholera, diarrhoea or dysentery into general hospitals in Bulgaria, the Crimea, and Turkey, June 1854-June 1856

Hospital (Return number in Roman numerals)	Total admissions*	Cholera				Diarrhoea				Dysentery			
		C1	C2	C3	C4	C1	C2	C3	C4	C1	C2	C3	C4
II Varna, Bulgaria	2846	197	6.92	148	75.1	779	27.4	52	6.7	107	3.8	20	18.7
III General, Crimea	5686	333	5.9	141	42.3	1282	22.5	99	7.7	377	6.6	36	9.6
IV Castle, Crimea	2554	6	0.2	2	33.3	90	3.5	2	2.2	31	1.2	1	3.2
V Camp, Crimea	1083	0	-	0	-	83	7.7	4	4.8	18	1.7	0	-
VI Monastery, Crimea	911	0	-	0	-	157	17.2	5	3.2	76	8.3	7	9.2
I Scutari, Turkey	43288	388	0.9	246	63.4	8571	19.8	1537	17.9	3451	8.0	1090	31.6
VII Abydos, Turkey	814	5	0.6	3	60.0	131	16.1	18	13.7	92	11.3	21	22.8
VIII Smyrna, Turkey	1887	0	-	0	-	272	14.4	52	19.1	73	3.9	15	20.5
IX Renkoi, Turkey	1330	0	-	0	-	105	7.9	3	2.9	169	12.7	10	5.9
All hospitals (General Return A)	162673	7574	4.7	4512	59.6	44164	27.1	3651	8.3	8278	5.1	2259	27.3
Cavalry Regimental Hospitals†	18245	591	3.2	293	49.6	5456	30.0	72	1.3	911	5.0	32	3.5
Infantry Regimental Hospitals†	142372	5590	3.9	3033	54.2	32698	23.0	1305	4.0	6167	4.3	738	11.9

[*M&SH*, II, General Hospital Returns I-IX and General Return A and I, Regimental histories]

C1: No. of cases; C2: Proportion (%) of admissions; C3: No. of deaths; C4: Proportion (%) of deaths.

* The total admissions for General Return A is less that all the other hospitals combined (162,673 cf. 221,016) presumable because some patients were treated in more than one hospital.

† The totals excluded admissions and deaths in General Hospitals that were recorded for each regiment.

Table 5.4: Admissions for, and deaths from, cholera in the Guards Brigade

Regiment	Regimental hospitals		General hospitals and elsewhere	
	Admissions	Deaths	Admissions	Deaths
Grenadier Guards	163	107	68	43
Coldstream Guard	118	75	16	22
Scots Fusilier Guards	252	141	10	21

[*M&SH*, I, pp.104-5, 122-3, & 128-9]

Table 5.5: Admissions for, and deaths from, diarrhoea and acute and chronic dysentery in the Guards Brigade

Regiment	Disease	Admissions to regimental hospitals	Total deaths	Deaths in general hospitals and elsewhere	Deaths in regimental hospitals (c2-c3)
Grenadier Guards	Diarrhoea	1237	148	109	39
	Ac dysentery	74	10	3	7
	Ch dysentery	2	60	60	0
Coldstream Guards	Diarrhoea	1235	196	134	62
	Ac dysentery	52	3	1	2
	Ch dysentery	0	59	59	0
Scots Fusilier Guards	Diarrhoea	1038	86	84	2
	Ac dysentery	121	56	17	39
	Ch dysentery	0	62	62	0

[*M&SH*, I, pp.104-5, 122-3, & 128-9]

Table 5.6: Ratio (%) of the deaths of NCOs and men from cholera, diarrhoea, and dysentery to the total number of deaths from disease, April 1854-June 1856

Year	Month	Total deaths from disease	Cholera		Diarrhoea		Dysentery		All three diseases (%) ((c4+c6+c8)/c3)*100
			No.	% (c4/c3)*100	No.	% (c6/c3)*100	No.	% (c8/c3)*100	
1854	Apr.	5	0	0.0	0	0.0	0	0.0	0.0
	May	21	0	0.0	0	0.0	0	0.0	0.0
	June	17	1	5.9	1	5.9	0	0.0	11.8
	July	380	285	75.0	12	3.2	8	2.1	80.3
	Aug.	855	611	71.5	36	4.2	18	2.1	77.8
	Sep.	857	575	67.1	52	6.1	19	2.2	75.4
	Oct.	630	273	43.3	115	18.3	38	6.0	67.6
	Nov.	947	423	44.7	233	24.6	116	12.2	81.5
	Dec	1852	651	35.2	573	30.9	298	16.1	82.2
1855	Jan.	3080	71	2.3	1199	38.9	832	27.0	68.2
	Feb.	2478	12	0.5	754	30.4	473	19.1	50.0
	Mar.	1375	0	0.0	326	23.7	185	13.5	37.2
	Apr.	534	5	0.9	74	13.9	60	11.2	26.0
	May	545	261	47.9	46	8.4	30	5.5	61.8
	June	833	625	75.0	38	4.6	9	1.1	80.7
	July	414	205	49.5	45	10.9	19	4.6	65.0
	Aug.	505	287	56.8	55	10.9	33	6.5	74.3
	Sep.	207	40	19.3	32	15.5	46	22.2	57.0
	Oct.	145	44	30.3	21	14.5	24	16.6	61.4
	Nov.	209	110	52.6	19	9.1	13	6.2	67.9
	Dec	118	29	24.6	11	9.3	11	9.3	43.2
1856	Jan.	90	4	4.4	5	5.6	3	3.3	13.3
	Feb.	42	0	0.0	1	2.4	8	19.0	21.4
	Mar.	47	0	0.0	0	0.0	2	4.3	4.3
	Apr.	38	0	0.0	1	2.6	2	5.3	7.9
	May	27	0	0.0	2	7.4	0	0.0	7.4
	June	5	0	0.0	0	0.0	0	0.0	0.0

[*M&SH*, II, General Return A]

Table 5.7: Deaths from cholera in regimental hospitals of the infantry and cavalry, April 1854-June 1856

Corps (No. of regiments)		1854								
		Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Initial besieging force; B+ (21)*	No. of deaths	0	0	20	152	336	265	138	204	281
	Proportion (‰) of strength	-	-	1.0	7.4	17.0	16.1	9.3	14.2	21.6
Initial besieging force; B- (7)*	No. of deaths	NA	NA	NA	NA	37	151	38	18	35
	Proportion (‰) of strength	NA	NA	NA	NA	9.9	30.3	8.2	4.0	9.6
Infantry joining in Nov. (4)†	No. of deaths	NA	NA	NA	NA	NA	NA	NA	126	145
	Proportion (‰) of strength	NA	NA	NA	NA	NA	NA	NA	44.1	59.1
Infantry joining in Dec. (4)‡	No. of deaths	NA	NA	NA	NA	NA	NA	NA	NA	113
	Proportion (‰) of strength	NA	NA	NA	NA	NA	NA	NA	NA	41.3
Infantry joining in Jan. (3)§	No. of deaths	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Proportion (‰) of strength	NA	NA	NA	NA	NA	NA	NA	NA	NA
Infantry joining Apr.-Sep. (9)#	No. of deaths	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Proportion (‰) of strength	NA	NA	NA	NA	NA	NA	NA	NA	NA
Highland Brigade; B+ (3)$	No. of deaths	0	0	0	7	32	52	39	41	12
	Proportion (‰) of strength	-	-	-	2.4	11.5	18.5	15.9	16.9	4.7
Cavalry Division; B+ (10)¶	No. of deaths	NA	NA	0	0	13	93	42	33	8
	Proportion (‰) of strength	NA	NA	-	-	4.7	35.9	17.9	14.3	3.9
Cavalry Division; 1855 (4)¶	No. of deaths	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Proportion (‰) of strength	NA	NA	NA	NA	NA	NA	NA	NA	NA

Corps (No. of regiments)		1855								
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.
Initial besieging force; B+ (21)*	No. of deaths	21	5	0	2	68	191	38	90	3
	Proportion (‰) of strength	1.6	0.4	-	1.3	5.2	13.8	2.7	6.0	0.2
Initial besieging force; B- (7)*	No. of deaths	1	1	0	0	10	21	10	11	0
	Proportion (‰) of strength	0.3	0.3	-	-	3.3	6.1	2.8	3.3	-
Infantry joining in Nov. (4)†	No. of deaths	13	1	0	0	10	17	5	13	0
	Proportion (‰) of strength	7.6	0.5	-	-	5.8	9.5	2.9	7.6	-
Infantry joining in Dec. (4)‡	No. of deaths	17	2	0	2	17	48	8	14	0
	Proportion (‰) of strength	5.7	0.7	-	0.7	6.0	17.4	3.0	5.1	-
Infantry joining in Jan. (3)§	No. of deaths	10	1	0	0	12	37	9	9	0
	Proportion (‰) of strength	4.5	0.4	-	-	5.4	17.1	4.4	4.1	-
Infantry joining Apr.-Sep. (9)#	No. of deaths	NA	NA	NA	0	68	95	33	48	18
	Proportion (‰) of strength	NA	NA	NA	-	22.0	27.1	12.2	9.4	2.8
Highland Brigade; B+ (3)$	No. of deaths	5	0	0	0	2	17	4	12	0
	Proportion (‰) of strength	2.2	-	-	-	1.3	8.8	1.7	5.7	-
Cavalry Division; B+ (10)¶	No. of deaths	3	0	0	0	0	1	24	22	24
	Proportion (‰) of strength	1.6	-	-	-	-	0.4	8.0	7.1	6.4
Cavalry Division; 1855 (4)¶	No. of deaths	NA	NA	NA	0	4	17	17	27	14
	Proportion (‰) of strength	NA	NA	NA	-	3.3	12.9	12.8	24.6	14.6

Table 5.7: Continued

Corps		1855			1856					
(No. of regiments)		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Initial besieging force; B+ (21)*	No. of deaths	19	23	3	0	0	0	0	0	0
	Proportion (‰) of strength	1.3	1.5	0.2	-	-	-	-	-	-
Initial besieging force; B- (7)*	No. of deaths	0	3	1	0	0	0	0	0	0
	Proportion (‰) of strength	-	0.7	0.25	-	-	-	-	-	-
Infantry joining in Nov. (4)†	No. of deaths	1	2	0	4	0	0	0	0	0
	Proportion (‰) of strength	0.6	1.1	-	2.2	-	-	-	-	-
Infantry joining in Dec. (4)‡	No. of deaths	0	7	0	0	0	0	0	0	0
	Proportion (‰) of strength	-	2.5	-	-	-	-	-	-	-
Infantry joining in Jan. (3)§	No. of deaths	2	4	0	0	0	0	0	0	0
	Proportion (‰) of strength	0.9	1.7	-	-	-	-	-	-	-
Infantry joining Apr.-Sep. (9)#	No. of deaths	9	7	7	0	0	0	0	0	0
	Proportion (‰) of strength	1.3	1.0	1.1	-	-	-	-	-	-
Highland Brigade; B+ (3)$	No. of deaths	0	0	9	0	0	0	0	0	0
	Proportion (‰) of strength	-	-	3.9	-	-	-	-	-	-
Cavalry Division; B+ (10)¶	No. of deaths	3	0	32	4	0	0	0	0	0
	Proportion (‰) of strength	0.8	-	7.6	1.0	0	0	0	0	0
Cavalry Division; 1855 (4)¶	No. of deaths	0	17	1	0	0	0	0	0	0
	Proportion (‰) of strength	-	9.8	0.5	-	-	-	-	-	-

[Adapted from the tables in the regimental histories in the *M&SH*, I]

NA Not applicable.

* B+, served in Bulgaria: Grenadier Guards, Coldstream Guards, Scots Fusilier Guards; 1st bn, 1st Regiment; 7th, 19th, 23rd, 28th, 30th, 33rd, 38th, 41st, 44th, 47th, 49th, 50th, 55th, 77th, 88th, 95th Regiments, and 2nd bn, Rifle Brigade. B-, from Turkey or direct by sea: 4th 20th, 21st, 57th, 63rd, 68th, and 1st bn Rifle Brigade.

† The 9th, 46th, 62nd, and 97th Regiments. The hospital admissions of two companies of the 46th Regiment that landed in September have been excluded from the analysis.

‡ The 17th, 18th, 34th, 89th, and 90th Regiments. No hospital admissions were recorded for the 18th Regiment in December and so it has been included with the January arrivals. The 71st Regiment, which arrived in December 1854 and February 1855, has been omitted as it was stationed at Kertch following its occupation by the Allies.

§ The 14th and 39th Regiments.

\# These regiments comprised the 2nd bn, 1st , 3rd, and 48th (arrived during April), 31st (May), 13th and 72nd (June), 56th (August), and 82nd and 92nd (September).

$ Balaklava defences: 42nd, 79th, and 93rd Regiments; all of which landed from Bulgaria.

¶ B+: Heavy Brigade: 4th and 5th Dragoon Guards, 1st, 2nd and 6th Dragoons; Light Brigade: 4th and 13th Light Dragoons, 8th and 11th Hussars, and 17th Lancers.
1855: These regiments comprised the 10th Hussars (arrived during April), 12th Lancers (May), and 1st and 6th Dragoon Guards (August).

Table 5.8: Deaths from diarrhoea or dysentery in regimental hospitals of the infantry and cavalry, April 1854-June 1856

Corps (No. of regiments)		1854								
		Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Initial besieging force ; B+ (21)*	No. of deaths	0	0	0	1	19	3	6	48	108
	Proportion (‰) of strength	-	-	-	<0.1	1.0	0.2	0.4	3.3	8.3
Initial besieging force ; B- (7)*	No. of deaths	NA	NA	NA	NA	3	1	1	37	85
	Proportion (‰) of strength	NA	NA	NA	NA	0.8	0.2	0.2	8.2	23.4
Infantry joining in Nov. (4)†	No. of deaths	NA	NA	NA	NA	NA	NA	NA	0.2	52
	Proportion (‰) of strength	NA	NA	NA	NA	NA	NA	NA	0.7	21.2
Infantry joining in Dec. (4)‡	No. of deaths	NA	NA	NA	NA	NA	NA	NA	NA	17
	Proportion (‰) of strength	NA	NA	NA	NA	NA	NA	NA	NA	6.2
Infantry joining in Jan. (3)§	No. of deaths	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Proportion (‰) of strength	NA	NA	NA	NA	NA	NA	NA	NA	NA
Infantry joining Apr.-Sep. (9)#	No. of deaths	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Proportion (‰) of strength	NA	NA	NA	NA	NA	NA	NA	NA	NA
Highland Brigade; B+ (3)$	No. of deaths	0	0	0	1	0	0	0	4	19
	Proportion (‰) of strength	-	-	-	0.3	-	-	-	1.6	7.4
Cavalry Division; B+ (10)¶	No. of deaths	NA	NA	0	0	1	7	0	5	11
	Proportion (‰) of strength	NA	NA	-	-	0.4	2.7	-	2.2	5.3
Cavalry Division; 1855 (4)¶	No. of deaths	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Proportion (‰) of strength	NA	NA	NA	NA	NA	NA	NA	NA	NA

Corps (No. of regiments0		1855								
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.
Initial besieging force ; B+ (21)*	No. of deaths	403	230	105	17	6	5	8	8	6
	Proportion (‰) of strength	30.2	18.7	8.9	1.5	0.5	0.4	0.6	0.5	0.4
Initial besieging force ; B- (7)*	No. of deaths	96	45	20	1	0	1	1	1	0
	Proportion (‰) of strength	32.4	15.2	7.7	0.3	-	0.3	0.3	0.3	-
Infantry joining in Nov. (4)†	No. of deaths	106	43	18	7	2	3	0	2	2
	Proportion (‰) of strength	49.3	19.7	10.5	3.9	1.1	1.7	-	1.2	1.1
Infantry joining in Dec. (4)‡	No. of deaths	72	40	17	8	6	3	5	3	1
	Proportion (‰) of strength	24.3	13.1	5.4	2.9	2.1	1.1	1.9	1.1	0.4
Infantry joining in Jan. (3)§	No. of deaths	3	6	3	1	1	1	3	3	0
	Proportion (‰) of strength	1.4	2.4	1.2	0.4	0.5	0.5	1.5	1.4	-
Infantry joining Apr.-Sep. (9)#	No. of deaths	NA	NA	NA	1	7	9	9	4	3
	Proportion (‰) of strength	NA	NA	NA	0.7	2.3	2.6	2.1	0.8	0.5
Highland Brigade; B+ (3)$	No. of deaths	19	13	14	0	0	2	0	0	0
	Proportion (‰) of strength	8.5	5.9	6.6	-	-	1.0	-	-	-
Cavalry Division; B+ (10)¶	No. of deaths	4	11	7	4	1	0	0	6	7
	Proportion (‰) of strength	2.1	6.3	4.0	2.6	0.5	-	-	1.9	1.9
Cavalry Division; 55 (4)¶	No. of deaths	NA	NA	NA	1	2	0	2	2	2
	Proportion (‰) of strength	NA	NA	NA						

Table 5.8: Continued

Corps		1855			1856					
(No. of regiments)		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Initial besieging force ; B+ (21)*	No. of deaths	7	7	2	2	2	0	0	1	0
	Proportion (‰) of strength	0.5	0.5	0.1	0.1	0.1	-	-	<0.1	-
Initial besieging force ; B- (7)*	No. of deaths	0	1	0	1	0	0	1	0	0
	Proportion (‰) of strength	-	0.25	-	0.25	-	-	0.2	-	-
Infantry joining in Nov. (4)†	No. of deaths	0	0	0	1	0	0	0	0	0
	Proportion (‰) of strength	-	-	-	0.6	-	-	-	-	-
Infantry joining in Dec. (4)‡	No. of deaths	0	0	0	0	0	0	0	0	0
	Proportion (‰) of strength	-	-	-	-	-	-	-	-	-
Infantry joining in Jan. (3)§	No. of deaths	0	0	0	0	0	0	0	0	0
	Proportion (‰) of strength	-	-	-	-	-	-	-	-	-
Infantry joining Apr.-Sep. (9)#	No. of deaths	3	4	0	0	0	0	0	0	0
	Proportion (‰) of strength	0.4	0.6	-	-	-	-	-	-	-
Highland Brigade; B+ (3)$	No. of deaths	0	0	0	0	0	0	0	0	0
	Proportion (‰) of strength	-	-	-	-	-	-	-	-	-
Cavalry Division; B+ (10)¶	No. of deaths	7	3	1	1	0	0	0	0	0
	Proportion (‰) of strength	1.9	0.8	0.2	0.2	-	-	-	-	-
Cavalry Division; 1855 (4)¶	No. of deaths	1	0	1	2	0	0	0	0	0
	Proportion (‰) of strength	0.5	-	0.5	1.0	-	-	-	-	-

[Adapted from the tables in the regimental histories in the *M&SH*, I]

NA Not applicable.

* B+, served in Bulgaria: Grenadier Guards, Coldstream Guards, Scots Fusilier Guards; 1st bn, 1st Regiment; 7th, 19th, 23rd, 28th, 30th, 33rd, 38th, 41st, 44th, 47th, 49th, 50th, 55th, 77th, 88th, 95th Regiments, and 2nd bn, Rifle Brigade. B-, from Turkey or direct by sea: 4th 20th, 21st, 57th, 63rd, 68th, and 1st bn Rifle Brigade.

† The 9th, 46th, 62nd, and 97th Regiments. The hospital admissions of two companies of the 46th Regiment that landed in September have been excluded from the analysis.

‡ The 17th, 18th, 34th, 89th, and 90th Regiments. No hospital admissions were recorded for the 18th Regiment in December and so it has been included with the January arrivals. The 71st Regiment, which arrived in December 1854 and February 1855, has been omitted as it was stationed at Kertch following its occupation by the Allies.

§ The 14th and 39th Regiments.

\# These regiments comprised the 2nd bn, 1st , 3rd, and 48th (arrived during April), 31st (May), 13th and 72nd (June), 56th (August), and 82nd and 92nd (September).

$ Balaklava defences: 42nd, 79th, and 93rd Regiments, all of which landed from Bulgaria.

¶ B+: Heavy Brigade: 4th and 5th Dragoon Guards, 1st, 2nd and 6th Dragoons; Light Brigade: 4th and 13th Light Dragoons, 8th and 11th Hussars, and 17th Lancers.
1855: These regiments comprised the 10th Hussars (arrived during April), 12th Lancers (May), and 1st and 6th Dragoon Guards (August).

Table 5.9: Median and range of admissions of NCOs and men with cholera to regimental hospitals per 1,000, July 1854-February 1855

Army formation joining:		1854			
		July	August	September	October
From Bulgaria	Cavalry	11 (0-23)	37 (10-215)	14 (0-132)	25 (3-48)
	Infantry	7 (0-47)	19 (5-69)	28 (9-92)	12 (0-33)
	Highland Brigade*	-	-	-	24 (13-34)
In September	Infantry	-	9 (4-68)	79 (24-224)	9 (0-41)

		1854		1855	
		November	December	January	February
From Bulgaria	Cavalry	6 (0-18)	0 (0-10)	0	0
	Infantry	21.5 (1-102)	30.5 (3-63)	0 (0-39)	0 (0-6)
	Highland Brigade	20 (3-42)	6 (6-15)	1 (0-3)	0
In September	Infantry	6 (2-11)	11.5 (0-28)	0 (0-3)	0 (0-4)
In November		44.5 (33-340)	62.5 (16-232)	2.5 (0-48)	1.5 (0-4)
In December		-	69 (27-81)	0 (0-22)	0
In January		-	-	10 (2-10)	0

[Summarized from *M&SH*, I, Regimental histories, and illustrated in Figure 5.9]

* Formed after the capture of Balaklava from the 1st Division, 2nd Brigade and deployed to defend Balaklava.

Table 5.10: Median and range of admissions of NCOs and men with diarrhoea and dysentery to regimental hospitals per 1,000, July 1854-April 1855

Army formations joining:		1854				
		July	August	September	October	November
From Bulgaria	Cavalry	91.5 (26-168)	145 (51-461)	50.5 (32-338)	228 (100-389)	188.5 (85-288)
	Infantry	45 (7-218)	105 (30-248)	68 (17-185)	151.5 (26-310)	82.5 (27-418)
	Highland Brigade*	-	-	-	83 (72-135)	93 (23-117)
In September	Infantry	-	33.5 (9-137)	46.5 (13-254)	12 (34-319)	163.5 (37-233)
In November		-	-	-	-	7 (11-180)

		1854	1855			
		December	January	February	March	April
From Bulgaria	Cavalry	123.5 (57-224)	69 (45-148)	18.5 (7-87)	13.5 (0-31)	5 (0-11)
	Infantry	159.5 (52-549)	155.5 (71-366)	73.5 (25-357)	35.5 (3-117)	16 (0-53)
	Highland Brigade	62 (60-88)	60 (45-78)	27 (27-28)	18 (12-29)	6 (2-12)
In September	Infantry	190 (101-306)	223 (76-877)	54.5 (10-160)	22 (6-61)	3.5 (0-11)
In November		322 (113-371)	280 (129-467)	106.5 (66161)	34 (24-80)	18 (0-38)
In December		173 (96-332)	237 (112-297)	74 (35-131)	19 (11-44)	20(2-23)
In January		-	122 (100-158)	74 (69-136)	75 (43-113)	12 (10-30)

[Summarized from *M&SH*, I, Regimental histories, and illustrated in Figure 5.10]

* Formed after the capture of Balaklava from the 1st Division, 2nd Brigade and deployed to defend Balaklava.

Table 5.11: Median and range of the deaths of NCOs and men from cholera in regimental hospitals per 1,000, July 1854-February 1855

Army formations joining:		1854			
		July	August	September	October
From Bulgaria	Cavalry	1.5 (0-14)	18 (0-133)	7 (0-96)	14 (0-33)
	Infantry	4.5 (0-25)	13 (2.5-41)	16 (4-42)	5.5 (0-23)
	Highland Brigade*	-	-	-	16 (8.5-21)
In September	Infantry	-	3 (0-27)	29 (14-69)	6.5 (1.5-23)

		1854		1855	
		November	December	January	February
From Bulgaria	Cavalry	4 (0-12)	0	0	0
	Infantry	12 (1.5-55)	17 (4.5-59)	0 (0-12)	0 (0-3)
	Highland Brigade	22 (3-24)	3.5 (2-10)	1.5 (0-2)	0
In September	Infantry	4 (1-7)	8.5 (0-18)	0 (0-1.5)	0 (0-2)
In November		26 (11-104)	45 (16-176)	2.5 (0-24)	0
In December		-	46 (16-62)	3.5 (1.5-12.5)	0
In January		-	-	3 (1-9.5)	0

[Summarized from *M&SH*, I, Regimental histories]

* Formed after the capture of Balaklava from the 1st Division, 2nd Brigade and deployed to defend Balaklava.

Table 5.12: Median and range of the deaths of NCOs and men from diarrhoea and dysentery in regimental hospitals per 1,000, July 1854-April 1855

Army formations joining		1854				
		July	August	September	October	November
From Bulgaria	Cavalry	0 (0-3.5)	0 (0-11)	0	0 (0-8)	4 (0-21)
	Infantry	0 (0-1)	0 (0-3.5)	0 (0-2)	0 (0-3.5)	2 (0-16)
	Highland Brigade*	-	-	-	0	1.5 (1-3)
In September	Infantry	-	0 (0-3)	0 (0-1)	0 (0-1.5)	3.5 (1.5-10)
In November		-	-	-	-	0 (0-3.5)

		1854	1855			
		December	January	February	March	April
From Bulgaria	Cavalry	0 (0-13)	6 (0-15)	2.5 (0-13)	0 (0-12)	0 (0-5)
	Infantry	6 (0-20)	28 (3.5-133)	18 (0-66)	5 (0-99)	0 (0-8)
	Highland Brigade	9.5 (3.5-10)	7.5 (6-11)	7 (3-7.5)	6 (3-10)	0
In September	Infantry	15.5 (7-77)	29 (17-523)	12 (0-37)	5.5 (0-23)	0 (0-2)
In November		18 (8.5-52)	48 (13-108)	18 (13-36)	13 (0-14)	3.5 (0-8.5)
In December		1.5 (0-17)	26 (3-38)	11 (1-36)	7 (4-9)	3 (0-5)
In January		-	1 (0-3)	0 (0-7)	1 (0-2.5)	0 (0-1.5)

[Summarized from *M&SH*, I, Regimental histories and illustrated in Figure 5.11]

* Formed after the capture of Balaklava from the 1st Division, 2nd Brigade and deployed to defend Balaklava.

Table 5.13: Median ratio (%) of cholera deaths to admissions to regimental hospitals of NCOs and men in those regiments reporting the condition, July 1854-February 1855

Army formations joining:		1854			
		July	August	September	October
From Bulgaria	Cavalry	57	67	68	71
	Infantry	59	68	50	64
	Highland Brigade*	-	-	-	67
In September	Infantry	-	50	42	64

		1854		1855	
		November	December	January	February
From Bulgaria	Cavalry	50	0	0	0
	Infantry	50	75	50	50
	Highland Brigade	100	60	100	0
In September	Infantry	61	69	50	50
In November		41	88	75	0
In December		-	64	58	0
In January		-	-	50	0

[Summarized from *M&SH*, I, Regimental histories]

* Formed after the capture of Balaklava from the 1st Division, 2nd Brigade and deployed to defend Balaklava.

Table 5.14: Median ratio (%) of diarrhoea and dysentery deaths to admissions to regimental hospitals of NCOs and men in those regiments reporting these conditions, July 1854-February 1855

Army formations Joining:		1854				
		July	August	September	October	November
From Bulgaria	Cavalry	3.5	5	0	3	3.5
	Infantry	9.5	1.5	2	1	3
	Highland Brigade*	-	-	-	0	3
In September	Infantry	-	33	1	1.5	3.5
In November		-	-	-	-	2

		1854	1855			
		December	January	February	March	April
From Bulgaria	Cavalry	6	10.5	40	58	50
	Infantry	4.5	16.5	23	33	18
	Highland Brigade	16	10	25	2	0
In September	Infantry	9.5	16.5	30	33	25
In November		6.5	17	20	35	34
In December		10	10.5	15	33	21
In January		-	1.5	9.5	3.5	11

[Summarized from *M&SH*, I, Regimental histories]

* Formed after the capture of Balaklava from the 1st Division, 2nd Brigade and deployed to defend Balaklava.

Table 5.15: Median (range) number of admissions for cholera per 1,000 in the infantry regiments that landed in the Crimea during September 1854

Month (1854-55)	Division (No. of regiments)				
	Light (10)	1st (6)	2nd (8)	3rd (8)	4th (8)*
July	22.5 (2-47)	3 (1-17)	2 (0-9)	9 (5-28)	-
August	22 (7-43)	22 (11-69)	10.5 (5-18)	26.5 (5-44)	-
September	30.5 (7-92)	28 (9-48)	26 (14-50)	28 (17-44)	79 (24-224)
October	14.5 (5-33)	22 (13-34)	11.5 (4-16)	6 (0-16)	9 (0-41)
November	16 (4-36)	26.5 (3-42)	11 (1-15)	35 (25-102)	6 (2-11)
December	32 (10-63)	15 (6-20)	9.5 (3-17)	43.5 (32-63)	12 (0-27)
January	0 (0-4)	3 (0-8)	0	0 (0-5)	0

[Adapted from *M&SH*, I, Regimental histories]

* These regiments went directly to the Crimea.

Table 5.16: Admissions to, and deaths from, diarrhoea and dysentery in regimental hospitals and the general hospitals in Scutari, Varna, Balaklava, and Abydos, June 1854-May 1855

		1854							1855				
		June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Regimental hospitals	Admissions	214	1698	3152	2011	3630	2872	4777	4658	2045	955	383	688
	Deaths	0	3	27	4	14	86	284	757	405	200	37	15
	Cumulative deaths (%)	-	0.2	1.6	1.9	2.6	7.3	22.8	64.1	86.2	97.2	99.2	100
	Ratio (%) Dths:Ads	34/7075 (0.5)				1141/15973 (7.2)				657/4071 (16.1)			
Scutari	Admissions	22	69	85	654	696	946	1650	1458	837	681	303	232
	Deaths	0	4	5	26	55	153	364	841	681	226	85	17
	Cumulative deaths (%)	-	0.2	0.4	1.4	3.7	9.9	24.7	58.9	86.7	95.8	99.3	100
	Ratio (%) Dths:Ads	35/830 (4.2)				1413/4750 (29.7)				1009/2053 (49.1)			
Varna	Admissions	11	161	142	395	132	33	10	2	-	-	-	-
	Deaths	1	7	9	36	10	9	0	0	-	-	-	-
	Ratio (%) Ads:Dths	53/709 (7.5)				19/177 (10.7)				-			
Balaklava	Admissions	-	-	-	-	230	230	247	340	100	64	14	35
	Deaths	-	-	-	-	16	24	31	19	10	13	3	4
	Ratio (%) Ads:Dths	-				90/ 1047 (8.6)				30/213 (14.1)			
Abydos	Admissions	-	-	-	-	-	-	99	4	51	3	51	2
	Deaths	-	-	-	-	-	-	1	4	8	7	9	5
	Ratio (%) Ads:Dths	-				5/103 (4.9)				29/102 (27.1)			

[Summarized from *M&SH*, I, Regimental histories and II, General Hospital Returns, I-III, & VII]

Table 5.17: Interval between admission to hospital and the death of NCOs and men dying from cholera

Time to death	Number of fatalities (Cumulative %)			
	Corps			Total
	Cavalry	Guards	Infantry	
<12 hours	63 (20)	15 (4)	334 (12)	412 (12)
12-23 hours	62 (41)	17 (9)	422 (27)	502 (27)
2 days	82 (67)	72 (31)	667 (50)	821 (50)
3 days	13 (77)	86 (56)	431 (65)	547 (65)
4 days	17 (82)	43 (69)	248 (74)	308 (74)
5 days	14 (87)	30 (78)	184 (81)	228 (81)
6 days	15 (92)	13 (82)	144 (86)	172 (86)
7 days	6 (94)	11 (85)	102 (89)	119 (89)
≥8 days	19 (100)	50 (100)	303 (100)	372 (100)
Total	308	337	2836	3481

[Adapted from *M&SH*, II, General Return C]

Table 5.18: Number of patients in cavalry, Guards and infantry regiments dying each week during the weeks following admission to hospital

Corps	Time to death (days)	Number (Cumulative %)					
		Cholera	Bowel diseases*	Fevers	Respiratory diseases	Other diseases	Wounds & injuries
Cavalry	≤6	289 (94)	19 (11)	21 (13)	9 (31)	18 (38)	10 (50)
	7-13	19 (100)	36 (30)	53 (45)	1 (34)	7 (53)	1 (55)
	14-20	0	19 (41)	26 (60)	3 (45)	2 (57)	1 (60)
	21-27	0	17 (50)	16 (70)	2 (52)	4 (66)	2 (70)
	28-34	0	14 (58)	8 (75)	3 (62)	5 (77)	1 (75)
	35-41	0	19 (69)	9 (80)	1 (66)	3 (83)	1 (80)
	≥42	0	57 (100)	33 (100)	10 (100)	8 (100)	4 (100)
	Total	308	181	166	29	47	20
Guards	≤6	278 (85)	41 (9)	31 (10)	5 (25)	21 (26)	34 (31)
	7-13	50 (100)	103 (31)	107 (41)	8 (65)	12 (41)	19 (49)
	14-20	0	130 (60)	76 (69)	1 (70)	10 (53)	21 (69)
	21-27	0	62 (73)	41 (82)	2 (80)	10 (65)	7 (75)
	28-34	0	57 (86)	25 (90)	0	12 (80)	11 (85)
	35-41	0	25 (91)	13 (94)	3 (95)	10(93)	4 (89)
	≥42	0	40 (100)	18 (100)	2 (100)	6 (100)	12 (100)
	Total	328	458	311	21	81	108
Infantry	≤6	2537 (89)	430 (17)	385 (22)	86 (28)	167 (29)	608 (57)
	7-13	303 (100)	551 (40)	488 (51)	57 (47)	74 (42)	197 (75)
	14-20	0	477 (59)	310 (69)	42 (61)	88 (58)	93 (84)
	21-27	0	298 (71)	196 (80)	33 (72)	62 (68)	45 (88)
	28-34	0	220 (80)	117 (87)	28 (81)	41 (76)	49 (93)
	35-41	0	159(87)	69 (91)	15 (86)	49 (84)	21 (94)
	≥42	0	322 (100)	162 (100)	43 (100)	90 (100)	59 (100)
	Total	2840	2467	1727	304	571	1072
All corps	≤6	3104 (89)	490 (16)	437 (20)	100 (28)	206 (29)	652 (54)
	7-13	372 (100)	690 (38)	648 (49)	66 (47)	93 (43)	217 (72)
	14-20	0	626 (58)	412 (68)	46 (60)	100 (57)	115 (82)
	21-27	0	377 (71)	253 (79)	37(70)	76 (68)	54 (86)
	28-34	0	291 (80)	150 (86)	31 (79)	58 (76)	61 (92)
	35-41	0	203(86)	91 (90)	19 (84)	62 (85)	26 (94)
	≥42	0	419 (100)	213 (100)	55 (100)	104 (100)	75 (100)
	Total	3476	3906	2204	354	699	1200

[Adapted from the *M&SH*, II, General Return C]

* >99% would have been due to diarrhoea or dysentery; see *M&SH*, II, General Return A.

Table 5.19: Admission for, and deaths from, cholera in the cavalry, ordnance, and infantry, June 1854-October 1855

Epidemic: Year	Month	Admissions*			Deaths			Deaths/Admissions (%)		
		Cav.	Ord.	Inf.	Cav.	Ord.	Inf.	Cav.	Ord.	Inf.
1: 1854-55	June	0	1	2	0	0	1	0	-	100
	July	22	13	414	13	9	263	59	69	64
	Aug.	165	62	711	93	45	473	56	73	67
	Sep.	67	51	1114	42	22	511	63	43	46
	Oct.	53	32	360	33	24	216	62	75	60
	Nov	15	21	802	8	17	398	53	81	50
	Dec.	4	32	830	3	33	615	75		74
	Jan.	0	3	98	0	1	70	-	100	71
	Feb.	0	0	11	0	1	11	-		100
	Total	326	215	4342	192	152	2558	59	71	59
2: 1855	Apr.	1	1	5	0	1	4	-	100	80
	May	7	64	355	5	43	213	71	67	60
	Jun	101	237	790	44	158	423	44	67	54
	Jul	63	58	176	36	38	131	57	66	74
	Aug.	91	52	304	51	38	198	56	73	65
	Sep.	19	5	39	17	2	21	89	40	54
	Oct.	2	13	68	0	9	35	-	69	51
	Total	284	430	1737	153	289	1025	54	67	59

[Summarized from *M&SH*, II, p. 88]

* Cav. Cavalry; Ord: Ordnance (RA and RS&M): Inf: Infantry.

Table 5.20: Medical officers and other members of the Army Medical Department who died of cholera

Year and month of death		Name and rank	Abstracts of obituary notices in the *Gentleman's Magazine*, and other sources
1854/55	Aug.	Assistant Surgeon E. A. Jenkin, 23rd Regt	At Monastir, near Varna. Born in Swansea […] successful in the treatment of yellow fever in Jamaica and cholera in Malta and the Ionian Islands.
		1st Class Staff Surgeon Pitcairn, MD	At Kotlubie, near Varna. Late of the 5th Dragoon Guards.
		Assistant Surgeon F. Y. Shegog, MD, 88th Regt	At Varna. He had been of the utmost service to the regiment during an epidemic of yellow fever in the West Indies, and is described in *The Lancet*, as a 'most trustworthy and well informed correspondent.'
	Sep.	Surgeon F. C. Huthwaite, GG.	On HMS *Apollo*, on passage to Balaklava. The cholera was brought on by arduous duties after the Alma. Served 30 years on full pay.'
		Assistant Surgeon J. A. Shorrock, 1st Bn, Rifle Brigade	Died in the Crimea.
		R. J. Mackenzie, MD	A civilian surgeon attached to the 79th Regiment. He went with the Army to gain experience died shortly after the Alma at which he was present.
	Oct.	Staff Assistant Surgeon A. R. Reid	At Balaklava on board *Cornwall*, aged 24.
		Assistant Surgeon H. Beckwith, 49th Regt	On the heights of Sebastopol, aged 30. Eldest son of the late Revd Henry Arthur Beckwith, MA, vicar of Collingham, Yorkshire.
		Assistant Surgeon J. Thomson, MD, 44th Regt	At Balaklava. He remained behind to tend the wounded after the battle of the Alma. A monument to his memory was subsequently erected at Cromarty, his birth place. (His name is spelt 'Thompson' in some documents.)
	Nov.	Staff Surgeon G. H. Reade	The Principal Apothecary at Scutari. He served in the Peninsular War (1812-14), the American War, including the affair of Plattsburg, and Canada during the insurrection. He received the war medal with four clasps for San Sebastian, Nivelle, Nive, and others. He had medical rank although not medically qualified, having joined the Army as an apothecary during 1813. One son, John, served as an assistant surgeon in the Crimea, while another, Herbert, was awarded the VC when a staff surgeon during the Indian Mutiny.
	June	Acting Assistant Surgeon A. Sibbald	Died at Cape Cunekoi, near Constantinople.
		Surgeon R. P. Chapman, RN	Before Sevastopol while serving with the Naval Brigade.
		L Ormerod	At Balaklava, aged 23. Son of the late Lawrence Ormerod, Esq., of Bankside, Rossendale, Lancashire. A civilian attached to Omar Pasha's Army.
	July	Acting Assistant Surgeon J. H. White, 3rd Regt	Before Sebastopol, of fever after cholera, aged 28. Third son of the late Revd Wm. White of Wolverhampton.
	Aug.	Acting Assistant Surgeon J. Longmore, 19th Regt	At Sebastopol. Third son of Tho. Longmore, Esq., surgeon, London. His name is on the regimental memorial in York Minster. His brother, Thomas Longmore, served as a surgeon on the same regiment.
	Nov.	Acting Assistant Staff Surgeon H. W. Wood	In the hospital at Scutari. Second son of R. R. Wood, of Bramford.
		Dispenser J. M. Beveridge, MPS	At Scutari. Previously employed at the Ordnance Hospital, Woolwich.
		Acting Assistant Surgeon J. Mayne	At Scutari.
		Deputy IGH A. McGrigor, MD	Reported to have died of cholera at Scutari, where he was buried. (His name is also spelt McGregor)

Table 5.21: Ratio of deaths (%) to cases with cholera, diarrhoea, and dysentery in the Black Sea Fleet, 1854-56

Year	Cholera		Diarrhoea		Dysentery	
	Number of cases (‰)*	Number of deaths (%)†	Number of cases (‰)*	Number of deaths (%)†	Number of cases (‰)*	Number of deaths (%)†
1854	760 (58.5)	409 (58)	4573 (352)	4 (0.1)	238 (18)	21 (9)
1855	71 (4.75)	71 (100)	3883 (262)	33 (1)	315 (21)	54 (17)
1856	23 (2)	7 (30)	1498 (126)	3 (0.2)	56 (5)	8 (14)

[BPP (1857), Session I, No. 71, pp.7 & 65]

* Per 1,000 mean strength; † Proportion (%) of cases.

Table 5.22: Comparison of the mortality from gastrointestinal diseases in the Navy Brigade and the Army, November 1854-September 1855

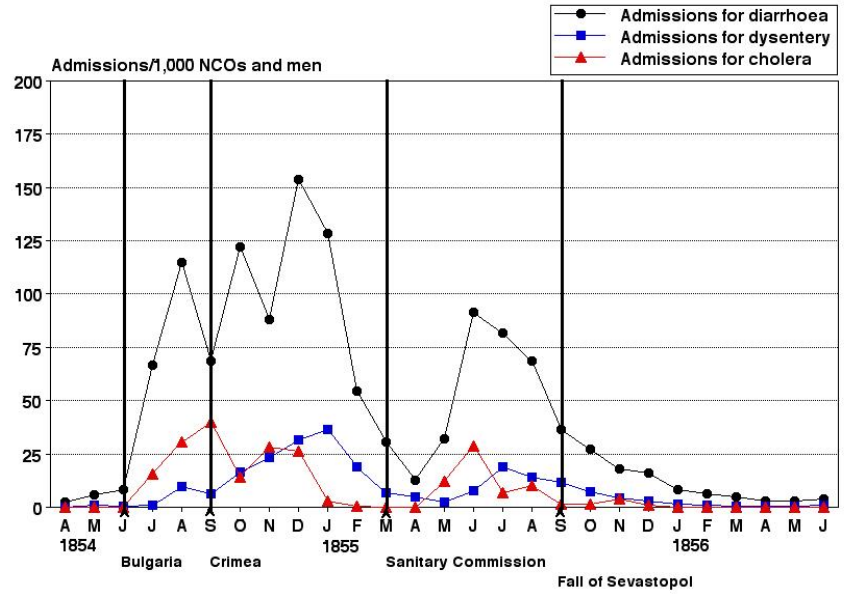
Total admissions to the:*		Cholera		Diarrhoea		Dysentery	
		Admissions (% of total admissions	Deaths (% of cholera admissions)	Admissions (% of total admissions	Deaths (% of diarrhoea admissions)	Admissions (% of total admissions	Deaths (% of dysentery admissions)
Naval Brigade	1921	44 (2.5)	23 (52.5)	1076 (56)	4 (0.5)	28 (1.5)	0
Army	39755	5861 (14.5)	3428 (58.5)	33879 (85)	3542 (10.5)	6955 (17.5)	2167 (31)

[BPP (1857), Session 1, No. 71, p. 40 and *M&SH*, II, General Return A]

* These totals do not include admissions for wounds and injuries.

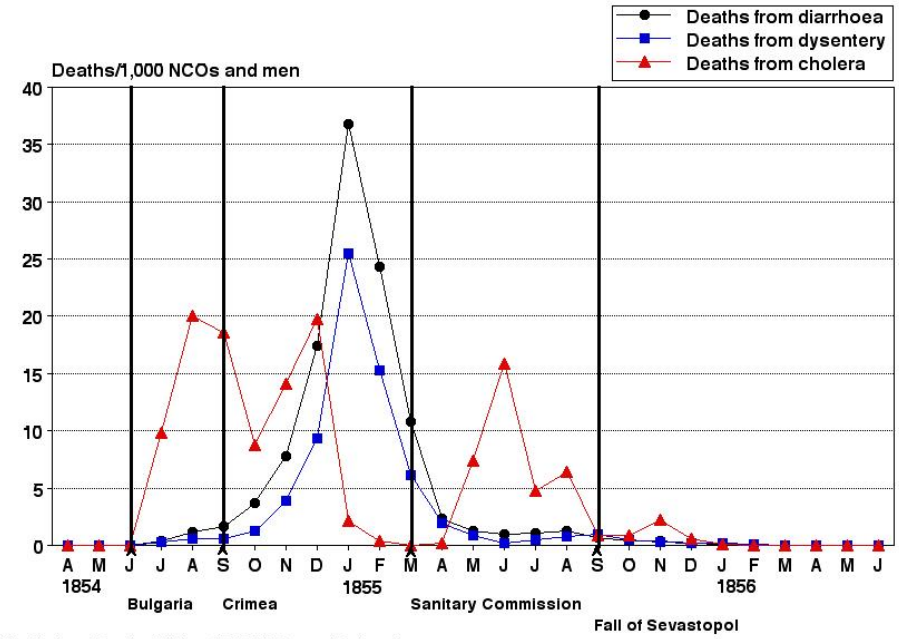
Figures 5.1-5.15

Figure 5.1: Primary admissions of NCOs and men with cholera, diarrhoea, and dysentery to hospital, April 1854-June 1856



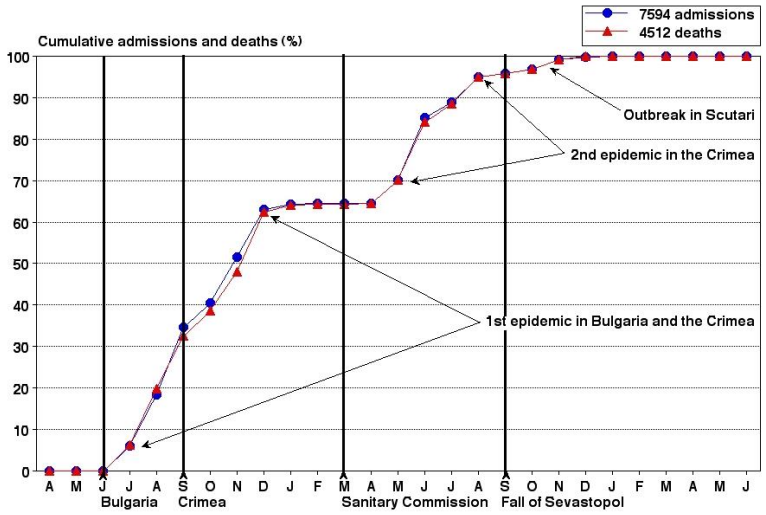
[Medical and Surgical History (1858) II, General Return A]

Figure 5.2: Deaths among NCOs and men with cholera, diarrhoea, and dysentery, April 1854-June 1856



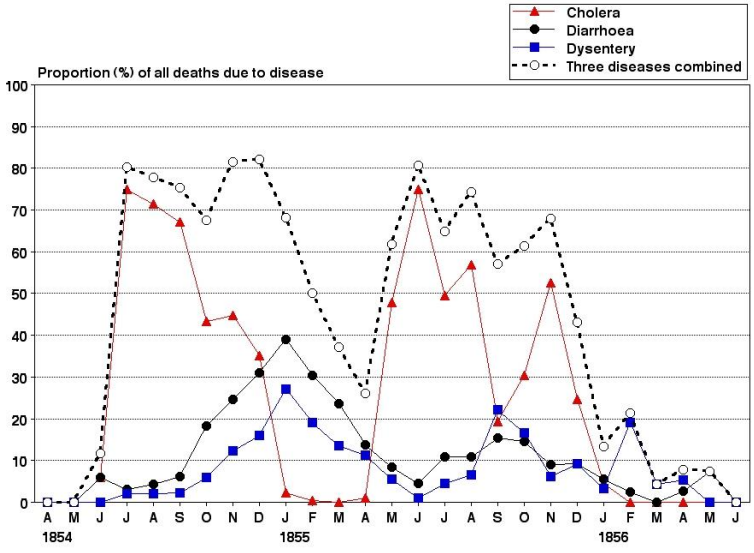
[Medical and Surgical History (1858) II, General Return A]

Figure 5.3: Admissions for, and deaths from, cholera among NCOs and men, April 1854-June 1856



[Medical and Surgical History, II, General Return A]

Figure 5.4: Proportions of all deaths due to disease which were associated with cholera, diarrhoea, and dysentery, April 1854-June 1856



[Medical and Surgical History, II, General Return A]

Figure 5.5: Deaths from cholera among NCOs and men in infantry regiments engaged in siege operations before Sevastopol, April 1854-June 1856

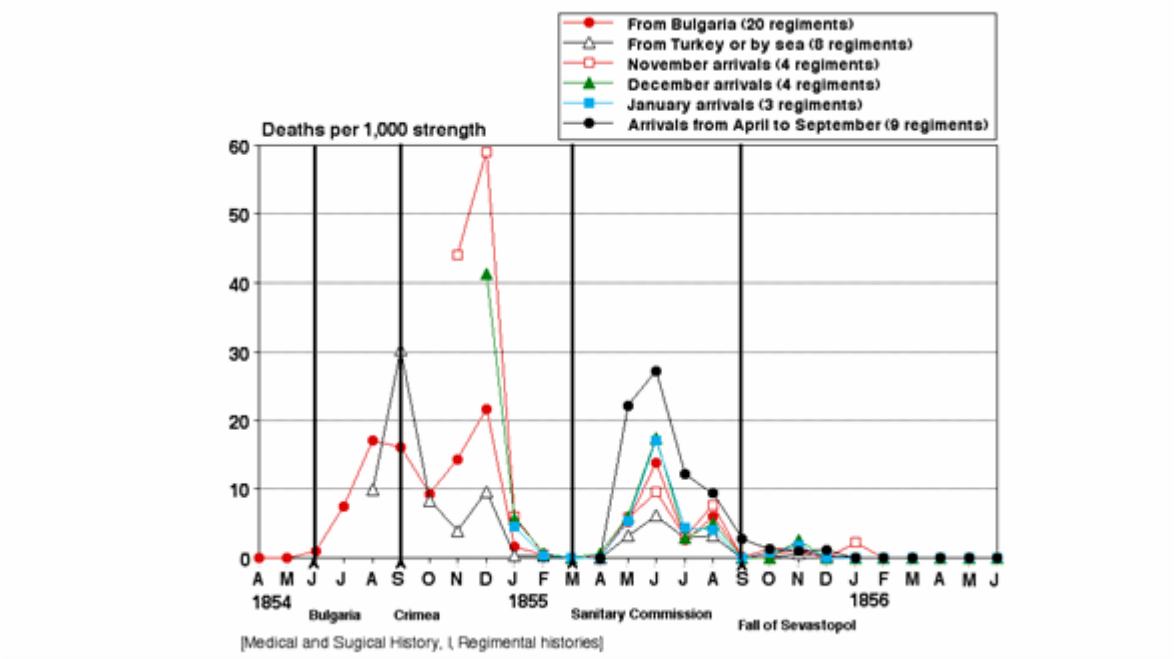


Figure 5.6: Deaths from cholera among NCOs and men the Highland Brigade and Cavalry Division, April 1854-June 1856

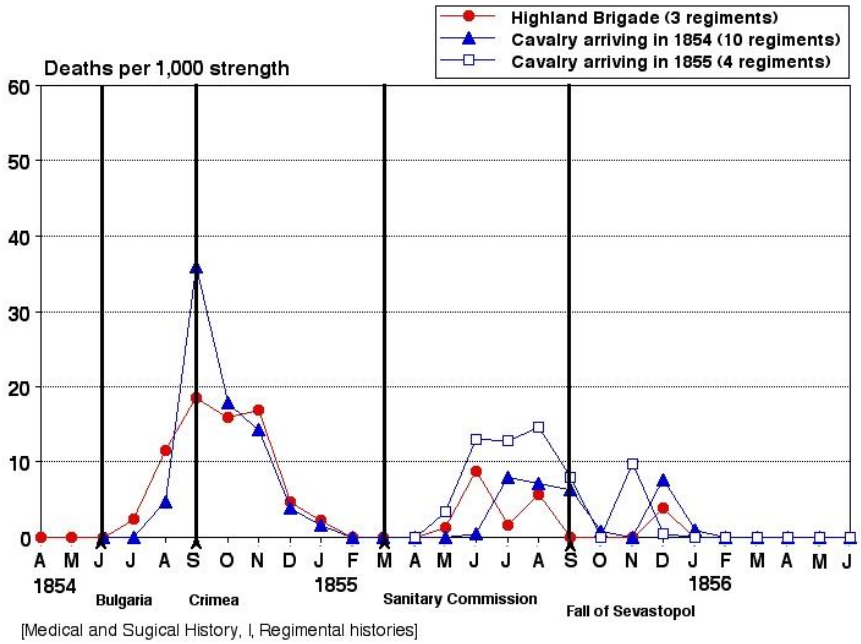


Figure 5.7: Deaths from diarrhoea and dysentery among NCOs and men in infantry regiments engaged in siege operations before Sevastopol, April 1854-June 1856

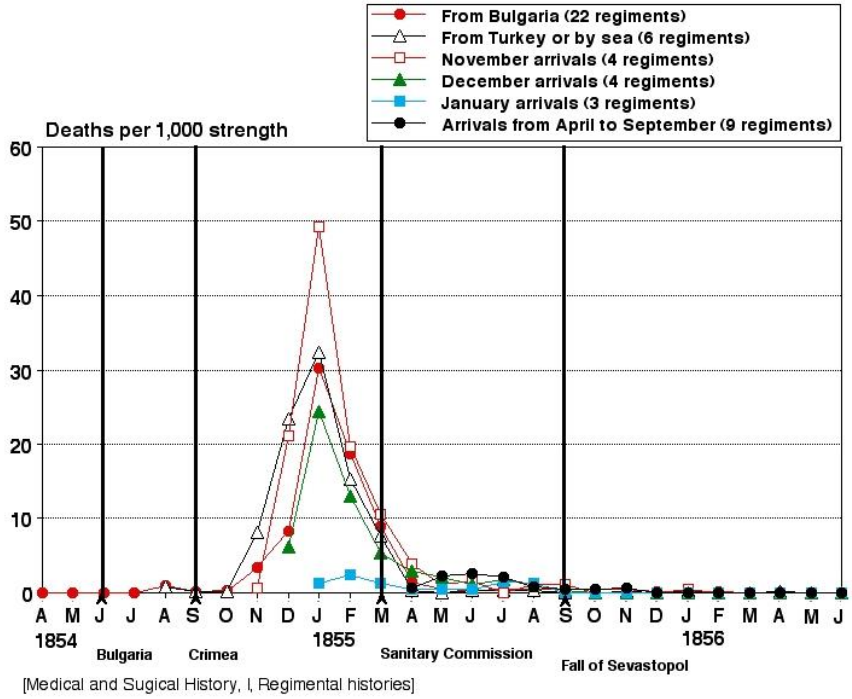


Figure 5.8: Deaths from diarrhoea and dysentery in the Highland Brigade and Cavalry Division, April 1854-June 1856

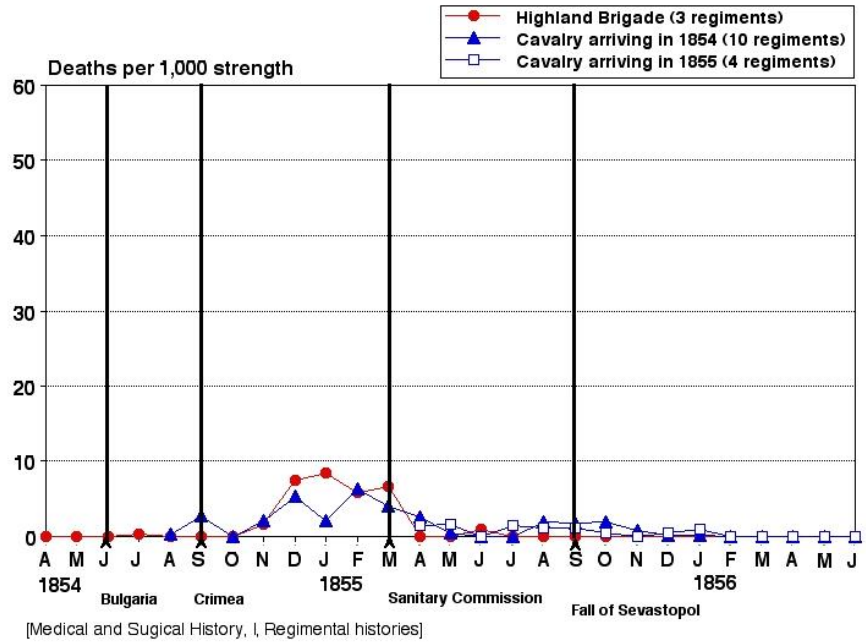
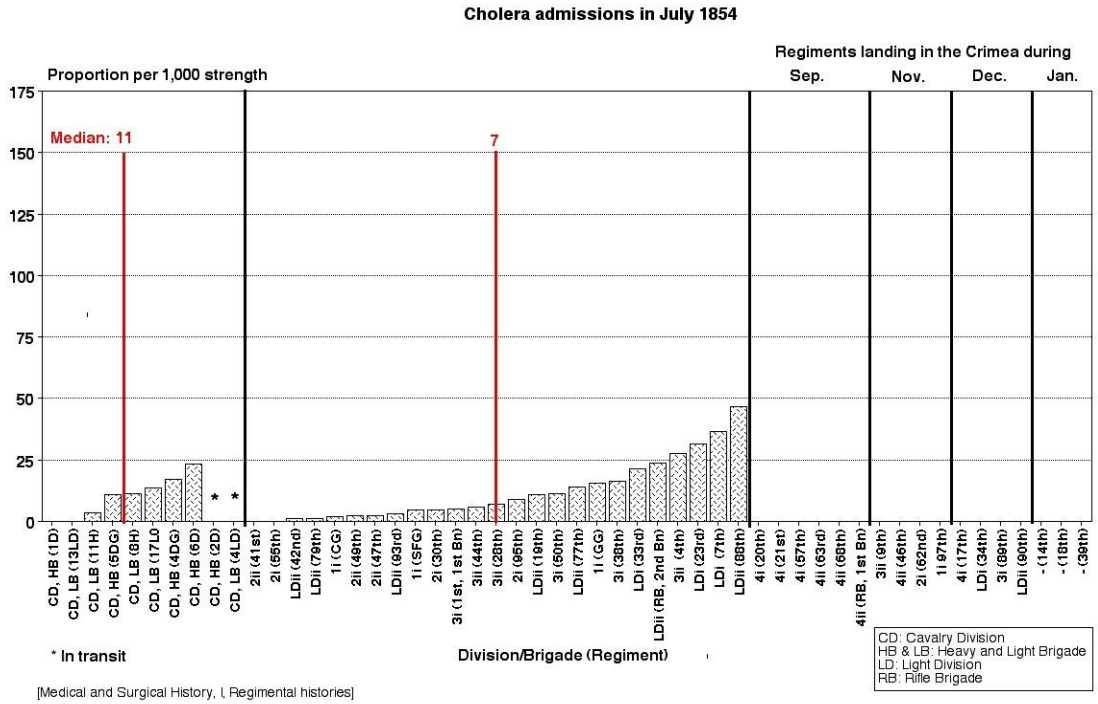
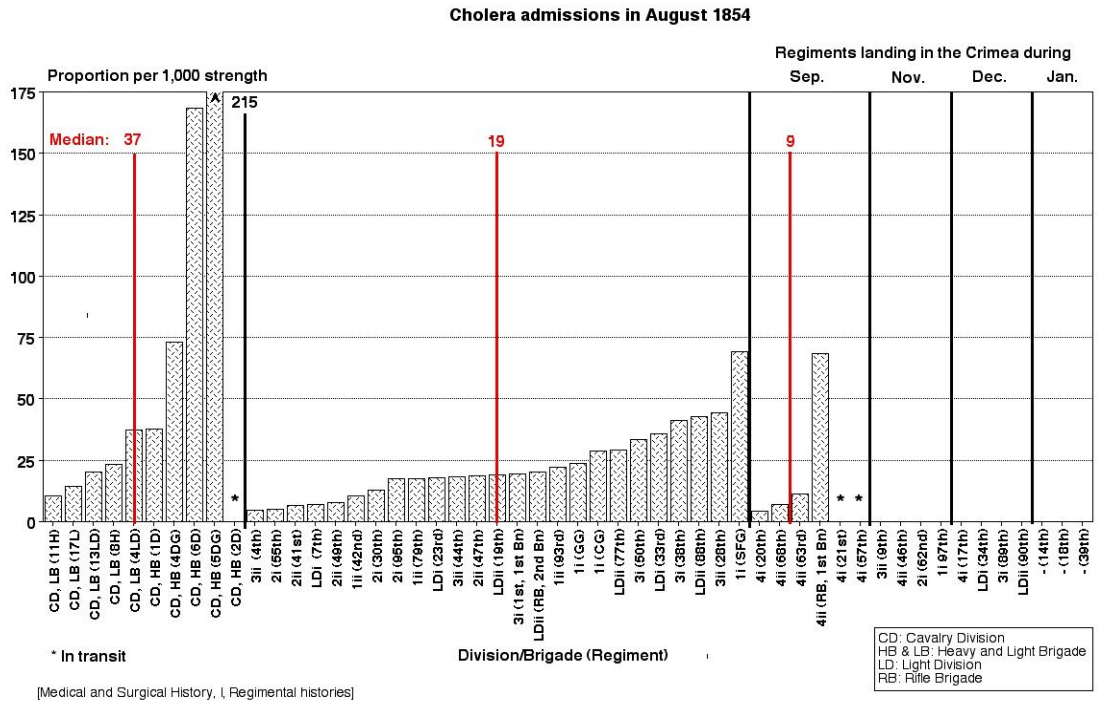


Figure 5.9: Monthly rate of admissions of NCOs and men with cholera to regimental hospitals, July 1854-February 1855

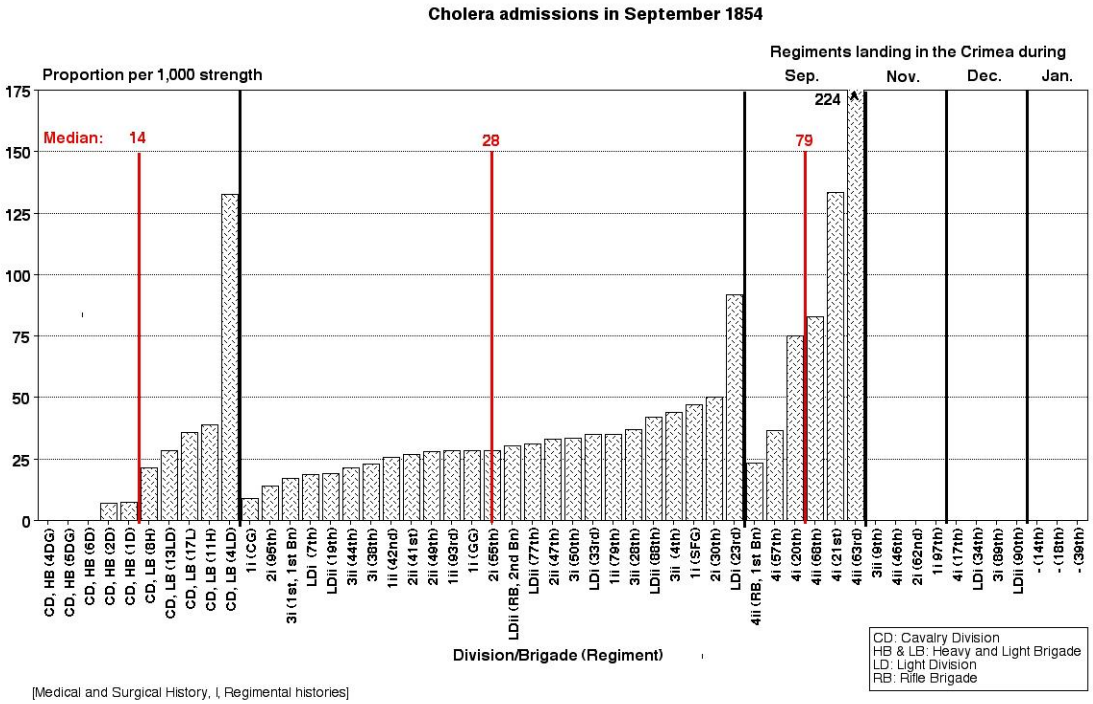


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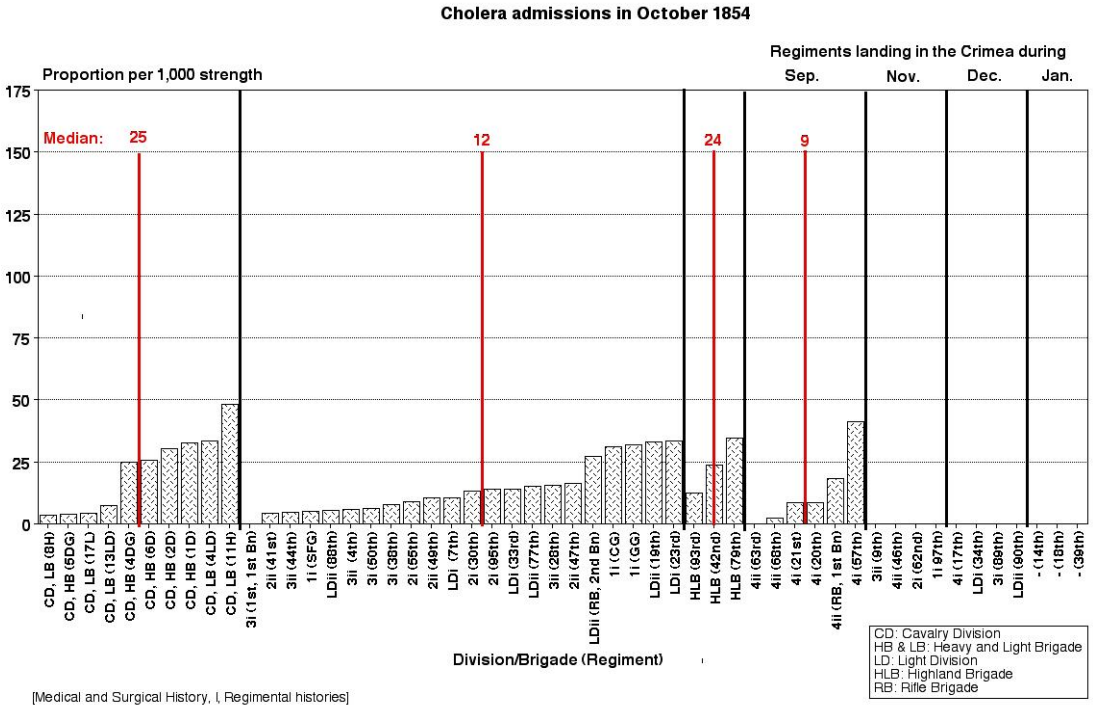


[Medical and Surgical History, I, Regimental histories]

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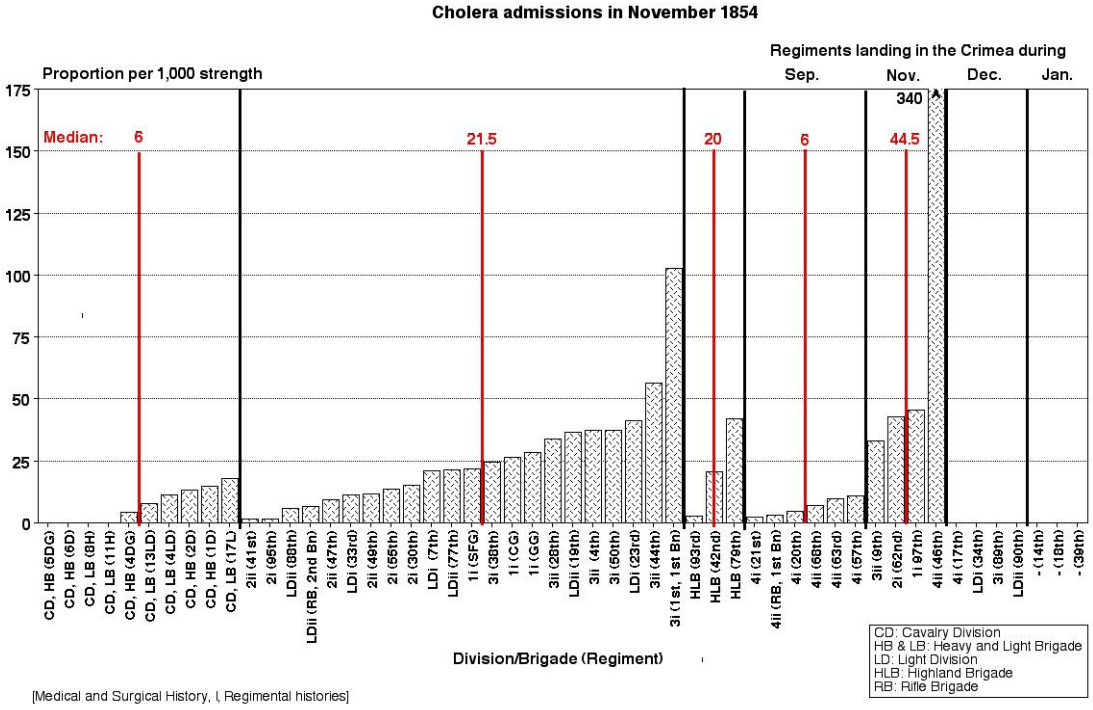


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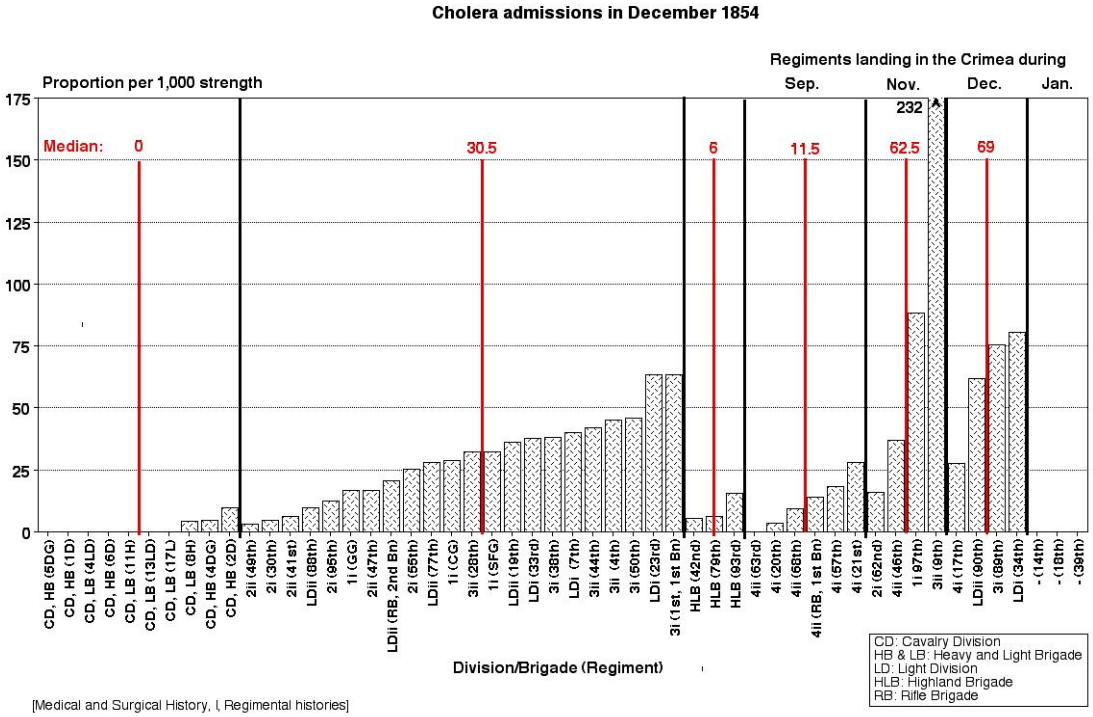


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Figure 5.9: Continued

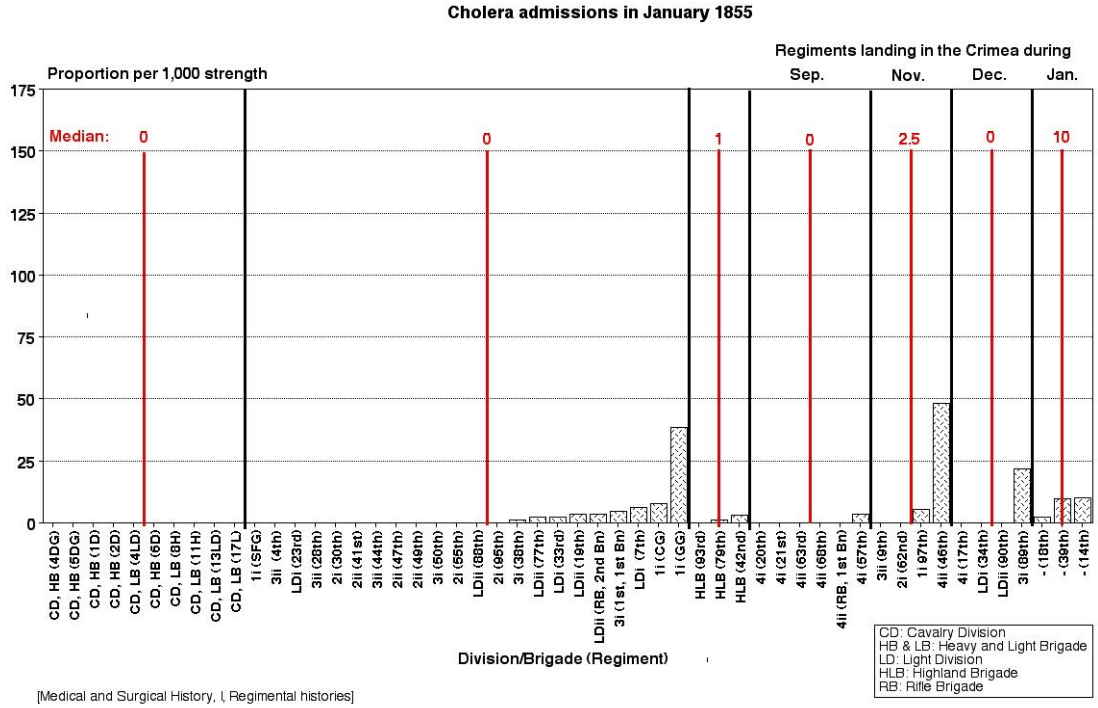


[Medical and Surgical History, I, Regimental histories]

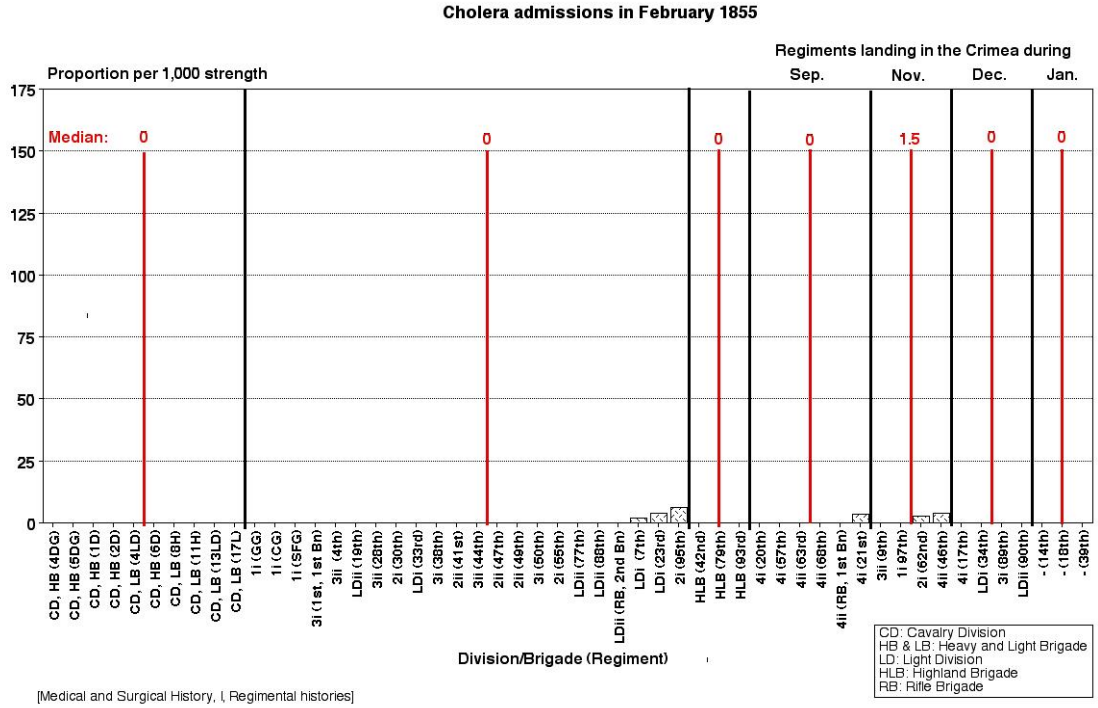


[Medical and Surgical History, I, Regimental histories]

Figure 5.9: Continued

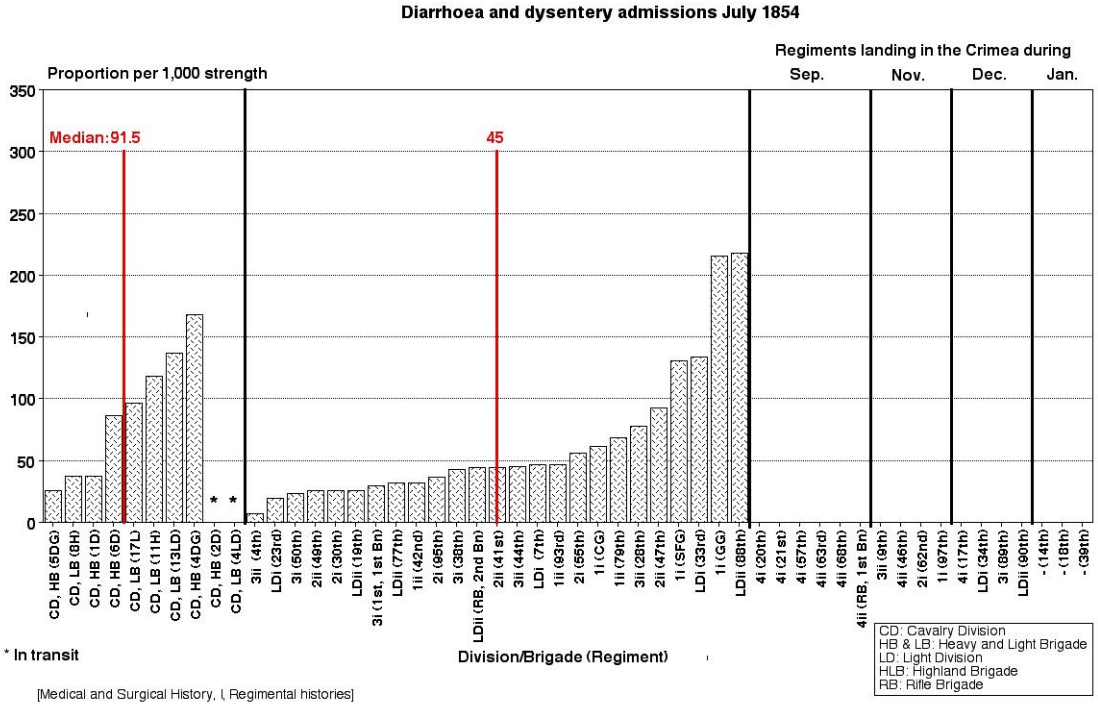


[Medical and Surgical History, I, Regimental histories]



[Medical and Surgical History, I, Regimental histories]

Figure 5.10: Monthly rate of admissions of NCOs and men with diarrhoea and dysentery to regimental hospitals, July 1854-April 1855



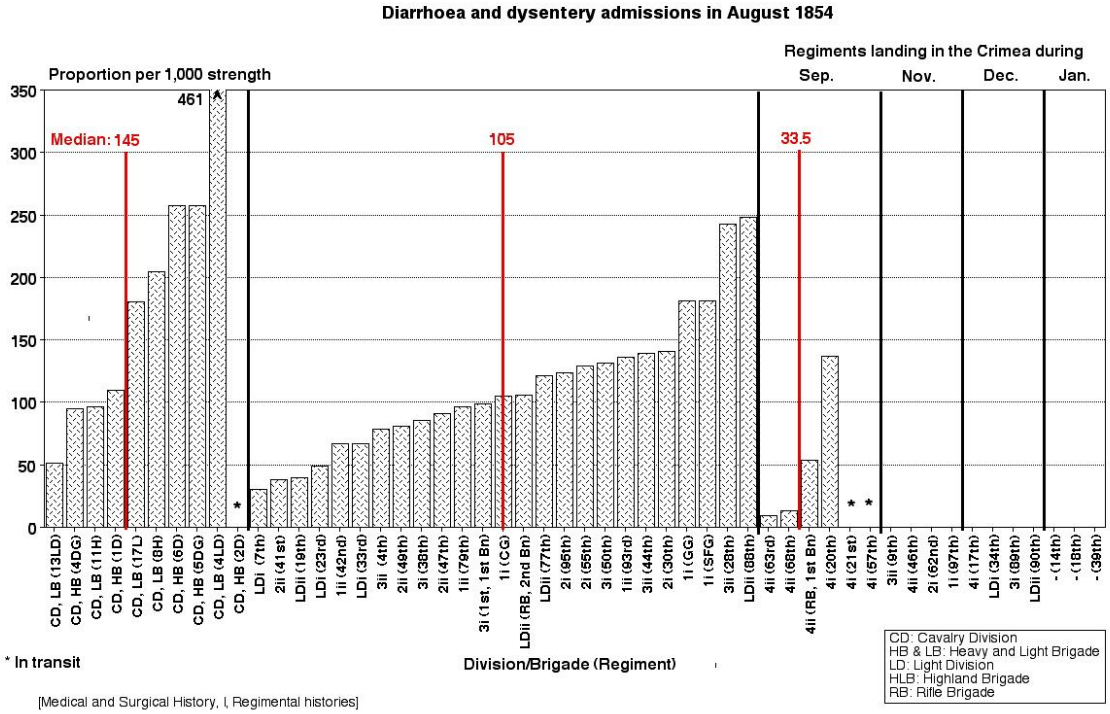
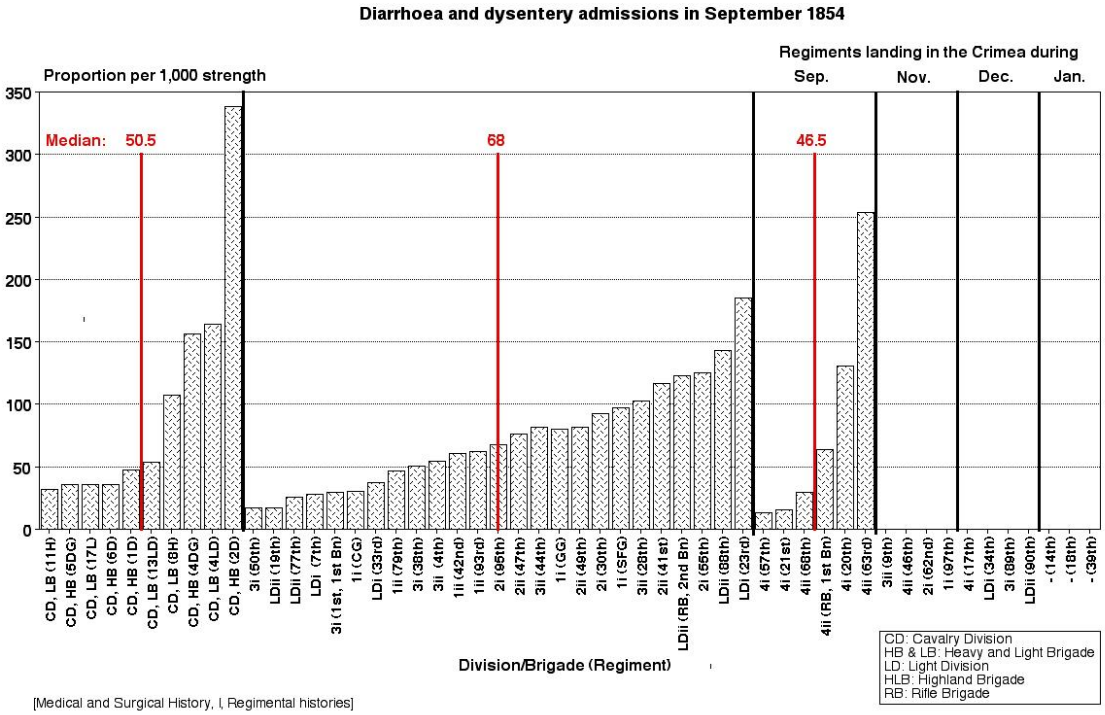
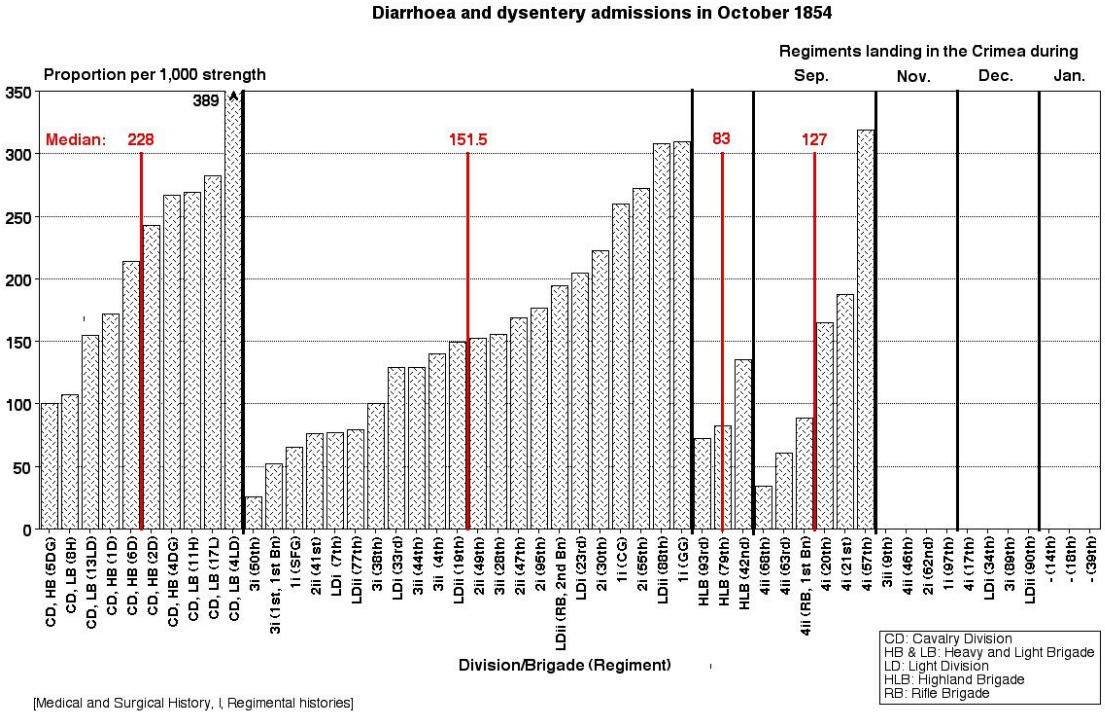


Figure 5.10: Continued

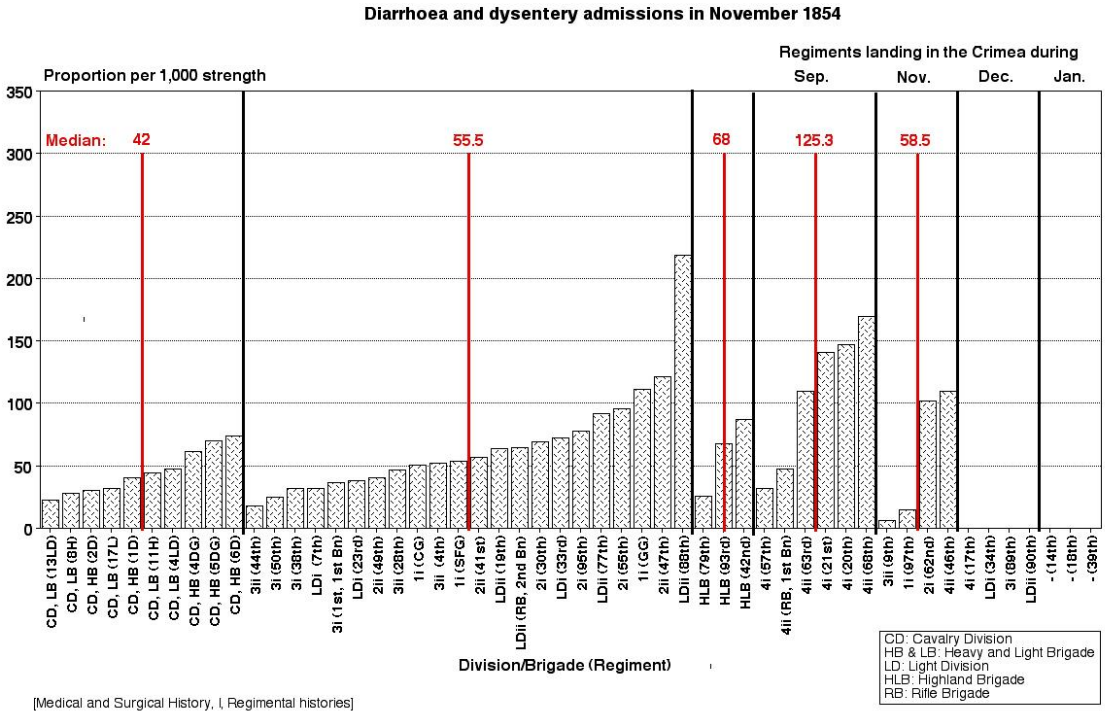


[Medical and Surgical History, I, Regimental histories]

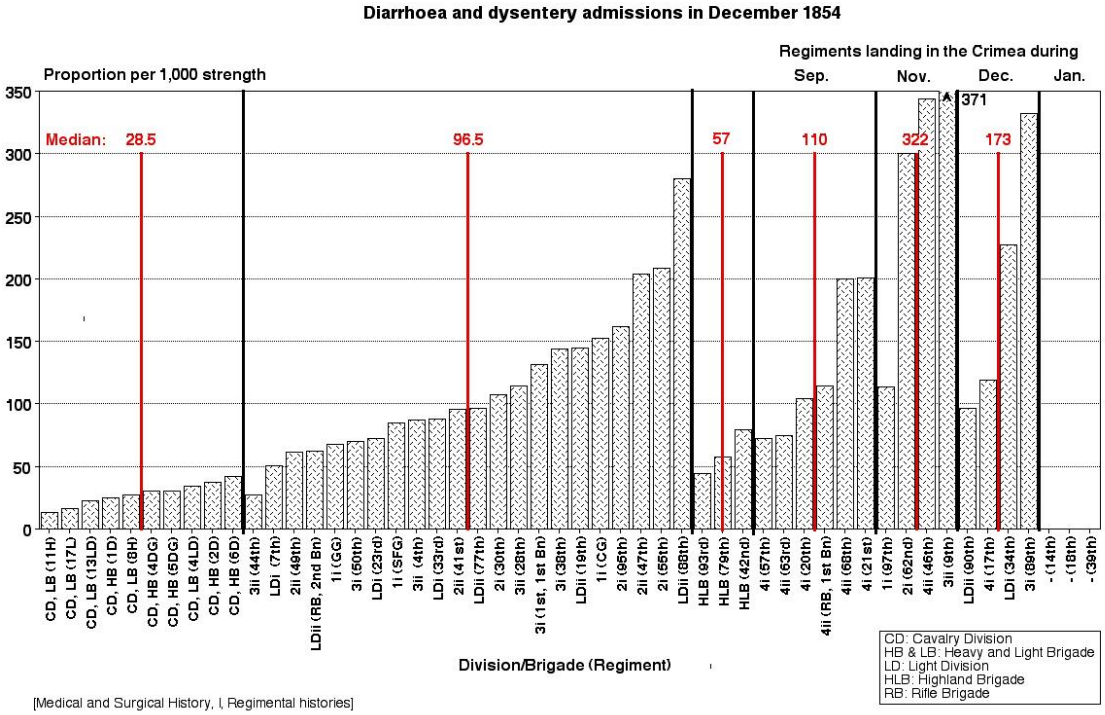


[Medical and Surgical History, I, Regimental histories]

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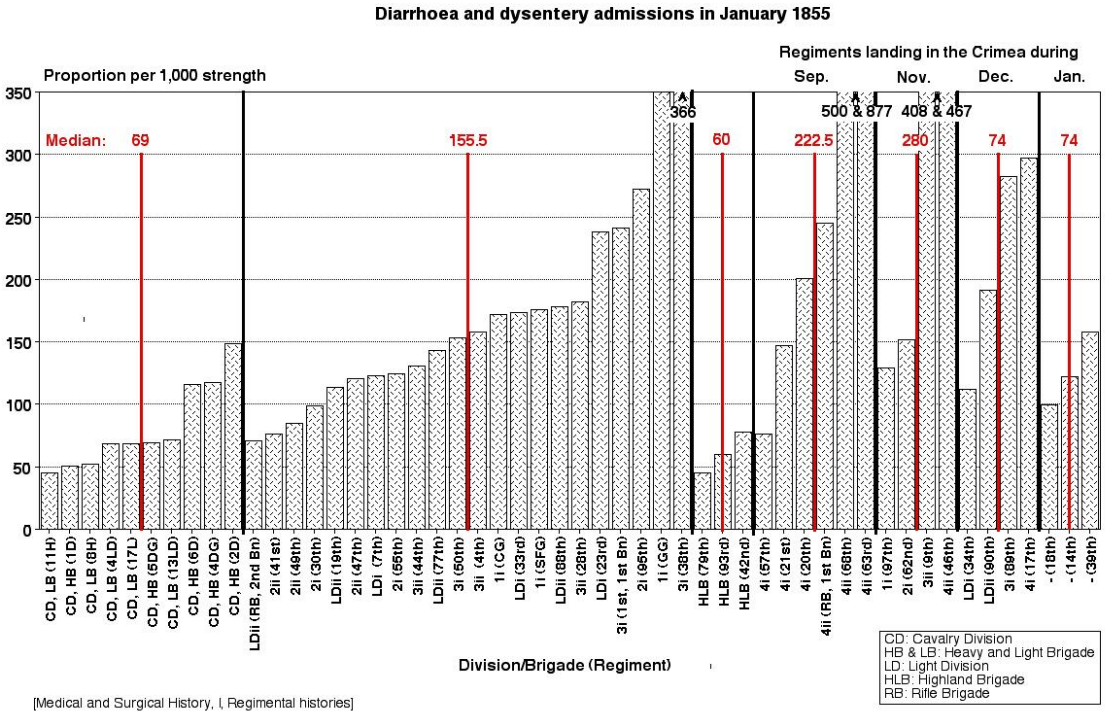


[Medical and Surgical History, I, Regimental histories]

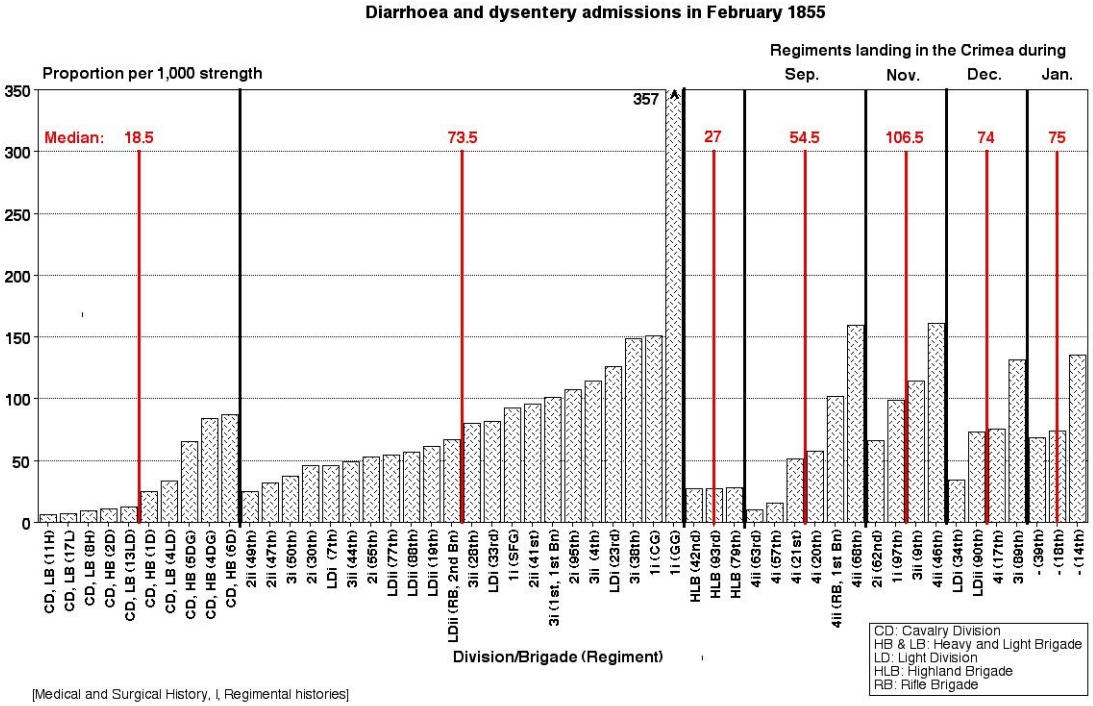


[Medical and Surgical History, I, Regimental histories]

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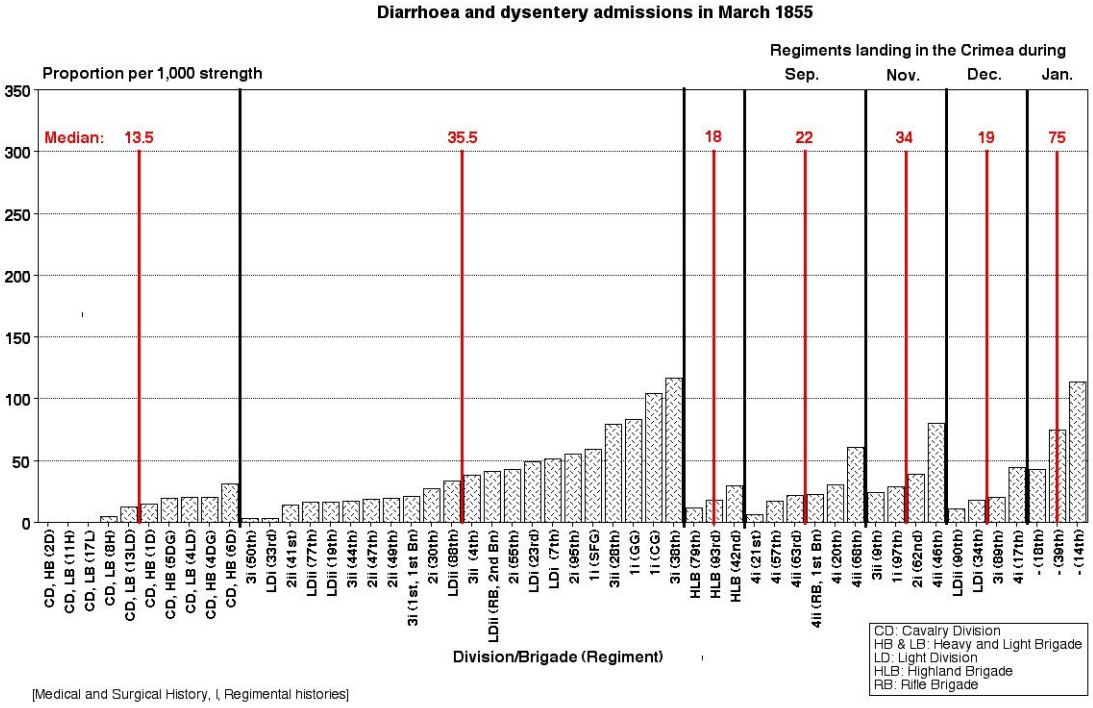


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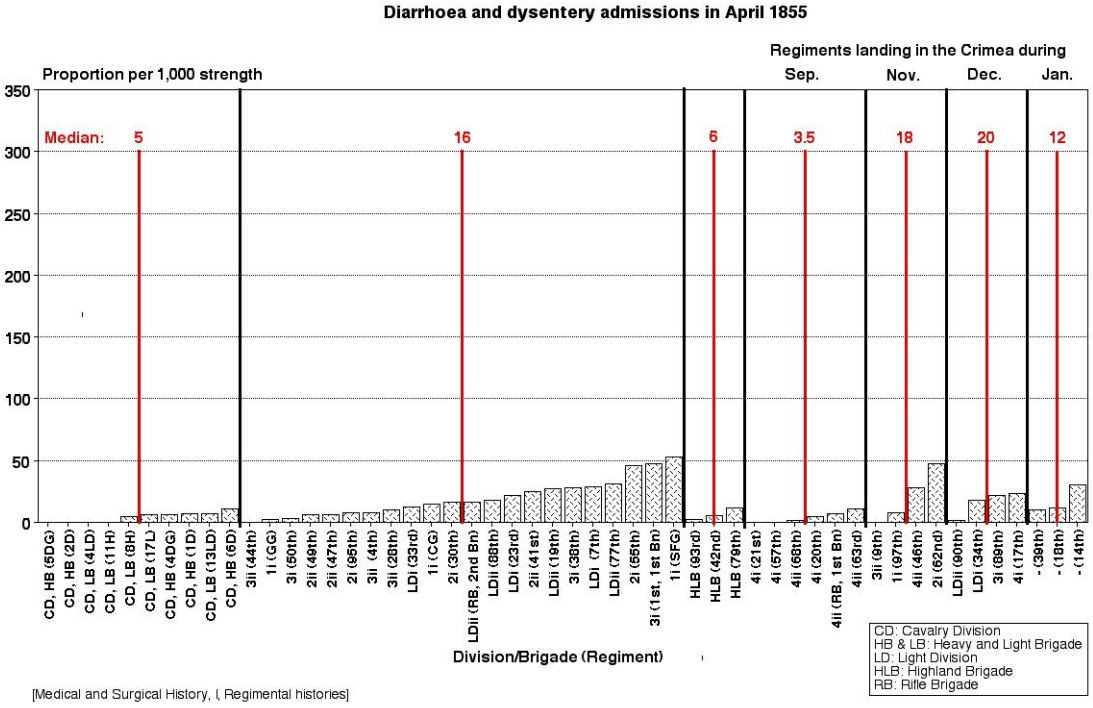


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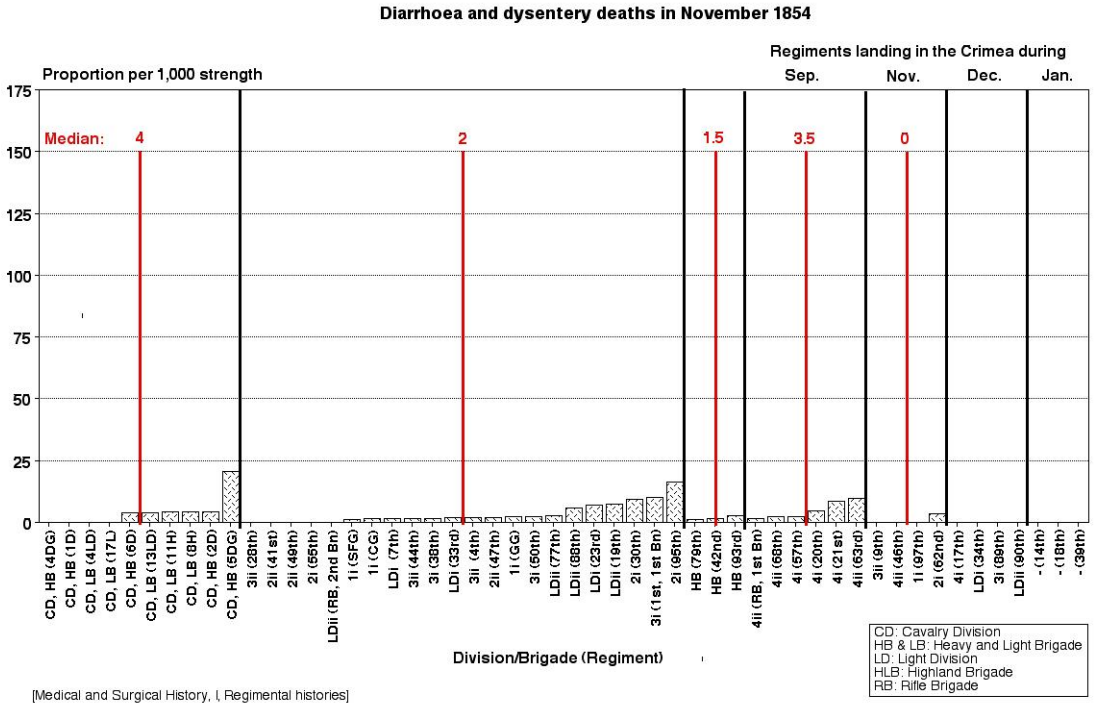


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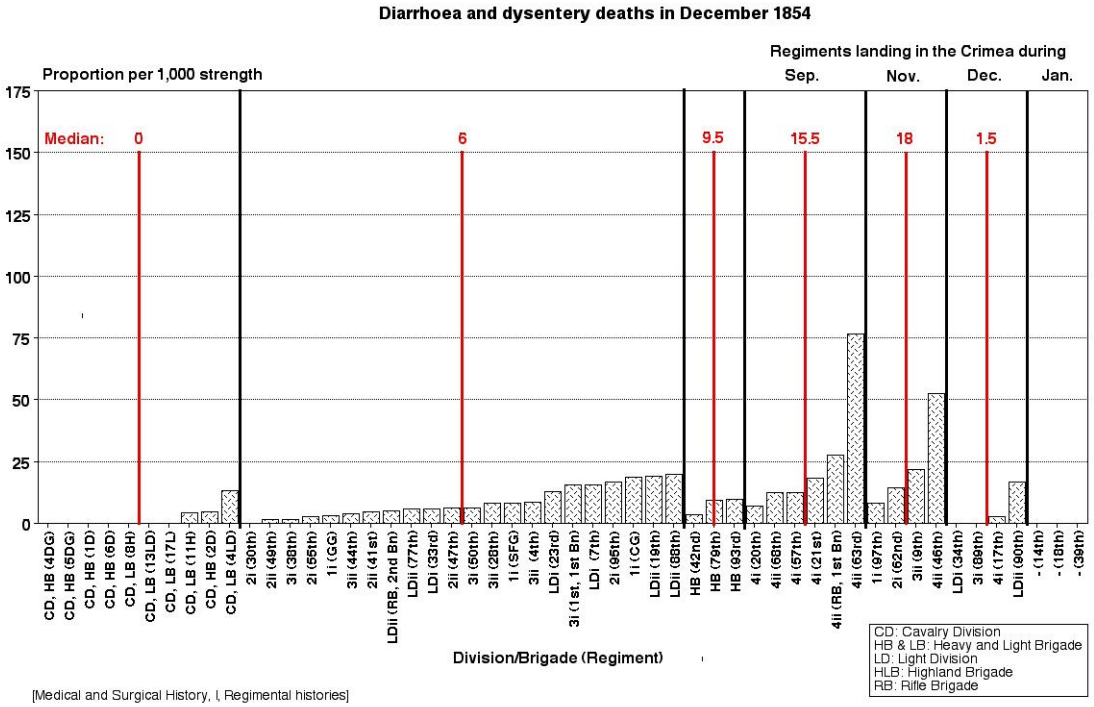


[Medical and Surgical History, I, Regimental histories]

Figure 5.11: Monthly mortality rate among NCOs and men with diarrhoea and dysentery, in regimental hospitals, November 1854-April 1855

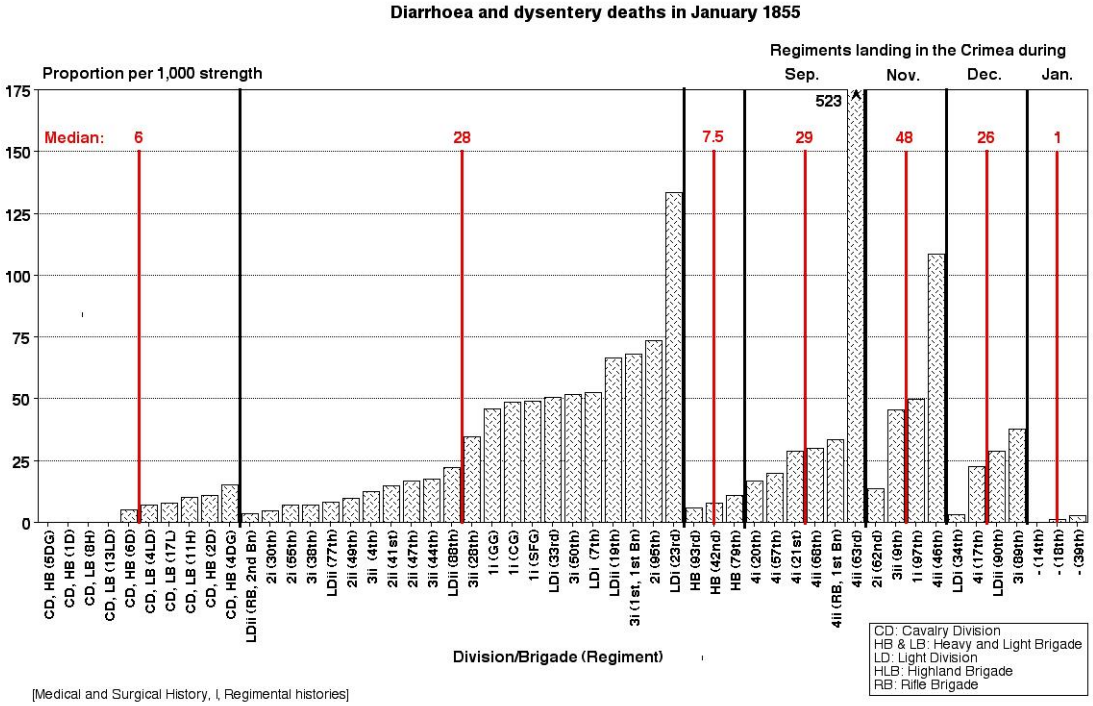


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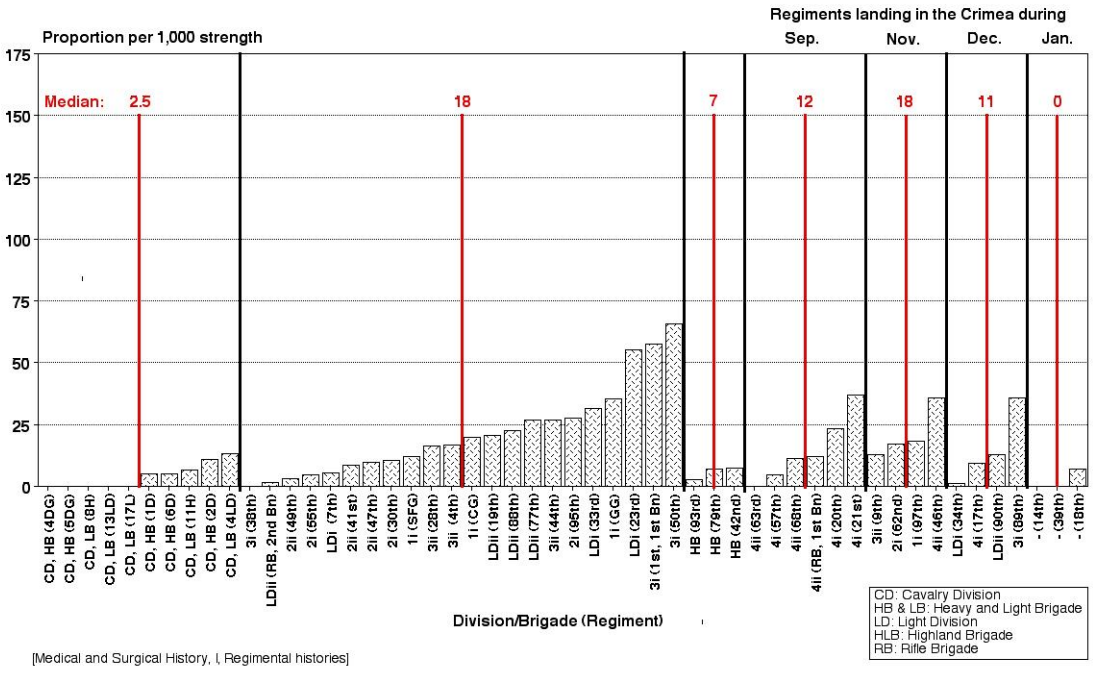


[Medical and Surgical History, I, Regimental histories]

Figure 5.11: Continued

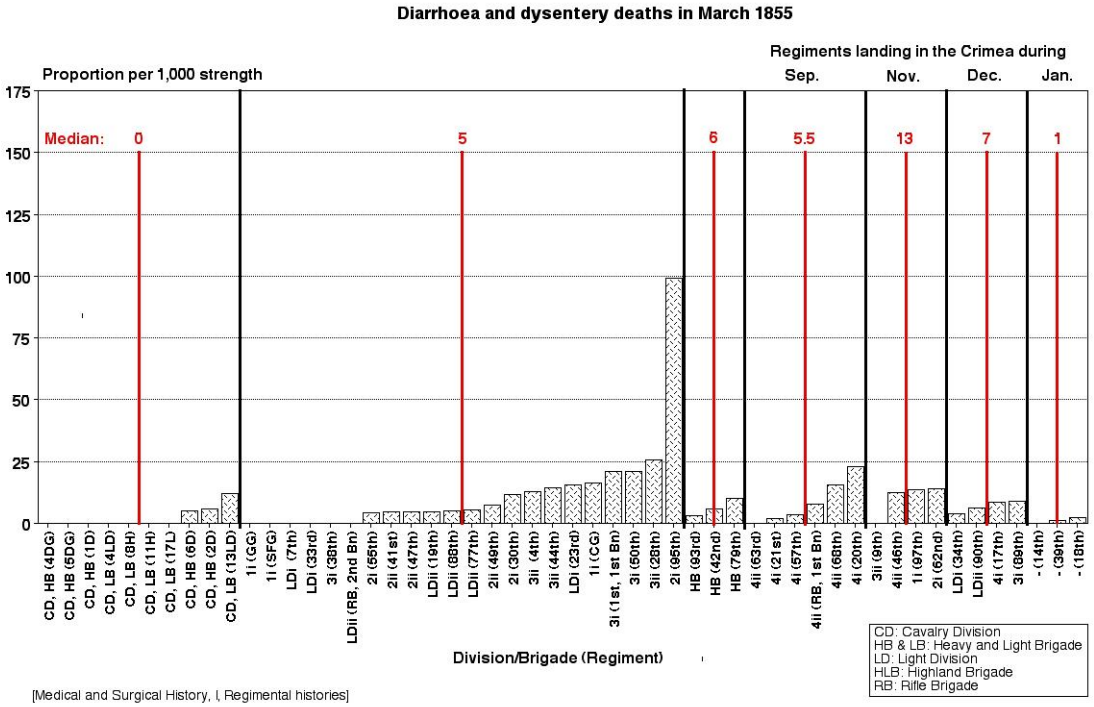


[Medical and Surgical History, I, Regimental histories]



[Medical and Surgical History, I, Regimental histories]

Figure 5.11: Continued



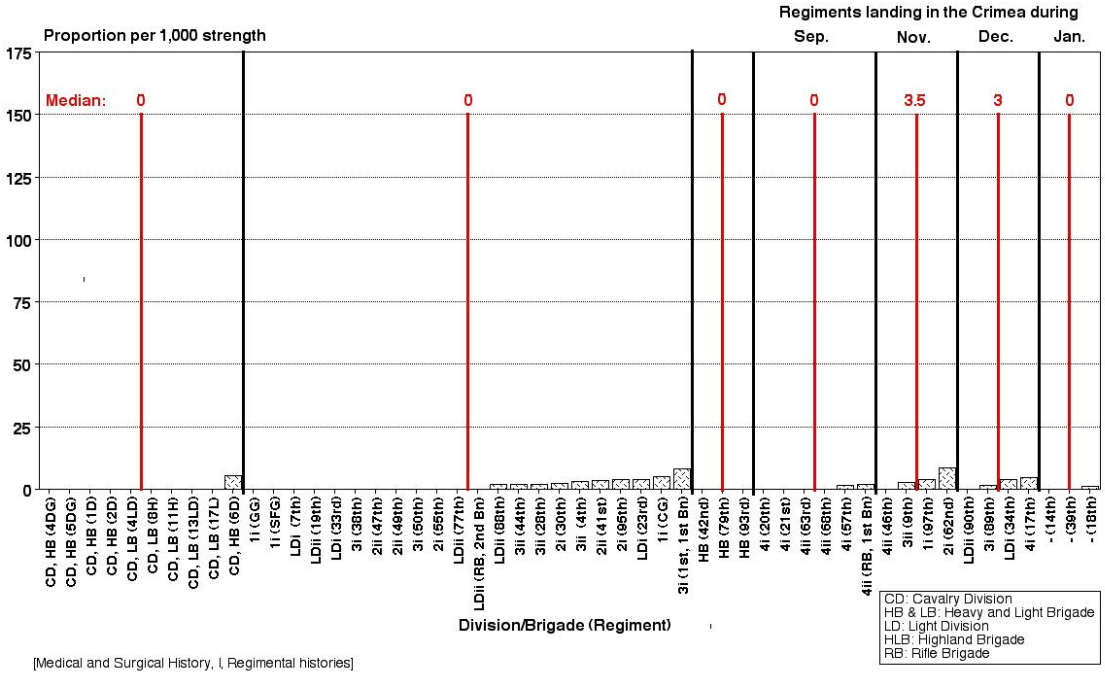
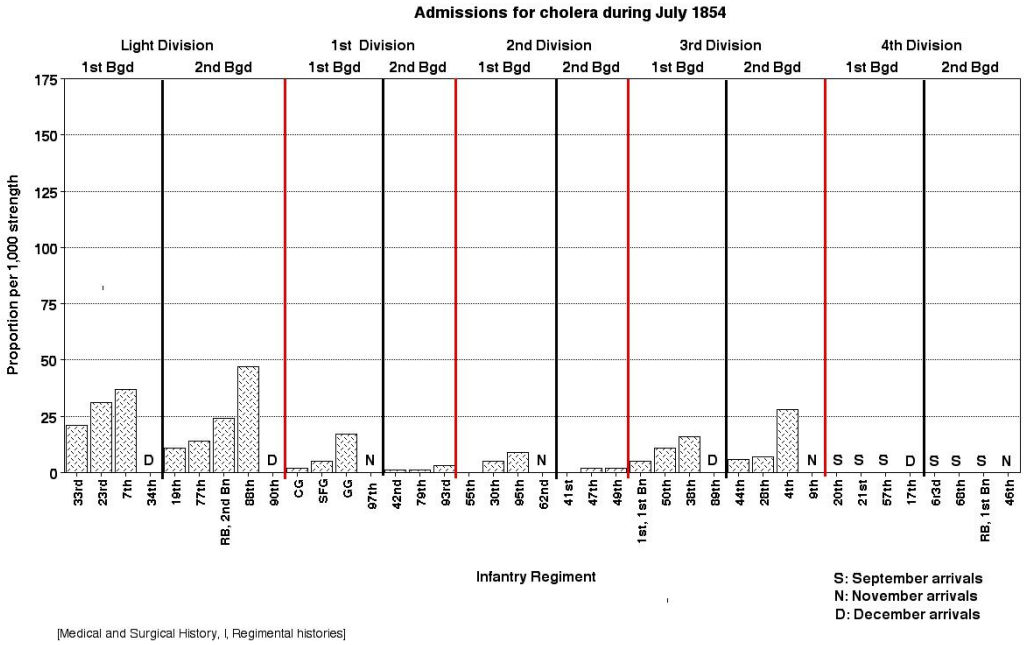
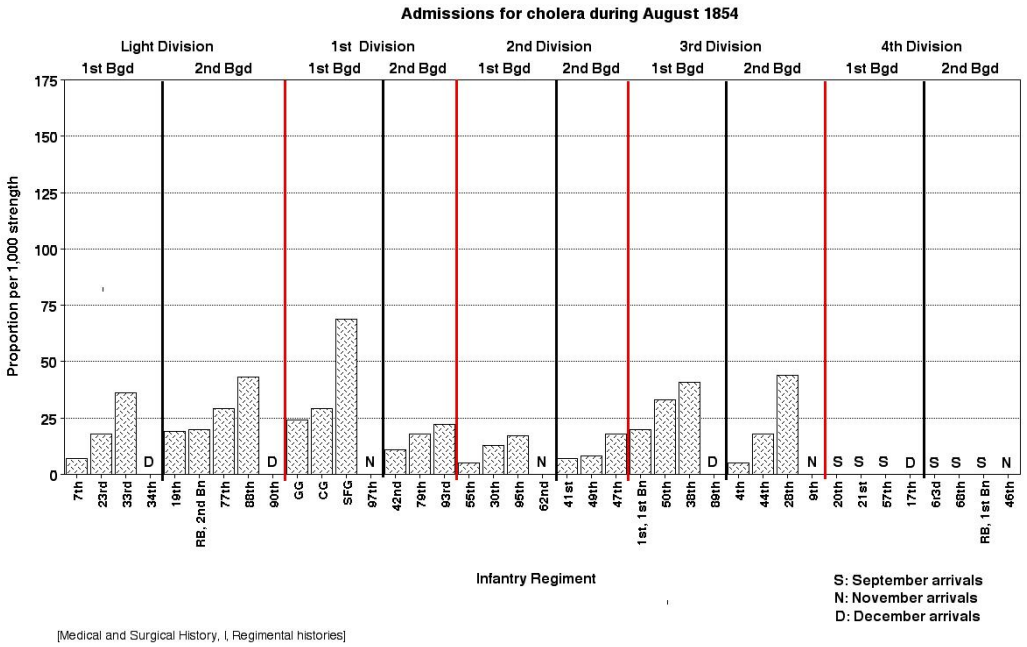


Figure 5.12: Admissions (‰) of NCOs and men with cholera to regimental hospitals, July 1854-January 1855

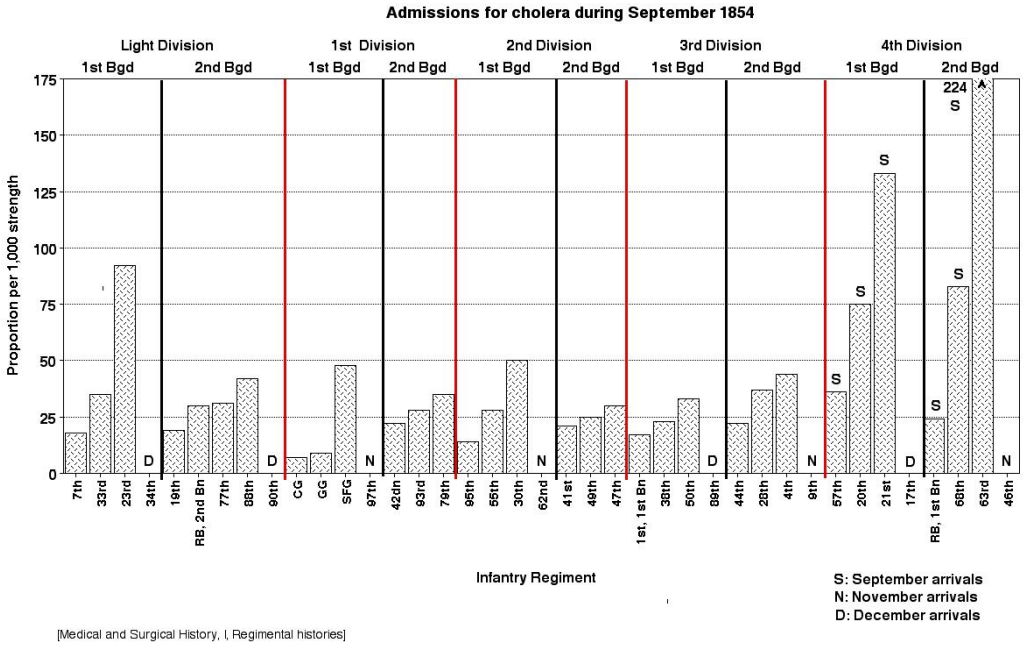


[Medical and Surgical History, I, Regimental histories]

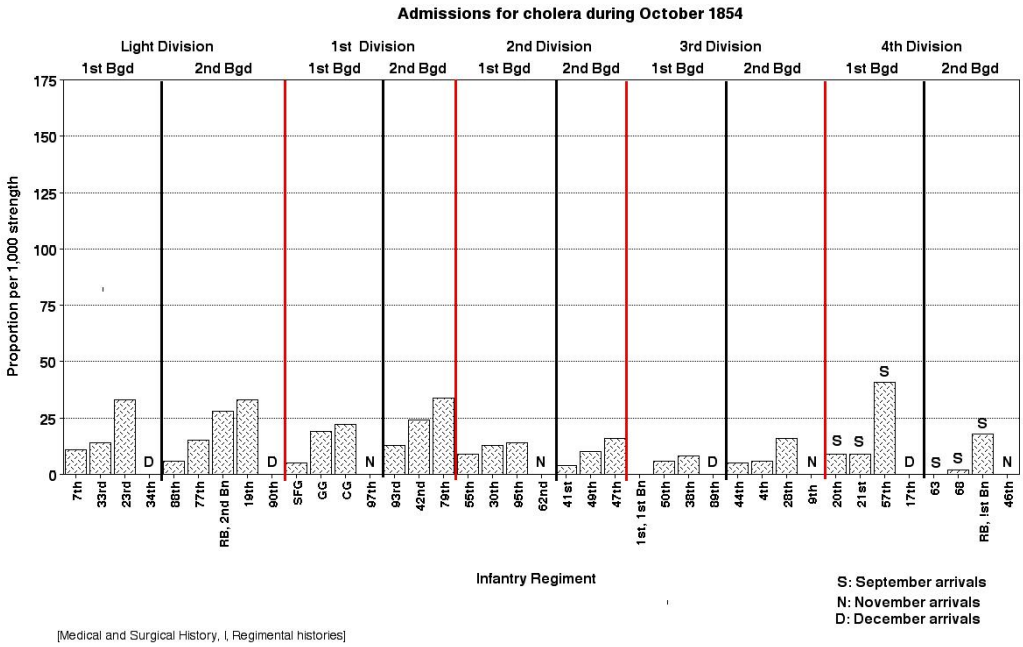


[Medical and Surgical History, I, Regimental histories]

Figure 5.12: Continued

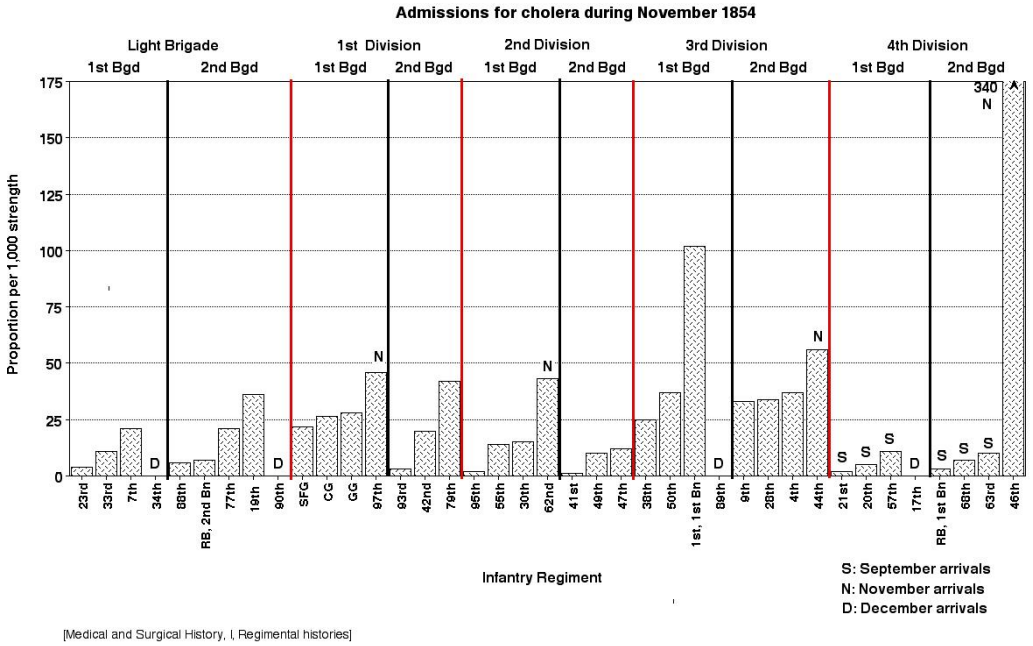


[Medical and Surgical History, I, Regimental histories]

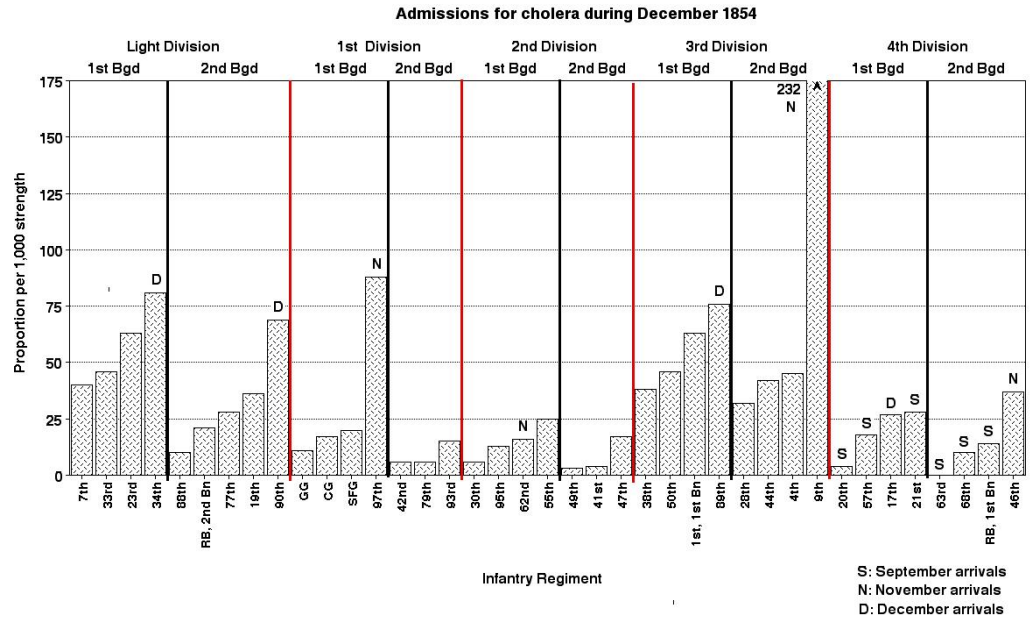


[Medical and Surgical History, I, Regimental histories]

Figure 5.12: Continued



[Medical and Surgical History, I, Regimental histories]



[Medical and Surgical History, I, Regimental histories]

Figure 5.12: Continued

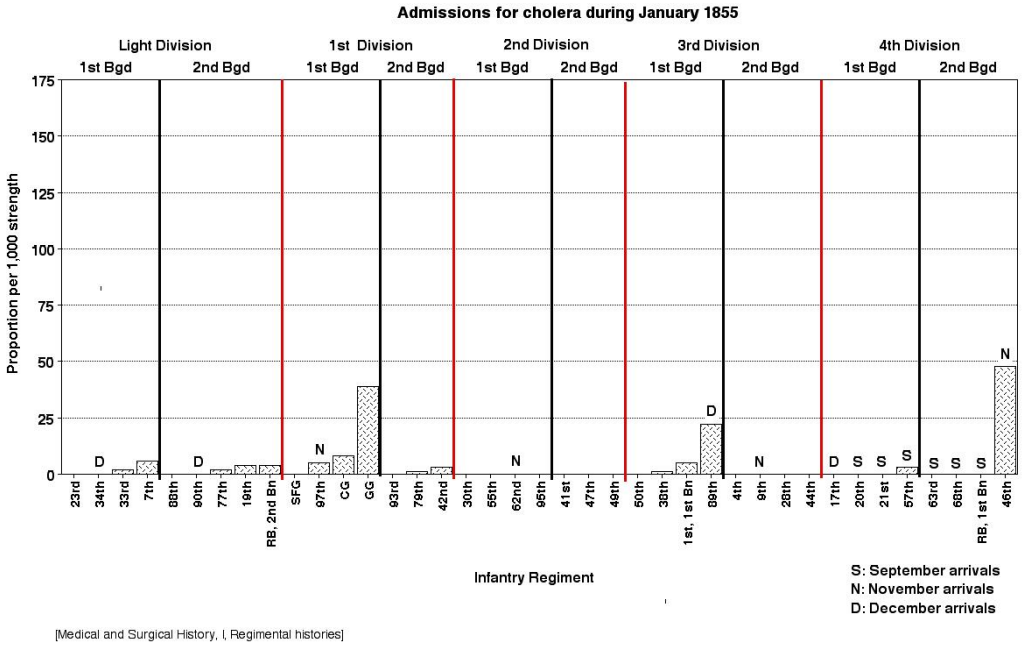


Figure 5.13: Cumulative mortality (%) among NCOs and men with diarrhoea and dysentery in regimental hospitals and the general hospitals at Scutari, June 1854-March 1855

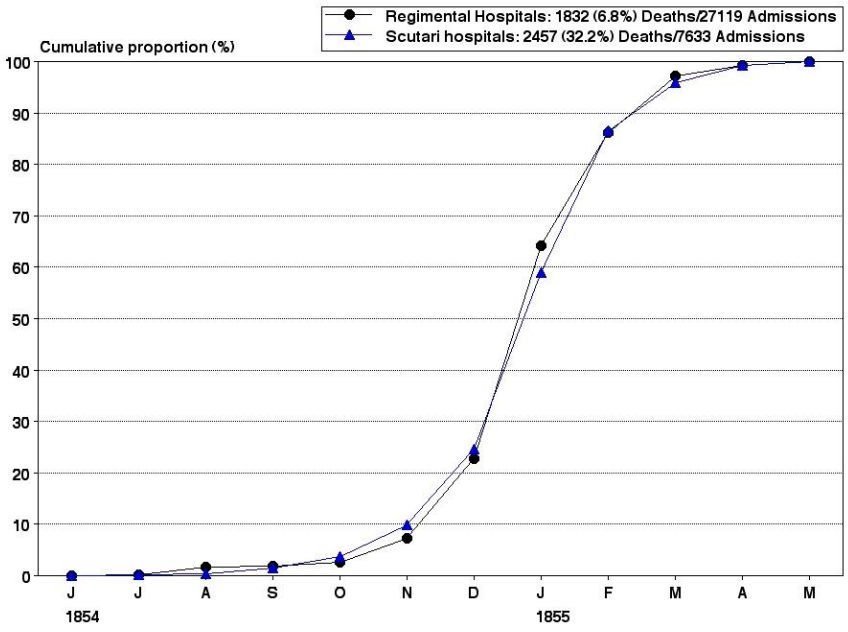
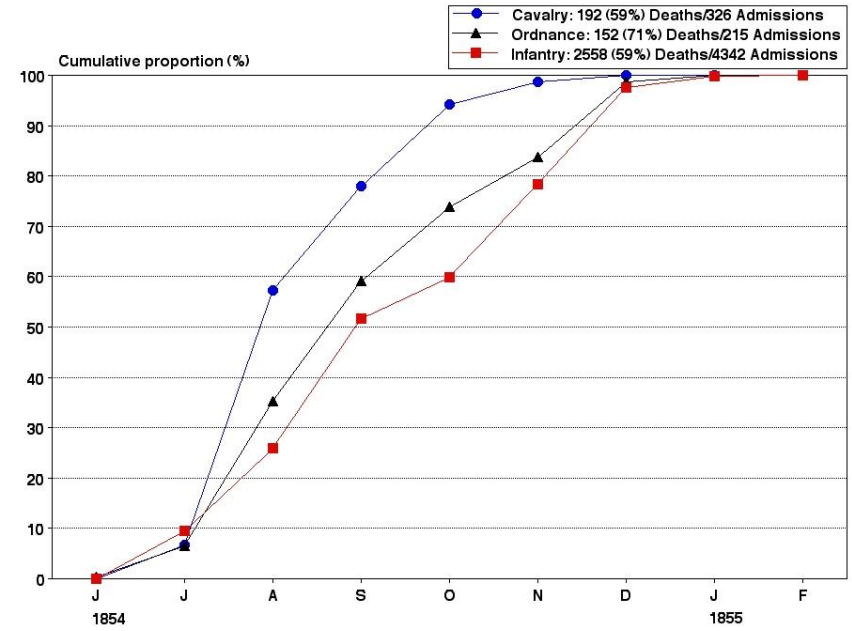
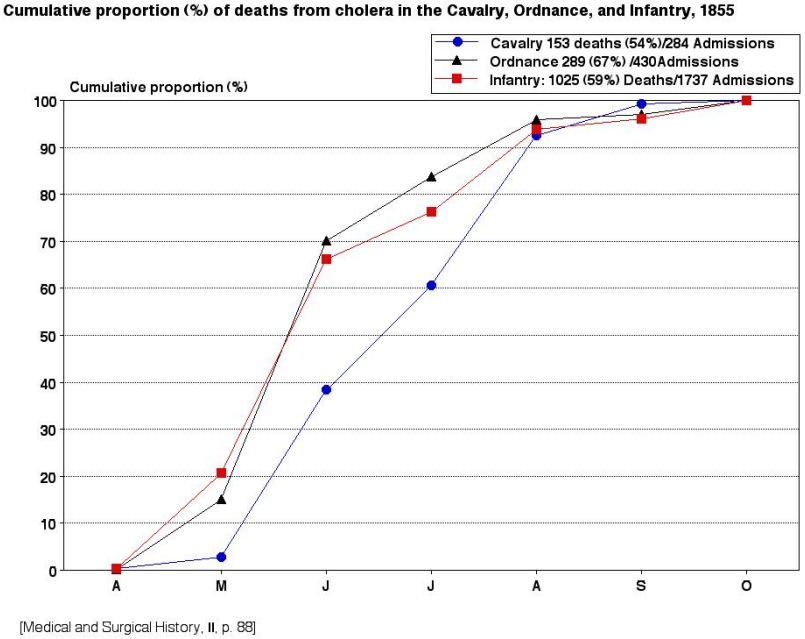


Figure 5.14: Cumulative proportion (%) of admissions for cholera in the cavalry, ordnance, and infantry, June 1854-February 1855



[Medical and Surgical History, II, p. 88]

Figure 5.15: Cumulative proportion (%) of admissions for cholera in the cavalry, ordnance, and infantry, April-October 1855



[Medical and Surgical History, II, p. 88]

Appendix

Appendix 5.1: Multivariate analysis, coupled with multidimensional scaling

The description of the cholera epidemic in the *M&SH* has been evaluated using a multivariate analysis, coupled with multidimensional scaling, with the aim of explaining how the infection spread.[432] This sophisticated approach allowed the sequence of events in Bulgaria to be expressed graphically although it yielded little more information than could be ascertained by reading the original texts, viz. that the occupancy of camps in Varna and secondarily Devna, contributed to the spread of cholera to other localities as regiments were relocated, partly for military reasons, and partly with the hope of escaping the 'pestilence. The limited detail in the records made it impossible to determine the 'exact role of non-British military contingents and local populations […] in the more general diffusion of cholera in Bulgaria.'[433]

The situation in the Crimea was more complex and proved difficult to explain. The regimental histories provided summary information on a monthly basis by and large when information on a weekly basis or even daily would appear to be essential for investigating a disease like cholera which has a short incubation period so that episodes recorded in the same month could have occurred over three weeks apart.

The authors stated that 'rapid moving' cholera outbreaks were found in regiments at Sevastopol had previously served in Bulgaria and those the 4th Division, in essence the initial besieging force, and which had low draft rates, although what this meant was not defined in the paper.

One of the conclusions made was that there was an apparent 'lack of statistical association between draft size and epidemic magnitude' but is not explained how (1) the cumulative cholera case rate per 100 mean strength was calculated, and (2) the size of the drafts was determined given that the *M&SH* provided no consistent information about the numbers of men joining each regiment, and, it is almost certainly incomplete given the many reports of the arrival in Balaklava of new recruits and convalescents scattered through WO/28, particularly the AG's and QMG's papers, and no comprehensive information on this topic appears to have been published, at least at the regimental level.

The principal conclusions of the authors were: (1) Rapidly moving cholera outbreaks were found in regiments in the static camps before Sevastopol which had (A) been present in Bulgaria, possibly because this had had a detrimental effect on the general health of the regiments, (B) received only small drafts of reinforcements, and (C) spent time in the camp of the 4th Division, possibly due to a lack of acclimatization as this was the last division to arrive in the East, and went directly to the Crimea; and (2) Despite the general opinion of the medical staff that cholera was more prevalent in newly arrived troops only limited statistical evidence was obtained to suggest a link between large outbreaks and the receipt of large drafts of new troops, the 'virgin soil' model. It was suggested that other spatially localized factors played a part, for example, the nature of the supply of water and its distribution to the various divisional encampments. The obvious possibility of contact with the troops of other nationalities, particularly the French and the Turks, was not explored, presumably because there was insufficient suitable data to analyse.

432 *M&SH*, II, pp. 44-89 and Smallman-Raynor & Cliffe (2004a).

433 Smallman-Raynor & Cliff (2004a), p. 52 and Figures 4 & 5.

Chapter 6
Medical conditions encountered during the Eastern campaign

This chapter deals with diseases other then those discussed in Chapter 5 though for completeness some reference will be made to gastrointestinal diseases and wounds and injuries, which are covered in Chapter 7.

Service in Bulgaria and the Crimea

Aitken[434] analysed the diseases affecting the Army and concluded, inter alia, that there was a 'persistent pernicious influence of the inactive residence in Bulgaria and that the health status of these troops during the first seven months in the Crimea was worse than those who went straight to the Crimea.'[435] Aitken listed the published sources consulted but he did not explain how his tables were compiled. He appreciated that 'excess duty' and 'privations' contributed to the mortality though his use of the average monthly strength of each regiment as a denominator failed to provide a reliable estimate of numbers of men at risk, and hence his comparisons are open to question, particularly as no account was taken of the duties required of the regiments, or the month when they arrived in the Crimea.

That these factors are important can be deduced from Table 6.1 and Figure 6.1 in which the overall admissions to the regimental hospitals were calculated for the regiments grouped according to the service they experienced during the summer and autumn of 1854.[436] The Cavalry Division seemingly suffered more ill health during October and November than the infantry while the infantry regiments that landed in September and November fared worse than those that spent the summer in Bulgaria. The Highland Brigade, which was close to Balaklava and was spared duty in the trenches, remained healthier than the infantry before Sevastopol, while the regiments landing during January also remained relatively healthy by comparison. The health status of the Army had improved during the spring sufficiently for there to be little to choose between the various regimental groups by April 1855.

434 Dr William Aitken, MD.

435 *Glasgow Medical Journal* (1857), April and July.

436 Calculated from the table of admissions and deaths for each regiment in the *M&SH*, I.

Summary of General Return A

The troops were essentially fit on their arrival in Turkey but their health deteriorated after the move to Bulgaria. Sickness increased further following the invasion of the Crimea until January 1855. The well-being of the troops improved during the spring until May 1855 when primary admissions to hospital increased once again to a summer peak. Admissions declined after the fall of Sevastopol to levels which were as good as or even better than expected in peace time. In contrast, admissions for wounds or injuries were more predictable since the majority occurred during the periods of the most intense military activity, viz. September to November 1854 and April to September 1855 (Figure 1.3).

The reasons for admission to hospital and the causes of death for the principal diagnostic categories in General Return A are summarized in Table 1.1 with gastrointestinal disease, fever, wounds or injuries, respiratory disease, boils and ulcers, cholera, and venereal disease accounting for 86% of admissions, viz. 34%, 19%, 11%, 7.5%, 7.5%, 4.5%, and 2.5% respectively. Conversely, 87% of deaths were associated with cholera (25%), gastrointestinal disease (33%), fever (19%), and wounds or injuries (10%).

The diseases afflicting the Army changed continually thus presenting the MOs with different challenges with time, and this in turn influenced mortality, particularly as the facilities in the Crimea improved and less serious illnesses predominated later in the campaign.

The twenty most prevalent medical conditions are listed in Table 6.2, and ranged from 44,164 cases of diarrhoea to 828 of typhus, a *c.*53-fold difference. The results are presented for each of the nine three-month quarters with those conditions accounting for >15% of the total admissions in any quarter being highlighted by bold type. None of the diseases associated with the highest mortality, viz. cholera (27.6%), diarrhoea (22.4%), acute and chronic dysentery (13.9%), and continued fever (17%) featured after the fall of Sevastopol when less life-threatening conditions such as catarrh, abscesses, ulcers, eye diseases, bronchitis, sore throat, and ‘all other diseases’ formed a greater proportion of the primary admissions. The comparable figures for wounds and injuries are also included in Table 6.2 for comparative purposes.

Figures 6.2 to 6.4 illustrate the trends in the primary admission rates for nine of the more common diseases.[437] Gastrointestinal disorders other than cholera dominated the sick lists for most months from mid-summer 1854 until the fall of Sevastopol with two major peaks in the winter of 1854-55 and the summer of 1855. Fevers were recorded principally in Bulgaria and at an increased incidence during the spring and summer of 1855. As described previously there were epidemics of cholera, in 1854 and 1855, with the first being the more serious (Figure 6.2). Scurvy was a feature of the first winter, while frostbite was diagnosed during both, although to a much lesser extent during the second. In contrast, rheumatic diseases (aches pains in the muscles and joints) occurred throughout the campaign though the incidence was higher during the winter of 1854-55 (Figure 6.3). As expected, respiratory diseases were more prevalent during the two winters while ocular disease appeared more frequent in the summer, particularly during 1856. Finally, venereal diseases were more prevalent in the troops sent to the East early in the campaign while there was a slight increase in the spring and summer of 1855 when several regiments joined the Army (Figure 6.4).

The ratios of deaths in all locations to primary admissions listed in General Return A provides an approximation of mortality rates and these are included in the right hand column of Table 1.1. The highest ratio was 59.5% for cholera, and 19.5% and 8.5% for two scourges of the first winter, frostbite and scurvy. Over the whole campaign the ratio was *c.*10% for fever, gastrointestinal disease, and wounds or injuries, while several uncommon conditions had relatively high ratios, viz. nervous disease (20.5%), eruptive fever (20%), and cardiovascular disease (15.5%).

The monthly mortality rate is plotted in Figure 1.4 using the same scale as in Figure 1.3, while the trends in mortality from bowel diseases, fevers, cholera, respiratory diseases and scurvy are presented in Figure 6.5. The epidemics of cholera in the two years are clearly delineated while all the incidence of all the other diseases peaked during the first winter with that for bowel disease preceding the others.

Conditions typically associated with low mortality: This section considers conditions in General Return A which accounted for >100 primary admissions but for which the ratio of deaths in all locations to primary admissions was <1%. A total of 26,408 cases (16.2% of 162,673 admissions) satisfied these criteria, and of these 53 died

437 The trends were calculated from the *M&SH*, General Return B using *Minitab Statistical Software*.

(0.3% of 18,053 deaths) (Table 6.3). The mortality was somewhat higher during the first winter (November 1854-March 1855) in several instances (Table 6.3, col. 7 cf. col. 4), but it is unlikely that this would have prompted any comment as the deaths occurred sporadically over several months. This analysis also suggests that the deterioration in the living and working conditions did not in themselves render these afflictions more particularly life-threatening, which is in contrast to diarrhoea, dysentery and continued fever, the comparable results for which are included by way of comparison.

The comparable analysis for the Scutari hospitals is summarized in Table 6.4. In all there were 3,664 cases (8.5% of 43,288 admissions), and of these 19 died (0.35% of 5,432 deaths); a result which suggests that it this regard the situation in Turkey was not dissimilar to that in the Army as a whole.

Deaths recorded in the regimental hospitals and elsewhere: The first volume of the *M&SH* contains tabulated summaries of primary admissions to all regimental hospitals together with the numbers of men who died in them. The total number who died in the general hospitals or on board ship is also recorded and the proportion of deaths in this category ranged from *c.*20% to 60% (median 42%) of the total deaths for the 10 cavalry and 25 infantry regiments that had landed in the Crimea by January 1855 (Figure 6.6).

The proportion was lower for regiments joining the Army during the spring and summer of 1855 as fewer seriously ill patients were evacuated to Turkey consequent on improvements in the health of the troops and medical facilities in the Crimea.

The time to death: General Return C provided a summary of the time between admission and death in each cavalry and infantry regiment. The results for cholera, fevers, respiratory, gastrointestinal and other diseases, and wounds and injury are summarized in Table 6.5. Nearly all cholera cases died within a week while fevers and wounds and injuries tended to be more rapidly fatal than respiratory and gastrointestinal diseases. In all about a tenth of non-cholera patients lingered for ≥6 weeks before expiring.

Scurvy and frostbite

Scurvy develops only after a prolonged period on an inadequate diet, a well recognized risk factor,[438] while frostbite, or gelatio as it was termed, only afflicted the troops in the Crimea. Both conditions were most prevalent during the first winter with the peaks for primary admissions for frostbite and scurvy being recorded in January and February respectively, with the majority of deaths occurring during February (Figures 6.7 and 6.8). Both conditions recurred during the second winter, but to a much lesser extent, and with much lower mortality.

As early as July 1854 Hall informed HQ that the troops were receiving 'indifferent rations owing to a want of vegetables' with the implication that they should be provided,[439] while shortly afterwards the PMO at Scutari went as far as recommending the issue of lime juice for the same reason.[440] The first cases of scurvy in the Crimea were diagnosed in the 1st battalion Rifle Brigade during October 1854[441] and a summary of events during the eight months after the invasion is summarized in Figure 6.9, with a more detailed analysis in Figure 6.10.

Scurvy afflicted many regiments involved in the siege from the start but there were considerable differences between them and this may reflect the effectiveness of the regimental staff in provisioning the men during the late summer or the failure of some MOs to recognize so called land scurvy, as occurred during the Great Irish Famine of the 1840s.[442]

Scurvy proved a minor problem in the regiments arriving in December and January, presumably as they had an adequate diet during their journey to the East and continued to do so after their arrival by which time the level of nutrition for the Army as a whole was improving. The incidence in the Highland Brigade was lower than those on the plateau as the duties were less arduous and it was easier to obtain supplies as they were closer to Balaklava.

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438 See *M&SH*, II, pp. 171-86.

439 Hall to Military Secretary, 15 July 1854; RAMC/397/F/CO/1/1/337, *PoL*, I, Appendix 1 and BPP (1857-58), No. 2379, pp. 99-100.

440 PMO, Scutari to Commandant, 11 Aug. 1854; BPP (1857-58), No. 2379, p. 200.

441 The corps travelled from the Cape of Good Hope arriving on 14 September after two months at sea.

442 Geber (2013).

The prophylactic issue of lime juice commenced during February 1855, with an obvious beneficial effect, and its continued use during the remainder of the campaign, coupled with the provision of a more adequate diet, resulted in only a few cases being diagnosed during the winter of 1855/56.

The majority of cases of frostbite were recorded during January, and to a lesser extent February, were in the infantry regiments doing duty in the trenches. The incidence was lower in both the Highland Brigade and Cavalry Division, which had been withdrawn from the plateau before the end of 1854 to a more sheltered valley near Kadikoi (see Figures 6.11 and 6.12).

Frostbite and gangrene were 'frequently the result of protracted application of cold and wet' rather than 'the direct or specific effect of an extremely low temperature' and, as the feet and toes were frequently affected,[443] it was more akin to trench foot which proved so troublesome during World War One.

Improvement in the weather and general living conditions were associated with a dramatic fall in the number of admissions during February 1855. Frostbite was also diagnosed during the second winter but during this time it was more typical in that it commonly affected the exposed parts of the body such as the ears and digits, the tissues of which having become frozen.[444]

It was suggested in several reports in the *M&SH* that the debility caused by fevers and intestinal disease predisposed to the development of gangrene of the toes, presumably due to the blood flow to the extremities being compromised. What proportion these cases formed of the whole cannot be ascertained from the records that survive.

Scurvy and frostbite proved serious problems for the French Army, especially after the November storm as the 'men had only their miserable *tentes d'abri* for shelter, and their clothing was […] insufficient for the season.'[445]

443 *M&SH*, II, p. 189.

444 For further commentary see Shepherd (1991), p. 323.

445 Milroy (1858).

Intemperance

The consumption of alcohol was a popular way for obtaining temporary relief from the trials and tribulations of life, although delirium tremens was an uncommon reason for referral to hospital; 281 (0.17%) cases among 162,163 admissions, with 44 deaths.

The records of courts martial[446] confirm that alcoholic beverages must have been easily obtainable with the result that drunkenness continued to be 'a great vice of English soldiers which no punishment will put an end to.'[447] Romaine's opinion was echoed by Russell who noted that '25 lashes, or even 50, are all insufficient to wean the British soldier from his favourite vice.'[448]

Panmure expressed his concerns about intemperance to Codrington, who instituted a survey of the proceedings of courts martial and concluded that drunkenness was not so serious as might be supposed and in the final analysis: 'the Army will bear a comparison with many towns, many villages; many populations of Great Britain.'[449]

Hospitals on the Bosphorus

The influence of Nightingale during and after the campaign has resulted in a tendency for the problems in the Barrack Hospital at Scutari to be considered by several commentators to be exceptional and unusual. However, it was merely one of the several general hospitals utilized during the campaign (Table 1.4), and since the majority of its patients came from the Crimea there is justification in considering it as an integral part of the Army rather than a special case.

One approach for testing this hypothesis is to compare the pattern of mortality recorded at all locations in General Return A with that observed in the hospitals on the Bosphorus in General Hospital Returns I. To this end the cumulative proportion (%) of deaths recorded for several diseases in both returns were calculated for the eleven months after the invasion, and the results plotted in Figure 6.13.

A high correlation (r >0.99) between the situation in the Army as a whole and at Scutari for diarrhoea, dysentery, continued fever, typhus, pneumonia and pleurisy, and rheumatic diseases provides extremely strong circumstantial evidence that the situation

446 WO/28/126.

447 Romaine to Mulgrave, 28 June 1854; Robins (2005), p. 13.

448 *The Times*, 29 Oct. 1855.

449 Codrington to Panmure, 27 Dec. 1855; WO/1/380 and *LG*, 9 Jan. 1856,

in Turkey merely reflected that which obtained throughout the Army, and hence the amelioration of the health problems in the Crimea necessarily led to an improvement at Scutari. When the total number of deaths were considered a divergence occurred from February suggesting that mortality rate became lower at Scutari some time before the Army as a whole, presumably because fewer seriously ill patients were being evacuated to there from that time.[450]

Additional evidence that events in the Crimea had a direct bearing on matters in Scutari is provided by a similar comparison of mortality at Scutari with that in the hospitals of the cavalry and infantry regiments for the two conditions specific for the Crimea, viz. scurvy and frostbite (Figure 6.14).

The admission and deaths in the Scutari and Kuleli hospitals are tabulated separately for the months February-June 1855. The cumulative mortality from disease, excluding cholera, is plotted, together with that in the army as a whole, in Figure 6.15. There was little to choose between them suggesting that irrespective of differences in the nature of the cases admitted, the management, and available facilities the mortality reflected the situation in the army in both institutions.

Nosocomial (hospital acquired) infections

The Supplies Commissioners drew the following conclusion from their analysis of the medical records:

> The mortality […] was further increased by the diseases which broke out at Scutari, and carried off many men who had entered the hospital with a prospect of speedy recovery, or who had actually recovered from the diseases for which they were admitted. Had the sanitary condition […] been from the first what it afterwards became, there can be little doubt that the mortality would have been perceptibly reduced.[451]

This suggestion is not unreasonable given that when things were at their worst the men were: 'put on board in such a frightful state of vermin and filth, and so […] when they land […] they carry the filth and vermin into hospitals with them.'[452] However, no proof was provided for their assertion and it is not now possible to test the hypothesis as few records of individual patients survive. However, indirect evidence that nosocomial

450 The difference noted for bronchitis was probably due to the same reason.

451 BPP (1856), No. 2007, p. 37.

452 Special correspondent, 23 Jan.; *The Times*, 8 Feb. 1855.

infections were not as important as suggested can be obtained by assessing data on hospital gangrene and erysipelas, both of which may be associated by poor standards of hospital hygiene.

In the days before the introduction of antisepsis hospital gangrene was a potentially fatal complication of surgery, particularly amputations.[453] It was contagious and frequently associated with overcrowding. There were advantages in early amputation after injury as this 'shortened hospital stays, reduced the risk of infection, and reduced the trauma of transportation;'[454] and this accounts for why McGrigor, Smiths's predecessor, advocated the distribution of the wounded to regimental rather than general hospitals, and this was given as one reason for keeping the wounded in the Crimea.[455] The PMO at Scutari adopted this approach when he 'dispersed the wounded as far as circumstances allowed,' and in the final analysis there were only 67 cases specifically diagnosed as gangrene at the hospital, of which 17 (25.4%) were fatal.[456] Almost all of the cases were recorded during the three months from November 1854 (Figure 6.16) and the absence of serious epidemic, which had been predicted by some commentators,[457] was confirmed by a Dr Macleod, a civilian surgeon, though he noted that gangrene in a mild form occurred not infrequently:

> Hospital gangrene was not common in the East. During the first winter it prevailed a good deal in a mild form at Scutari, but it never became either general or severe. It did not appear to pass from bed to bed, but rose sporadically over the hospitals. […] Whenever it appeared, the patients were […] sent into wards set apart.[458]

Macleod pointed out that: 'The French suffered most dreadfully from hospital gangrene in its worst form' and he ascribed this in part to their policy of transferring surgical cases to general hospitals. This opinion was confirmed by Milroy, a Sanitary Commissioner, who analysed some French medical data:

> In February [1855] the state of things was even more dreadful. Beside scorbutic diseases, utterly intractable, typhus and hospital gangrene were frequent in the hospitals, and the medical officers could do nothing to prevent their spreading. [After the fall of Sevastopol] the huts and

453 Incidentally, the mortality rate following amputation at Scutari was relatively low by the standards of the day at 74 (26.8%) of 274 cases' *M&SH*, II, General Hospital Returns I.

454 Murray et al. (2008).

455 *M&SH*, II, p. 254. Incidentally, Nightingale suggested that there may be an advantage for doing without general hospitals as they may become 'pest houses' if improperly managed; McDonald (2010a), p. 685 and McDonald (2010b), p. 88

456 Cantlie (1974), II, p. 87 and *M&SH*, II, General Hospital Returns I.

457 For example, C. Kidd and E. Cullen to Editor; *The Times*, 18 Oct. 1854 & 24 Jan. 1855, and incorrectly suggested by Kaufman (2000).

458 Macleod (1858), pp. 152-3.

> tents were crowded, and, ere long, hospital gangrene became very prevalent. Scurvy […] continued to add […] to the sick list, and cholera had not ceased to attack the fresh arrivals.[459]

Erysipelas, now know to be caused by *Streptococcus pyogenes*, was recognized as a potentially fatal complication of wound infections. It was uncommon according to the *M&SH*[460] while Macleod noted that at Scutari: 'there were a good many cases of erysipelas, at the time the men were most depressed by their hardships; but it was seldom virulent.'[461] Small numbers of cases of were diagnosed sporadically throughout the campaign with 46 cases being recorded at Scutari with ten fatalities (Figure 6.16).

Despite the small number of cases of gangrene and erysipelas it is clear that their epidemiological characteristics differed. The majority of admissions for, and deaths from, gangrene were recorded between November 1854 and March 1855 while erysipelas occurred sporadically throughout the campaign, with the majority of deaths recorded during the first half of 1855 (Figures 6.16 and 6.17).

Incidentally, the ratio of deaths to admissions for both conditions was very similar at Scutari as it was for the Army as whole, suggesting that no special factors were operating in those hospitals (Table 6.6).

Typhus or 'jail fever' was a well recognized hazard in over crowded and unsanitary prisons during the 18th and 19th centuries. It was never an issue in the Scutari hospitals with six (0.015%) cases among 42,288 admissions, though after the war Nightingale incorrectly suggested otherwise: 'Scutari buildings were, in their unimproved state, like the jails of old, pest houses of typhus fever.'[462]

Influence of disease on military policy

The high incidence of disease would have hampered the war effort but it is not possible to quantify exactly how this influenced decision making. Nevertheless, Raglan and his successors would have been able to adjust their plans to take account of the numbers

459 Milroy (1858).

460 *M&SH*, II, p. 274.

461 Macleod (1858), p. 157.

462 *M&SH*, II, General Hospital Returns I and McDonald (2010a), p. 146.

sick as these were included in the daily state prepared by the AG's department, though only few of these documents have survived.

A board convened by Raglan on 29 January 1855 with Sir Richard England as president calculated that on each day in each division there would be 150-200 cases of 'casual sickness', i.e. out patients considered unfit for duty by the surgeon, 144 told off as cooks, *c.*50 regimental prisoners, and *c.*150 collecting supplies from Balaklava. This meant that each day *c.*2,000 men in four infantry divisions who would be unavailable for duty in the trenches,[463] of which the equivalent of one infantry regiment would have been sick, though not seriously so.

Influence of policy decisions on hospital admissions

In some circumstances policies adopted by the medical or military authorities, or other factors, influenced the nature of cases admitted to the general hospitals, for example, debility and eye disease. The same also held true for wounded troops (see Chapter 7).

The Russian threat to the British position after the battle of Balaklava, coupled with the numbers of men requiring hospital treatment, rendered it expedient to evacuate debilitated patients requiring a protracted convalescence, and this is illustrated by an obvious increase in the number in this category during November 1854 (Figure 6.18).

Infectious ophthalmia proved troublesome in the infantry during the autumn of 1855 and the decision taken to utilize the Monastery hospital for the more severe cases was reflected in a dramatic increase in admissions. In contrast, the Castle Hospital admitted few eye cases during this period until patients from the Monastery were transferred to there following its closure on 17 June 1856 (Figure 6.19).

Thirteen of the 14 cavalry regiments were relocated to Turkey during the autumn of 1855 and as a consequence suffered from the effects of a local cholera epidemic in November. Conversely, they avoided the epidemic of eye disease that afflicted the infantry during 1856.

463 WO/28/199/1.

The Camp General Hospital was used principally to treat BFIs from June 1855, and, as a result of the final assault on Sevastopol 293 (99%) of 297 admissions during September were in that category. The cessation of hostilities resulted in fewer wounded admitted during the next month (36) with a corresponding increase in the number of medical cases (115), of which 15 (13%) had ophthalmia.

The English and French

Few references to the French have been made in this thesis owing to a paucity of published data but a comparison of the British and French Armies published by Longmore made the French the winners during the first winter from a medical point of view; and the British during the second:

> The situation of the French and British armies […] was so similar in respect to soil and locality, the climatic influences […] and the nature of the work […] that practically the two armies might almost be regarded as parts of […] the same force. […] there was no similarity between them in respect to their conditions of health. […] the British [were] remarkably unhealthy during the first period of the siege, and as remarkably healthy during the second period […] while a precisely opposite state of things existed in the French part […] which was in a generally good condition of health during the first period, but in an extremely unhealthy condition during the second period.[464]

The increased mortality rate in the French Army in 1856 is illustrated in Table 6.7 and Dr Baudens, a senior French MO, drew the following conclusion about the difference between the two armies:

> [The British] medical service, directed by the skilful and learned Sir John Hall, left nothing to be desired to the end of the campaign. […] The field hospitals of the English were extremely clean, which cannot be said of [the French]. The difference was in part due to the higher and more independent position of the English military surgeons, who exercise more authority in the enforcement of hygienic measures.[465]

This was an unexpected turn of events perhaps for only a year before several prominent critics of the British Army had been fulsome in their praise for the efficiency of the French. Longmore, however, did not agree that all the credit for this improvement should be accorded to the AMD. He conceded that the MOs knew what was required but they had insufficient 'sanitary influence and authority' at that time to 'restore the well being and efficiency of the army' on their own volition, and that the 'generous impulse of the whole nation, from highest to lowest' had been required to achieve this

464 Longmore (1883), pp. 5-6.

465 Baudens (1862), pp. 73-4.

objective.[466] Longmore continued by summarizing the reasons that M. Scrive, the French PMO, considered the cause of the French 'tragedy' in 1855/56, viz. the harshness of winter without sufficient shelter – the French were still under canvas; excessive work; infection of camps; inadequate rations; decay of the constitutions of the older soldiers; and the feebleness of the new contingents. Exactly the reasons considered to be the cause of the British Sanitary Disaster during the previous winter.[467]

Summary

The pattern of disease changed month by month with the fatal illnesses experienced during the first winter being superseded by much less life-threatening maladies during the second. The principal diseases diagnosed during the campaign were the 'traditional killers encountered in civil populations', with the exception of plague and measles which were not a problem.[468] In general the trends in the incidence of these diseases followed a predictable pattern (Figures 6.2 to 6.5), rather it was the incidence and the fatality rate that made them exceptional, a point made effectively in the *M&SH*:

> Nearly all the diseases […] were of a kind more or less incidental to troops employed on active service in the field, and familiar to the conditions of camp life. [The occurrence] of fevers and fluxes […] was merely remarkable for the amazing prevalence and mortality which, for a considerable period, they obtained.[469]

In like manner J. Bell concluded in a BBC broadcast: 'Infections are the true beneficiaries of war' as 'history has repeatedly shown that contagion makes an easy bedfellow with human conflict' and hence 'war and insurgency provide the ideal conditions for bacteria and viruses to take a foothold.' Some of Bell's examples of the devastating effects of natural infections in these circumstances are listed in Table 6.8.[470] On the other hand, Cooter questioned whether a 'fatal partnership' between pathogens and war should be assumed, and suggested that 'many, perhaps most, epidemics are not rooted in war;' and certainly from the British perspective diseases such as small pox, tuberculosis, and typhus did not become rife during the campaign despite the privations endured by the troops, while cholera which had been present in several countries in

466 Longmore (1883), pp. 25-6.

467 For a recent review see Barham (2006).

468 Smallman-Raynor & Cliffe (2004b), pp. 176 & 230.

469 *M&SH*, II, p. 45.

470 J. Bell, 7 Dec. 2013; www.bbc.co.uk/news/health-24962331.

Europe before war was declared was merely spread to Bulgaria and the Crimea by the movement of the troops. In addition, the fact that it petered out during the winter of 1854/55 when the many problems confronting the Army were at their most serious supports Cooter's proposition that a 'pathogenic price' does not necessarily have to be 'paid for the devastation caused by military action.'[471]

Regiments landing in November and December 1854 suffered less from scurvy, a chronic deficiency disease, than those that landed earlier, but the incidence of frostbite (gelato), a reflection of harsh environmental conditions, was similar (Figures 6.9 and 6.11).

The incidence of some diseases differed considerably between regiments brigaded together and which were presumably subjected to a similar management regime at the divisional level. It is not possible to determine whether this reflected genuine differences between the regiments, or a preference to treat the men as outpatients rather than admit them to hospital, or to some other factor, as detailed records for individual regiments have not survived.

The less arduous duties and living conditions of the Cavalry Division and Highland Brigade were reflected in a generally better health status than that exhibited by the regiments on the plateau (Figure 6.1).

The significant correlation between the mortality rates recorded during the first winter for several diseases in the Army as a whole and at Scutari is remarkable (Figures 6.13 and 6.14). That the facilities in the hospitals there may have been less than adequate is not at issue, but without doubt they were less important in influencing the outcome for the evacuees than the seriousness of their condition on arrival from the Crimea. Incidentally Nightingale agreed with this explanation at the time when she informed Panmure on 19 August 1855: 'The physically deteriorating effect of Scutari has been much discussed, but it may be doubted. The men sent down in the winter died because they were not sent down till half dead – the men sent down now live because they are sent in time.'[472]

The low incidence of hospital gangrene and erysipelas throughout the Army suggests that these potential nosocomial infections did not pose a serious threat in the Scutari hospitals or elsewhere. Similarly, mortality from gunshot wounds at Scutari was

471 Cooter (2003).

472 Douglas & Ramsey (1898), I, pp. 356-7. The same point was also appreciated by another nurse, Miss Terrot; Cantlie (1974), II, p. 125.

not sufficiently great to suggest that there was ever an epidemic of fatal wound infections.

Examples are provided which confirm the importance of comparing hospitals with a similar case load, otherwise invalid conclusions will be drawn about their performance (e.g. Figure 6.19). An example of this error was pointed out by a reviewer of the 3rd edition of Nightingale's '*Notes on Hospitals*' in which she suggested a comparison of 'the great mortality of the large Scutari hospital' with 'the well-ventilated detached huts of the Balaclava Castle Hospital.'[473] Clearly this statement is misleading because the problems in Scutari occurred principally during the winter of 1854-55, a few months before the Castle Hospital opened during March 1855 as a convalescent hospital for surgical cases, and when conditions had begun to improve both in the Crimea and at Scutari.

Tables 6.1-6.8

Table 6.1: Admissions per 1,000 strength for disease in infantry and cavalry regiments during the eight months after the invasion, September 1854-April 1855

Corps (No. of regiments)	1854				1855			
	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Initial besieging force (B+) (21)*	149	227	181	337	383	277	199	139
Initial besieging Force (B-) (7)*	207	211	218	566	484	259	203	112
Infantry joining in November (4)†	NA	NA	231	434	433	242	236	148
Infantry joining in December (4)‡	NA	NA	NA	255	368	175	115	114
Infantry joining in January (3)§	NA	NA	NA	NA	247	214	255	146
Highland Brigade (3)#	131	166	148	160	152	126	178	135
Cavalry Division (10)¶	228	380	371	296	214	141	115	120

[Adapted from the regimental histories in the *M&SH*, I]

NA Not applicable.

* B+, served in Bulgaria: Grenadier Guards, Coldstream Guards, Scots Fusilier Guards; 1st bn, 1st Regiment; 7th, 19th, 23rd, 28th, 30th, 33rd, 38th, 41st, 44th, 47th, 49th, 50th, 55th, 77th, 88th, 95th Regiments, and 2nd bn, Rifle Brigade. B-, from Turkey or direct by sea: 4th, 20th, 21st, 57th, 63rd, 68th, and 1st battalion Rifle Brigade.

† The 9th, 46th, 62nd, and 97th Regiments. The hospital admissions of two companies of the 46th Regiment that landed in September have been excluded from the analysis.

‡ The 17th, 18th, 34th, 89th, and 90th Regiments. No hospital admissions were recorded for the 18th Regiment in December and so it has been included with the January arrivals for other analyses.

§ The 14th and 39th Regiments.

\# Balaklava defences: 42nd, 79th, and 93rd Regiments.

¶ Heavy Brigade: 4th and 5th Dragoon Guards, 1st, 2nd and 6th Dragoons; Light Brigade: 4th and 13th Light Dragoons, 8th and 11th Hussars, and 17th Lancers.

473 *The Lancet*, 27 Feb. 1864.

Table 6.2: Twenty most common reasons for primary admission of NCOs and men into hospital, April 1854-June 1856

Condition	Proportion (%) of the total number of admissions in each quarter*,†									Total Admissions
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Diarrhoea	1	**17**	**26**	**15**	12	**19**	7	2	1	44164
Continued fever	3	13	8	**19**	**19**	**22**	8	5	4	25013
Catarrh	4	3	9	**19**	6	6	**17**	**26**	9	10083
Dysentery	0	6	**27**	**24**	7	**24**	9	2	1	8278
Abscesses	7	8	7	11	10	13	**15**	**17**	10	7922
Cholera	0	**35**	**28**	1	**21**	11	4	0	0	7574
Rheumatism	5	7	**22**	**17**	8	11	13	11	6	4906
Ulcers	5	5	9	12	9	10	**16**	**25**	10	4090
Eye diseases	7	6	4	6	11	13	**16**	12	**25**	3307
Venereal diseases	**27**	10	7	6	9	14	12	10	6	2959
Remittent fever	0	**17**	14	**22**	**25**	**17**	3	1	1	2957
Intermittent fever	1	**20**	7	5	**18**	**19**	12	8	9	2406
Frostbite	0	0	1	**79**	0	0	**15**	4	0	2398
Scurvy	0	0	10	**68**	9	1	4	6	2	2096
Colic	6	14	6	5	**16**	**26**	**15**	8	5	1514
Bronchitis	1	1	5	13	4	7	**19**	**37**	12	1111
Sore throat	12	6	3	7	9	10	**21**	**21**	10	924
Dyspesia	2	11	4	6	**16**	**23**	12	**15**	12	906
Jaundice	0	6	**19**	11	7	**22**	**23**	8	3	878
Typhus	0	**38**	11	**25**	**17**	4	2	1	1	828
All other diseases	6	8	8	9	9	13	**16**	**20**	12	8307
Wounds & injuries	2	11	**16**	3	**19**	**28**	8	6	5	18279
Total admissions for disease	3	13	**16**	**15**	13	**17**	10	10	8	162673

[Adapted from *M&SH*, II, General Return A]

* Q1, Apr.-June 1854; Q2, July-Sep. 1854; Q3, Oct.-Dec. 1854; Q4, Jan.-Mar. 1855; Q5, Apr.-June 1855; Q6, July-Sep. 1855; Q7, Oct.-Dec. 1855; Q7, Jan.-Mar. 1856; Q9, Apr.-June 1856.

† Values of <1% are entered as zero.

Table 6.3: Conditions typically associated with low mortality listed in the *Medical and Surgical History*, General Return A, April 1854-June 1856

Condition*	Apr.-Oct. 1854 and Apr. 1855-June 1856			Nov. 1854-Mar. 1855		
	Primary admissions	Deaths in all locations	Ratio Admissions/ deaths	Primary admissions	Deaths in all locations	Ratio Admissions/ deaths
Ulcers/abscesses	6679	9	0.15	1243	14	1.1
Eye diseases	3060	0	-	247	0	-
VD (6)	2722	0	-	313	3	0.95
Hernia†	1486	1	<0.1	102	2	2.0
Punishment	1461	0	-	312	0	-
Luxations	1395	2	0.15	138	0	-
Colic	1387	3	0.2	127	2	1.6
Sore throat	863	3	0.35	81	6	7.4
Dyspepsia	829	1	0.1	77	2	2.6
Skin diseases	688	0	-	61	1	1.5
Paronychia	355	0	-	46	0	-
Burns	353	0	-	46	0	-
Haemorrhoids	322	0	-	36	0	-
Constipation	311	0	-	37	0	-
Scabies	239	0	-	18	0	-
Headache/vertigo	119	0	-	9	0	-
Anal fistula	104	1	0.95	25	2	8.0
Otitis	101	0	-	6	1	16.7
Total	22474	20	<0.1	3934	33	1.1
Diarrhoea	42662	566	1.3	14502	3085	21.3
Continued fever	19457	1106	5.7	6156	1684	27.4
Dysentery	4568	343	7.5	3710	1913	51.6

* The selection depended on there being >100 primary admissions and the ratio of deaths in all locations to primary admissions being <1%.

† Entered with both gastrointestinal and venereal diseases.

Table 6.4: Conditions typically associated with low mortality listed in the *Medical and Surgical History*, General Hospital Returns I, April 1854-June 1856

Condition*	Junr-Oct. 1854 and Apr. 1855-June 1856			Nov. 1854-Mar. 1855		
	Admissions	Deaths	Ratio Admissions/ deaths	Admissions	Deaths	Ratio Admissions/ deaths
Ulcers/abscesses	270	1	0.4	69	2	2.9
Eye diseases	474	0	-	68	1	1.5
VD (6)	1145	1	<0.1	126	2	1.6
Hernia†	164	0	-	41	1	2.4
Punishment	57	0	1	11	0	-
Luxations	90	0	-	29	0	-
Colic‡	108	0	-	8	2	25
Sore throat	89	1	1.1	27	1	3.7
Dyspepsia	174	1	0.6	46	3	6.5
Skin diseases	136	0	-	29	2	6.9
Paronychia	33	0	-	9	0	-
Burns	30	1	3.3	5	0	-
Haemorrhoids	46	0	-	7	0	-
Constipation	25	0	-	12	0	-
Scabies	170	0	-	0	0	-
Headache/vertigo	68	0	-	1	0	-
Anal fistula	48	0	-	17	0	-
Otitis	30	0	-	2	0	-
Total	3157	5	0.15	507	14	2.8
Diarrhoea‡	5037	207	4.1	3787	1313	34.7
Continued fever	4394	185	4.2	2822	562	19.9
Dysentery‡	1850	163	8.8	1805	952	52.7

* The conditions selected are those listed in Table 6.3.
† Entered with both gastrointestinal and venereal diseases.
‡ Amended totals; see Table 1.3.

Table 6.5: Interval between admission to hospital and the death of NCOs and men in cavalry and infantry regiments, expressed a proportion (%) of the total number of admissions

Interval (days)	Cholera	Fevers	Respiratory diseases	Bowel diseases	Other diseases	Wounds and injuries
<7	95*	20	28	16	29	25
7-13	5	30*	19	22	13	25*
14-20	0	19	13*	20*	14*	15
21-27	0	11	10	12	11	11
28-34	0	7	9	9	8	8
35-41	0	4	5	7	9	8
>41	0	10	16	14	15	7
Total cases	3485	2309	354	3109	699	1200

[Summarized from *M&SH*, General Return C]

* For full details see Table 5.19.

Table 6.6: Admissions for, and deaths from erysipelas, gangrene, abscesses, and ulcers

Condition	General Return A			Scutari hospitals		
	Primary admissions (% of all 162673 admissions)	Deaths (% of all 18058 deaths)	Ratio (%) deaths to admissions (c3/c2)*100	Admissions (% of all 43258 admissions)	Deaths (% of all 5432 deaths)	Ratio (%) deaths to admissions (c6/c5)*100
Erysipelas	74 (0.05)	20 (0.1)	27.0	46 (0.1)	10 (0.2)	21.7
Gangrene	79 (0.05)	20 (0.1)	25.3	67 (0.15)	17 (0.3)	25.4
Abscesses	7615 (4.7)	163 (0.9)	2.1	339 (0.8)	3 (0.05)	0.9
Ulcers	3989 (2.5)	11 (0.06)	0.3	404 (0.9)	7 (0.1)	1.7

[*M&SH*, II, General Return A and General Hospital Returns I]

Table 6.7: Mortality in the French Army, September 1854-April 1856

Year	Months	Average effective strength	Deaths	Ratio per 1,000
1854	September-December	49160	1857	38
1855	January-April	88250	7666	87
	May-August	115750	10545	91
	September-December	137750	6473	47
1856	January-April	125250	17129	137

[Longmore (1883), p. 14]

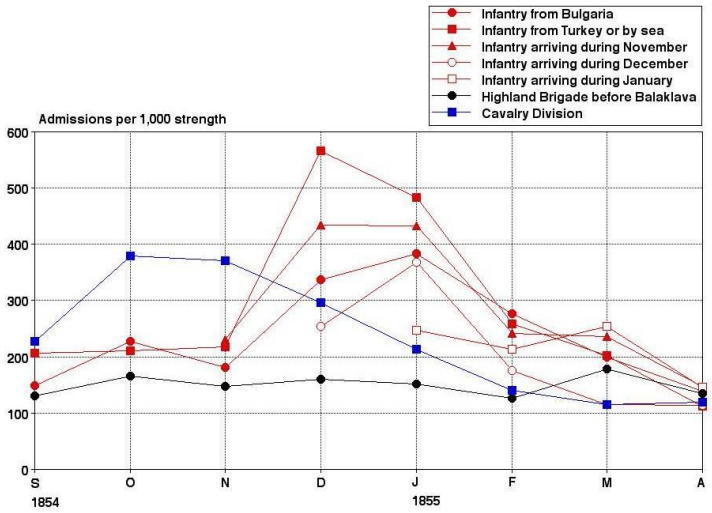
Table 6.8: Chronicles of contagion, AD 165-1918

Date	Campaign	Abstract
165	Parthian war	Roman soldiers returning from the war sparked the Antonine Plague (probably smallpox) that ravaged the Roman Empire.
1618-48	Thirty Years war	Typhus fever led to the cancellation of some battles.
1804-15	Napoleonic wars	Typhus fever killed more French soldiers than the war effort itself.
1853-56	Crimean war	British forces were decimated by cholera outbreaks.
1870-71	Franco-Prussian war	Smallpox originating in France was introduced into Prussia by French prisoners and spread through the civilian population, but not to the Prussian soldiers who had been protected.
1914-18	World War One	An influenza pandemic killed millions. In Russia, peace was followed by widespread famine with cholera, dysentery, malaria, typhoid and typhus being spread by refugees.

[Adapted from www.bbc.co.uk/news/health-24962331]

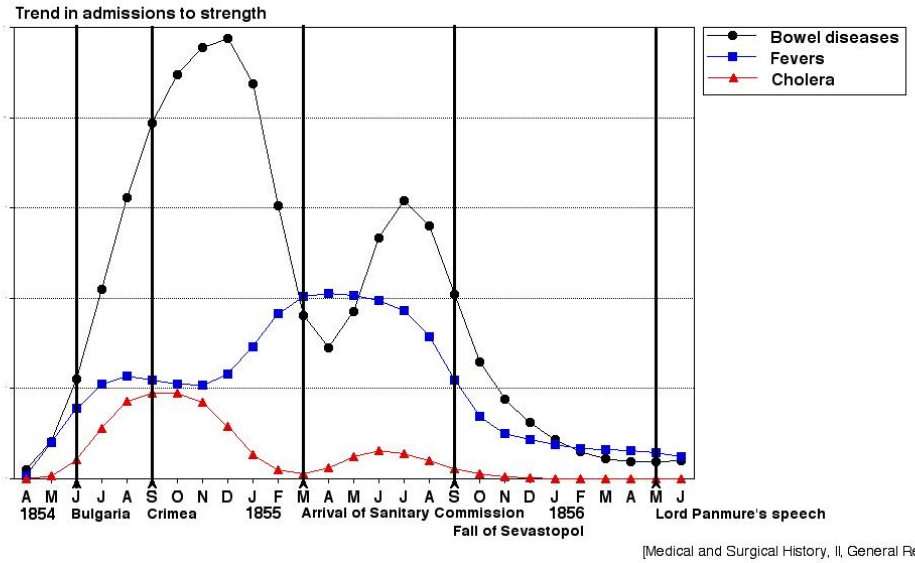
Figures 6.1-6.19

Figure 6.1: Admissions of NCOs and men with disease into regimental hospitals, September 1854-April 1855



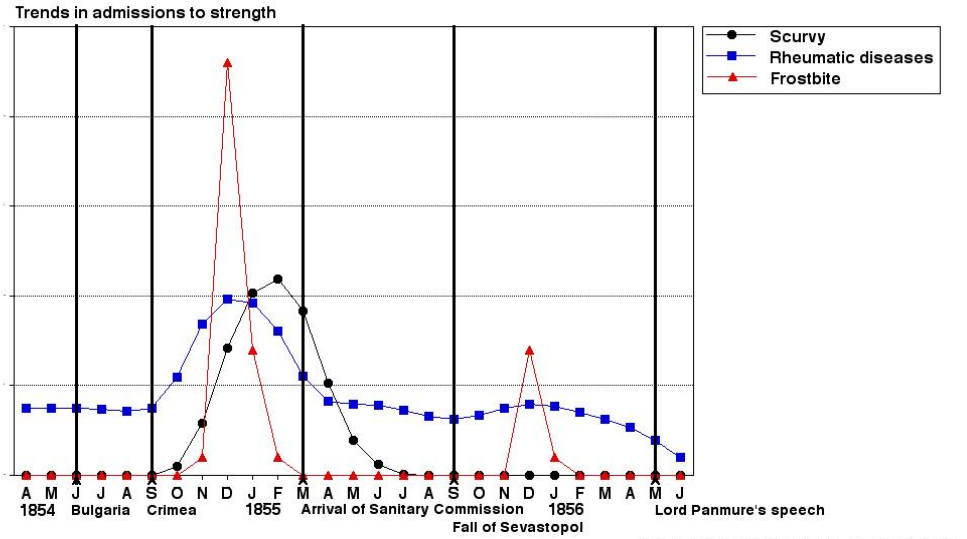
[Medical and Surgical History, I, Regimental histories]

Figure 6.2: Trends in the admissions of NCOs and men into regimental hospitals for bowel disease, fevers and cholera, April 1854-June 1856



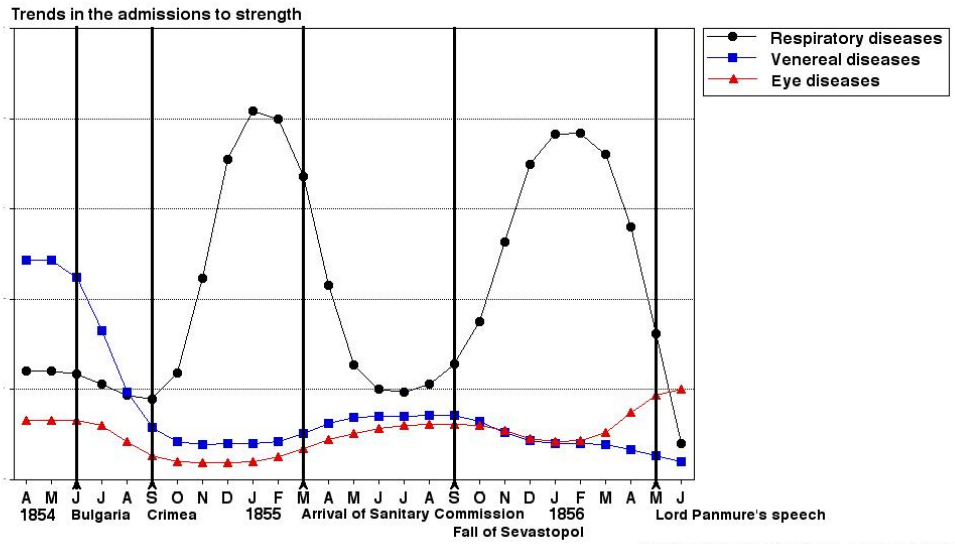
[Medical and Surgical History, II, General Return B]

Figure 6.3: Trends in the admissions of NCOs and men into regimental hospitals for scurvy, rheumatic disease, and frostbite, April 1854-June 1856



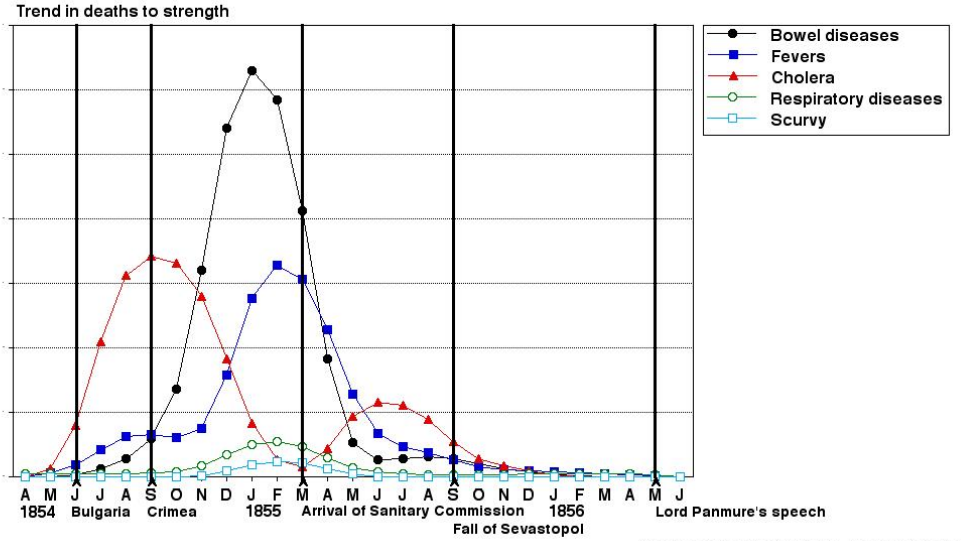
[Medical and Surgical History, II, General Return B]

Figure 6.4: Trends in the admissions of NCOs and men into regimental hospitals for respiratory, venereal, and eye diseases, April 1854-June 1856



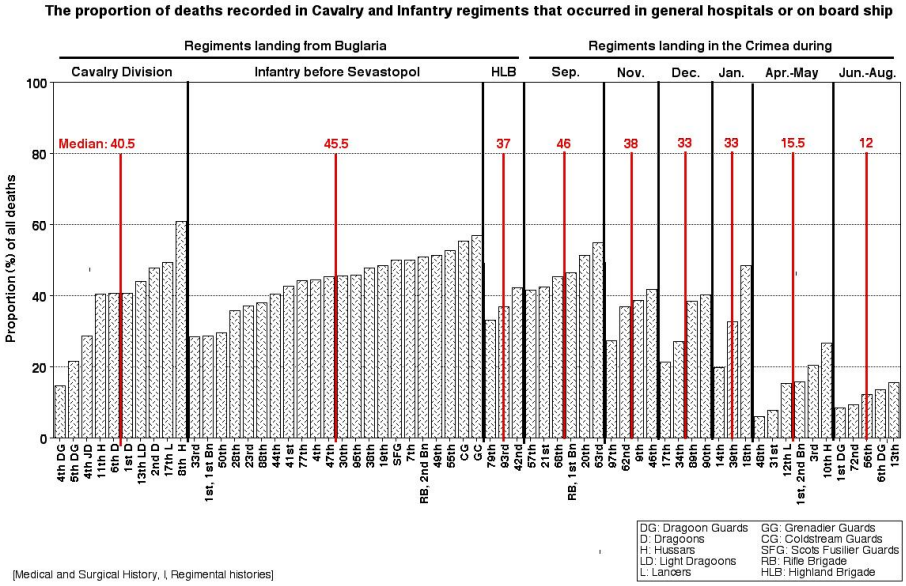
[Medical and Surgical History, II, General Return B]

Figure 6.5: Trends in mortality among NCOs and men for bowel and respiratory diseases, fevers, cholera, and scurvy, April 1854-June 1856



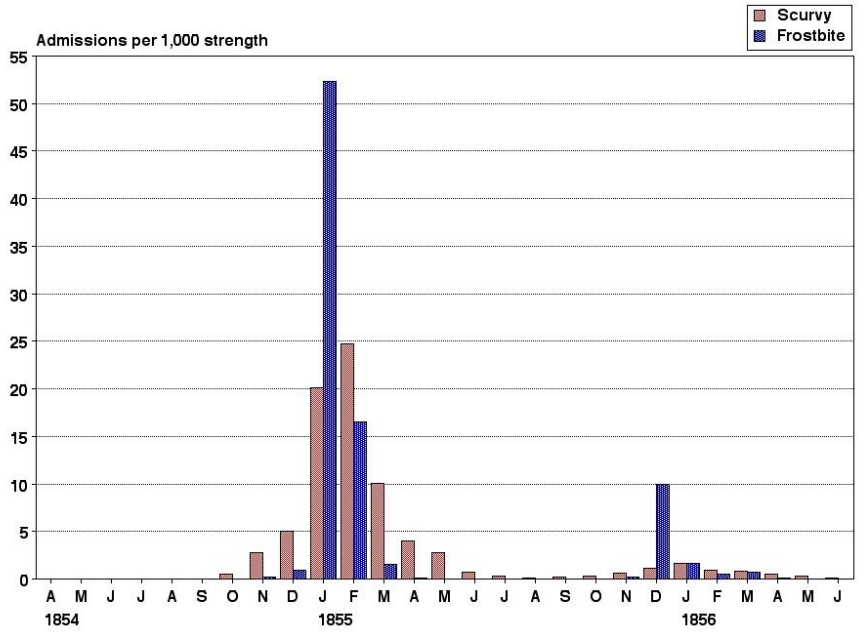
[Medical and Surgical History, II, General Return B]

Figure 6.6: Proportion of deaths recorded in cavalry and infantry regiments that occurred in general hospitals or on board ship



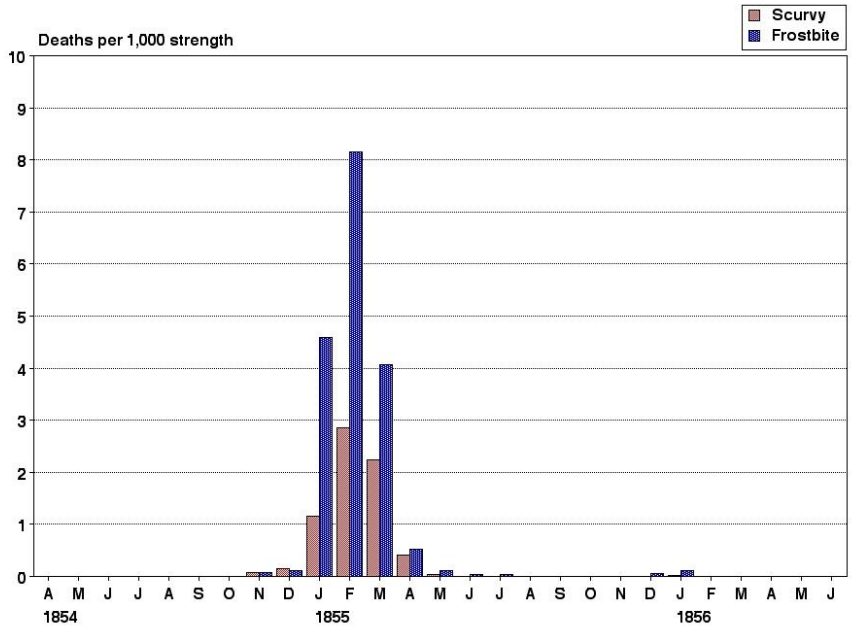
[Medical and Surgical History, I, Regimental histories]

Figure 6.7: Incidence of scurvy and frostbite in NCOs and men in the Army of the East, April 1854-June 1856



[Medical and Surgical History, II, General Return A and p. 43, column 2 and 6 for the Army strength]

Figure 6.8: Deaths of NCOs and men from scurvy and frostbite in the Army of the East, April 1854-June 1856



[Medical and Surgical History, II, General Return A and p. 43, column 2 and 6 for the Army strength]

Figure 6.9: Admissions of NCOs and men with scurvy into regimental hospital, September 1854-April 1855

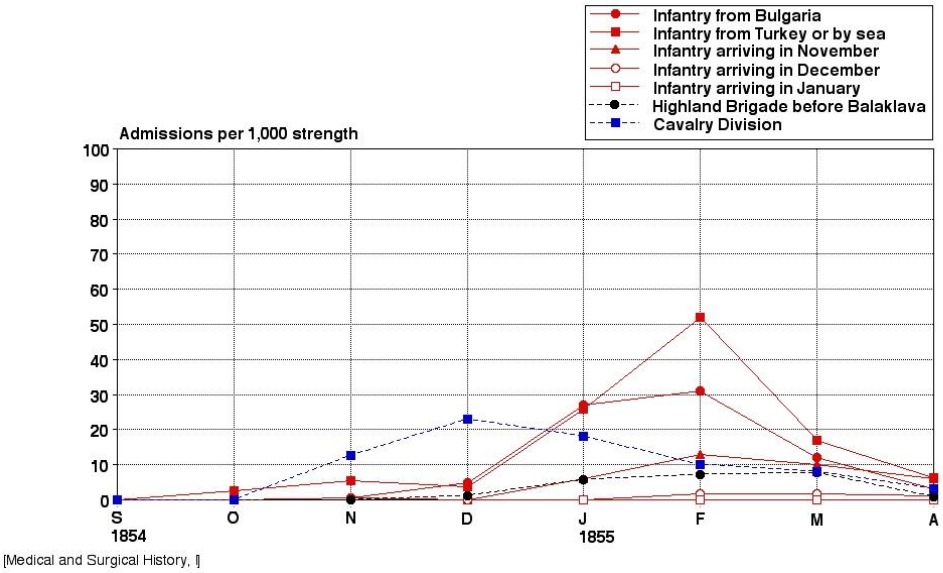
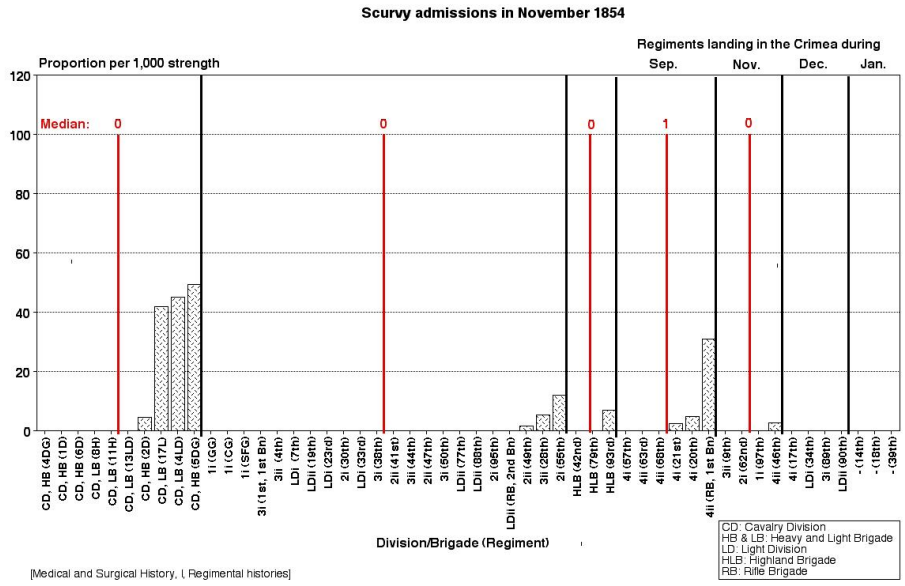
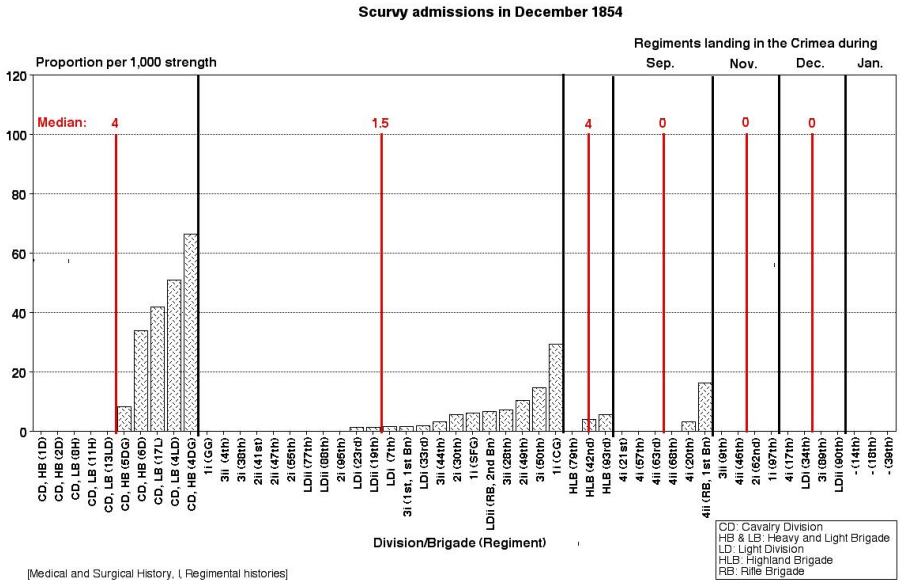
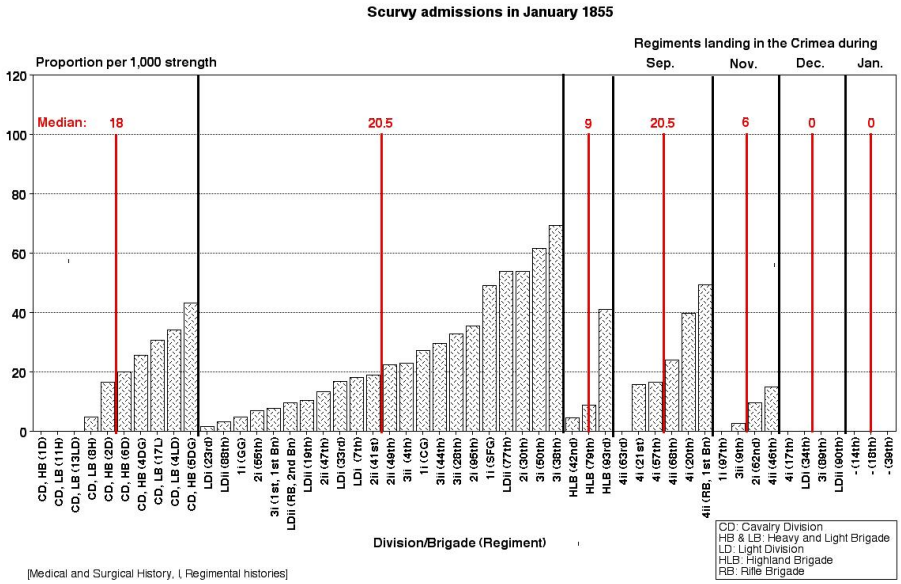
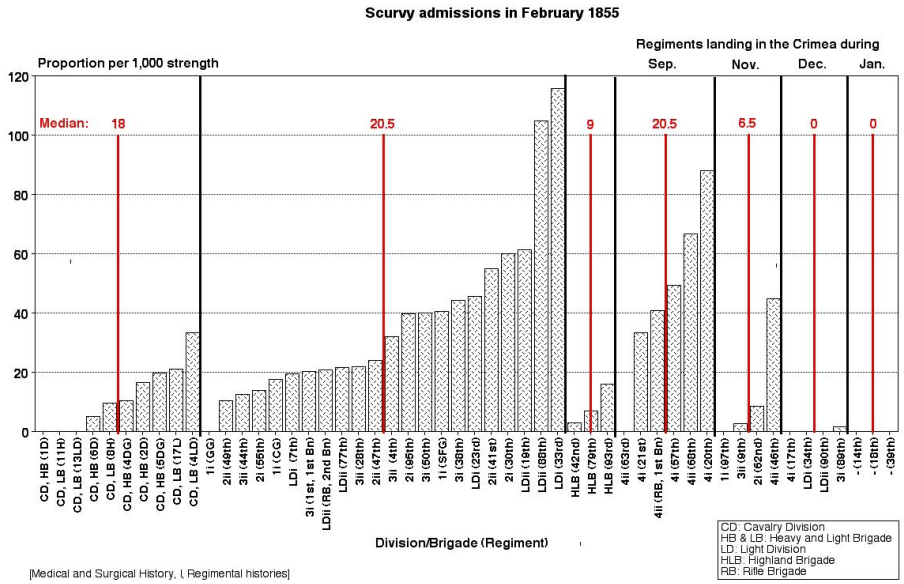


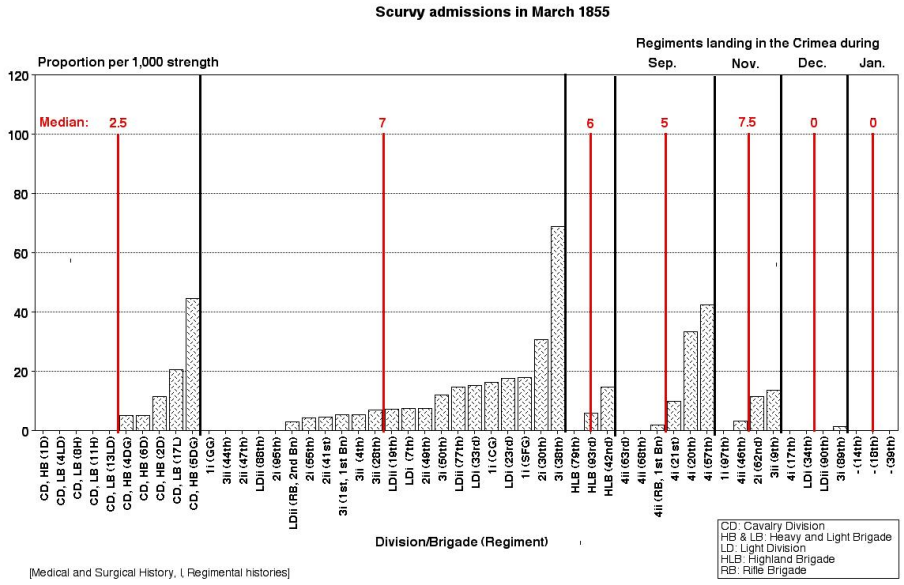
Figure 6.10: Incidence of scurvy in cavalry and infantry regiments, November 1854-April 1855




Scurvy admissions in December 1854
Regiments landing in the Crimea during
Sep.
Nov.
Dec.
Jan.
Proportion per 1,000 strength
Median:
4
1.5
4
0
0
0
120
100
80
60
40
20
0
CD, HB (1D)
CD, HB (2D)
CD, LB (8H)
CD, LB (11H)
CD, LB (13LD)
CD, HB (5DG)
CD, HB (6D)
CD, LB (17L)
CD, LB (41LD)
CD, HB (4DG)
1i (GG)
3ii (4th)
3i (38th)
2ii (41st)
2ii (47th)
2i (55th)
LDii (77th)
LDii (88th)
2i (95th)
LDi (23rd)
LDii (19th)
LDi (7th)
3i (1st, 1st Bn)
LDi (33rd)
3ii (44th)
2i (30th)
1i (5FG)
LDii (RB, 2nd Bn)
3ii (28th)
2ii (49th)
3i (50th)
1i (CG)
HLB (79th)
HLB (42nd)
HLB (93rd)
4i (21st)
4i (57th)
4ii (63rd)
4ii (66th)
4i (20th)
4ii (RB, 1st Bn)
3ii (9th)
4ii (46th)
2i (62nd)
1i (97th)
4i (17th)
LDi (34th)
3i (99th)
LDii (90th)
-(14th)
-(18th)
-(39th)
Division/Brigade (Regiment)
CD: Cavalry Division
HB & LB: Heavy and Light Brigade
LD: Light Division
HLB: Highland Brigade
RB: Rifle Brigade
[Medical and Surgical History, I. Regimental histories]


Scurvy admissions in January 1855
Regiments landing in the Crimea during
Sep.
Nov.
Dec.
Jan.
Proportion per 1,000 strength
Median:
18
20.5
9
20.5
6
0
0
120
100
80
60
40
20
0
CD, HB (1D)
CD, LB (11H)
CD, LB (13LD)
CD, LB (8H)
CD, HB (2D)
CD, HB (6D)
CD, HB (4DG)
CD, LB (17L)
CD, LB (41LD)
CD, HB (5DG)
LDi (23rd)
LDii (88th)
1i (GG)
2i (55th)
3i (1st, 1st Bn)
LDii (RB, 2nd Bn)
LDii (19th)
2ii (47th)
LDi (33rd)
LDi (7th)
2ii (41st)
2ii (49th)
3ii (4th)
1i (CG)
3ii (44th)
3ii (28th)
2i (95th)
1i (5FG)
LDii (77th)
2i (30th)
3i (50th)
3i (38th)
HLB (42nd)
HLB (79th)
HLB (93rd)
4ii (63rd)
4i (21st)
4i (57th)
4ii (66th)
4i (20th)
4ii (RB, 1st Bn)
1i (97th)
3ii (9th)
2i (62nd)
4ii (46th)
4i (17th)
LDi (34th)
3i (99th)
LDii (90th)
-(14th)
-(18th)
-(39th)
Division/Brigade (Regiment)
CD: Cavalry Division
HB & LB: Heavy and Light Brigade
LD: Light Division
HLB: Highland Brigade
RB: Rifle Brigade
[Medical and Surgical History, I. Regimental histories]


Scurvy admissions in February 1855
Regiments landing in the Crimea during
Sep.
Nov.
Dec.
Jan.
Proportion per 1,000 strength
Median:
18
20.5
9
20.5
6.5
0
0
Division/Brigade (Regiment)
CD: Cavalry Division
HB & LB: Heavy and Light Brigade
LD: Light Division
HLB: Highland Brigade
RB: Rifle Brigade
[Medical and Surgical History, I. Regimental histories]


Scurvy admissions in March 1855
Regiments landing in the Crimea during
Sep.
Nov.
Dec.
Jan.
Proportion per 1,000 strength
Median:
2.5
7
6
5
7.5
0
0
Division/Brigade (Regiment)
CD: Cavalry Division
HB & LB: Heavy and Light Brigade
LD: Light Division
HLB: Highland Brigade
RB: Rifle Brigade
[Medical and Surgical History, I. Regimental histories]

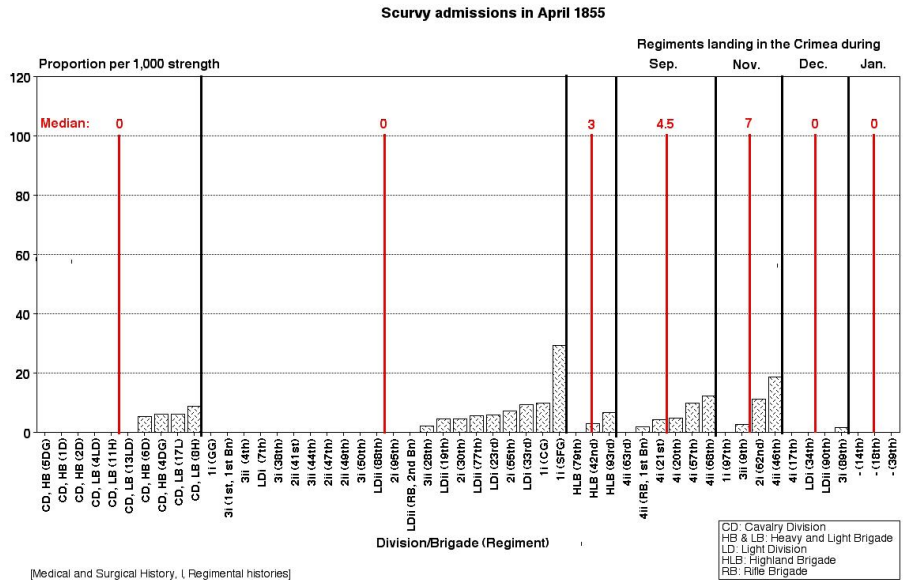
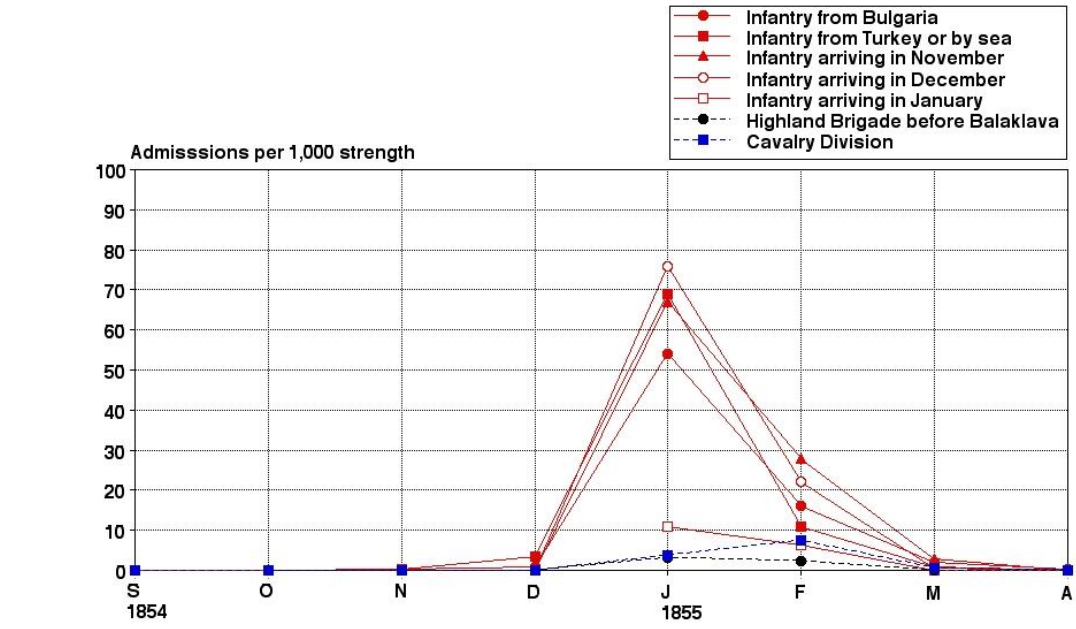
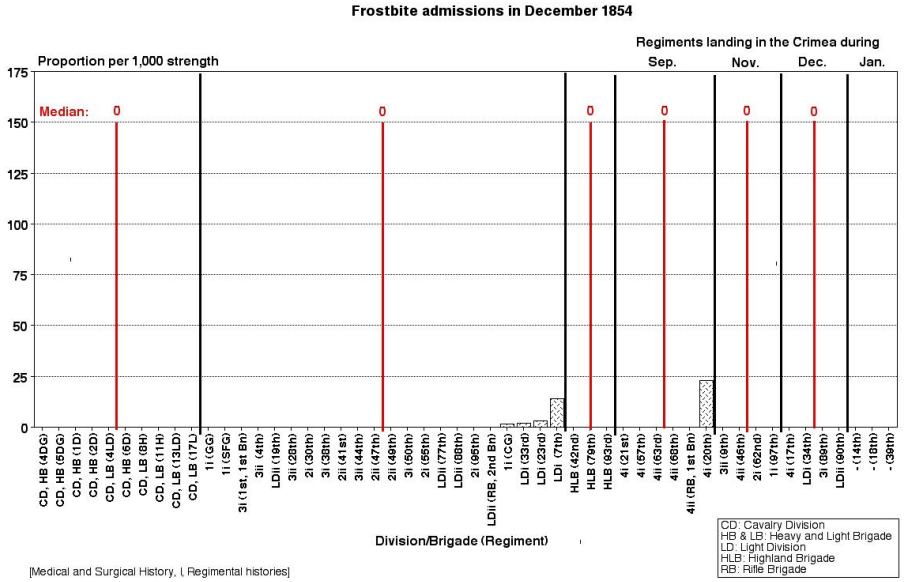


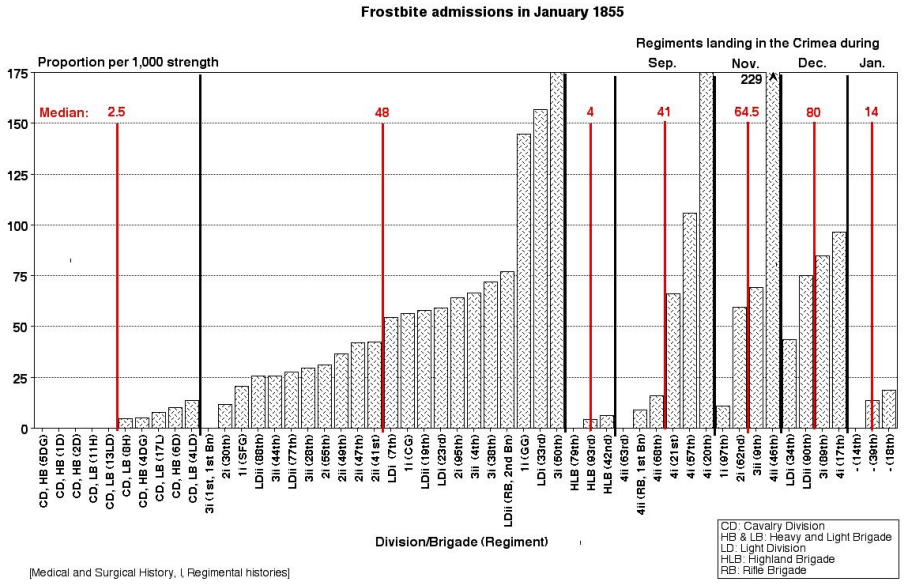
Figure 6.11: Admissions of NCOs and men with frostbite into regimental hospital, September 1854-Aptil 1855

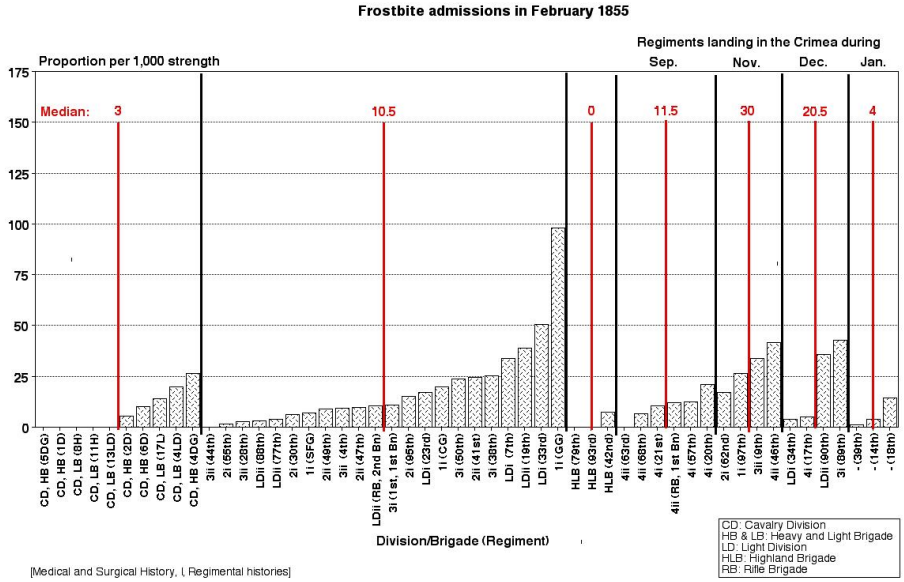


[Medical and Surgical History, I]

Figure 6.12: Incidence of frostbite in cavalry and infantry regiments, December 1854-March 1855






Frostbite admissions in February 1855
Regiments landing in the Crimea during
Sep.
Nov.
Dec.
Jan.
Proportion per 1,000 strength
Median: 3 10.5 0 11.5 30 20.5 4
Division/Brigade (Regiment)
CD: Cavalry Division
HB & LB: Heavy and Light Brigade
LD: Light Division
HLB: Highland Brigade
RB: Rifle Brigade
[Medical and Surgical History, I. Regimental histories]

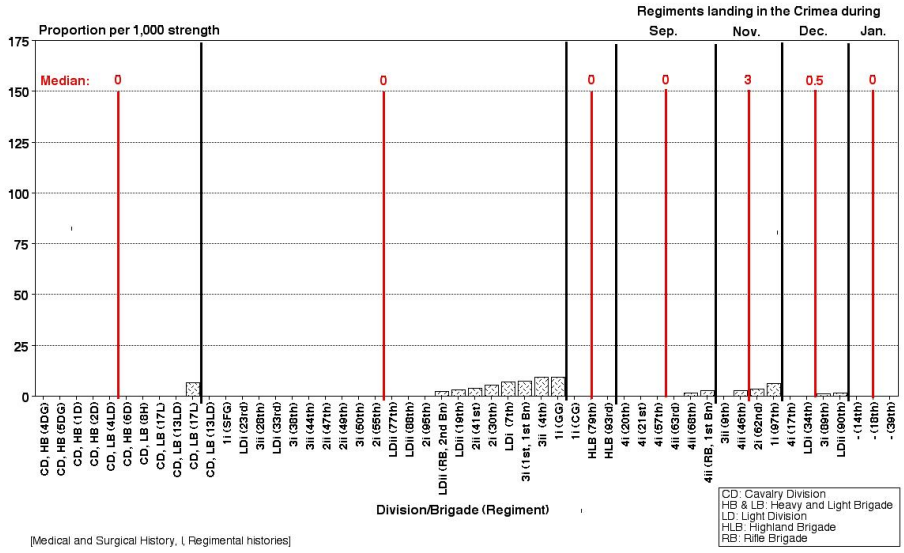
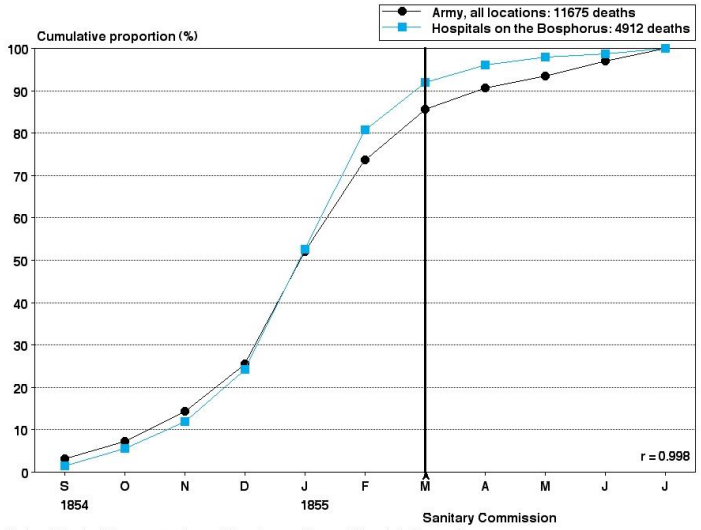

Frostbite admissions in March 1855
Regiments landing in the Crimea during
Sep.
Nov.
Dec.
Jan.
Proportion per 1,000 strength
Median: 0 0 0 0 3 0.5 0
Division/Brigade (Regiment)
CD: Cavalry Division
HB & LB: Heavy and Light Brigade
LD: Light Division
HLB: Highland Brigade
RB: Rifle Brigade
[Medical and Surgical History, I. Regimental histories]

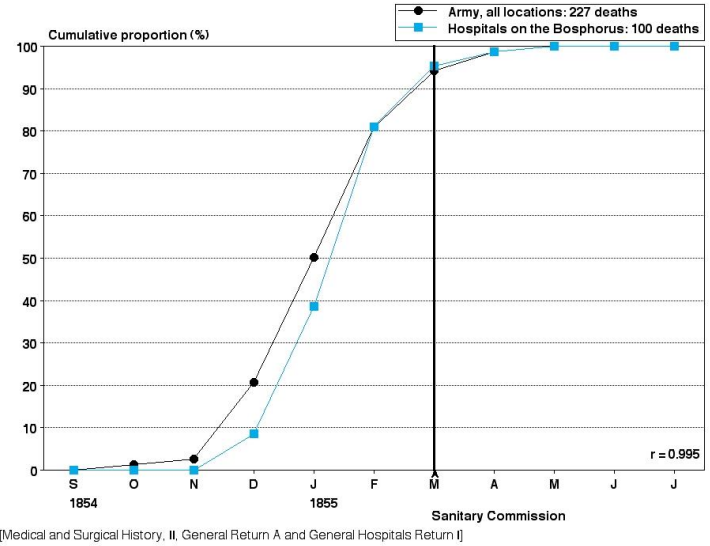
Figure 6.13: Relationship between deaths recorded in the Army as a whole and the hospitals on the Bosphorus, September 1854-July 1855

1. Deaths from all causes, except cholera



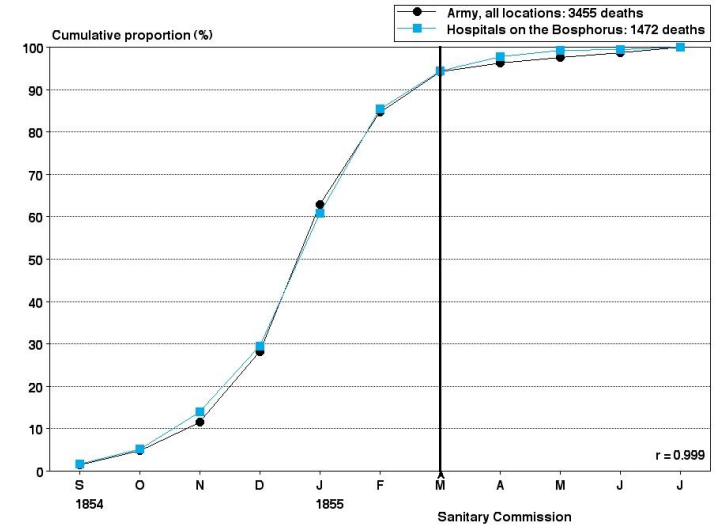
[Medical and Surgical History, I, Regimental histories and General Hospitals Return I]

2. Deaths from rheumatic diseases



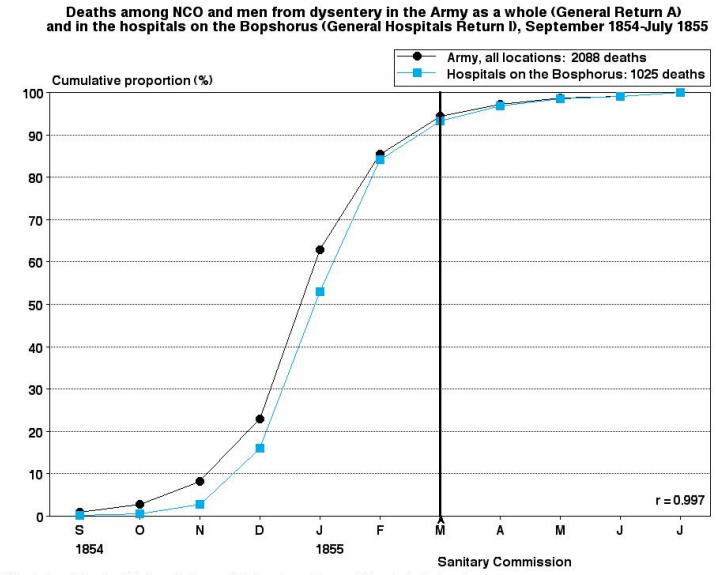
[Medical and Surgical History, II, General Return A and General Hospitals Return I]

3. Deaths from diarrhoea



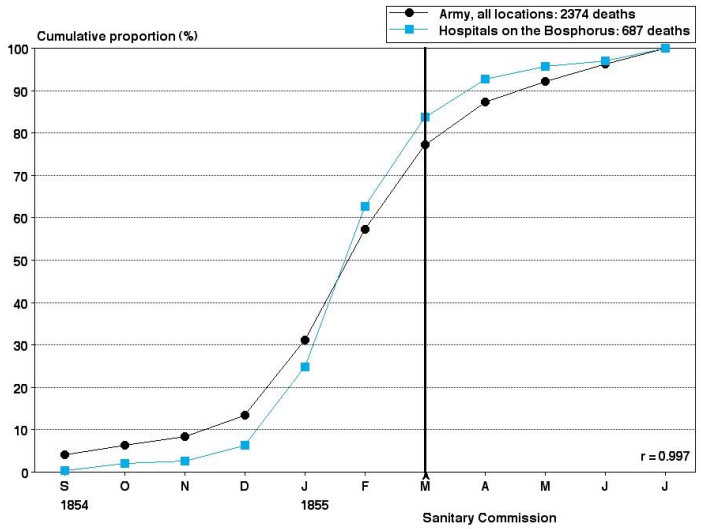
[Medical and Surgical History, II, General Return A and General Hospitals Return I]

4. Deaths from dysentery



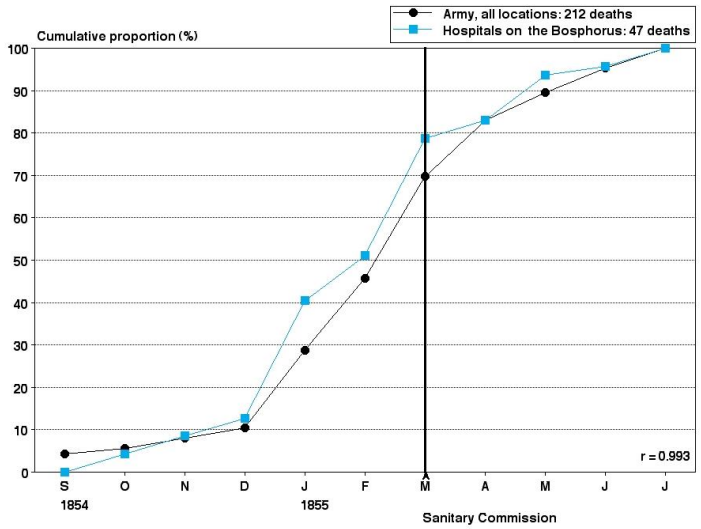
[Medical and Surgical History, II, General Return A and General Hospitals Return I]

5. Deaths from continued fever



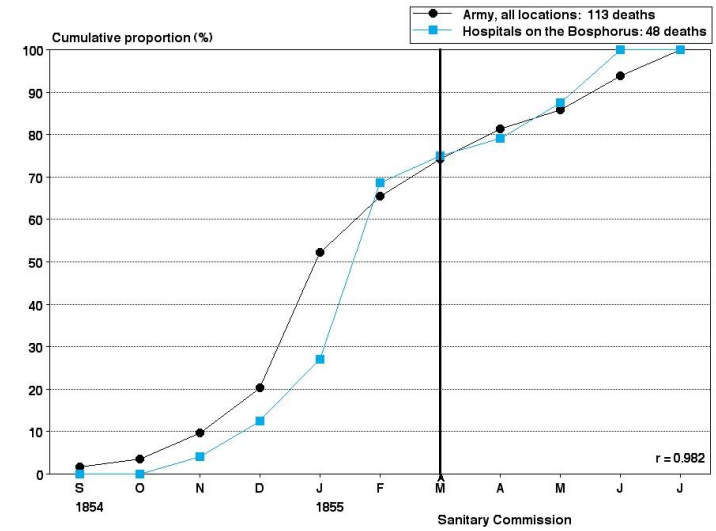
[Medical and Surgical History, II, General Return A and General Hospitals Return I]

6. Deaths from typhus



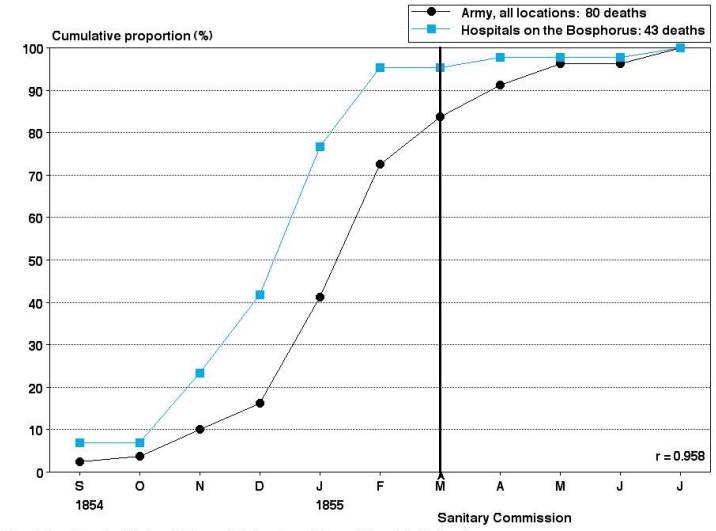
[Medical and Surgical History, II, General Return A and General Hospitals Return I]

7. Deaths from pneumonia and pleurisy



[Medical and Surgical History, II, General Return A and General Hospitals Return I]

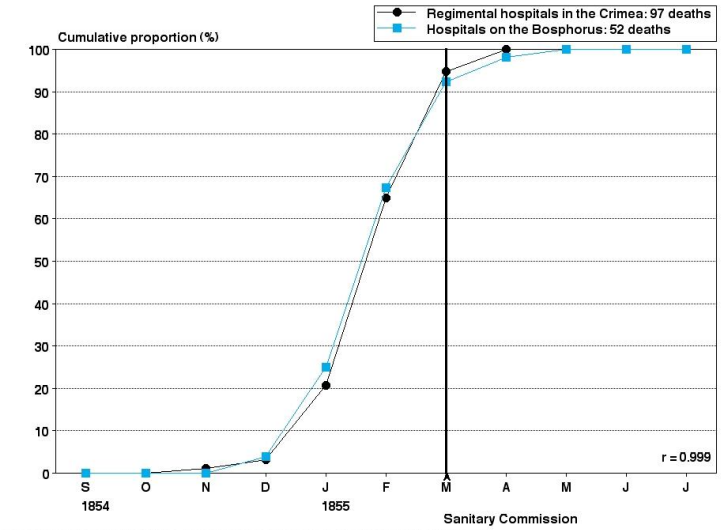
8. Deaths from bronchitis



[Medical and Surgical History, II, General Return A and General Hospitals Return I]

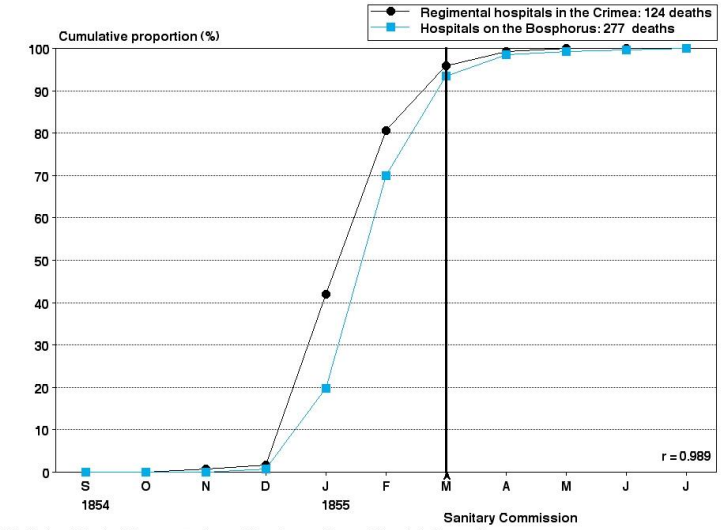
Figure 6.14: Deaths of NCOs and men from scurvy and frostbite in regimental hospitals of cavalry and infantry regiments in the Crimea, and the hospitals on the Bosphorus, September 1854-July 1855

1. Scurvy



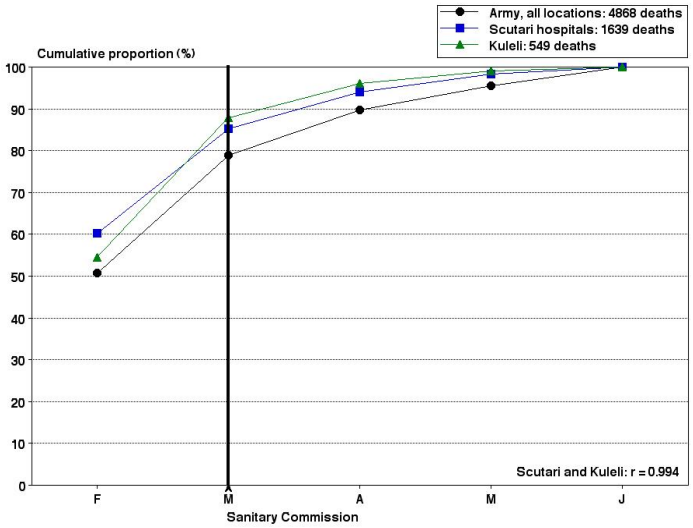
[Medical and Surgical History, I, Regimental histories and General Hospitals Return I]

2. Frostbite



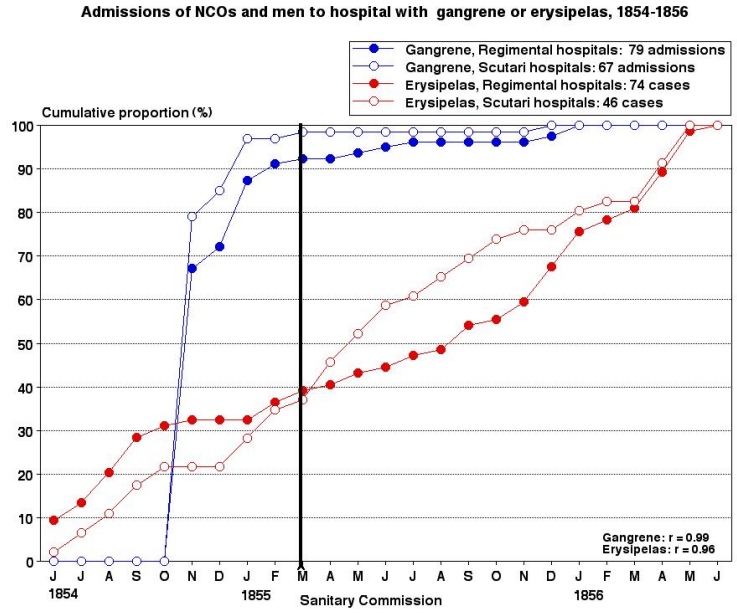
[Medical and Surgical History, I, Regimental histories and General Hospitals Return I]

Figure 6.15: Cumulative mortality in the hospitals in Scutari and Kuleli, February-June 1855



[Medical and Surgical History, II, General Return A and General Hospitals Return 1]

Figure 6.16: Admissions of NCOs and men to hospital with gangrene or erysipelas, June 1854-June 1856



[Medical and Surgical History, II, General Return A and General Hospitals Returns I]

Figure 6.17: Deaths among NCOs and men with gangrene or erysipelas, June1854-June 1855

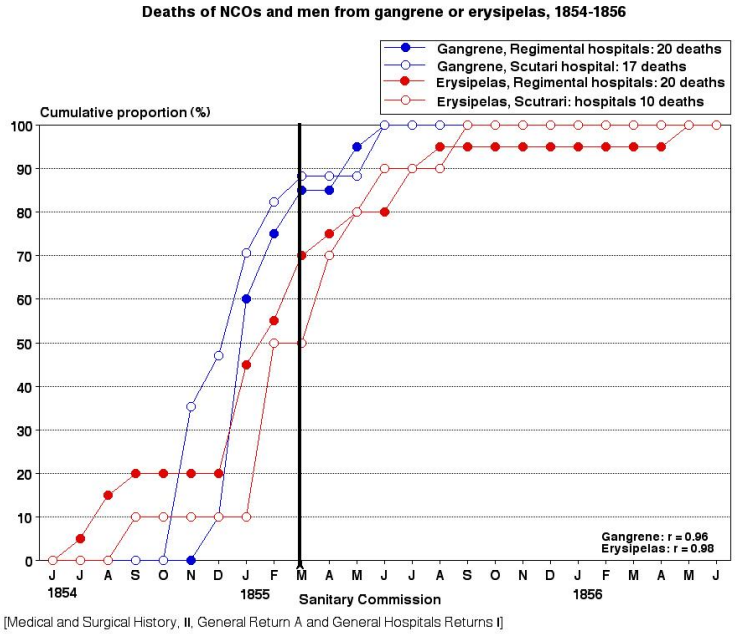


Figure 6.18: Admissions of NCOs and men with debility into regimental hospitals of the cavalry and infantry and hospitals on the Bosphorus, June 1854-June 1856

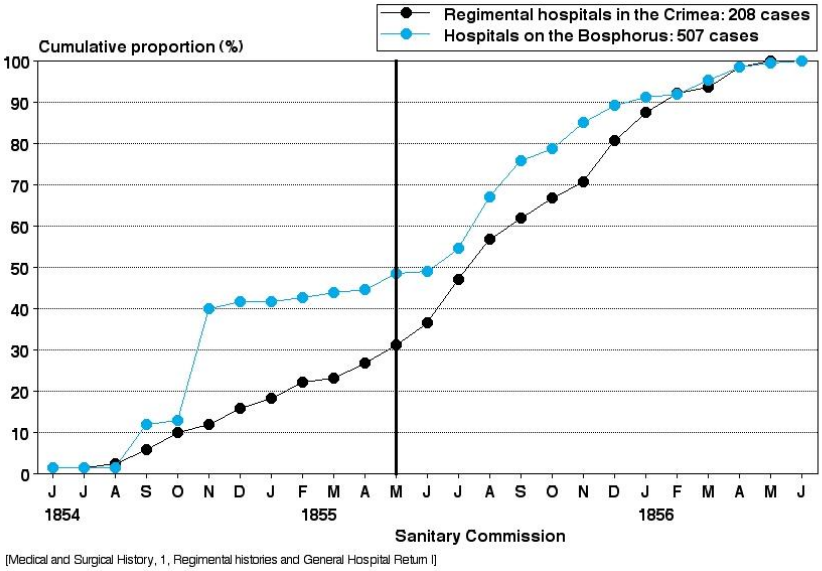
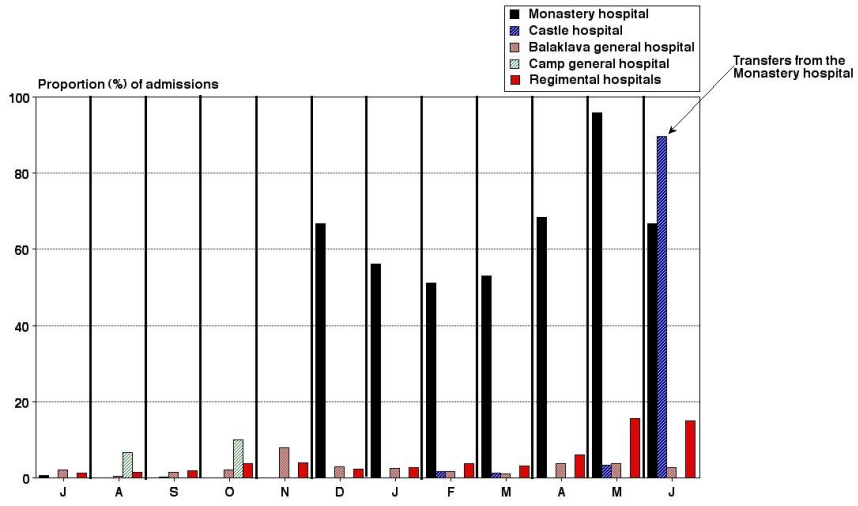


Figure 6.19: Admissions of NCOs and men with eye disease into the hospitals in the Crimea, July 1855-June 1856



[Medical and Surgical History, II General Return A and General Hospital Returns III-VI]

Chapter 7
Casualties consequent upon action with the enemy

There has been considerable interest in the battles of the Alma, Balaklava, and Inkerman over the years, principally from a military point of view,[474] while the *M&SH* includes a section on BFI's and their management.[475] Losses from enemy action were much lower than those associated with disease, but significant nevertheless because of the temporary or permanent loss of manpower, and the resources required to care for the wounded, particularly following the principal engagements.

The conveyance of the seriously wounded from the front line to the rear is almost inevitably going to be traumatic for the patient and challenging for the stretcher bearers and ambulance personnel; while in the case of a major engagement there is possibility that advanced dressing stations may be either overwhelmed by number of patients or attacked by the enemy.

The situation was at its worst after the battle of the Alma[476] as there had been no time to set up even the most rudimentary casualty clearing stations, and it had not been possible to requisition sufficient wheeled vehicles locally to substitute for the ambulance waggons left behind at Varna. However, as the campaign continued the provision for the immediate care of the wounded improved, as summarized in Table 7.1, although, as outlined in Chapter 8, the development of a satisfactory ambulance service remained elusive throughout the whole campaign.

This chapter presents analyses of six sources of data, viz. the *M&SH*, an unpublished copy of the AG's ledger of the daily number of officers and other ranks who were killed, wounded in action or reported missing;[477] Sayer's '*Despatches*'; a return prepared by the AG, Horse Guards in 1855;[478] and papers presented by W.B. Hodge and R.T. Thompson to the Statistical Society of London during 1856.

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474 For example, Pemberton (1968), Barthorp (1991), Adkin (1996), Brighton (2004), Mercer (2004), and Fletcher & Ishchenko (2008)

475 *M&SH*, II, pp. 253-396.

476 The carnage would have reminded the older participants of the after math of Waterloo and the battles in the Peninsular War.

477 RAMC/397/F/RM/17/7. The original has not been found in WO/28.

478 BPP (1854-55), No. 204.

The Medical and Surgical History

Volume 1, Regimental histories: The admissions to the regimental hospitals with wounds or injuries during the first six months after the invasion were analysed with regard to the regiments employment, viz. the Cavalry Division and the infantry regiments that took part in the siege that either served in Bulgaria or who landed in the Crimea during September, November, December or January, or who defended Balaklava (Highland Brigade).[479] The results are summarized in Figure 7.1 and the admissions during the first three months reflected the regiments' involvements in the battles (Alma, Balaklava and Inkerman). The battle casualty rate for all regiments was low during the winter months increasing again during April when the siege operations became more active.[480]

Volume II, General Return A: The numbers of NCOs and men admitted to the hospitals each month, and the numbers who died are illustrated in Figures 7.2.and 7.3. Of the 162,673 admissions, 10,691 (6.6%) were for gunshot wounds (*Vulnus sclopitorum*),[481] of which 1,706 (16%) died. By comparison there were only 55 (0.7%) deaths among 7,592 patients with incised wounds, contusions, dislocations, and fractures.

General hospitals in the Crimea and Turkey: The majority of those injured during action were admitted to regimental hospitals but the lack of facilities in the Crimea resulted in nearly 3,000 being evacuated to Turkey between September and November 1854, and although this was inevitiable many MOs deplored the hurried transfer of the severely wounded and favoured undertaking primary surgery before evacuation. However, this policy, which reduced the risk of overcrowding in the regimental hospitals, was later excused on the grounds that Raglan was determined to evacuate all men thought unlikely to return to duty in a short time, or be unable to march.[482] In the event, the Scutari hospitals received three-quarters of all their admissions for gunshot wounds during that time. The winter of 1854-55 saw relatively

479 There is no comparable data available for the RA.

480 This topic is considered in more detail in the analysis of data by Sayer (1857).

481 The precise cause of the injuries is not give, and presumably included those caused by cannon shot and blast.

482 *M&SH*, II, p. 254 and Shepherd (1991), p. 237.

little direct action and only 89 patients were sent to Turkey between February and May 1855 while the majority evacuated between April and September were probably convalescent as only 8 (1.8%) of 586 patients died.[483] (see Table 7.2 and Figure 7.4).

The Camp General Hospital, being close to the front received recently injured men,[484] while the Castle Hospital, set apart from the main centres of population, was used to the care for convalescent wounded soldiers. The Balaklava General Hospital was principally utilized for treating the sick (Table 7.2).

The use to which these three hospitals, and two in Turkey, were put is illustrated by comparing their responsibilities during the time they were all were in operation, viz. April-November 1855 (Figures 7.5.and 7.6). The Camp and Castle Hospitals treated the recently wounded and convalescents respectively, while only a very few entered the other three, particularly Smyrna, which was considered too far from the Crimea to be utilized for wounded troops. Not surprisingly the ratio of deaths to admissions was highest for the Camp General Hospital at 23%.

Adjutant General's ledger

The AG's ledger covered the affair on the Bulganek on 19 September 1854 until the final assault on Sevastopol on 8 September 1855, together with a three additional days in September, and the explosion in the magazine of the Right Attack on 25 November 1855.

The ledger only notes the losses on any particular day; the number who died subsequently of their wounds was not known at the time, but was probably at least 16%;[485] while the proportion of those reported missing who were killed or taken prisoner was also not known. The total number of individuals in action on each day was not recorded and so the casualty rates as a proportion of the number of individuals at risk cannot be estimated.

This document is valuable as it lists the number of casualties among officers, sergeants, drummers, and R&F separately for the siege operations, the battles of the Alma, Balaklava, Little Inkerman, and Inkerman, and the assaults on the Quarries (7/8

483 *M&SH*, II, General Hospital Returns I.

484 Of 1,005 patients admitted between Apr. and Nov. 1855 730 (72.6%) were for gunshot wounds; *M&SH*, II, General Hospital Returns V.

485 *M&SH*, II, General Return A.

June) and Sevastopol (18 June and 8 September 1855). These records are summarized in Appendices 7.1 and 7.2.[486]

Battle, assaults, and siege operations: The casualties totalled 15,189, viz. 767 (5%) officers, 840 (5.5%) sergeants, 102 drummers (0.7%), and 13,480 (88.8%) R&F (Table 7.3). Of these 2,728 (18%), 12,033 (79.2%), and 428 (2.8%) were killed, wounded, or missing respectively with the officers suffering relatively more battlefield fatalities than the ORs, viz. 177 (23.1%) of 767 casualties as opposed to 2,551 (17.7%) of 14,442 (Table 7.4).

Overall, nearly two thirds of casualties were sustained during the seven days of direct action (battles and assaults) and the remainder during the eleven months of the siege (Table 7.3, Part B). Nearly three quarters of the casualties among the officers and sergeants occurred during the battles and assaults, suggesting that they may have taken greater risks thereby setting an example to the men. The drummers were employed in assisting the wounded and *c*.80% of their casualties were recorded during the battles and assaults. In contrast, proportionally more of the casualties suffered by the R&F occurred in the trenches (Table 7.3, Part B).

Overall the chances of a casualty being killed tended to be higher during the three battles (21.9% of casualties) than in either siege operations or assaults on the Sevastopol garrison when the proportion of casualties killed was 16.7% and 15.5% respectively (Table 7.5).

The fatality rates for officers in the three battles and assaults during the siege were respectively 80 (28.5%) of 281 cf. 59 (20.2%) of 292 casualties (Table 7.6). The comparable proportions for the other ranks were 1,028 (21.5%) of 4,774 and 716 (16.4%) of 4,369 respectively (Table 7.7). The chance of both officers and men receiving a fatal wound was lower in siege operations than for the assaults: 19.5% cf. 24.2% for officers and 15.3% cf. 19.1% for the men (Tables 7.5 and 7.6).

The stage of campaign: The Army encamped before Sevastopol at the beginning of October 1854 and the AGs ledger covered the siege from 5 October until 8 September 1855, a period of 333 days of trench warfare if the days of battles of the Balaklava and Inkerman and the three main assaults on the Sevastopol garrison on the 8 and 18 June

486 For data of these engagements, and the explosion in the magazine in November 1855, see Hall 'Unpublished memoir.'

and 9 September 1855 are excluded. For casualties on a weekly basis see Figures 7.7 and 7.8.

The number of casualties remained low until March 1855 (median ≤6 per day for each month) although there were four days when the number was ≥50. Thereafter, losses increased so that those sustained during six weeks before the fall of Sevastopol accounted for a third of all siege casualties (1,879 of 5,451; Table 7.8).

There were no casualties on 35 (10.5%) of the 333 siege days while the number was ≤10 on 150 (45%) with ≥50 recorded on 28 (8.4%); (Table 7.9). No person was killed on 119 (35.8%) days while there were ≤4 fatalities on 161 (48.7%) and ≥17 on 5 (1.5%).

The maximum number casualties recorded was 141 (19 killed) on the first day of the 5th Bombardment on 17 August 1855; the next highest was 116 (21 killed) on the 17 October 1854 when the 1st bombardment commenced, while other engagements such as those involving attacks by the British on 20 November and 14 April and Russian sorties on 20 December and 22 March resulted in higher than usual casualties.

Sayer's *Dispatches and Papers*

Tables prepared by the AG's Department at Horse Guards in the appendix of Sayer's monograph list the strength on embarkation of the cavalry and infantry regiments, RA, and RS&M, which, with the number of reinforcements received gives the total number of men who served in each unit during the campaign.[487] In addition, the number officers, NCOs and men who were KIA, wounded, and died of wounds are given.[488]

Losses recorded in the cavalry and infantry regiments: Analyses of data in Sayer's endpaper are presented in Figure 7.9. The losses from death (all causes) and invaliding were ≥40% (median 46%) of the total strength in 20 of 22 infantry regiments landing from Bulgaria and forming the initial besieging force. For the 16 regiments that arrived before the turn of the year the losses were ≤40% in nine, while in the 12 joining during 1855 the numbers were ≤30%, with a median of 20% (Figure 7.9).

487 This figure was used as the denominator in the calculation of proportions (‰), for example, those presented in Figures 7.9-7.13.

488 Sayer (1857), pp. 420-3, 428-9, & endpaper. Incidentally, there is little information in the *M&SH* on the losses in the RA and RS&M, and nothing in the AG's ledger.

The number of men KIA, dying of wounds, and wounded per 1,000 for each of the regiments was calculated and the results plotted in Figures 7.10 to 7.13 taking account of time that each spent on active service.[489] The four figures confirm that within each category there were differences, sometimes considerable, between regiments; the Light Brigade, as expected, suffered more losses than the Heavy Brigade; the Highland Brigade had fewer casualties then the majority of regiments involved with the siege; the casualty rate in several of the regiments that arrived during in September to December was as high as those that formed the initial invading force; while the regiments arriving during the summer of 1855 had a relatively small number of battlefield casualties.

Losses in action: In all, 3,905 officers and 93,959 men served with the Army up to 1 April 1856 of which 8.9%, 78%, 11.3% and 1.8% were in the cavalry, infantry, RA, and RS&M respectively.[490]

The proportion of officers lost to the strength for all reasons in each corps was close to the proportion of the number who served (Table 7.10, col. 5 cf. col. 9), while among NCOs and men the losses were relatively higher in the infantry than in the cavalry, RA, and RS&M (Table 7.10).

Further information on losses sustained in action is summarized in Table 7.11. The cavalry officers suffered fewer casualties overall while conversely more RE officers were killed or died of wounds than might be expected. Proportionally more NCOs and men in the infantry either died or were wounded while the losses were lower for the cavalry and RA, and to a lesser extent in the RS&M.

Adjutant General's return

The AG's return dated 7 April 1855 presumably included information received up until the fall of Sevastopol. Overall nearly a quarter (1,360 of 5,906, 23%) of officers and men sustaining a BFI died during engagement, with the proportion of those killed being higher in the cavalry and the RA and RS&M combined than the infantry, with the exception of the R&F in the RA and RS&M (Table 7.12).

489 The 71st Regiment was omitted as it was stationed at Kertch for much of the time, as were the 82nd and 92nd Regiments that arrived in the Crimea too late to participate in the fighting.

490 Details on the LTC and the British German and Swiss Legion have not been included as they were not engaged in action.

W.B. Hodge's paper

This long paper was read on 21 April 1856 and was based on what published information that was then available.[491] This included a summary of those officers and men who were killed and wounded in the battles, when on siege duties and during the assaults on Sevastopol. The totals were 4,919, 4565, and 4396 respectively, of whch 297 (6%), 154 (3.4%), and 290 (6.6%) were officers.

R.T. Thompson's paper

The analyses were based on data on officers collected from official returns published in the *LG*.[492] The majority of the 224 who died as a result of action with the enemy were killed on the field, rather than dying in hospital; and there was little to choose between field officers (Major and above) and the lower ranks (Captains and below), at 70% (32 of 46 deaths) and 73% (129 of 176) respectively.

Of the 96 fatal casualties sustained during the battles of the Alma, Balaklava and Inkerman 77 (81.2%) died on the field while the comparable proportion for the siege was lower at 66.5% (85 of 128). The total deaths as a proportion to strength for the three battles were 2.7%, 1.1%, and 4.8%, while the comparable proportions for Waterloo, Talavera, Salamanca, and Vittoria were 8.1%, 4.4%, 2.1%, and 1.7%.

Mortality from gunshot wounds

It is only possible to compare the various general hospitals during the period April-December 1855 when the ratio of deaths to admissions for the Camp General Hospital, the Castle Hospital, and those at Scutari were 184:730 (25.2%), 82:1,781 (4.6%), and 12:708 (1.7%) respectively.

The comparable figures for Scutari for September 1854 to March 1855 were 294:3,528 (8.3%), a rate that was not twice that recorded in convalescents in the Castle Hospital, viz. 4.6%. An observation that suggests that though many of these men were seriously injured and in poor physical condition, there was little evidence that any consequences of wound infection and any perceived deficiences in the Scutari hospitals

491 Hodge (1856).

492 Thompson (1857).

were not sufficiently serious to cause the death of an excessively high proportion of these patients, though they may have rendered them unfit for service, and this could have resulted in their discharge from the Army (See Chapter 9).

Outcome for wounded personnel

Maimed soldiers: A surgeon in 23rd Regiment suggested during January 1856 that men rendered unfit 'for duties of soldiers in the ranks' by minor wounds or injuries should not be discharged but redeployed on other duties, and thus spare men capable of 'all duties'. The proposition was seemingly accepted by the GOC of the Light Division,[493] although it has not been ascertained whether it became a general policy throughout the Army.[494]

The fate of NCOs and soldiers with battlefield injuries: The interval between admission and the death from wounds and mechanical injuries of 1,200 NCOs and men in the cavalry and infantry is tabulated in General Return C and summarized in Table 7.13. Over a half died within ≤3 days while nearly a tenth lingered for over a month before they did so.[495] The time taken for 4,015 of 6,359 wounded men to return to duty is summarized in Table 7.14. Nearly half (45%) were in hospital for <1 month. A small proportion (2.5%) took >3 months to recover, presumably because the majority of patients requiring a longer convalescence would have been sent elsewhere by that time in order to vacate beds in case they were needed.

The infantry suffered proportional more BFIs than the other corps (Table 7.11, col. 7) and as a consequence gunshot wounds accounted for a high proportion of those who were subsequently disabled and discharged (38%). The comparable proportions in the RS&M and RA were 30.6% and 22.4%, while for the cavalry, which had the least contact with the enemy; it was 11.2% (Table 7.15).

493 WO/28/90 & 163.

494 Hinton (2014).

495 No distinction is made between BFI and other injuries, but data suggests the majority of deaths would have followed gunshot wounds.

Summary

Gunshot wounds accounted for *c.*1 in 15 primary hospital admissions and *c.*1 in 10 of deaths.[496]

The lack of facilities during the first three months after the invasion meant that a high proportion of casualties with BFIs were evacuated to Scutari. Thereafter, most wounded men were treated in the Crimea. During the first winter the mortality rate in the Scutari hospitals did not appear excessively high suggesting that fatal complications amongst the wounded men admitted was not a serious problem.

About two thirds of BFIs occurred during the principal battles and assaults on Sevastopol, with the remaining third being sustained during the year-long siege.

Nearly a fifth of the casualties were killed, with the officers suffering relatively more fatalities than the ORs. The chances of a casualty being killed tended to be higher during the three battles than in either siege operations or assaults on Sevastopol.

It is a generally accepted fact that officers not infrequently exposed themselves to greater risks on the battle field in order to encourage their men. It would seem that this trait may also apply to NCO's.

There were no casualties on *c.*1 in 10 of siege days and no deaths on *c.*1 in 3 days. Exclusive of the three principal assaults the number casualties exceeded 100 on only two days.

There were considerable differences in the number of casualties recorded in the different regiments. This presumably reflected their involvement in action with the enemy; a topic not investigated here.

*c.*1 in 6 men admitted to hospital with a gunshot wound died, with over a half doing so within three days. About a quarter of those who survived were hospitalized for a less than a week with a fifth being discharged within a month.[497]

About a third of the men discharged from the infantry, RA, and R&SM had a gunshot wound; in contrast, only a tenth of the cavalry troopers were in this category.

496 *M&SH*, II, General Return A.

497 *M&SH*, II, p. 388 & General Return C.

Tables 7.1-7.15

Table 7.1: Management of men suffering battlefield injuries

	Battles		Siege operations		
	Alma 20 Sep. 1854	Balaklava 26 Oct. 1854	Inkerman 4 Nov. 1854	Redan 18 June 1855	Redan 9 Sep. 1855
Location for treatment					
Battlefield/front line	●	●	●	●	●
Casualty clearing stations	-	-	-	●	●
Regimental hospitals	-	●	●	●	●
General hospitals	-	?	●	●	●
Transport for casualties					
Stretchers	●	●	●	●	●
Ambulance waggons	-	?	●	●	●
Railway	-	-	-	●	●
Evacuation by sea	●	●	●	(●)	(●)

●, Utilized; (●), available if required.

Table 7.2: Numbers of NCOs and men admitted to hospitals in the Crimea and Turkey with gunshot wounds, September 1854-September 1855

Month (1854-55)	Crimea					Turkey	
	Regimental hospitals	Balaklava General	Castle*	Camp General	Monastery	Scutari hospitals	Abydos
Sep.	1560	-	-	-	-	1013	-
Oct.	280	9	-	-	-	444	-
Nov.	1748	11	-	-	-	1431	-
Dec.	192	0	-	-	-	116	43
Jan.	118	4	-	-	-	196	0
Feb.	48	4	-	-	-	33	1
Mar.	113	2	0	-	-	34	1
Apr.	307	1	107	4	-	16	3
May	313	1	52	4	-	6	0
June	1778	8	480	279	-	91	0
July	601	2	194	21	0	31	0
Aug.	1003	1	388	12	0	259	0
Sep.	1776	1	392	293	0	183	0
Total	9936	44	1613	613	0	3853	48

[Summarized from *M&SH*, I, Regimental histories, and II: General Hospital Returns 1 and III-VII]

* Principally convalescent patients.

Table 7.3: The number of casualties resulting from action with the enemy

Part A

Action	Officers		Sergeants		Drummers		Rank & File		All casualties	
	No.	%	No.	%	No.	%	No.	%	No.	%
Battles	288	5.7	305	6.0	53	1.0	4419	87.3	5065	33.3
Siege ops	185	3.4	213	3.9	20	0.4	5033	92.3	5451	35.9
Assaults	294	6.3	322	6.9	29	0.6	4028	86.2	4673	30.8
Total	767	5.0	840	5.5	102	0.7	13480	88.8	15189	100

Part B

Action	Officers		Sergeants		Drummers		Rank & File		All casualties	
	No.	%	No.	%	No.	%	No.	%	No.	%
Battles	288	37.6	305	36.3	53	52	4419	32.8	5065	33.3
Siege ops	185	24.1	213	25.4	20	19.6	5033	37.3	5451	35.9
Assaults	294	38.3	322	38.3	29	28.4	4028	29.9	4673	30.8
Total	767	100	840	100	102	100	13480	100	15189	100

[Summarized from RAMC/397/F/RM/7/17]

Table 7.4: Casualties according to rank

Rank	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Officers	177	23.1	574	74.8	16	2.1	767	100
Sergeants	163	19.4	653	77.7	24	2.9	840	100
Drummers	20	19.6	82	80.4	0	-	102	100
Rank and File	2368	17.5	10724	79.6	388	2.9	13480	100
Total	2728	18.0	12033	79.2	428	2	15189	100

[Summarized from RAMC/397/F/RM/7/17]

Table 7.5: The proportion of officers and men killed during battles, siege operations, and assaults on Sevastopol, September 1854-September 1855

Month (1854/44)	Battle field casualties (% killed in action)											
	Battles			Siege ops			Assaults			Total		
	Killed	Total	%	Killed	Total	%	Killed	Total	%	Killed	Total	%
Sep.	352	1983	17.8	-	-	-	-	-	-	352	1983	17.8
Oct.	124	509	24.4	61	380	16.1	-	-	-	185	889	20.8
Nov.	632	2573	24,6	27	151	17.9	-	-	-	659	2724	24.2
Dec.	-	-	-	59	250	23.6	-	-	-	59	250	23.6
Jan.	-	-	-	23	121	19.0	-	-	-	23	121	19.0
Feb.	-	-	-	8	42	19.0	-	-	-	8	42	19.0
Mar.	-	-	-	33	187	17.6	-	-	-	33	187	17.6
Apr.	-	-	-	106	541	19.6	-	-	-	106	541	19.6
May	-	-	-	66	366	18.0	-	-	-	66	366	18.0
June	-	-	-	98	691	14.2	391	2226	17.6	489	2917	16.8
Jul,	-	-	-	105	843	12.5	-	-	-	105	843	12.5
Aug.	-	-	-	184	1493	12.3	-	-	-	184	1493	12.3
Sep.	-	-	-	73	386	18.9	386	2447	15.8	459	2833	16.2
Total	1108	5065	21.9	843	5451	15.5	777	4673	16.7	2728	15189	18.0

[Summarized from RAMC/397/F/RM/7/17]

Table 7.6: Casualties sustained by officers during the battles and assaults on Sevastopol

Affair	Killed		Wounded		Missing		Total killed,, wounded or missing	Total in battles or assaults
	No.	%	No.	%	No.	%		
Battle of the Alma	25	25.5	73	74.5	0	-	98	281
Battle of Balaklava	12	30.8	25	64.1	2	5.1	39	
Battle of Inkerman	43	29.9	100	69.4	1	0.7	144	
Taking the Quarries	11	23.4	36	76.6	0	-	47	292
1st assault on Sevastopol	21	22.6	71	76.3	1	1.1	93	
2nd assault on Sevastopol	27	17.8	124	81.6	1	0.6	152	
Total for battles and assaults	139	24.2	429	74.9	5	0.9	573	
Siege ops (From Appendix 7.1: Table A7.1.1)	36	19.5	138	74.6	11	5.9	185	

[Summarized from RAMC/397/F/RM/7/17; see Appendix 7.2, Tables A2.1 & A2.3-8]

Table 7.7: Casualties sustained by the sergeants, drummers, and men during the battles and the assaults on Sevastopol

Affair	Killed		Wounded		Missing		All casualties (100%) for rows	Total in battles or assaults
	No.	%	No.	%	No.	%		
Battle of the Alma	327	17.4	1539	81.7	16	0.9	1882	4774
Battle of Balaklava	101	27.5	211	57.5	55	15.0	367	
Little Inkerman	11	11.5	85	88.5	0	-	96	
Battle of Inkerman	589	24.2	1778	73.2	62	2.6	2429	
Taking the Quarries	122	18.9	510	78.8	15	2.3	647	4369
1st assault on Sevastopol	237	16.6	1172	82.0	20	1.4	1429	
2nd assault on Sevastopol	357	15.6	1766	77.0	170	7.4	2293	
Total for battles and assaults	1744	19.1	7061	772	338	3.7	9143	
Siege ops (From Appendix 7.1: Tables A7.1.2-4)	807	15.3	4385	83.3	74	1.4	5266	

[Summarized from RAMC/397/F/RM/7/17; see Appendix 7.2]

Table 7.8: Minimum, maximum, and median number of casualties sustained each day during siege operations, exclusive of the three principal assaults on Sevastopol, October 1854-September 1855

Month (1854-55)	Number of casualties/day			Total casualties	No. of days with ≥50 casualties
	Minimum	Maximum	Median		
October	0	116	6	380	2
November	0	30	2	151	0
December	0	78	4	250	1
January	0	22	3	121	0
February	0	7	1	42	0
March	0	78	4	187	1
April	3	72	14.5	541	1
May	3	43	10	366	0
June	4	58	23	691	2
July	9	63	27	843	2
August	13	141	44	1493	13
September	37	63	55	386	6
Total	0	141	8	5451	28 (8.4%)/333

[Summarized from RAMC/397/F/RM/7/17]

Table 7.9: Distribution of casualties among officers and men according the number that were recorded on each day of the siege

Casualties including fatalities				Officers and men killed			
Number per day	Number of days	Proportion (%) of total	Cumulative proportion	Number per day	Number of days	Proportion (%) of total	Cumulative proportion
0	35	10.5	10.5	0	119	35.8	35.8
1-5	98	29.4	39.9	1-2	95	28.5	64.3
6-10	52	15.6	55.5	3-4	66	19.8	84.1
11-15	38	11.4	66.9	5-6	19	5.7	89.8
16-20	18	5.4	72.3	7-8	11	3.3	93.1
21-25	18	5.4	77.8	9-10	9	2.7	95.8
26-30	12	3.6	81.4	11-12	5	1.5	97.3
31-40	22	6.6	88.0	13-14	3	0.9	98.2
41-50	12	3.6	91.6	15-16	1	0.3	98.5
51-85	26	7.8	99.4	17-18	1	0.3	98.8
116	1	0.3	99.7	19-20	3	0.9	99.7
141	1	0.3	100	21	1	0.3	100
Total	333	100		Total	333	100	

[Summarized from RAMC/397/F/RM/7/17]

Table 7.10: The strength and losses in the principal corps of the Army of the East

Rank	Corps	Strength			Losses*			
		Embarked	Reinforcements	Total (%)	Deaths	Invalided	Deserters† & POW	Total (%)
Officers	Cavalry	287	140	427 (10.9)	37	144	2	183 (10.2)
	Infantry‡	1497	1498	2995 (76.7)	306	1072	8	1386 (77.5)
	RA	120	268	388 (9.9)	23	145	0	168 (9.4)
	RS&M	3	92	95 (2.4)	20	31	0	51 (2.9)
	Total	1907	1998	3905 (100)	386	1392	10	1788 (100)
Sergeants and men	Cavalry	4868	3425	8293 (8.8)	1172	920	96	2188 (6.2)
	Infantry†	43639	29660	73399 (78.1)	17302	11464	494	29260 (82.5)
	RA	3095	7628	10723 (11.4)	1483	2117	0	3600 (10.2)
	RS&M	403	1241	1644 (1.8)	241	157	4	402 (1.1)
	Total	52005	41954	93959 (100)	20198	14658	594	35450 (100)

[Summarized from Sayer (1857), endpaper]

* The total includes those killed in action and dying of wounds and disease.

† No officer deserted.

‡ The three Guards and 49 line regiments are itemized separately in the original table.

Table 7.11: Number of officers and NCOs and men that served in the cavalry, infantry, Royal Artillery, and RS&M during the Crimean campaign, together with the numbers who were killed and wounded

Rank	Corps	Total served (%)	Proportion (%) of the total who served			
			Killed in action	Died of wounds	Wounded*	Total casualties
Officers	Cavalry	427 (10.9)	9 (5.8)	4 (4.8%)	22 (5.2)	35 (5.3)
	Infantry	2995 (76.7)	125 (81.2)	73 (86.9)	362 (86.2)	560 (85.1)
	Royal Artillery	388 (9.9)	11 (7.1)	1 (1.2)	29 (6.9)	41 (6.2)
	RS&M	95 (2.4)	9 (5.8)	6 (7.1)	7 (1.7)	22 (3.3)
	Total	3905 (100)	154 (100)	84 (100)	420 (100)	658 (100)
Sergeants and men	Cavalry	8293 (8.8)	114 (4.4)	26 (1.3)	211 (2.2)	351 (2.5)
	Infantry	73399 (78.1)	2331 (89.7)	1832 (94.8)	8574 (90.9)	12737 (91.2)
	Royal Artillery	10723 (11.4)	121 (4.7)	52 (2.7)	580 (6.2)	753 (5.4)
	RS&M	1644 (1.8)	32 (1.2)	23 (1.2)	63 (0.7)	118 (0.9)
	Total	93959 (100)	2598 (100)	1933 (100)	9428 (100)	13959 (100)
The ratio of officers to men (‰)		42	59	43	45	47

[Summarized from Sayer (1857), pp. 420-3, 428-9 and the endpaper. A similar table was published in the *M&SH*, II, p. 388, though it differs in some details]

* This value was obtained by subtracting the number wounded (pp. 428-9) from the number dying of wounds (pp. 420-3).

Table 7.12: Battle field injuries recorded in a return provided by the Adjutant General, Horse Guards, April 1855

Corps	Officers			NCOs			Men (R&F)		
	Killed	Wounded*	Total (% killed)	Killed	Wounded	Total (% killed)	Killed	Wounded	Total (% killed)
Cavalry	11	21	32 (34)	14	21	35 (40)	146	181	327 (45)
RA and RS&M†	7	12	19 (37)	5	11	16 (33)	36	158	194 (19)
Infantry	64	186	250 (26)	62	236	298 (21)	1006	3698	4704 (21)
Staff	9	22	33 (29)	Not applicable			Not applicable		
Total	91	241	332 (27)	81	268	349 (23)	1188	4037	5225 (23)

[Adapted from BPP (1854-55), No. 204: Adjutant General Officer, Horse Guards, 7 April 1855]

* The numbers who died of wounds was given for officers only, and this data has been omitted.

† These Corps were entered separately but the as the numbers involved were relatively small they have been combined.

Table 7.13: Time to death from fatal wounds and mechanical injuries

Days to death	Corps			Total	
	Cavalry	Guards	Infantry	Number	%
<1	4	1	160	165	13.7
1-3	6	23	306	335	27.9
4-6	0	10	142	152	12.7
7-13	1	19	197	217	18.1
14-20	1	21	93	115	9.6
21-27	2	7	45	54	4.5
28-34	1	11	49	61	5.1
35-41	1	4	21	26	2.2
≥42	4	12	59	75	6.2
Total	20	108	1072	1200	100

[*M&SH*, II, General Return C]

Table 7.14: Length of time taken of NCOs and men to return to duty after treatment for wounds

	Period of treatment								
	≤ 1 week	<1 month	<2 months	<3 months	<4 months	<5 months	<6 months	>6 months	Invalided*
Number treated	1476	1408	709	263	101	40	11	7	2344
Proportion (%)	23.2	22.1	11.1	4.1	1.6	0.6	0.2	0.1	36.9

[Adapted from the *M&SH*, II, p. 388]

* This figure was obtained by difference; by making the assumption that patients not returning to duty would been repatriated or sent elsewhere to convalesce.

Table 7.15: Proportion of NCOs and men disabled and discharged the service for gunshot and incised wounds

Reason for disablement or discharge	Cavalry		Infantry		Royal Artillery		RS&M	
	Total	%	Total	%	Total	%	Total	%
Gunshot wound	56	11.2	1942	38.0	101	22.4	9	30.6
Incised wound	19	3.8	11	0.2	0	-	0	-
Other reasons	426	85.0	3164	61.8	350	77.6	43	69.4
Total	501	100	5117	100	451	100	62	100

[Summarized from the *M&SH*, II, pp. 241-245]

Figures 7.1-7.13

Figure 7.1: Admissions of NCOs and men with wounds or injuries to regimental hospitals, September 1854-April 1855

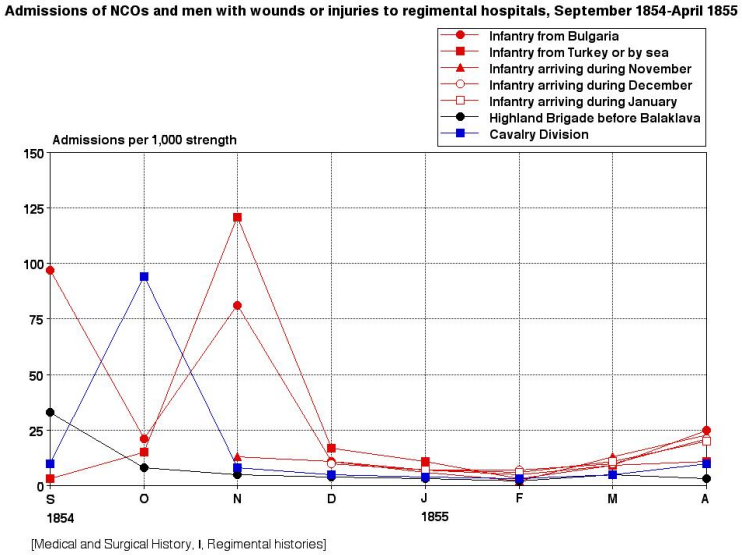


Figure 7.2: Number of NCOs and men admitted to hospital with, or died from, gunshot wounds, April 1854-June 1856

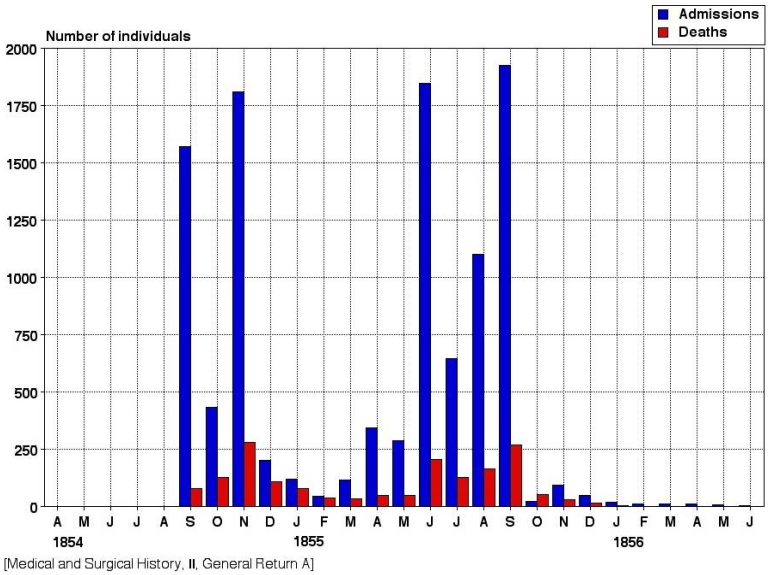
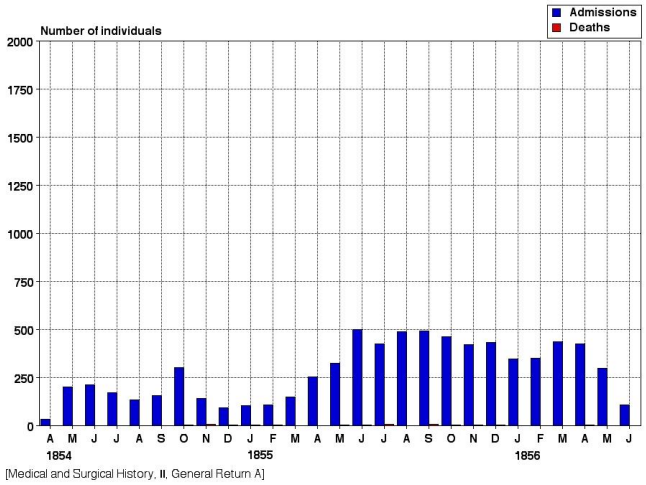
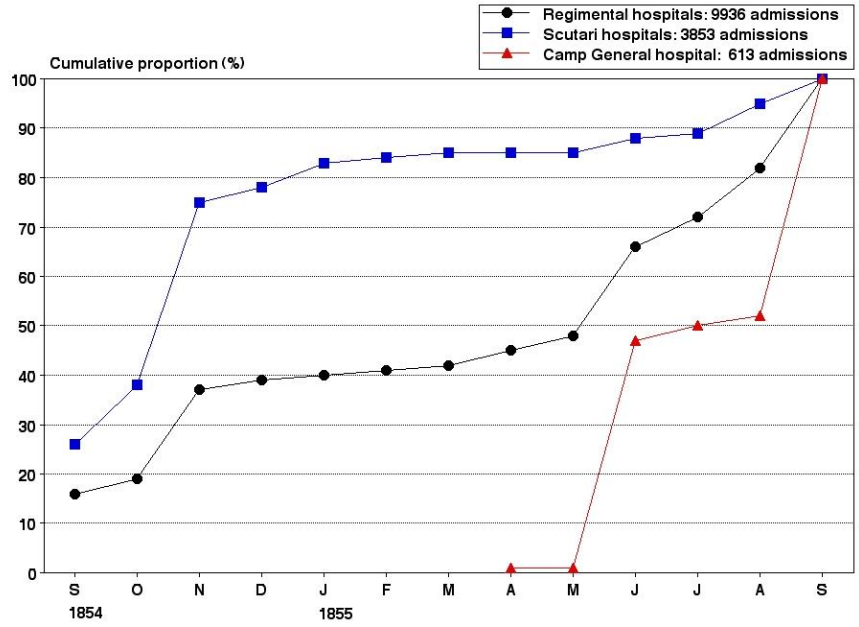


Figure 7.3: Number of NCOs and men admitted to hospital with, or died from, wounds and injuries, other than those caused by gunshots, April 1854-June 1856



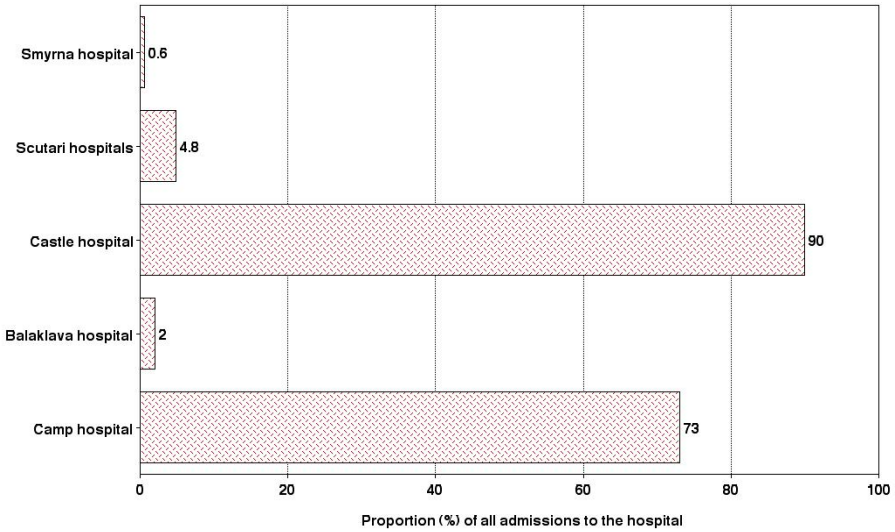
[Medical and Surgical History, II, General Return A]

Figure 7.4: Admission of NCOs and men to hospitals in the Crimea and Turkey with gunshot wounds, September 1854-September 1855



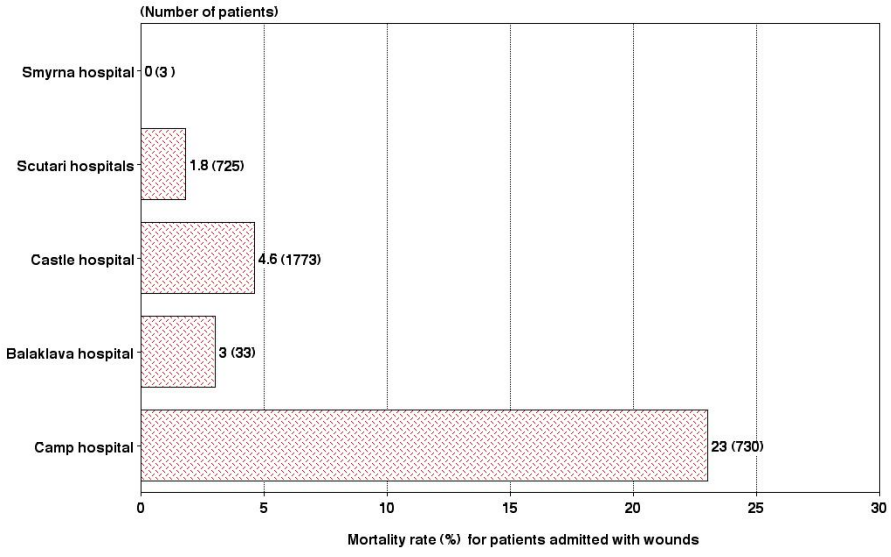
[Medical and Surgical History 1: Regimental histories, and II: General Hospital Returns 1 and V]

Figure 7.5: Admission of NCOs and men with wounds to five general hospitals, April-November 1855



[Medical and Surgical History, II, General Hospital Returns I, III, IV, V and VIII]

Figure 7.6: Deaths among NCOs and men with wounds in five general hospitals, April-November 1855



[Medical and Surgical History, II, General Hospital Returns I, III, IV, V and VIII]

Figure 7.7: Casualties sustained during action with the enemy each week during the Crimean campaign

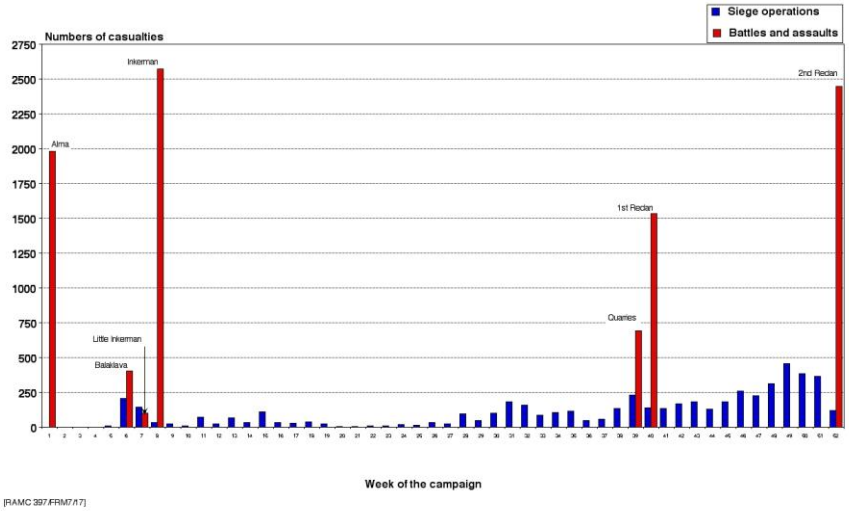


Figure 7.8: Casualties sustained each week during siege operations, October 1854-September 1855

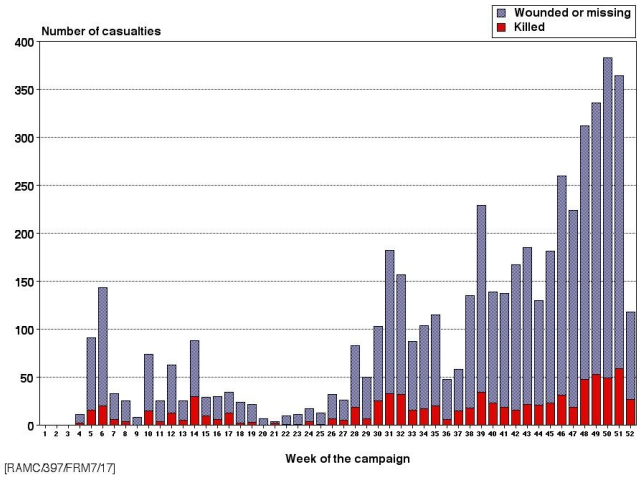
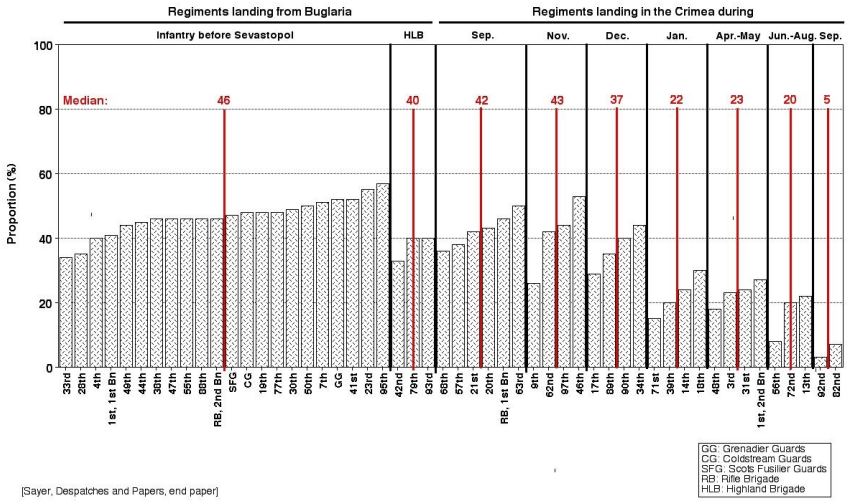
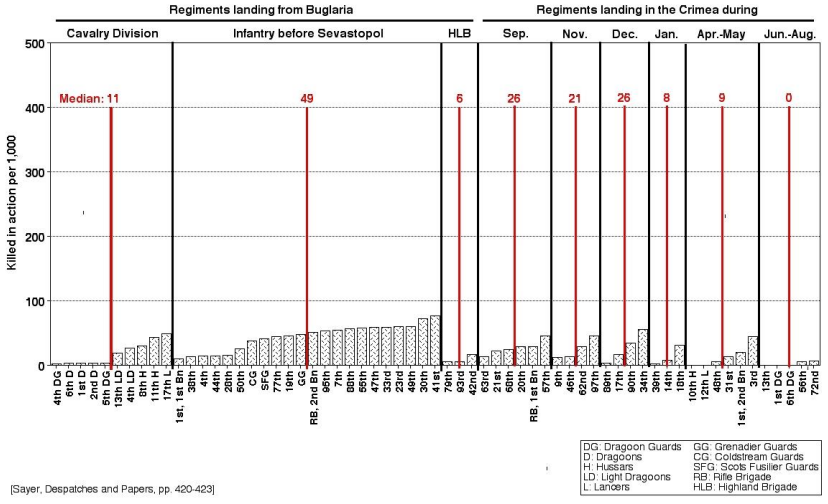


Figure 7.9: Losses of NCOs and men in infantry regiments during the Crimean campaign from all causes of death or by invaliding as a proportion (%) of the total number who served



[Sayer, Despatches and Papers, end paper]

Figure 7.10: Number of NCOs and men killed in action per 1,000 men who served with the regiment during the Crimean campaign



[Sayer, Despatches and Papers, pp. 420-423]

Figure 7.11: Number of NCOs and men dying of wounds per 1,000 men who served with the regiment during the Crimean campaign

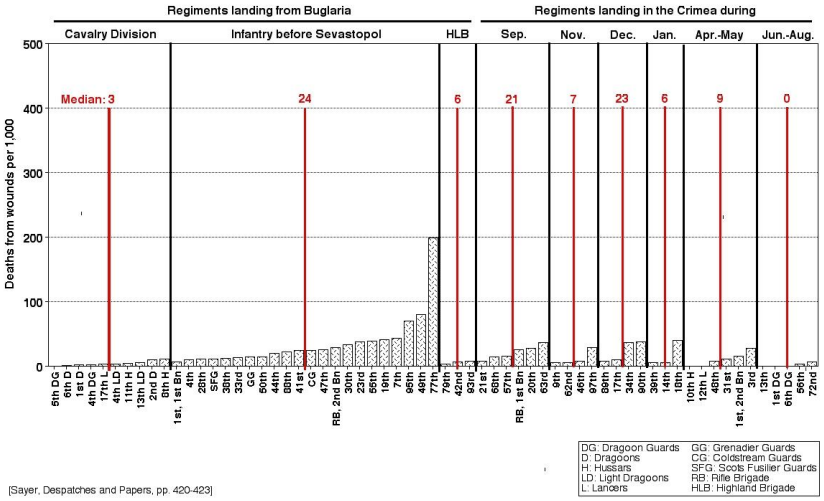


Figure 7.12: Number of NCOs and men killed in action and dying of wounds per 1,000 men who served with the regiment during the Crimean campaign

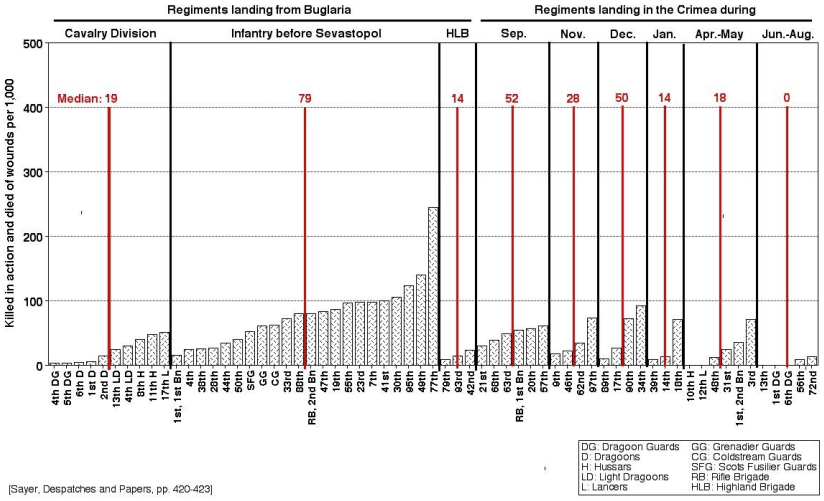
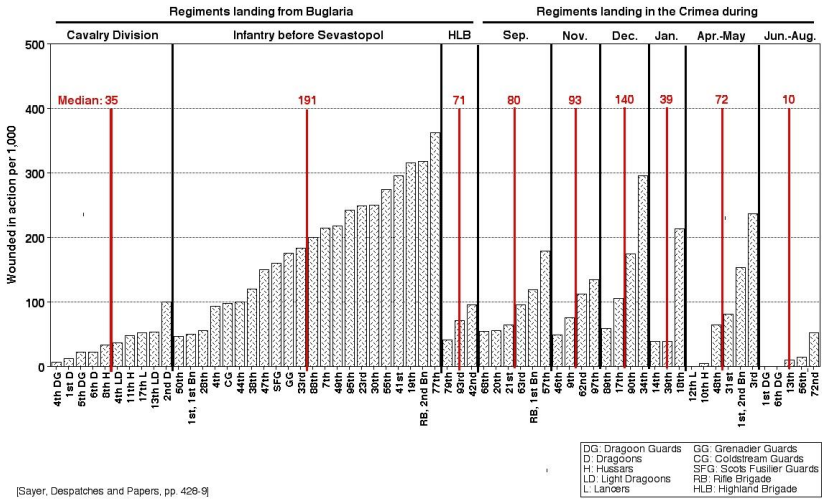


Figure 7.13: Number of men wounded in action per 1,000 men who served with the regiment during the Crimean



[Sayer, Despatches and Papers, pp. 428-9]

Appendix 7.1-7.2

Appendix 7.1: Casualties sustained by officers, sergeants, drummers, and rank and file sustained during the principal battles, siege operations, and assault on Sevastopol

The data were summarized from a copy of the daily returns of battlefield casualties prepared by the AG department and preserved among Hall's papers.[498]

Table A7.1.1: Casualties among officers

Part A								
Action	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Battles	80	45.2	205	35.7	3	18.75	288	37.6
Siege ops	36	20.3	138	24	11	68.75	185	24.1
Assaults	61	34.5	231	40.3	2	12.5	294	38.3
Total	177	100	574	100	16	100	767	100

Part B								
Action	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Battles	80	27.8	205	71.2	3	1.0	288	100
Siege ops	36	19.5	138	74.6	11	5.9	185	100
Assaults	61	20.7	231	78.6	2	0.7	294	100
Total	177	23.1	574	74.8	16	2.1	767	100

Table A7.1.2: Casualties among sergeants

Part A								
Action	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Battles	66	40.5	231	35.4	8	33.3	305	36.3
Siege ops	36	22	173	26.5	4	16.7	213	25.4
Assaults	61	37.5	249	38.1	12	20	322	38.3
Total	163	100	653	100	24	100	840	100

Table A7.1.2: Continued

Part B								
Action	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Battles	66	21.6	231	75.8	8	2.6	305	100
Siege ops	36	16.9	173	81.2	4	1.9	213	100
Assaults	61	19.0	249	77.3	12	3.7	322	100
Total	163	19.4	653	77.7	24	2.9	840	100

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Table A7.1.3: Casualties among drummers

Part A								
Action	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Battles	10	50	43	52.4	0	-	53	52
Siege ops	3	15	17	20.8	0	-	20	19.6
Assaults	7	35	22	26.8	0	-	29	28.4
Total	20	100	82	100	0	-	102	100

Part B								
Action	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Battles	10	18.9	43	81.1	0	-	53	100
Siege ops	3	15	17	85	0	-	20	100
Assaults	7	24.1	22	75.9	0	-	29	100
Total	20	19.6	82	80.4	0	-	102	100

Table A7.1.4: Casualties among rank and file

Part A								
Action	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Battles	952	40.2	3342	31.2	125	32.2	4419	32.8
Siege ops	768	32.4	4195	39.1	70	18	5033	37.3
Assaults	648	27.4	3187	29.7	193	49.8	4028	29.9
Total	2368	100	10724	100	388	100	13480	100

Table A7.1.4: Continued

Part B								
Action	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Battles	952	21.5	3342	75.6	125	2.8	4419	100
Siege ops	768	15.3	4195	83.3	70	1.4	5033	100
Assaults	648	16.1	3187	79.1	193	4.8	4028	100
Total	2368	17.5	10724	79.6	388	2.9	13480	100

Appendix 7.2: Numbers of officers and men who were killed, wounded, or reported missing during the principal engagements with the enemy

The tables were transcribed from Hall's unpublished memoirs,[499] which themselves are based on data in the AG's Ledger.

Table A7.2.1: Casualties sustained during the battle of the Alma, 20 September 1854

Personnel	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Officers	25	25.5	73	74.5	0	-	98	100
Men	327	17.4	1539	81.7	16	0.9	1882	100
Total	352	17.8	1612	81.4	16	0.8	1980	100

Table A7.2.2: Casualties sustained during the opening of the bombardment of Sebastopol, 17 October 1854

Personnel	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Officers	1	50	1	50	0	-	2	100
Men	20	17.5	94	82.5	0	-	114	100
Total	21	18.1	95	81.9	0	-	116	100

499 RAMC/397/F/RT/2 and WO/33/3B.

Table A7.2.3: Casualties sustained during the battle of Balaklava, 25 October 1854

Personnel	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Officers	12	30.8	25	64.1	2	5.1	39	100
Men	101	27.5	211	57.5	55	15.0	367	100
Total	113	27.8	236	58.2	57	14.0	406	100

Table A7.2.4: Casualties sustained during the sortie from Sebastopol (Little Inkerman), 26 October 1854

Personnel	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Officers	0	-	7	100	0	-	7	100
Men	11	11.5	85	88.5	0	-	96	100
Total	11	10.7	92	89.3	0	-	103	100

Table A7.2.5: Casualties sustained during the battle of Inkerman, 5 November 1854

Personnel	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Officers	43	29.9	100	69.4	1	0.7	144	100
Men	589	24.2	1778	73.2	62	2.6	2429	100
Total	632	24.6	1878	73.0	63	2.4	2573	100

Table A7.2.6: Casualties sustained during the taking of the Quarries, 7/8 June 1855

Personnel	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Officers	11	23.4	36	76.6	0	-	47	100
Men	122	18.9	510	78.8	15	2.3	647	100
Total	133	19.2	546	78.7	15	2.1	694	100

Table A7.2.7: Casualties sustained during the first assault of the Redan, 18 June 1855

Personnel	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Officers	21	22.6	71	76.3	1	1.1	93	100
Men	237*	16.6	1172†	82.0	20	1.4	1429	100
Total	258	17.0	1243	81.7	21	1.3	1522	100

* & † Includes 7 and 42 additional casualties at night.

Table A7.2.8: Casualties sustained during the second assault of the Redan, 8 September 1855

Personnel	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Officers	27	17.8	124	81.6	1	0.6	152	100
Men	357	15.6	1766	77.0	170	7.4	2293	100
Total	384	15.7	1890	77.3	171	7.0	2445	100

Table A7.2.9: Casualties sustained during the explosion of the Right Attack magazine, 15 November 1855

Personnel	Killed		Wounded		Missing		All casualties	
	No.	%	No.	%	No.	%	No.	%
Officers	1	16.7	5	83.3	0	-	6	100
Men	19	13.6	114	81.4	7	5.0	140	100
Total	20	13.7	119	81.5	7	4.8	146	100

Chapter 8
Evacuation of sick and wounded from the Crimea to Turkey

The conveyance of the wounded from the front line and the evacuation of the sick and wounded from the Crimea to Turkey and further afield posed a challenging logistical problem that was not addressed adequately by the government and military authorities either before the invasion or during the weeks that followed, despite timely warnings from the DG of the AMD.

The consequences of this oversight soon became apparent when details of the management of the wounded after the battle of the Alma, and the voyages to Turkey involving the *Kangaroo*, *Dunbar*, *Colombo*, *Trent*, and *Avon* were publicised by the press. Much unwarranted criticism for these catastrophes was laid at the door of the AMD; a matter that naturally annoyed Smith, Hall and their colleagues and which serves to illustrate a general lack of understanding of how an army on campaign functioned. The ultimate authority resided with C.-in-C., with administration being undertaken by the AG, QMG, GOC Divisions, CRA, and CRE, and their respective staff officers. The AMD, on the other hand, had no executive authority and was dependent on cooperation from the military authorities to achieve many of its objectives, whether these were the movement of patients, the provision of hospitals and orderlies to serve in them, or the evacuation of patients by sea.

Initial planning and further developments

Smith intimated to the War Office as early as 18 February 1854 the need for an Ambulance Corps (AC), but comprising fit men and not pensioners given his experience of invaliding 20,000 men when at Chatham.[500] In contrast, Raglan's Military Secretary (Lieutenant Colonel Steele) asked the Deputy Secretary on 30 March to enlist pensioners for an AC.[501] The next month Smith proposed 800 able-bodied men should be recruited to serve as ambulance drivers, stretcher-bearers, and hospital orderlies thus

500 BPP (1854-55), No. 156, pp. 411-2. It was referred to as the Hospital Conveyance Corps in other documents.

501 Presumably based on advice given by Tulloch, 30 Mar. 1854; BPP (1856), No. 2007, p. 194.

relieving bandsmen and fighting men from these duties,[502] but Hardinge was not prepared to reduce the strength of regiments and Smith's advice was ignored.

A scheme to form a corps in Bulgaria employing native personnel came to nothing and a unit of *c.*370 pensioners was subsequently raised along the lines suggested in Steele's letter. The men arrived in Bulgaria in July 1854 but proved unsatisfactory from the start because they were ill-equipped and most were considered too old and unfit for heavy duties. In addition, disease, particularly cholera, soon thinned their ranks.[503]

Before the invasion Hall recommended to Raglan that each infantry regiment should have one spring ambulance waggon and 32 stretcher bearers, the Cavalry Division four waggons and 48 bearers, and the Artillery four waggons (one per battery) and 48 bearers.[504] In the event these requirements were not met and the Army landed without a single functional ambulance waggon,[505] an omission that had serious consequences during the first weeks thereafter.

Raglan subsequently admitted that the 'Ambulance Corps, hastily raised on a limited scale, had proved a failure,'[506] while the Roebuck Committee acknowledged that Smith's recommendations for its constitution had been ignored, and concluded that the 'entire failure of this corps and the consequent sufferings of the army are abundantly proved.'[507]

The design of the ambulance waggons used initially proved unsatisfactory and the conveyance of invalids continued a serious problem throughout the first winter, especially as the deterioration of the roads from November precluded the use of wheeled transport. Matters began to improve when the railway came into use during

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502 Cantlie (1974), II, pp. 33-4 and Shepherd (1991), pp. 37-8 & 79. The Hospital Commissioners subsequently recommended the Corps should comprise 'carefully selected men in the prime of life' and […] should include 'wheelwrights, farriers, harness-makers, and other artisans;' BPP (1854-55), No. 1920, p. 5.

503 For summaries on the development and performance of the AC see a memorandum by Tulloch BPP (1856), No. 2007, pp. 194-6 and Longmore (1869), pp. 36-40.

504 For the text see *The Times*, 20 Sep. 1854; BPP 1854-55, No. 1920, pp. 55-7, and Cantlie (1974), II, pp. 37-42 & 46-67.

505 An army staff officer ordered the vehicles etc. to be disembarked to make room for troops; BPP (1857-58), No. 2318, p. xlviii and *M&SH*, II, p. 253

506 Raglan to Panmure, 30 Jan. 1855; WO/33/1/17/55.

507 BBP (1854-55), No. 318, p. 18.

April 1855, and eventually better equipment was supplied, including lighter sprung waggons and cacolets.[508]

There was no provision for a field ambulance section in the MSC (See Chapter 4), much to Smith's disappointment,[509] and, after plans to reorganize Corps were formulated during 1885 it was finally integrated into the LTC as an Ambulance Service on 31 December,[510] with a proportion of the ambulance waggons forming part of the transport allocated to Divisions.[511]

Smith also appreciated the need for hospital transports and on 10 February 1854[512] and again on 4 April 1854 he proposed formally to the Military Secretary that:

> The welfare of sufferers and of the Army will require those disabled by wounds or sickness should be removed from the vicinity of the conflicting forces. Ships, therefore, should be liberally provided, some for carrying to England, or elsewhere, men not likely to be soon available for further service; others in use in harbour, as floating hospitals. The ships […] should be commodious steamers, high between decks, thoroughly ventilated, and having fixed berths.[513]

Smith wrote again to the Military Secretary on the same topic on 11 May,[514] but received no reply,[515] although Newcastle did forward a copy of the letter to Raglan, but not until 13 July, with the suggestion that he should confer with Admiral Boxer on the subject. [516] It is probable that Smith's intial request was not passed to the Admiralty since the Roebuck Committee was informed on 27 April 1855 that no requisition had been received from the military authorities, but if it had been, 'steps would have been taken to have had hospital ships fitted up.'[517] Cantlie suggested that fault on this

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508 Cacolets comprise two chairs attached on each side of a pack saddle which is placed on the back of a mule or horse in order to carry the sick and wounded across rough terrain. See *ILN*, 27 Jan. 1855.

509 Smith pointed out to the Military Undersecretary on 16 Mar. 1855 that 'many of the wounded are carried off the field by bandsman and drummers' and that this 'arrangement has proved woefully deficient;' *PoL*.

510 General Order, 28 Dec. 1855.

511 For discussion see Cantlie(1974), II, pp. 71-2 & 146-7 and Shepherd (1991), p. 79

512 *PoL*.

513 Smith to Military Secretary, 4 Apr. 1854; RAMC/397/F/CO2/7 (Manuscript) and RAMC/524/14/2 (Typescript).

514 *PoL*. Full text in BPP (1854-55), No. 156, pp. 415-6 and *The Lancet*, 28 July 1855. The annotation 'pressing' was included by *The Lancet*, but not in the official report.

515 BPP (1854-55), No. 156, p. 416.

516 WO/6/69-118-9.

517 BPP (1854-55), No. 218, p. 279.

occasion must have resided with the Military Secretary, Hardinge, or Newcastle.[518] Newcastle, however, claimed that he knew nothing of Smith's letters of 4 April and 11 May,[519] while Smith later received support from Kinglake:

> When as early as the 11th May 1854 the Director General submitted to Horse Guards in writing a well considered plan for removing sick and wounded by appropriating beforehand due means of sea transport, and showed need of stationing in convenient ports ships prepared for reception of patients, his appeals were unanswered and apparently provoked no attention.[520]

The need for hospital ships was appreciated by the Royal Navy and HMS *Belleisle* was equipped for service with the Baltic Fleet at the beginning of March 1854.[521] In view of this initiative it is surprising that the military authorities and the government failed to heed Smith's timely advice, and this inevitably contributed to the terrible problems encountered while evacuating of the sick and wounded during the first months of the campaign.[522]

In the event vessels were 'told off' to evacuate invalids from the Crimea on an ad hoc basis until mid-December when a number of steamers were selected to provided a shuttle service across the Black Sea, a policy which remained in place until the end of the campaign.

Transfer of patients from camp to Balaklava

Management systems for transferring patients from the camps to Balaklava, a distance of six miles or more along poorly constructed roads, were inadequately developed during the early months. Not surprisingly things did not always run smoothly, and Raglan choose to admonish the AMD for some of the problems that arose, rather than the military authorities who rightly should have shouldered most of the blame, as correspondence summarized in Table 8.1 attests.

Shortly after the invasion Dumbreck, who was deputizing for Hall while at Scutari, was severely reprimanded by way of a General Order on 11 October,[523,] without any properly constituted inquiry having taken place. Briefly, a verbal order

518 Cantlie (1974), II, pp. 54-5.

519 BPP (1854-55), No. 218, pp. 136-7.

520 Kinglake (1891), p. 49.

521 *The Times*, 4 Mar. 1854 and *The Lancet*, 13 May 1854.

522 The topic was addressed by Cantlie (1974), II, pp. 21 & 54-5.

523 WO/28/49 and *The Times*, 28 Oct. 1854.

from Dumbreck did not reach the PMO, Balaklava[524] with the consequence that nothing had been prepared for invalids when they arrived during inclement weather. Raglan accused the PMO of 'gross neglect', which was hardly fair given he had not received the message, and not surprisingly Dumbreck, who was enjoined to give written orders in future 'was affronted' as he argued with justice, 'that it was customary to give verbal orders in the army, even at the highest level.'[525, 526]

The decision to publish this Order was taken without consulting Hall, which was a gross breach of etiquette if nothing else, revealed that Raglan 'appeared to show scant appreciation of the transport conditions.' It was, however, erroneous of Shepherd to suggest 'there was nothing to suggest that […] Raglan saw fit to investigate the reasons for the defects of the system'[527] since he ordered that future conveys of sick should be accompanied by an MO and a DAQMG, who was to ensure arrangements were made for the reception of the invalids, and that the 'ticket' that should accompany each invalid was given to the MO on the ship.[528]

The authorities in Balaklava were required to inform headquarters of the accommodation available for invalids by the evening of each day so that the AG and QMG could arrange for Divisions to send down the appropriate number the next day, and for MOs to be selected by Hall. This system was not foolproof, however, and on occasions invalids arrived without notice, or too late in the day to be dealt with before nightfall, or when there was no ship available on which for them to embark (see Table 8.1).

Panmure subsequently asked Raglan why these problems had not been addressed, and, inter alia, he held the QMG responsible for neglecting to construct a suitable road between the camp and port.[529] It is inconceivable that the AG and QMG were unaware of their responsibilities but the following exchange made in July 1855 indicate that matters were not entirely resolved even by that time:

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524 Dr Tice, although he was not named in the Order.

525 Shepherd (1991), pp. 160-1.

526 The incident was reported in *The Times*, 28 Oct. and this provoked a strong reaction in support of the AMD from the editor of *The Lancet*, 4 Nov. 1854.

527 Shepherd (1991), p. 160.

528 General Order, 11 Oct. 1854 and AG to Commandant, Balaklava, 17 Feb. 1855; WO/28/108. A General Order of 8 Jan. 1855 instructed that patients sent to hospital should be issued with a prescribed form of admission ticket available from the Purveyors.

529 Panmure to Raglan, 12 Feb. 1855; WO/33/1/13/55.

> QMG: We must come to some arrangement and notification about sick going down. Some day, if I am not before hand informed, that boats etc. are required, there will be some disaster. The boats, fatigue parties etc. are told off for duty over night. Sick coming unexpectedly down is very embarrassing.
>
> AG's response: As soon as vessels have been reported our sick may be expected daily so long as there are vessels to receive them. It is a daily business. […] The numbers carried down by the cavalry vary certainly but not very much. 70 or 80 are the most they convey. We now know precisely how many horses the cavalry will send up. The other modes of conveyance have increased of late […] Some 20 men per diem may be counted in by those individual exertions of divisions. In cases the cacolets for men, being extra conveyance, we always give ample notice. The daily duty of the ordinary cavalry description is one which never ceases so long as there are ships.[530]

The twelve ambulance waggons employed at Inkerman proved of the 'greatest use' but they were insufficient to convey the wounded to Balaklava,[531] and assistance had to be sought from the French,[532] although the numbers involved meant that the process still took some time.[533]

Clearly the AC did not come up to expectations for several reasons, one of which was that many of the men were former infantry soldiers who knew little about handling horses, while the lack of smiths, farriers, and wheelwrights meant that damaged vehicles could not be repaired readily.[534] The animals also became 'knocked up',[535] and many perished,[536] while the theft of transport cattle rendered the ambulance arabas at Headquarters inoperable as they could not be immediately replaced.[537] Surprisingly, perhaps, Hall's request to use buffaloes a few months later for a 'want of horses' was refused.[538]

After Inkerman, Hall requested that spare Commissariat waggons should be used to convey the sick,[539] and, although Raglan was in favour it proved unworkable because of the need to supply rations with the limited transport the Commissariat had

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530 QMG to AG, 9 July 1855 and reply; WO/28/195.

531 Hall expressed regret of not having the forty originally brought from England; Cantlie (1974), II, p. 77.

532 Hall to Smith, 7 Nov. 1855; RAMC/397/F/CO/1/1/876; *PoL*; W&SHC/2057/F8/III/B/317 (Copy).

533 Special Correspondent, 12 Nov. 1954; *ILN*, 9 Dec. 1854.

534 BPP (1854-55), No. 1920, p. 5.

535 Hall to QMG, 19 Nov. 1854; RAMC/397/F/CO/1/1/934; WO/28/196; BPP (1856), No. 2007, p. 161; BPP (1857-58), No. 2379, p. 103.

536 *M&SH*, I, p. 301.

537 Hall to QMG, 29 Nov. 1854; RAMC/397/F/CO/1/4/975 and WO/28/196. Another problem in this regard was the slaughter for human consumption of bullocks used to tow the hospital waggon; Williams, '*Letters*', 1 Oct. 1854.

538 Hall to QMG, 3 Feb. 1855; WO/28/140 and 176.

539 Hall to QMG, 5 Nov. 1854; RAMC/397/F/CO/1/1/865 and WO/28/196.

available.[540] In December RA waggons and horses were employed to assist with relieving the sick list,[541] but this was not sufficient, and Hall was placed in the humiliating position of having to 'get a loan of the French ambulance' because he had no alternative 'as relief is now of the most vital importance [and] we shall be glad to avail ourselves of it.'[542] And just as well perhaps, as one surgeon opined on 12 December that if it had not been for the 'French Ambulance not a single man could be moved from the camp. The famous ambulance carriages [having] long since stopped work.'[543] In addition, some sick were carried to the port by regimental bât horses, officers' chargers, and cavalry horses,[544] with the involvement of the Cavalry Division being authorized officially when it was ordered early in 1855 to 'furnish horses daily until further orders to carry sick to Balaklava.'[545]

The roads became generally impassable to wheeled transport when the weather deteriorated during November, and it is then that the cacolets of the French came into their own. Hall informed Smith that mules fitted with packsaddles, chairs and reclining litters, were needed,[546] and this was also recommended by the Hospital Commissioners with the additional proviso that 'light vehicles like Irish jaunting cars to transport invalids' and ambulance waggons 'lighter than those sent out' should also be provided.[547] When Smith appreciated the circumstances he placed an order for '200 litters, 200 chairs, and 210 pack saddles be sent as soon as possible,' with the caveat: 'they should be sent when half the order is filled.'[548] Hall informed the QMG when he heard of this,[549] although this equipment did not arrive until the summer.

On receipt of a request from Smith dated 22 December Hall convened a committee comprising himself and three Divisional PMOs to consider the performance of the available ambulance conveyance. They were generally in favour of the French

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540 Medical Department Memorandum, 25 Nov. and PMO, 4th Division to Hall, 26 Nov. 1854; BPP (1857-58), No. 2379, pp. 162-3.

541 Medical Department Memorandum, 9 Dec. 1854; RAMC/397/F/CO/1/3.

542 Hall to PMO, Light Division, 5 Dec. 1854; BPP (1857-58), No. 2379, pp. 107 & 148.

543 Bostock (1897), pp. 213-4.

544 Evidence to the Supplies Commissioners; BPP (1856), No. 2007, pp. 115, 145 & 383.

545 AG to GOC, Cavalry Division, 19 Jan. 1855; WO/28/108.

546 Hall to Smith, 20 Dec. 1854; RAMC/397/F/CO/1/1/1148; *PoL*; BPP (1856), No. 2007, pp. 169-70.

547 BPP (1854-55), No. 1920, pp. 5-6.

548 A totoal of 122 pairs of litters, 74 pairs of chairs, and 55 cars were sent to the East in 10 vessels between 7 Apr. and 25 Aug. 1855; Store Department, Pall Mall to Smith, 7 Sep. 1855, *PoL*.

549 Smith to Ordnance Office, 16 Jan. 1855; *PoL* and Hall to QMG, 5 Feb. 1855; RAMC/397/F/CO/1/1/1396.

mule cacolets, although there was a tendency for them to sway, and there was risk of the animals stumbling or falling. The wheeled waggons available were considered too heavy, especially on poor roads after rain, and they recommended the ample provision of lighter waggons drawn by two horses for two men reclining, and Bianconi cars for patients who can sit.[550] They also stressed that men operating the service should have knowledge of horses as there were few effective drivers and not one who could shoe a horse or repair a damaged waggon.[551]

When military activity increased during the spring Hall found it necessary to call the QMG's attention to:

> the state of the ambulance wagons […] In the event of an engagement with the enemy we have not a single ambulance wagon efficient, and beyond canvas bearers no means of carrying the wounded off the field, and to have them exposed at this season would seal their doom.[552]

It is understandable that Hall should have taken such a pessimistic view given that at the end of May the AC could only muster transport for 308 patients, and then only if unsuitable waggons or those out of repair were included (Table 8.2). The French Army, in contrast, provided 250 mule seats and five vans for each 10,000 men.[553]

Following a request from Panmure[554] a Committee comprising Hall and an officer from the RA and LTC was convened and their recommendations included, inter alia, an 'extension of the mule litter and chair and Irish car conveyance' and the provision of a 'lighter […] spring carriage on four wheels for […] four wounded men in recumbent posture.' The Committee also concluded that 'mixed conveyance for reclining and sitting patients [was] objectionable' and that the limit for any conveyance should be two to four.'[555] This report, and associated documents, was forwarded to London together with a summary by Raglan:

> It is difficult to fix on the most eligible form of hospital carriage, so many different opinions existing on it. The carriage should be light with four wheels, with a canopy and curtain overhead. It should only contain four men, and there should be a space underneath for their accoutrements and packs. It should be drawn by two horses abreast.[556]

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550 The passengers were seated on benches arranged along the side of the carriage with them looking outwards.

551 Hall to Smith, 20 Jan. 1855; RAMC/397/F/CO/1/1/1350 and WO/1/374/313 (Copy).

552 Hall to QMG, 11 Feb. 1855; RAMC/397/F/CO1/1/1424.

553 *North Wales Chronicle*, 4 Nov. 1854, quoting the *Spectator*.

554 Panmure to Raglan, 7 May 1855; WO/6/70/111.

555 Hall to AG, 25 May 1855; RAMC/397/F/CO/1/2/2177 and WO/1/374/313 (Copy).

556 Raglan to Panmure, 4 June 1855; WO/1/374/313.

Fortunately the British forces had no further major contact with the Russian field army,[557] and just as well perhaps, because even after the fall of Sevastopol Hall concluded that the Corps was still 'imperfectly organized and would not work well if the Army was to take the field.' The AC was eventually subsumed into the LTC on 31 December 1855, and from then on it was involved essentially on garrison duty.

The AC was under the control of the QMG initially and MOs had to apply to his staff for transport to be provided. Inevitably this layer of bureaucracy was considered unsatisfactory by Smith who considered that divisional PMOs were the best judge of an invalid's needs, and should be able to apply directly for ambulances without reference to an AQMG.[558]

Panmure subsequently instructed that this policy should be adopted,[559] and when Hall heard he also stressed that 'the demands made by the Inspectors of Hospitals on the Ambulance branch […] should be attended to without reference to any other authority.'[560] The matter was finally concluded when the AG ordered that requisitions for medical conveyance signed by a 'superior' MO could be sent direct to the Divisional Transport Officer without reference to the AQMG.[561]

Hall also considered that it 'would be advantageous to have a due proportion of the ambulance attached to each Division, such an arrangement will have to be made if the Army takes to the field, and perhaps it will be as well to have it carried into effect at once.'[562] The DG of the LTC agreed with this, but only when staffing levels permitted.[563]

It was the responsibility of regimental surgeons to ensure that 'no men unable to bear removal are sent away,'[564] while Raglan desired that 'great care be taken that the whole of this service be well performed.'[565] The PMOs were enjoined to ascertain that there

557 The British Army was not involved in the battle of the Tchernaya.
558 Smith to Military Secretary, 17 & 31 July 1855; *PoL*.
559 Panmure to Simpson, 11 Aug. 1855; WO/6/71/88.
560 Hall to Military Secretary, 26 Aug. 1855; RAMC/397/F/CO/1/2/3000.
561 AG, Memorandum, 3 Sep. 1855; WO/28/175.
562 Hall to Military Secretary, 26 Aug. 1855; RAMC/397/F/CO/1/2/3000.
563 Memorandum prepared by the DG, LTC, 31 Aug. 1855; WO/28/175.
564 PMO, 4th Division to Regimental Surgeons; BPP (1857-58), No. 2379, p. 170.
565 AG to Sir J. Campbell, 13 Dec. 1854; BPP (1857-58), No. 2379, p. 166.

was room for patients in the Hospital before applying for transport from camp,[566] while the Commandant at Balaklava made the important, and seemingly obvious request: 'Unless a distinction is made […] between the sick and wounded it is impossible to make the necessary arrangements for the conveyance of the wounded to the sanatorium, each wounded man requiring five men to carry him up to the hospital.'[567]

The ever practical Hall ordered that the men should have breakfast before departure and take their blanket and great coat with them. The accompanying MO was to carry restoratives (spirits and wine) and a small cup,[568] while the AG specified that three fatigue men were required to place a man on a mule, one to hold the opposite side of the litter, and two to lift the sick man.[569] Incidentally, some months later an MO commented on his role in this duty:

> Our […] wounded [are sent] to Balaclava in […] ambulance carts [with] an assistant surgeon […] We rather like the job as it saves us trench duty. [...] It is drawn by four mules and the surgeon rides alongside clears the road of Turkish donkey carts and uses his authority in monopolising the whole road.[570]

Towards the end of 1854 the men evacuated to Scutari were 'ragged and destitute of clothing' despite there being 'a quantity of warm clothing in Balaklava.'[571] This was confirmed by the Commandant there who noted that the patients were 'lousy and naked.'[572] In order to rectify this problem the AG instructed that the sick should take their knapsacks with them, and if they lacked warm clothing it should be issued.[573] A few weeks later Paulet reported that though the 'sick came down better than they did' there was still room for improvement as some still were without clothing,[574] a situation that was confirmed by Nightingale.[575] The subsequent arrival of sufficient clothes for the troops lead to a resolution of the problem and the QMG was informed that clothing

566 AG to OC, Cavalry Division, 11 May 1855; WO/28/109

567 Commandant, Balaklava to AG, 10 Apr. 1855; WO/28/194.

568 Medical Department Memorandum, 10 Dec. 1854; RAMC/397/F/CO/1/3 and BPP (1857-58), No. 2379. pp. 108 & 165.

569 AG's Memorandum, 10 Dec. 1854; WO/28/122 and BPP (1857-58), No. 2379, p. 165.

570 AS D. Greig, letter, 15 June 1855; Hill (2010), p. 93.

571 Nightingale to Raglan, 29 Dec. 1854; NAM-1968-07-293-9.

572 Paulet to Romaine, 7 Jan. 1855; Robins (2005), p. 66.

573 AG's Memorandum, 3 Jan. 1855; WO/28/122.

574 Paulet to Raglan, 20 Jan. 1855; NAM-1968-07-393-8.

575 Raglan to QMG, 14 Feb. 1855; WO/28/192.

in Balaklava had been sent to Scutari for the benefit of men who had already been evacuated.[576]

Officers went on board ship for the 'recruitment of the health' but it was not until the summer of 1855 that Panmure desired 'that arrangements should be made with the naval authorities that […] accommodation may be prepared on board ship […] as floating hospitals for 500 to 600 men.' The Port Admiral was requested to 'name vessels for this service,' and to take care there was sufficient room allowed between cots for MOs to attend the patients. In the event, several vessels were fitted up within a few days despite a shortage of carpenters, and provided for 921 patients, together with 426 additional beds in the hospitals.[577] It has not been established how much use was made of these vessels though some were later employed on the shuttle service to Turkey.

A monograph on the construction and operation of the railway has been published,[578] and its first use for invalids was recorded by Russell on 2 April:

> The first human cargo […] was sent down to Balaklava to-day […] in less than half an hour. The men were propped up on their knapsacks, and seemed very comfortable. What a change from the ghastly processions […] some weeks ago, formed of dead or dying men, hanging from half-starved horses, or dangling about on French mule-litters![579]

The railway was used regularly up to twice a day for this purpose if ships were in harbour,[580] while it was also used to convey convalescents from Balaklava back to camp.[581] There is no evidence that waggons were adapted as ambulances though this was probably unnecessary as the opening of the Camp General Hospital in April 1855 and improvements in the regimental hospitals meant seriously injured patients could be treated in camp and not transferred to Balaklava and beyond.

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576 DAQMG, Balaklava to QMG, 14 Feb. 1855; WO/28/192.

577 QMG to Lyons, 30 Mar., QMG to Boxer, 30 Mar. & 1 Apr, DAQMG to QMG, 4 Apr., and AQMG to QMG, 10 Apr. 1855 WO/28/192. The vessels included *Ottawa* (100 evacuees), *Severn* (140), *Australian* (100 if not full of platforms), *St Hilda* (91), *Wm Jackson* (110), *Orient* (110), *Robert Lowe* (100), *Poietiers* (100), HMS *Leander* (50), HMS *Wasp* (20), *Ottawa* (100), *Severn* (140), and *Australian* (100).

578 Cooke (1997), pp. 64-84.

579 *The Times*, 18 Apr. 1855.

580 DAQMG to QMG, 8 June 1855; WO/28/192.

581 For example AG to GOC, Balaklava defences, 3 Apr. 1855; WO28/108.

Incidentally, Hall was also pleased that it meant that more malt liquor could be delivered to the camp, and this 'would be better for the men than spirits,'[582] while conversely McMurdo noted that the conveyance of the sick retarded the transport of ammunition to the front,[583] though if this became a pressing issue they could be transported by road so that the turn round of the trucks was not delayed by the loading and unloading of patients.[584]

Evacuation of patients to Turkey

When the allied armies landed in Bulgaria during June the troops were reasonably healthy but as the sick list increased Raglan requested that the hospital accommodation ashore should be supplemented by the use of *Monarchy* that could accommodate 90 men in comfort,[585] while the evacuation of the sick to Scutari commenced at about the same time, for example on *Teignmouth*.[586] The increasing numbers reporting sick necessitated an urgent request to the Royal Navy by the QMG on 30 August for 'sufficient boats to convey 300 sick on board […] *Bombay*[587] and *Cornwall*,'[588] while a few days later Hall informed the PMO, Scutari that '*Bombay* and *Mercia* will bring 400 and 250 convalescents.'[589] He continued by emphasizing that 'We have had an enormous number of sick thrown on our hands all at once, and have been much pressed to provide for them in any way' and pointing out that 'it is Lord Raglan's wish to gradually get the sick away from this and they will be sent down when they become convalescent, and opportunities for transport present.'[590]

During early August Hall had recommended to Raglan the necessity for two or three ships being set apart for the sick and wounded[591] and on the 26 August he was

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582 Hall to AG, 21 Mar. 1855; RAMC/397/F/CO/1/1/1672.

583 DG, LTC to QMG, 10 June 1855; WO/28/175.

584 See for example DG, LTC to QMQ, 10 June 1855, with an annotation by Raglan; WO/28/175.

585 Major Wellesley, AQMG, to Captain Rawstone, RN, 30 July 1854; WO/28/196 and RAMC/397/F/CO/5. The employment of *Monarchy* in this capacity proved a temporary measure.

586 Wellesley to Rawstone; 30 July 1854; WO/28/196.

587 A fine Indiaman of upwards 1,300 tons burthen; *The Times*, 21 Sep. 1854.

588 Lord de Ros, QMG, to Admiral Lyons, 30 Aug. 1854; WO/28/196.

589 Hall to Smith, 4 Sep. 1854; *PoL*. *Mercia* was substituted for *Cornwall*. Hall estimated *c.*2,000 sick were left behind in Bulgaria.

590 Hall to Menzies, 2 Sep. 1854; RAMC/397/F/CO/1/1/682. Incidentally, Cantlie (1974) p. 42 implied that Hall ordered these vessels to Scutari. This is incorrect as the Royal Navy controlled the movement of all transport vessels.

591 Hall to Smith, 5 Aug. 1854; *PoL* and Mitra (1911), p. 315.

notified by Sir George Brown that *Andes* and *Cambria* had been selected,[592] though neither was available until after the invasion as they had been 'filled and overcrowded with troops by the authorities.'[593] Hall, who considered that neither vessel was very desirable,[594] found *Andes* very dirty and badly ventilated,[595] and the captain a 'drunken ill-conditioned man.'[596]

Hall's preparation for the invasion was severely compromised because he was not informed of the plans in advance though he suggested to the QMG on 11 August that it would be convenient if medical stores and equipment could be shipped on vessels to be employed as hospital ships;[597] needless to say the request went unheeded. He was only told officially on the 26 August that the fleet was due to sail on 1 September and this short notice led him to complain formally about his exclusion from the planning process in his evidence to the Hospital Commission and the Royal Commission on 16 January 1855 and 19 June 1857 respectively,[598] while in his draft memoirs he wrote:

> No intimation was given to me by the QMG of the precise date, and order of embarkation of the Army from Varna; and the consequence was that some ships had several medical officers on board, others none, some had medicines and stores, others none, and every effort to remedy these defects during the few hours the vessels remained in the bay after the men were embarked was unsatisfactory and ineffectual.[599]

Incidentally, Hall was not alone in making this point; for example, on 4 Septenber 1854 Lieutenant Colonel A.H. Gordon told his father, the Prime Minister, that 'Lord Raglan very wisely keeps his plans very close and few people really know what he intends to do.'[600]

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592 RAMC/397/F/CO/10/1. Hall informed the PMO, Scutari, and Smith of this development on 26 and 29 Aug. respectively, RAMC/397/F/CO/1/1/642 & 665.

593 RAMC/397/F/RT/1/1. *Andes* and *Cambria* transported part the 33rd and 50th Regiments to the Crimea; *The Times*, 21 Sep. 1854.

594 Hall, on *John Masterman*, to Smith, 15 Sep. 1854; RAMC/397/F/CO/1/1/695.

595 Hall, diary entry, 15 Sep. 1854; RAMC/397/PC1/6.

596 RAMC/397/F/RT/1/1.

597 RAMC/397/F/CO/1/1/533. The text is reproduced in BPP (1854-55), No. 1920, p. 57, and was referred to by Mitra (1911), pp. 316-7.

598 BPP (1854-55), No. 1920, p. 339 and BPP (1857-58), No. 2318, p. 178.

599 RAMC/397/F/RT/2.

600 BL Add. MSS 43225.

Prior to the invasion Hall issued a memorandum for the guidance of MOs and this was well received by Russell who wrote: 'Great care has been taken by the medical authorities to make the department as efficient as possible, and Hall has issued a circular containing directions and suggestions as to surgical practice, which is highly spoken of.'[601] It did not contain specific advice on the evacuation of invalids though it was obviously going to be necessary to remove as many as possible so the advance towards Sevastopol was not hindered. The matter had not been overlooked entirely, however, as evinced by a memorandum issued to each Division:

> When the troops disembark all soldiers […] unfit to land will be left on board. […] A steamer will […] collect all these […] and convey them to Scutari. Medical Officers will be placed on board […] A return of the probable number of non efficient men is to be sent as soon as possible to the Principal Medical Officer on board the 'Tyrone' […] Orderlies in proportion of one man for every 12 sick men are to be selected to accompany the sick.[602]

Hall was aware of this memorandum, but he received no information on the numbers involved from the divisional commanders.[603] On the 15 September the AoT instructed that 'all sick troops and sick women remaining on board the transports be sent by tomorrow noon to the *Kangaroo*.'[604] The net result was the vessel was overwhelmed and chaos ensued. A second vessel, *Dunbar*, was employed to carry some of the sick and both vessels arrived at Scutari on 22 September. The British public was made aware of the *Kangaroo* affair when reports were published in *The Times* on 2 and 9 October 1854. The first from the Russell and the second from Thomas Chenery were dated 16 and 25 September respectively. There is no doubt that both the reports were exaggerated though the conditions on both transports must have been horrendous, although for reasons outwith the direct control of the AMD.

Cantlie provided a brief description of the incident and concluded that despite Hall's denials 'the transports were most inadequately staffed, and it is a distressing fact that the conditions on *Kangaroo* were the precursors of those on many similar voyages.' He considered that neither Hall nor Dumbreck had attempted 'to provide the sick with [the palliases] on board *John Masterman*, or to supply soldiers as orderlies.'[605]

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601 *The Times*, 21 Sep. 1854 and other newspapers. For a locally version printed see RAMC/397/F/CO/6/13.

602 QMG to GOC, Divisions, 10 Sep. 1854; WO/18/199/2.

603 Hall, 'Unpublished memoir'.

604 Cantlie (1974), II, p. 48.

605 Cantlie (1974), II, pp. 48-9. It was not until the New Year that the MSC replaced some military orderlies (AG to Hall, 21 Feb. 1854; WO/28/125) or civilians (QMG to GOC, Malta, 1 Mar. 1855; WO/28/137).

Cantlie's points may have been well intended but in Hall's defence it may have proved impractical to obtain bedding if it had been stowed under other items of equipment or the Navy was unable or unwilling to arrange the transfer between the ships. In addition, the prospect of an imminent engagement with the enemy would have reduced the opportunity for detailing MOs for service afloat while Hall could take no responsibility for the provision of orderlies as this rested solely with the military authorities.

The *M&SH* includes a return of 187 voyages made by 66 vessels in which the sick and wounded were evacuated from the Crimea to Turkey following the landing of the allied armies on 14 September 1854.[606] All were merchant ships except HMS *Vulcan*[607] and the details provided for each voyage included the vessel's name and tonnage; the number of officers and men who embarked and died during the voyage; the dates of departure and arrival; and the names of the MOs on board. No distinction was made between sick and wounded patients until the 92nd voyage departing on 31 March 1855 while, the time taken for disembarkation was not provided for all voyages until much the same the time. Each hospital transport was required to carry a regulation number of orderlies, usually under the command of a sergeant;[608] the number comprising this detail was given regularly from the 6 March (83rd departure).

The first vessels (*Kangaroo* towing *Dunbar*)[609] left the Crimea on 17 September while the last departed on 4 June 1856. The majority of patients were disembarked at Scutari, though from December 1854 to February 1885 hospitals at Abydos and Smyrna were utilized respectively with the hospital at Renkioi receiving patients from October 1855. In all 887 officers and 28,904 NCOs and men were evacuated on sailing vessels

606 *M&SH*, II, pp. 465-477. Pages 478-80 provide details of vessels transporting patients to Abydos (5 voyages), Smyrna (10) and Renkioi (10). Twenty of the 25 were from the Crimea and were included within the listings on pp. 469-477. The other five departed from Varna (1) or Turkey (4) and have not been considered in foregoing analyses.

607 Shepherd (1991), p. 137 pointed out that HMS *Vulcan*, being a naval vessel, would have been better stocked with stores and medical equipment than the civilian transports.

608 The ratio 1 orderly to 25 patients was set by the military authorities; AG to Lieutenant Colonel Daveney, 15 Dec. 1855; RAMC/397/F/CO/6/17 and WO/28/122.

609 A report from Scutari recorded *Kangaroo* and *Dunbar* had 600 and 500 sick on board respectively; *The Times*, 9 Oct. 1854. The official numbers given in the *M&SH* were 452 and 357 respectively with 23 (5.1%) and 22 (6.2%) men dying during the voyage.

(44 voyages) and steamers (143), and of these 12 (1.4%) and 1,292 (4.5%) respectively died during the voyage (Table 8.3).[610]

The primary admissions into Army hospitals and the number of evacuees each month are compared in Figure 8.1. The augmentation in hospital capacity in the Crimea during 1855 was reflected in only a slight increase in the numbers evacuated during the summer months, and the low mortality amongst these men suggests that those in a critical condition were not sent to Turkey (Table 8.3 columns 6 & 8 and Figure 8.1).

Expressing the results on a monthly basis as in Table 8.3 takes no account of military situation and accordingly further analyses will consider the voyages in the following categories: Phase I: after landing in the Crimea (3 voyages); Phase II: after the battle of the Alma (8); Phase III: Before Sevastopol, October 1854 (2); Phase IV: after the battle of Balaklava (7); Phase V: after the battle of Inkerman (6); Phase VI: winter Period 1, mid-November to mid-December when the formal survey of hospital transports was ordered (9); Phase VII: winter Period 2, mid-December to the mid-February 1855 when a General Order authorized the issuing of lime juice to all troops (34);[611] Phase VIII: spring and summer campaign, February to 17 September 1855 (84); and Phase IX: occupation of Sevastopol until the final evacuation (34).

Preparation of vessels as hospital transports

Hospital ships were a source of considerable vexation for Hall during the first four months of the campaign,[612] presumably as most were employed on an ad hoc basis and, the time between their selection by the AoT and sailing was frequently too short for them be suitably modified, especially with the inadequate resources in Balaklava given that the Roebuck Committee was informed that it took 10-14 days to fit a ship with standing berths or cots.[613] In addition, supplying transports placed a strain on AMD's

610 The total mortality among those embarked would be higher than this figure as those dying after arrival would have been included in the hospital returns.

611 It is not implied that lime juice caused the reduced mortality, rather it provides evidence that the standard of living of the troops had definitely improved by that time and worst of the privations of the winter were over.

612 Mitra (1911), p. 349. Mitra continued 'for in Dr Hall's diary repeated mention is made of his fruitless applications for the speedy fitting up of such vessels.'

613 BPP (1854-55) No. 218, pp. 303-5.

limited supplies,[614] especially if bedding and other equipment was not returned to Balaklava.[615]

The QMG requested the AoT to nominate the hospital ships as the need arose. He also asked that at least 24 hours notice be given of the intended departure time;[616] conversely, the AoT stressed the desirability of the early appointment of MOs, with the required medicines, comforts, etc.[617]

Early in December Hall stressed once again the absolute necessity of having 'two large and commodious steamers' to 'run regularly between Balaklava and Scutari.'[618] The issue was obviously appreciated at HQ since the AG privately informed the AG in London that:

> We must have two or three vessels fitted up, steamers as hospital ships, on board which should be officers, purveyors, and orderlies always living. […] We are continually sending sick men to Scutari. Work as hard as they will the Medical Officers cannot keep things decent, much less clean as they ought to be. The sick are laid on the deck […] often without a bed. [In addition there is a need for] a corps of orderlies at a rate of 1 to 10, the regulation rate […] and surgeons.[619]

Fortunately Raglan agreed, and after negotiations with the AoT Hall was requested to nominate permanent MOs to serve on *Australia*, *Brandon*, *Melbourne*, and *Sydney*.[620] The vessels were fitted up in Constantinople, including provision of standing beds and a surgery.[621] Three were ready by 12 February,[622] while *Severn* was also adapted for hospital use in England.[623] Nearly a month later Russell noted that there were more patients requiring evacuation than these vessels could carry, despite *c.*1,200 being transported in the previous three weeks, but things must have eased thereafter as only 725 were evacuated during the next three weeks.[624]

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614 Hall to Smith, 23 Feb. 1855; RAMC/397/F/CO/1/1/1519.

615 Dumbreck to PMO, Scutari, 22 Oct. 1854; RAMC/397/F/CO/1/1/802.

616 QMG to Christie, 4 Dec. 1854; WO/28/137.

617 Christie to QMG, 7 Oct. 1854; WO/28/196.

618 Hall to QMQ, 4 Dec. 1854, RAMC/397/F/CO/1/1/1017; also in WO/28/196 and BPP, (1857-58) No. 2379, pp. 107-8. Incidentally, on 1 Dec. Paulet recommended to Raglan that 'it would be advisable to fit up and provide with bedding 3 or 4 ships and retain them solely for moving the sick and taking back those fit for duty; NAM-1968-07-293-8.

619 Estcourt to Wetherall, 3 Dec. 1854; NAM-1962-10-95.

620 QMG to Hall, 23 Dec. and Hall to QMG, 24 Dec. 1854; WO/28/137 and RAMC/397/F/CO/1/1166.

621 AoT to QMG. 21 Dec. 1854; WO/28/196 and Boxer to QMG, 27 Feb. 1855; WO/28/183.

622 Russell, 12 Feb.; *The Times*, 24 Feb. 1855.

623 *The Times*, 21 Jan. 1855.

624 Russell, 19 Mar.; *The Times*, 3 Apr. 1855 and *M&SH*, II, pp. 470-1.

Soon after the invasion written instructions were issued to MOs employed on hospital ships,[625] while it appeared that the PMO at Balaklava was solely responsible for inspecting vessels for invalids until 12 December 1854 when a General Order directed that inspections were to be undertaken by a Board comprising the Commandant of Balaklava, the DAQMG and PMO doing duty there, an Assistant Commissary General, and the Transport Agent or his deputy. With the exception of the last mentioned, 'this Board is constituted in conformity with the regulations of the service.'[626] The Board was required to obtain the following information during an inspection, viz. the number of invalids and MOs, and their rank; the state of the bedding accommodation of the sick; conveniences for the sick, including utensils, drinking cups, mess tins, etc.; cooking facilities; the number of WCs, and their state of repair; ventilation; and the supply of medical stores and comforts, groceries etc. and any other points which might be relevant.[627]

It is possible that the General Order of 12 December was issued when HQ appreciated that the Queen's Regulations had been overlooked for several months,[628] although this did not inhibit Raglan from unfairly admonishing Hall and Lawson in a General Order of the 13 December (see an summary of the *Avon* affair below), or from informing Paulet of these developments thus:

> The state of the *Avon* was too shocking and here I had a Court of Enquiry upon it. The report of the Court has rendered it necessary for me to give a strong order for the examination of them previously to them being used […] for the sick and this I hope will ensure the poor sufferers being more comfortable in future on their passage across the Black Sea.[629]

The General Order of the 12 December was supplemented by a more specific Medical Department Order which enjoined MOs on hospital transports to:

> pay […] attention to the cleanliness, ventilation and fumigation […] see the sick are as comfortably accommodated as circumstances will permit […] the food is of good quality and properly cooked […] the men [should] receive any medical comforts used […] make out a nominal roll of men embarked with details of disease etc. which will be handed over to the principal medical officer at Scutari. […] The orderlies should be divided into three watches.[630]

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625 Dumbreck to Tice, 19 Oct. 1854; RAMC/397/F/CO/1/1/795. (The text was not reproduced.)

626 BPP (1854-55), No. 1920, pp. 16 & 335. The requirement for a Commissary Officer was rescinded in a General Order of 18 Oct. 1855.

627 QMG to Major Mackenzie, 7 Dec. 1854; WO/28/196

628 *Queen's Regulations* (1844), p. 325.

629 Raglan to Paulet, 15 Dec. 1854; NAM/6807/393/8.

630 RAMC/397/F/CO/1/3.

Problems encountered on hospital ships included insufficient notice being given to the AMD;[631] a change in the vessel after embarkation had commenced which resulted in 'added discomfort for the sick as it [was] almost impossible to fit up [alternative] ships at a few hours notice;'[632] a shortage of available MOs; insufficient orderlies and sea sickness or illness amongst them while en route; a lack of cooperation from the civilian crew, for example, drawing of water or assistance with the invalids;[633] and delays in the vessels return from Scutari because of difficulties in obtaining coal and water.[634]

Embarkation of patients at Balaklava

When Dumbreck forwarded his reaction to the General Order of 14 October 1854 to Smith he pointed out that embarking patients in a poorly equipped and cramped harbour was a 'vexatious [task] that has brought considerable obloquy on the department, deservedly, or not,'[635] and he was not alone in finding the task 'a most troublesome business.'[636]

The extremely unsatisfactory state in the port and town of Balaklava was described graphically by Mrs Henry Duberly on 28 November and 3 December[637] and *The Times* correspondent on 1 December.[638] At this time Lawson informed Hall that the increased number of vessels in the harbour made it difficult to embark the sick from the place then in use, and suggested developing a location on the West side that would allow the patients to be embarked directly if a small jetty was built and the approach roads were improved.[639] He also requested that notice should be given at least the evening before of the expected arrival of patients so that arrangements can be made for their reception, and that they should be despatched to arrive before sunset. Hall subsequently ordered that 'Sick […] must not be sent off until Dr Lawson […] has been

631 Hall to Smith, 16 Dec. 1854; RAMC/397/F/CO/1/1/1095 and *PoL*.

632 Hall to QMG, 29 Jan. 1855; RAMC/397/F/CO/1/1/1358.

633 MOs evidence to the Hospital Commissioners, 8 & 12 Dec. 1854; BPP (1854-55), No. 1920, pp. 302 & 201.

634 Despatch, 12 Oct.; *The Times*, 26 Oct. 1854.

635 Dumbreck to Smith, 12 Oct. 1854; RAMC/397/F/CO/1/1/753 and *PoL*.

636 Assistant Surgeon Taylor, letter, 11 Dec. 1854; *JRUSI (*1957), pp. 234-5.

637 Kelly (2007), pp. 109-10 & 118.

638 *The Times*, 18 Dec. 1854.

639 Lawson to Hall, 27 Nov. 1854; WO/28/196. Hall referred this to the QMG who did not object to the proposal; RAMC/397/F/CO/1/1/947 and WO/28/975.

warned […] for the number is too great for any ordinary means to meet.'[640] The difficulty in embarking patients under these circumstances was also outlined by the Hospital Commissioners:

> The sick and wounded [are] taken to the wharf, where a medical officer [sees] to their embarkation, and to afford medical assistance when necessary. The men are embarked in boats, under the orders of a naval officer, and put on board the vessels […] Except in [one] instance (involving Dr Tice), we did not hear of any delay having arisen, beyond that incidental to the necessarily slow process of embarking a large number of helpless men in a limited number of open boats, and transhipping them to larger vessels.[641]

William Simpson's water colour of the embarkation of invalids directly from the beach at Balaklava has resulted in the assumption by some commentators that the procedure was always thus. However, the port facilities were improved gradually and by the end of January 'a pier had been constructed for the embarkation of the sick and wounded,'[642] 'planks were set across the road […] so patients and orderlies did not have to walk through mud,' and an application was made for a hut on the wharf for the accommodation of the sick,[643] a very necessary development in the view of Russell and the PMO, Balaklava:

> Russell: There they lie just as they were let gently down on the ground by […] their comrades, who brought them on their backs from camp with the greatest tenderness, but who are not allowed to remain with them. The sick appear to be tended by the sick, and the dying by the dying.[644]

> PMO: […] a little more comfort to the sick [who are] brought down [on] mules, from which they are very hurriedly dismounted [and the] poor creatures are left sitting either in the mud or on any convenient plank. The tent on the other side of the road is much too far off […] and I […] suggest the immediate erection of one or two wooden huts close to the wharf, to be provided with benches, stove, etc. so that the more exhausted might have shelter, till they could be conveyed on board ship.[645]

Improvements obviously continued to be made and by the time the Sanitary Commissioners arrived at the beginning of April 1855 they found:

> there was a jetty [which was] nearly on the same level as the side of the boat into which the sick were placed [and this] was always done with great care. […] the boat was rowed [to] the 'sick ship'. […] The sick who were able […] walked up the ladder [while] those on stretchers were lifted on board by a simple contrivance, [which was] hoisted […] by means of a pulley,

640 Hall to PMO, Cavalry Division, 1 Dec. 1854; RAMC/397/F/CO/1/1/989.

641 BPP (1854-55), No. 1920, p. 16. It would appear that the Commissioners may have been misinformed on this point.

642 Elphinstone (1859), pp. 79-81.

643 AG to Commandant, Balaklava, 25 Jan. 1855; WO/28/108 and Hall to QMG, 3 Feb. 1855; RAMC/397/F/CO/1/1/1379.

644 Despatch, 1 Dec.; *The Times*, 18 Dec. 1855.

645 PMO, Balaklava to Commandant, 23 Jan. 1855; BPP (1856), No. 2007, p. 203.

and kept in a horizontal position. […] the stretcher was carried below, by two men, and the patient transferred to a swing cot. […] this method [could be] simplified by bringing the ambulances down to the shore under the stern of the 'sick ship', and by having, a brow constructed by which the sick might be carried directly on board. [Raglan] authorized the construction of the works on the 21st April, 1855, but the pressure of the siege operations [meant it was not completed until] the end of the year.

During the whole period the Commissioners had every reason to be satisfied with the careful and considerate manner with which the duty of embarking the sick was performed by the officer in charge.[646]

Employment of hospital transports

Of the 187 voyages 143 (76.5%) were made by 41 steamers and 44 (23.5%) by 25 sailing vessels (Table 8.4, bottom row). Up until mid-December sailing vessels and steamers were used almost equally (19 and 16 respectively) but thereafter steamers predominated, and thus provided a more reliable service (Figure 8.2). Only one sailing vessel (*Gomelza*) departed between 13 January and 13 June 1855, while none were used after 3 December 1855, presumably because bad weather could be expected.

New vessels were engaged during all phases of the campaign with 23 (92%) of the 25 sailing vessels and 32 (78%) of the 41 steamers being employed for the first time by the end of Phase VII in mid-February (Table 8.4, columns 7 & 8 and Figure 8.3).

Fifty-five (83%) the 66 hospital vessels had been engaged by the end of phase VII (Table 8.4, column 9) although only 77 (41%) of the 187 voyages had been completed. Conversely, only eleven new vessels were employed during the remaining 16 months, presumably to replace those in need of repair or whose contract had terminated (Table 8.4, column 9 and Figure 8.3).

Data on the voyages completed by hospital transports are presented in two ways in Tables 8.5 and 8.6. Almost half (93 of 187) of the voyages involved vessels used only once or twice (Table 8.5, columns 4 & 5), while nearly a third (57 of 187) made ≥6 trips, with a maximum of 22 (Table 8.5, columns 9-12 and Figure 8.4).

A total of 39 (59%) and 13 (19.7%) of the 66 ships were used only once or twice respectively with 44 (84.6%) of vessels in these categories having sailed by mid-February 1855 (Phase VII) with five of the remainder being engaged after the siege was over (Table 8.6, columns 3 & 4). Only three of the 25 sailing vessels completed >3 voyages while 9 (22%) of the 41 steamers were employed between six and 22 times (Figure 8.6).

646 BPP (1857), No. 2196, pp. 145-7.

Hall maintained a hand-written ledger that covered the campaign but omitted three of the 187 voyages listed in the *M&SH*, namely, Nos. 82, 84, and 142.[647] Less comprehensive are two published reports. Smith supplied figures on 50 voyages departing between 18 September 1854 and 8 January 1855[648] while the Hospital Commission report gave details of 55 voyages up to 9 February 1855.[649]

Discrepancies can be found between the different sources but over all it is possible to draw similar conclusions to those made from the returns in the *M&SH*, and hence these data have not been analysed.

Mortality among evacuees

Mortality was high after the Alma (13.2% of 2,582 evacuees; Table 8.7); not surprising given that the transfer of the wounded to the shore was undertaken with considerable difficulty and unnecessary suffering as the British position was several miles from the coast and there were no ambulance waggons. Personnel from the Royal Navy assisted with the task[650] and superintended the embarkation of the wounded,[651] and hence Hall, who would have been fully employed on the battlefield, concluded that 'it was the Naval Authorities' fault that the vessels were overcrowded.'

The mortality increased during the first part of the winter when the health of the Army had deteriorated considerably (Phase VI: 14.9% of 1,527 evacuees; Table 8.7). However, mortality was lower during the second winter period at 6.2% (Phase VII) despite the rate increasing among the troops in camp until January (see Figure 1.4), which suggests that, inter alia, there had been selection for less critically ill patients coupled with improved conditions on the ships following the issuing of the General Order of 12 December.

Overall, nearly a third of 1,292 ship-board deaths occurred on 13 vessels departing before mid-October 1854 (Phases I-III) while the evacuation of invalids following the battles of the Alma, Balaklava, and Inkerman was completed by 11 November 1854 (26th voyage). By that time 6,597 (23%) of the invalids had been

647 RAMC/397/F/RT/1/1.

648 *MT&G*, 27 Jan. 1856. This includes voyages on which only Russian prisoners were evacuated.

649 BPP (1854-55), No. 1920, pp. 18-19.

650 Dr J. Rea to Dundas, 8 Nov. 1854; W&SHC/2057/F8/IV/D/1h: The naval personnel sent ashore comprised 30 MOs and 1,000 seamen and marines.

651 Hall to Spence, 10 Nov. 1854; *PoL*, I, Appendix 2, pp. 689-701.

evacuated with nearly half (3,200, 48.5%) being conveyed in sailing vessels, compared to 13.5% (3,047) for the remainder of the campaign.

All but *c.*5% of deaths had been recorded by mid-February, viz. the end of Phase VII, although by that time only 77 (41.6%) of voyages had been completed and 7,826 (55.2%) of the patients had been evacuated (Table 8.7, columns 11 & 12 and Figure 8.5).

In order to take account of the length of the voyage the number of man-days at sea was calculated for each vessel and from this the number of deaths/1000 man-days was obtained for each Phase (Table 8.8A, columns 7 & 8). In general, mortality tended to be higher on the sailing vessels, although, apart from Phase II the difference was not very great (Figure 8.6). Not unexpectedly the rates were higher during the first winter, particularly Phase VI. The situation improved during Phase VII, even though mortality in the camps continued to increase until January 1855 (see Figure 1.12).

Hall was responsible for nominating MOs though sickness and deaths reduced the numbers available and the difficulty in meeting the demand delayed the departure of some vessels, for example, the *Andes* and *Colombo*.

At least one MO was present on board each transport, with two, and 3-5 respectively, being employed on 95 (51%) and 20 (10.5%) of the 187 voyages. For the majority of voyages the names of the MOs are listed although on 19 voyages from April 1855 the second member of the medical team was either a hospital dresser or a dispenser, viz. *Brandon* (7 voyages), *Imperador* (5), *Severn* (3), *Clifton* (1), and *Melbourne* (3).

The mortality with respect to the number of MOs was highest on sailing vessels that departed by the end of September 1854. Thereafter the difference between the sailing vessels and steamers was less; though mortality tended to be lower on the steamers (Table 8.9B and Figure 8.7).

Overall the ratio of Men:MO was *c.*88:1 with the ratio tending to be wider during Phases I-V of the campaign, a period during which there was a shortage of MOs who could be spared for this service (Table 8.9B, columns 2 & 3).

The mortality exceeded 30/1000 man-days at sea and/or 4/MO-days at sea on 15 (8%) of the voyages (Table 8.10). Seven sailed during Phases I and II, when cholera was rife, particularly on *Caduceus*, and many of the evacuees would have been severely

wounded, and eight during the winter period when the health of the troops in the camps had deteriorated considerably (Phases VI and VII).

The sick and wounded were entered separately in the returns from 31 March 1855. Of 11,113 men evacuated thereafter only 719 (6.5%) were wounded, and it is unlikely they were in a critical condition as only one died (0.14%; Table 8.11).

Of 7,341 NCOs and men evacuated during the spring and summer campaign (Phase VIII) 512 (7.0%) were wounded and of these 483 (94.3%) were conveyed on only 4 (5.3%) of the 76 vessels employed during the Phase (see Table 8.5), viz. *Imperador* (300 wounded), *Ottawa* (102), *Orient* (51), and *Severn* (30).

Disembarkation of patients at Scutari

The port facilities at Scutari were rudimentary initially and could only be used in calm weather as the comparatively shallow water precluded ships coming along side the pier, and open boats and small steamers had to be employed to convey patients ashore.[652]

In addition to stormy weather delays in disembarkation were caused by swell and heavy seas resulting in waves breaking over the landing place, strong currents, late arrival in the day or after dark, the unavailability or late arrival of vessels for transferring patients to the shore, and the want of hospital accommodation owing to crowding. The Sanitary Commissioners appeared generally satisfied with the care with which the invalids were disembarked[653] while the Revd S.G. Osborne provided a succinct summary of the problems encountered at the pier head:

> The nearest entrance to the Barrack Hospital is [about] a quarter of a mile from the so called pier […] Passing […] down a broad paved road for all passengers […] for the stores […] for the sick and wounded, in short for everything […] so utterly inconvenient, and inadequate […] If the wind blew [the surf] made landing next to impossible; in the ordinary breezes […] the approach in anything but a large boat was dangerous […] I have seen the bodies of the dead, stores for the living, munitions of war, sick men staggering from weakness, wounded men helpless on stretchers, invalid orderlies waiting to act as bearers, oxen yoked in arabas, officials [crowded] on this narrow inconvenient pier, exposed to drenching rain, and so bewildered […] that the transaction of any one duty, was quite out of the question.[654]

652 BPP (1854-55), No. 1920, p. 23.

653 BPP (1857), Session 1, No. 2196, pp. 26-7.

654 Osborne (1855), p. 7. Osborne referred to the unsatisfactory condition of the pier in his evidence to the Roebuck Committee; BPP (1854-55), No. 156.

Once ashore there as an uphill climb up to the Barrack, although Menzies considered the distance trifling,[655] with the stretcher cases being carried by fatigue parties or Turkish labourers.[656] The Hospital Commissioners were clearly sufficiently concerned about the situation that they recommended that alternate hospital accommodation should be sought where 'embarkation and disembarkation […] can at all times be effected without difficulty or danger.'[657] The pier nearest to the General Hospital was a little more sheltered but the route to the hospital was longer and steeper while the Kuleli hospital was the best served as it was on the shore of the Bosphorus and larger vessel could tie up along side.

The pier at Scutari had been extended by early December 1854[658] while Paulet was authorized by the government lengthened the pier to enable landing in nearly all weathers,[659] and that boats must be purchased and retained, with proper crews, for the use of the hospital.[660] The improvements involved the sinking of 9ft wooded piles to give a depth of water of 14ft[661] and a jetty constructed of wood and stones.[662]

Causes célèbre

The voyages of several hospital ships received more prominence than others and a summary involving three of them follows:

***Colombo*:** The vessel sailed for Scutari on 22 September 1854 with one staff surgeon and three assistant naval surgeons to attend 27 officers and 453 men and,[663] though conditions on board were extremely harrowing, the reports in the English newspapers were an exaggeration.[664] When Hall heard of these accounts he asked the surgeons for details and reported to Raglan on 11 November that:

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655 BPP (1854-55), No. 1920, p. 303.

656 The barrack was 130ft above sea level.

657 BPP (1854-55), No. 1920, p. 51.

658 Own Correspondent, 5 Dec.; *The Times*, 21 Dec. 1855.

659 For a plan see MPH/1/1133.

660 Newcastle to Paulet (Cabinet paper), 5 Jan. 1855; WO/33/1/8/55, W&SHC/2057/F8/III/C/65, and WO/6/70.

661 Elphinstone (1859), p. 292.

662 MPH/1/1133.

663 *M&SH*, II, p. 465.

664 For example, despatches dated 27 & 28 Sep.; *Daily News* and *The Times*, 10 & 13 Oct. 1854.

> the medical officers […] in charge of wounded [on *Colombo*] repudiate with indignation and scorn the statement in *The Times* of their inhumanity to the unfortunate people on board, and the story of maggots crawling about contaminating their food is pure fiction.[665]

On 21 November, Hall received a further report from a naval surgeon which seemingly provided an account of the voyage, somewhere between the apparent overstatements in the press, and terse response that Hall made to Raglan:

> The scene on board [was] terrible. The […] suffering […] scarcely exaggerated. Such a lamentable state is […] attributed mainly to the following perhaps unavoidable circumstances: (1) the ship being over crowded and the wounded kept a long time on board; (2) [insufficient] medical men […] and (3) the want of medical stores. […] The wounds having 'bred maggots' was owing […] to the wounded having being exposed to the burning sun [and] the wounds not having been attended to for many hours […] it was impossible from the paucity of assistance that [proper] attention could have been bestowed on each.
>
> There are some errors in the newspaper statement […] there were a total of 591 souls, 30 of whom died. It is therefore absurd the state that 'the surgeons had to pick their way through the heaps of dying and dead.'[…] I consider the article [was written] to call the public attention to the system of conveying the wounded and the want of adequate surgical assistance in such an emergency than to throw aspersions on our characters individually.[666]

Hall was, nevertheless, sufficiently impressed with the ship's company in these circumstances that he subsequently informed Raglan that: 'It is a justice I owe to Dr Bourne, Captain Methuen, the officers and crew of the *Colombo* to bring under the notice of the Field Marshal the uniform kindness and attention shown to all sick and wounded soldiers.[667]

***Trent*:** Raglan admonished Hall in an 'angry memorandum' in which he inferred that the AMD 'cared little [of] what became of [the invalids]' because the *Trent* sailed for Scutari on 25 November 1854 with only two assistant surgeons on board and no staff surgeon. Hall subsequently pointed out that *Trent* was well founded and that the two 'intelligent and talented young men' were quite capable of 'taking medical charge' but owing to a shortage of MOs 'not sending [a staff surgeon] was a matter of necessity, not choice on the part of Dr Lawson' and 'it would be desirable if this [deficiency in staffing] could be remedied.'[668]

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665 RAMC/397/F/CO/1/1/901 and W&SHC/2057/F8/III/B/324 (copy).

666 AS Wright, HMS *Leander*, to Hall, 21 Nov. 1854; RAMC/397/F/CO10/4.

667 Hall to Military Secretary, 11 Feb. 1855; RAMC/397/F/CO1/1/1423. Incidentally, there is a snuff box in the London Museum presented by Colonel Frederick Horn and officers of the 20th Regiment to James Smith of *Colombo* in appreciation of his services during the voyage to the East.

668 Hall, diary, 17 Dec. 1854; RAMC/524/15/6.

Avon: Raglan received a complaint about the condition of a soldier in board *Avon* on 28 November 1854 and he instructed Estcourt and Hall to investigate. A committee of enquiry then placed the blame on the PMO at Balaklava (Lawson), although he had not been on trial, merely being called as a witness. Raglan then issued a General Order on 13 December, in which Lawson and Hall were castigated. They were never granted the right to reply to the allegations although Hall was later able to refute the suggestion that the vessel had not been properly equipped.

Lawson was replaced and transferred to Scutari by a General Order on 15 January 1855,[669] but he was never brought to trial or allowed to see a copy of the proceedings by which he was condemned. No reason for this was given for but it may have been that Raglan let the matter drop when he realized that the headquarters staff had disregarded the Queen's Regulation which stipulated that any ship used to transport troops should be inspected by both a staff officer and a MO;[670] a matter regularized by a General Order dated 12 December and to which reference has been made.

Return to duty

It was imperative that convalescents should return to duty as soon as possible and shortly after the invasion men were returned to the Crimea in surprisingly large numbers. For example, *Himalaya* and HMS *Valorous* sailed from Scutari to Balaklava with 600 and 530 men on 16 October and 9 November 1854,[671] while Hall, who sailed on *Himalaya,* reported that *c*.1,700 had already rejoined since the beginning of the month.[672] Similarly, Stratford informed Clarendon that Boxer 'had sent up about [1,000 men] with the expectation of adding five or six hundred in two or three days,'[673] with a further 150 sailing on *Medina* the next month.[674]

When the regular shuttle service to Scutari was instituted it was agreed with the naval authorities that the hospital ships should return empty to the Crimea. However, on occasions they were employed to convey healthy troops, an unsatisfactory policy as Hall sensibly pointed out:

669 Several commentators have suggested incorrectly that Hall appointed Lawson to this post. It was confirmed by a General Order and thus had the approval of Raglan.

670 *Queen's Regulations* (1844), p. 325

671 ADM/7/576.

672 Hall to Smith, 20 Oct; *PoL* and Hall to Raglan, 27 Oct. 1854; RAMC/397/F/CO/1/1/819.

673 Stratford to Clarendon, 25 Oct. 1854; FO/78/1004.

674 Paulet to AG, 8 & 14 Jan. 1855; WO/28/186.

> If duty men are embarked on board ships that have conveyed sick, the vessels should be well cleaned and fumigated before they go on board, and on no account should they be permitted to use the same equipment as the sick. This would detain the vessel two or more days at Constantinople and it would require as many at Balaklava before she would be in a fit state [to] embark sick again.'[675]

Summary

Many of the problems associated with the transport of the sick and wounded, either on land or at sea, resulted from the failure of the government and the military authorities to develop a comprehensive plan for this crucial activity.[676] In consequence, no advanced provision was made for either a suitably equipped and manned Ambulance Corps[677] or dedicated ships for use as hospital transports or floating hospitals.

The transfer of patients from camp to Balaklava took place almost daily and on occasions the lack of suitable transport caused considerable difficulties for the AMD who had to rely on assistance from the French on occasions. Inevitably there were some local failures in communications which resulted in hardship for the patients. Matters got better during the spring with improvements in the regimental hospitals, the opening of the railway, and the repairing of the roads.

Vessels employed for evacuating patients were selected on an ad hoc basis during the first three months of the campaign and inevitably many would have been unsatisfactory in terms of on-board facilities, equipment, and personnel. The service became more regular from mid-December when dedicated steamers began to provide a shuttle service across the Black Sea. This arrangement proved generally satisfactory as there was little adverse comment, apart from occasional problems associated with either embarkation or disembarkation.

Mortality on the voyage to Turkey was greatest during the first weeks of the campaign, when many of the invalids were either severely wounded or suffering from cholera, or both. The death rate started to decrease by the turn of the year suggesting improvements in the management of patients on shore and afloat, and the need to send patients with a poor prognosis to Scutari becoming less pressing.

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675 QMG to Military Secretary, with a comment by Hall, 13 Apr. 1855; WO/28/192.

676 For a discussion see Shepherd (1991), pp. 386-7.

677 It was near the end of 1855 before the AC was fully equipped with vehicles etc.; see Shepherd (1991), p. 463.

Tables 8.1-8.11

Table 8.1: Correspondence concerning the transfer of invalids from camp to Balaklava, December 1854-September 1855

Date 1854-55	Abstract [Reference]
7 Dec.	About 600 sick will be brought by the French Ambulance tomorrow, weather permitting. […].apply for the boats to be in readiness and ensure comforts are placed on board […] and soup and some nourishment is ready for them on arrival. Application must be made tonight for orderlies. [Hall to PMO, Balaklava; RAMC/397/F/CO/1/1/1040]
11 Dec.	There are near 785 sick men sent from [camp] but nearly 300 have yet to be embarked at 3 p.m.. Everything has been done to get them on board but it is almost impossible to manage satisfactorily with so large a number in one day. [with] many […] on stretchers it causes great delay, and in future I think it would be very desirable if a smaller number were sent down at the same time. It would also add much to the comfort of the sick if the orderlies […] were detailed and on board ship the previous evening. [DAQMG, Balaklava to QMG; WO/28/192]
12 Dec.	The French will lend 300 ambulance mules on the 14 December that steps should be taken immediately to accommodate 350 sick. [Hall to PMO, Balaklava; RAMC/397/F/CO/1/1/1072]
21 Dec.	Today when in Balaklava I received a note at half past one from the AG to provide for the reception of 600 sick to be taken down in the morning by the French ambulance. The ships are not even appointed. How is it possible to make them comfortable? [Hall, dairy; RAMC/524/15]
26 Dec.	In consequence of nobody knowing the sick were coming and there was a delay in embarking them before dark. [DAQMG, Balaklava to QMG; WO/28/196]
28 Dec.	The sick did not arrive at Balaklava until ½ past 3. It was near 5 until they were all embarked. There was no delay in the boats. [Balaklava report to QMG; WO/28/196]
30 Dec.	Great inconvenience from ships ready for sick not being reported, it is impossible to send sick, which is daily necessary, unless it is known that accommodation is provided for them. Inform if there is a vessel is now disposable, answer by bearer. [QMG to AoT; WO/28/137]
25 Jan.	A large number of sick came down today without warning after intimation had been given to the AG that there was no accommodation. They appear to have come down independently [having been sent by] the PMOs of Divisions. [PMO, Balaklava to Hall; BPP (1857-58), No. 2379, p. 204]
14 Feb.	A great irregularity has taken place in the arrival of the sick at the General Hospital for Balaklava and […] the sick have been detained for some considerable time in the cold. [Memorandum issued by PMO, Light Division; RAMC/1139/LP10/12]
15 Feb.	Great inconvenience having been felt […] at Balaklava from sick being sent down without any previous notice being given […] due notice shall be given to them when there is accommodation for their sick on board ship, they must not be sent down there being no room for them at the hospital. [AG, Memorandum to Divisions; WO/28/122]
14 Mar.	Thirty sick men from the front are now waiting at the hospital for admission into which we can receive only three. There is here a marquee but fatigue men are not to be had for its erection. (The letter was annotated at HQ that the men were sent from the 4th Division without authority and without notification and there was no ship available to receive them.) [MO, General Hospital to Commandant, Balaklava; WO/28/161]
5 Apr.	Ten men of the RA were sent down for embarkation but there was no ship ready to receive them. They have been admitted to the General Hospital on a temporary basis. This is of great inconvenience as the hospital is already full and they were laid on the floors of wards already overcrowded. [MO, General Hospital to PMO, Balaklava; BPP (1857-58), No. 2379, pp. 190-1]
9 Apr.	There are 12 waggons [drawn by] cattle in total. 8 in use carrying 80 invalids and 4 in camp daily for a rest or if needed while the others are away. [Adjutant, AC to AG; WO/28/175]
22 Apr.	Inconvenience arises from overloading ambulance waggons. In addition to arms, accoutrements, and knapsacks there now blankets, sheepskin coats, long bobs, and extra winter clothing. Suggest using a bât horse for the extra clothing etc. [OC, AC, Memorandum; WO/28/175]
11 May.	The PMO should ascertain that there is room for patients in the Hospital before he applies for transport from camp. [AG to OC, Cavalry Division; WO/28/109]
26 May	Wounded men are frequently sent to Balaklava without due notice being given to the Commandant consequently no parties with stretchers are ready to carry them to the hospitals causing great suffering to the patients. [AG, Memorandum to Divisions; WO/28/123]
26 May	Six wounded men were sent down to Balaklava without notice on the 24th inst to the great inconvenience of all concerned. [AG to GOC, 3rd Division; WO/28/109]
20 June	Major Grant will furnish ambulance waggons, mule chairs and litters to convey 225 sick and wounded to Balaklava. Seven teams of artillery horses have been ordered at the ambulance camp. [AG to OC, AC, WO/28/123]

Table 8.1: Continued

29 Aug.	The prompt removal of sick and wounded from camp to better quarters is obviously of the first important, time cannot always be given for the preparation of documents, and a delay in proper settlements will be the result. Notifications of the removals of soldiers […] are made to assist […] COs and others and it is hoped that although delay may sometimes occur in the balancing of accounts the interests of the soldiers will not ultimately suffer. [AG to GOC, 2nd Division; WO/28/110]
1 Sep.	The wounded will go in waggons from the front; mules will be sent to carry some of these from Balaklava to the Castle. A small fatigue party only will be required. [AG to Commandant, Balaklava; WO/28/110]
4 Sep.	To make arrange for additional carriage for the kit of the sick when they are removed from the cavalry camp. [AG to Captain Piggott, AC; WO/28/124]

Table 8.2: Ambulance conveyance available in the British Army, May 1855

Location	Description		Capacity
Crimea	12 four-wheeled waggons are 'too heavy for ordinary use […] on good roads, during the winter […] ten artillery horses were unable to drag one to Balaklava and back again.'	4 recumbent and 6 sitting	120
	4 waggons	4 recumbent and 3 sitting	28
	2 waggons out of repair with one to be converted for 4 patients.	4 recumbent and 6 sitting	14
	2 Flanders store waggons on vulcanised springs. These can be 'fitted up for […] sick or slightly wounded' but 'are much too heavy for general use.'	12 each	24
	2 store waggons	10 each	20
	6 Irish cars, one out of repair, 'are lighter'	6 slight cases	36
	33 mule chairs, 10 reclining	2 each	66
	Total patients		308
Expected	18 Irish cars	6 each	108
	43 long Bianconi cars	12 each	516
	167 mule chairs	2 each	334
	Total patients		978

[Summarized from tables in WO/1/374/313/No. 2, 24 May, & No. 3, 31 May 1855]

Table 8.3: Number of officers and men evacuated from the Crimea to hospitals in Turkey, September 1854-June 1856, together with the number of individuals who died during the voyage

Year	Month	Number of departures		Number of individuals embarked		Number of individuals dying on the voyage (%)	
		Sailing transports	Steam transports	Officers	NCOs and men	Officers	NCOs and men
1854	September	6	5	113	3706	6 (5.3)	411 (11.1)
	October	6	3	65	1574	0	77 (4.9)
	November	3	6	108	1850	3 (2.8)	108 (5.8)
	December	7	15	54	4075	2 (3.7)	364 (8.9)
1855	January	5	13	31	3411	0	260 (7.6)
	February	0	12	84	1860	0	22 (1.2)
	March	0	11	18	1409	0	7 (0.5)
	April	0	9	8	996	0	7 (0.7)
	May	0	7	17	822	0	0
	June	3	7	24	1042	0	7 (0.7)
	July	3	10	98	1668	0	5 (0.3)
	August	4	9	76	1651	1 (1.3)	8 (0.5)
	September	4	8	58	1435	0	7 (0.5)
	October	2	6	50	929	0	2 (0.2)
	November	0	4	14	327	0	1 (0.3)
	December	1	4	19	495	0	2 (0.4)
1856	January	0	4	29	468	0	3 (0.6)
	February	0	2	6	234	0	0
	March	0	4	9	501	0	0
	April	0	2	4	236	0	1 (0.4)
	May	0	1	2	114	0	0
	June	0	1	0	101	0	0
Totals (%)		44	143	887	28904	12 (1.4)	1292 (4.5)

[Summarized from *M&SH*, II, pp. 465-77]

Table 8.4: Number of hospital ships departing from the Crimea during different phases of the campaign, September 1854-June 1856

Phase of the campaign			No. of departures			No. of 1st (and only) voyages		
Event	Dates	No. of days (inclusive)	Sail	Steam	Total	Sail	Steam	Total
I After landing	17-20 Sept. 1854	4	1	2	3	1 (1)	2	3 (1)
II After the Alma	21-30 Sept.	10	5	3	8	5 (3)	3 (1)	8 (4)
III Before Sevastopol	1-13 Oct.	13	2	0	2	2 (2)	0	2 (2)
IV After Balaklava	14-31 Oct.[a]	18	4	3	7	4 (2)	2	6 (2)
V After Inkerman	1-11 Nov.[a]	11	2	4	6	2 (2)	2 (1)	4 (3)
VI Winter Period 1*	12 Nov.-11 Dec.	30	5	4	9	4 (4)	4 (3)	8 (7)
VII Winter Period 2†	12 Dec.-16 Feb. 1855	67	8	34	42	5 (3)	19 (12)	24 (15)
VIII Spring and summer campaign	17 Feb.-17 Sep.	213	13	63	76	2	5 (3)	7 (3)
IX After the siege	18 Sep.-4 June 1856[a]	260	4	30	34	0	4 (2)	4 (2)
Whole campaign		626	44	143	187	25 (17)	41 (22)	66 (39)

[Summarized from *M&SH*, II, pp. 465-77]

* Until the General Order, 12 December 1854 regulated inspection of hospital transports.

† Up to General Order, 16 February 1855 that authorized the issued of lime juice to all troops. (This date was chosen arbitrarily as evidence that conditions for the troops were improving in the Crimea; clearly the issuing of lime juice would not in itself have been responsible for reducing the mortality on the hospital ships.)

a. There were no departures between 13-26 October, 1-6 November 1854, and 18-26 September 1855 respectively.

Table 8.5: Number of voyages completed by hospital ships during the different phases of the campaign, September 1854-June 1856

Phase of the campaign	Period	Vessel type	No of voyages completed by the vessels departing during the period									
			1	2	3	4	5	6	7-8	9-12	13-22	Total
I-III After landing to before Sevastopol	17 Sept.-13 Oct 1854	Sail	8									8
		Steam	5									5
IV-VI After Balaklava to winter period 1*	14 Oct.-11 Dec.	Sail	10	1								11
		Steam	8	3								11
VII Winter Period 2†	12 Dec.-16 Feb. 1855	Sail	5	3	0							8
		Steam	19	9	6							34
VIII Spring and summer campaign	17 Feb.-17 Sep.	Sail	2	3	3	3	1	1	0	0	0	13
		Steam	5	4	4	7	7	7	8	12	9	63
IX After the siege	18 Sep.-4 June 1856	Sail	0	1	0	0	1	1	1	0	0	4
		Steam	4	3	1	2	2	2	4	2	10	30
Whole campaign (%)		Sail	25 (57.8)	8 (18.2)	3 (6.8)	3 (6.8)	2 (4.5)	2 (4.5)	1 (2.3)	0	0	44 (100)
		Steam	41 (28.7)	19 (13.2)	11 (7.7)	9 (6.3)	9 (6.3)	9 (6.3)	12 (8.4)	14 (9.8)	19 (13.2)	143 (100)
		All vessels	66 (35.3)	27 (14.4)	14 (7.5)	12 (6.4)	11 (5.9)	11 (5.9)	13 (6.9)	14 (7.5)	19 (10.1)	187 (100)

[Summarized from *M&SH*, II, pp. 465-77]

* Until the General Order, 12 December 1854 regulated inspection of hospital transports.

† Up to General Order, 16 February 1855 that authorized the issued of lime juice to all troops. (This date was chosen arbitrarily as evidence that conditions for the troops were improving in the Crimea; clearly the issuing of lime juice would not in itself have been responsible for reducing the mortality on the hospital ships.)

Table 8.6: Number of voyages completed by sixty-six hospital ships during the different phases of the campaign, September 1854-June 1856

Phase of campaign	Vessel type	Total number of voyages undertaken by each vessel											
		1	2	3	4	6	7	8	10	15	18	22	Total
I After landing	Sail	1											1
	Steam	0											0
II After the Alma	Sail	3											3
	Steam	1											1
III Before Sevastopol	Sail	2											2
	Steam	0											0
IV After Balaklava	Sail	2	0										2
	Steam	0	1										1
V After Inkerman	Sail	2	0										2
	Steam	1	0										1
VI Winter Period 1*	Sail	4	1										5
	Steam	3	0										3
VII Winter Period 2†	Sail	3	3	0									6
	Steam	12	5	2									19
VIII Spring and summer campaign	Sail	0	0	0	1	0	0						1
	Steam	3	0	0	0	1	1						5
IX After the siege	Sail	0	1	0	0	1	1	0	0	0	0	0	3
	Steam	2	2	0	0	1	1	1	1	1	1	1	11
Whole campaign	Sail	17	5	0	1	1	1	0	0	0	0	0	25
	Steam	22	8	2	0	2	2	1	1	1	1	1	41
	All vessels	39	13	2	1	3	3	1	1	1	1	1	66

[Summarized from *M&SH*, II, pp. 465-77]

* Until the General Order, 12 December 1854 regulated inspection of hospital transports.

† Up to General Order, 16 February 1855 that authorized the issued of lime juice to all troops. (This date was chosen arbitrarily as evidence that conditions for the troops were improving in the Crimea; clearly the issuing of lime juice would not in itself have been responsible for reducing the mortality on the hospital ships.)

Table 8.7: Mortality among sick and wounded NCOs and men during the voyage from the Crimea to Turkey, September 1854-June 1856

Phase of the campaign	Sailing vessels			Steamers			All vessels			Cumulative proportion (%)	
	Evacuees	Dths	%	Evacuees	Dths	%	Evacuees	Dths	%	Evacuees (c8)	Dths (c9)
I After landing	350	22	6.3	774	48	6.2	1124	70	6.2	3.9	5.4
II After the Alma	1388	278	20.0	1194	63	5.3	2582	341	13.2	12.8	31.8
III Before Sevastopol	462	14	3.0	-	-	-	462	14	3.0	14.4	32.9
IV After Balaklava	588	45	7.7	524	18	3.4	1112	63	5.7	18.3	37.8
V After Inkerman	412	14	3.4	905	26	2.9	1317	40	3.0	22.8	40.9
VI Winter period 1*	650	126	19.4	887	102	11.5	1527	228	14.9	28.1	58.5
VII Winter period 2†	1105	182	16.5	6721	301	4.5	7826	483	6.2	55.2	94.4
VIII Spring & summer campaign	1076	14	1.3	8086	27	0.3	9162	41	0.4	86.9	99.1
IX After the siege	217	3	1.4	3575	9	0.25	3792	12	0.3	100	100
Whole campaign	6248	698	11.2	22656	594	2.6	28904	1292	4.5		

[Summarized from *M&SH*, II, pp. 465-77]

* Until the General Order, 12 December 1854 regulated inspection of hospital transports.

† Up to General Order, 16 February 1855 that authorized the issued of lime juice to all troops (This date was chosen arbitrarily as evidence that conditions for the troops were improving in the Crimea; clearly the issuing of lime juice would not in itself have been responsible for reducing the mortality on the hospital ships.)

Table 8.8: Mortality among sick and wounded NCOs and men during the voyage from the Crimea to Turkey during different phases of the campaign, September 1854-June 1856

Part A:

Phase of the campaign	No. of men				Lengths of phase in days (inclusive)	Man-days at sea[a]	
	evacuated		men dying				
	Sail	Steam	Sail	Steam		Sail	Steam
I After landing	350	744	22	48	4	1400	3166
II After the Alma	1388	1194	278	63	10	5162	4911
III Before Sevastopol	462	0	14	0	13	1386	-
IV After Balaklava	588	524	45	18	18	3656	1791
V After Inkerman	412	905	14	26	11	1810	2715
VI Winter Period 1*	650	877	126	102	30	5299	4812
VII Winter Period 2†	1105	6721	182	301	67	9288	22038
VIII Spring and summer campaign	1076	8086	14	27	213	3546	23541
IX After the siege	217	3575	3	9	260	679	10908
Whole campaign	6248	22656	698	594	626	32226	73882

Part B:

Phase of the campaign	Calculations using Part A, columns 2-8			
	Ave. no. evacuated/day		Deaths/1000 man-days at sea	
	Sail (c2/c6)	Steam (c3/c6)	Sail (c4/c7)*1000	Steam (c5/c8)*1000
I After landing	88	186	15.7	15.2
II After the Alma	138	119	54.0	12.8
III Before Sevastopol	36	0	10.1	-
IV After Balaklava	33	29	12.3	10.1
V After Inkerman	37	82	7.7	9.6
VI Winter Period 1*	22	29	23.8	21.2
VII Winter Period 2†	16	100	19.6	13.7
VIII Spring and summer campaign	5	38	2.9	1.1
IX After the siege	1	14	4.4	0.8
Whole campaign	10	36	21.6	8.0

[Summarized from *M&SH*, II, pp. 465-77]

* Until the General General Order, 12 December 1854 regulated inspection of hospital transports.

† Up to General Order, 16 February 1855 that authorized the issued of lime juice to all troops. (This date was chosen arbitrarily as evidence that conditions for the troops were improving in the Crimea; clearly the issuing of lime juice would not in itself have been responsible for reducing the mortality on the hospital ships.)

a These totals have been calculated from the data included in the return for each vessel in the *M&SH*, II, pp. 465-77.

Table 8.9: Mortality among sick and wounded NCOs and men during the voyage from the Crimea to Turkey during different phases of the campaign with respect to the number of Medical Officers employed, September 1854-June 1856

Part A:

Phase of the campaign	No. of men				MOs employed during Phase		MO-days at sea[a]	
	evacuated		dying					
	Sail	Steam	Sail	Steam	Sail	Steam	Sail	Steam
I After landing	350	744	22	48	1	4	4	16
II After the Alma	1388	1194	278	63	14	10	54	42
III Before Sevastopol	462	-	14	-	3	-	9	-
IV After Balaklava	588	524	45	18	5	4	27	13
V After Inkerman	412	905	14	26	5	9	22	27
VI Winter Period 1*	650	877	126	102	8	12	61	53
VII Winter Period 2†	1105	6721	182	301	12	63	110	204
VIII Spring and summer campaign	1076	8086	14	27	16	114	55	330
IX After the siege	217	3575	3	9	6	43	25	131
Whole campaign	6248	22656	698	594	70	259	367	816

Part B:

Phase of the campaign	Calculations using Part A, columns 2-9					
	Men evacuated/MO		Deaths/MO		Deaths/MO-days at sea	
	Sail (c2/c6)	Steam (c3/c7)	Sail (c4/c6)	Steam (c5/c7)	Sail (c4/c8)	Steam (c5/c9)
I After landing	350	186	22.0	12.0	5.5	3.0
II After the Alma	99	119	19.9	6.3	5.1	1.5
III Before Sevastopol	154	-	4.7	-	1.6	-
IV After Balaklava	118	131	9.0	4.5	1.7	1.4
V After Inkerman	82	101	2.8	2.9	0.6	1.0
VI Winter Period 1*	81	73	15.8	8.5	2.1	1.9
VII Winter Period 2†	92	107	15.2	4.8	1.7	1.5
VIII Spring and summer campaign	67	71	0.9	0.2	0.3	<0.1
IX After the siege	36	83	0.5	0.2	0.1	<0.1
Whole campaign	89	87	10.0	2.3	1.6	0.72

[Summarized from *M&SH*, II, pp. 465-77]

* Until the General Order, 11 December 1854 regulated inspection of hospital transports.

† Up to General Order, 16 February 1855 that authorized the issued of lime juice to all troops. (This date was chosen arbitrarily as evidence that conditions for the troops were improving in the Crimea; clearly the issuing of lime juice would not in itself have been responsible for reducing the mortality on the hospital ships.)

a These totals have been calculated from the data included in the return for each vessel in the *M&SH*, II, pp. 465-77.

Table 8.10: Voyages of fifteen hospital transports on which the mortality rate among sick and wounded NCOs and men exceeded 30/1000 man-days at sea and/or 4/MO-days at sea

Phase of campaign	Vessel	Voyage		Evacuees			
		Date of departure (1854-55)	Days at sea	No. evacuated	No dying (%)	Deaths/1000 man-days at sea	Deaths/MO-days at sea
I After landing	*Dunbar* (Sail but towed)	18 Sep.	4	350	22 (6.3)	15.7	5.5
	Cambria (Steam)	20 Sep.	3	352	25 (7.1)	23.7	4.2
II After the Alma	*Arthur the Great* (Sail)	22 Sep.	2[a]	318	46 (14.5)	48.2[a]	3.1
	Orient (Sail)	22 Sep.	2[a]	188	33 (17.6)	58.5[a]	5.5
	Caduceus (Sail)	24 Sep.	5	317	114 (36.0)	71.9[b, c]	7.6
	Courier (Sail)	25 Sep.	4	260	33 (12.7)	31.7	4.1
	Timandra (Sail)	30 Sep.	5	305	52 (17.0)	34.1	5.2
VI Winter Period 1*	*Edendale* (Sail)	20 Nov.	3	165	38 (23.0)	76.8[c]	4.2
	Avon (Steam)	4 Dec.	3	226	52 (23.0)	76.7[d]	3.5
VII Winter Period 2†	*Ottawa* (Steam)	20 Dec.	3	100	13 (13)	43.3	4.3
	Tynemouth (Steam)	26 Dec.	3	308	37 (12.0)	40.0	6.2
	Jason (Steam)	31 Dec.	3	140	12 (8.6)	28.6	4.0
	St Hilda (Sail)	8 Jan.	11	77	28 (36.3)	33.1[c]	2.5
	Thames (Steam)	8 Jan.	3	149	14 (9.4)	31.3	2.3
	Colombo (Steam)	10. Jan.	4	210	27 (12.9)	32.1	3.4

[Summarized from *M&SH*, II, pp. 465-77]

* Until the General Order, 12 December 1854 regulated inspection of hospital transports.

† Up to General Order, 16 February 1855 that authorized the issued of lime juice to all troops. (This date was chosen arbitrarily as evidence that conditions for the troops were improving in the Crimea; clearly the issuing of lime juice would not in itself have been responsible for reducing the mortality on the hospital ships.)

a. These sailing vessels were towed across the Black Sea hence the time of two days in the return must be incorrect, and three days has been substituted in the calculations.

b. Cholera was reported to be very prevalent on *Caduceus*.

c. *Edendale*, a fine large ship, *St Hilda*, and *Caduceu*s were initially contracted to transport horses to the East; *The Times*, 29 & 30 March and 17 May 1854.

d. The unsatisfactory conditions on board *Avon* while in Balaklava harbour were reported to Lord Raglan who blamed the AMD for this, although the responsibility for them lay principally with the military and naval authorities. One of the outcomes was the regularizing of the inspection of hospital transports promulgated by a General Order issued on 12 December 1854 (see footnote * above).

Table 8.11: Number of sick and wounded NCOs and men evacuated to Turkey from mid-February 1855 until the end of the campaign

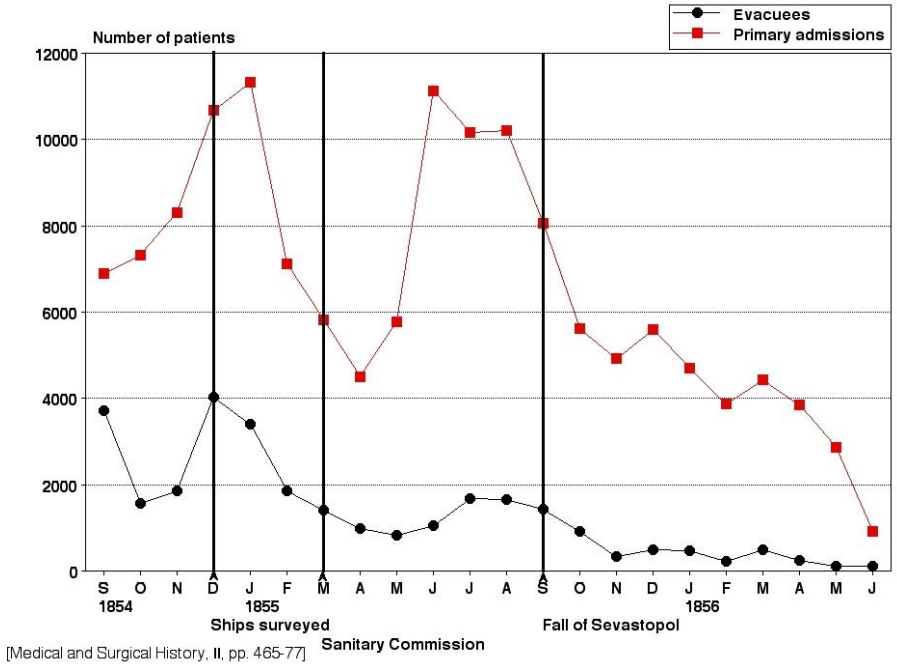
Vessel	No. of voyages	Phase VIII (17 Feb.-17 Sep. 1855)			Phase IX (18 Sep 1855-4 June 1856)			Both Phases		
		Sick		No. wounded	Sick		No. wounded	Sick		No. wounded
		Total	Deaths (%)	(% of evacuees)	Total	Deaths (%)	(% of evacuees)	Total	Deaths (%)	(% of evacuees)
Sydney	4	196	2 (1.0)	6 (3.0)	-	-	-	196	2 (1.0)	6 (3.0)
Ottawa	21	971	3 (0.3)	102 (9.5)	515	1 (0.2)	28 (5.2)	1486	4 (0.25)	130 (8.0)
Brandon	15	1061	1 (<0.1)	5 (0.5)	156	0	10 (6.0)	1217	1 (<0.1)	15 (1.2)
Australian	3	94	0	0	-	-	-	94	0	0
Andes	4	-	-	-	502	0	6 (1.2)	502	0	6 (1.2)
Melbourne	9	523	2 (0.4)	2 (0.4)	383	3 (0.8)	1 (0.25)	906	5 (0.6)	3 (0.3)
Severn	15	1906	5 (0.25)	30 (1.5)	459	2 (0.4)	64 (13.9)	2365	7 (0.3)	94 (3.8)
Orient[a]	6	338	9 (2.7)	51[b] (13.1)	97	0	1 (1.0)	435	9 (2.1)	52 (10.7)
Clifton[a]	6	346	3 (0.9)	0	111	3 (2.7)	4 (3.5)	457	6 (1.3)	4 (0.9)
Imperador	8	1069	4 (0.4)	300 (21.9)	375	0	83 (18.1)	1444	4 (0.3)	383 (21.0)
Gibaltar	6	-	-	-	648	1 (0.15)	8 (1.2)	648	1 (0.15)	8 (1.2)
0ther vessels	13	325	1 (0.1)	16 (4.7)	339	2 (0.6)	2 (0.6)	664	3 (0.5)	18 (2.6)
All vessels	110[c]	6829	30 (0.4)	512 (7.0)	3585	12 (0.3)	207 (5.5)	10414	42 (0.4)	719 (6.5)

[Summarized from *M&SH*, II, pp. 470-7]

a. Sailing vessels
b. One man died.
c. 76 and 34 vessels were employed in Phases VIII and IX respectively (Table 8.5, column 13).

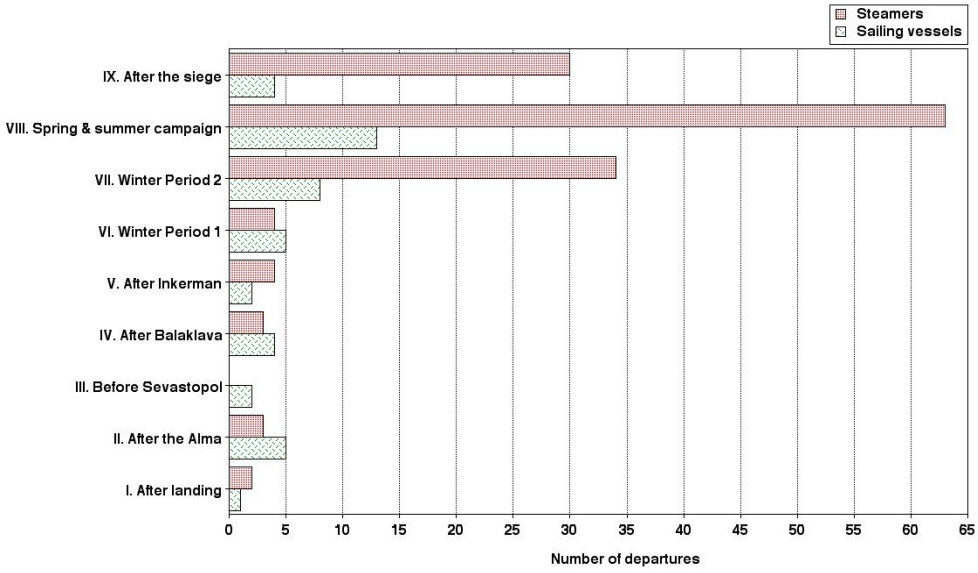
Figures 8.1-8.7

Figure 8.1: Number of NCOs and men comprising primary admissions to Army hospitals and evacuees from the Crimea to Turkey, September 1854-June 1856



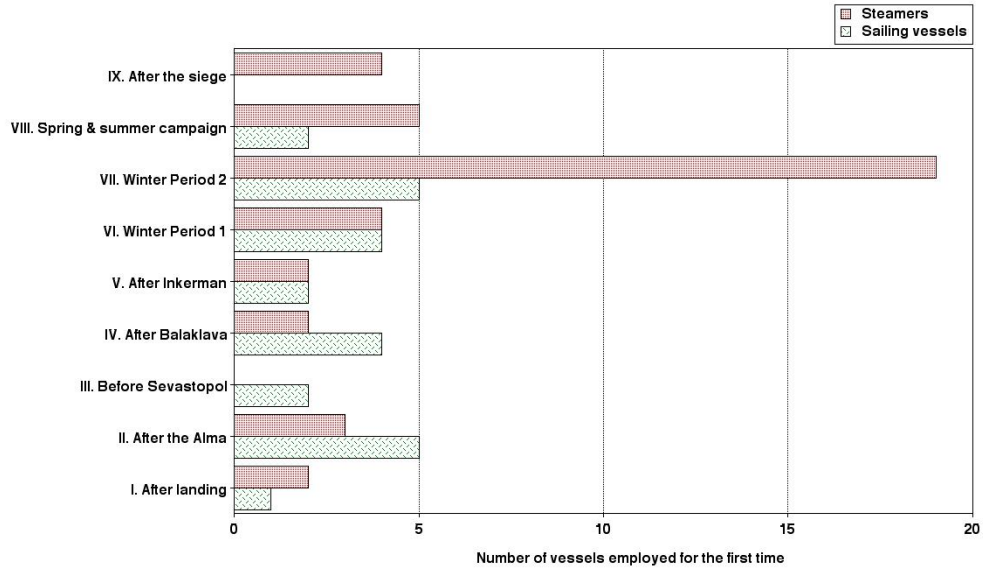
[Medical and Surgical History, II, pp. 465-77]

Figure 8.2: Number of sailing vessels and steamers employed to convey sick and wounded from the Crimea to Turkey, September 1854-June 1856



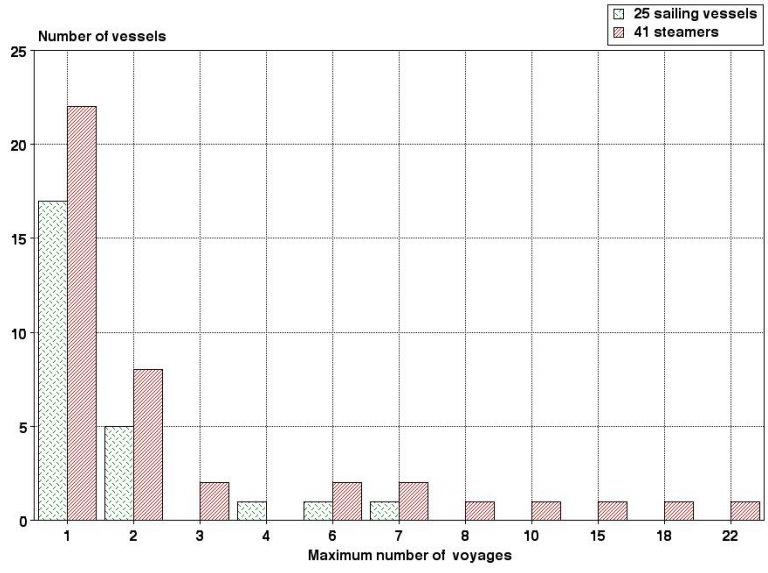
[Adpated from the Medical and Surgical History, II, pp. 465-77]

Figure 8.3: Number of sailing vessels and steamers employed to convey sick and wounded for the first time during each phase of the campaign, September 1854-June 1856



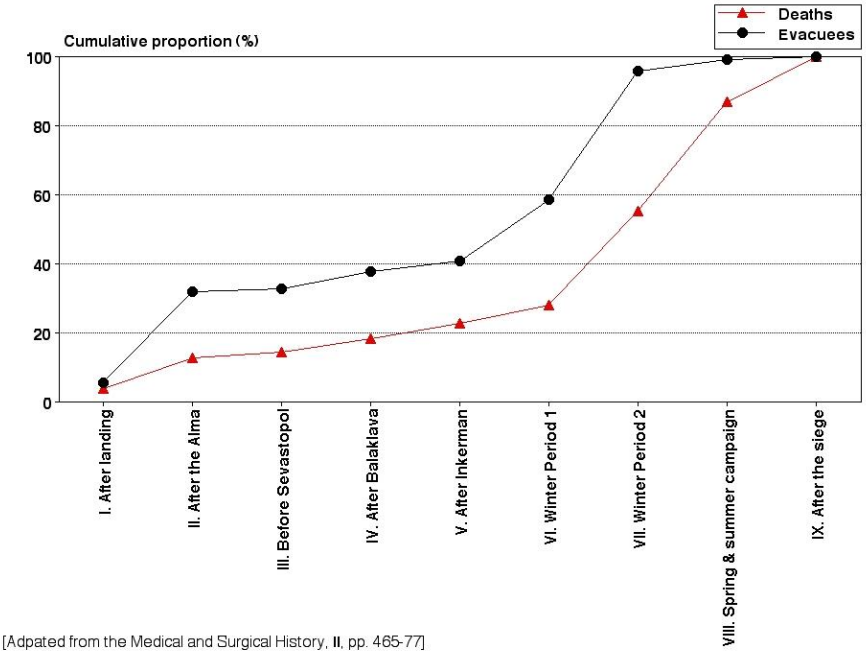
[Adpated from the Medical and Surgical History, II, pp. 465-77]

Figure 8.4: Maximum number of voyages undertaken by sixty-six hospital ships, September 1854-June 1856



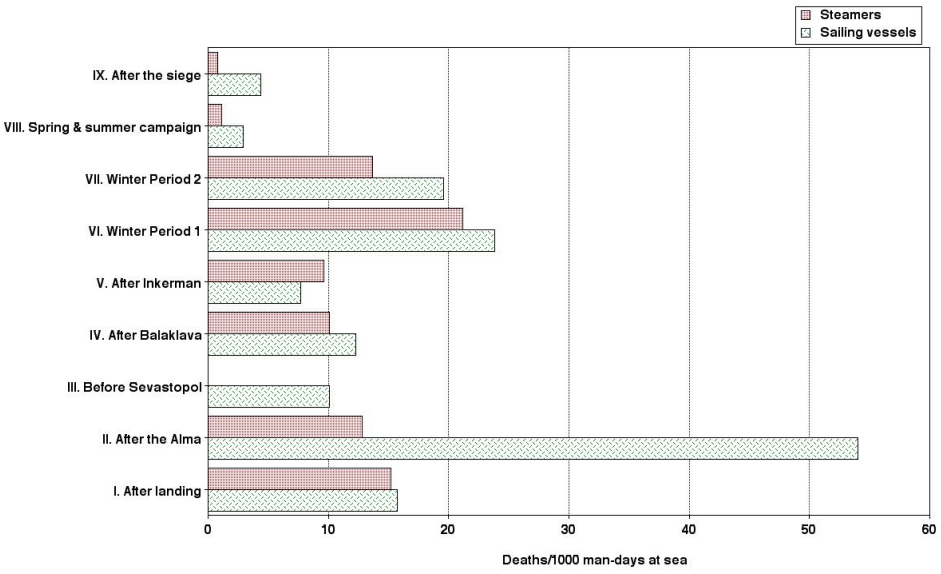
[Adapted from Medical and Surgical History, II, pp. 465-77]

Figure 8.5: Cumulative proportion (%) in the number of sick and wounded men evacuated from the Crimea to Turkey, September 1854-June 1856



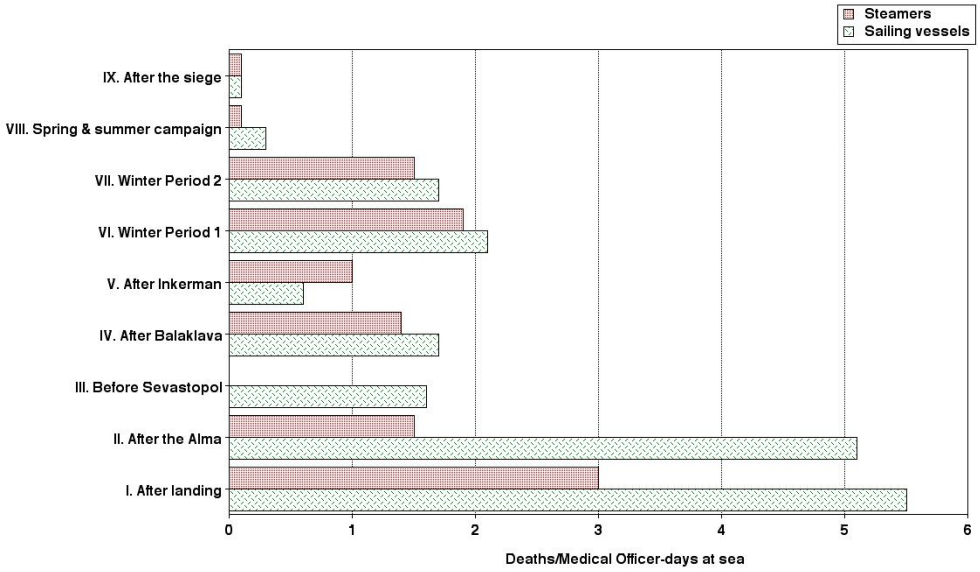
[Adpated from the Medical and Surgical History, II, pp. 465-77]

Figure 8.6: Mortality among NCOs and men with respect to the time spent at sea on the voyage from the Crimea to Turkey, September 1854-June 1856



[Adpated from the Medical and Surgical History, II, pp. 465-77]

Figure 8.7: Mortality among NCOs and men with respect to the number of Medical Officers in attendance during the voyage from the Crimea to Turkey, September 1854-June 1856



[Adpated from the Medical and Surgical History, II, pp. 465-77]

Chapter 9
Provision for convalescents and the repatriation of invalids

Shortly after war was declared Smith suggested that consideration should be given to the development of hospital accommodation on healthy islands in the Black Sea or Greek archipelago[678] in addition to the provision of dedicated hospital transports referred to in Chapter 8.[679] In the event no action was taken at that time and as has been pointed out Cantlie suggested that the responsibility for these omissions in forward planning must rest with either the Military Secretary, the Commander-in-Chief, Viscount Hardinge, or the Secretary for War, the Duke of Newcastle.[680]

It became obvious after hostilities commenced that there was a need for hospitals near the front for men likely to 'recruit their health' in reasonable time and Hall recommended that only invalids should be sent to England with convalescents going to Malta 'for a change of air.'[681] This policy was authorized by Raglan[682] thus releasing space in the general hospitals for acute cases,[683] although the early development of sanatoria was hampered by a shortage of manpower, as 'medical staff must be provided, as also hospital orderlies, and a military commander, and a detachment capable of bearing arms to enforce order […] but I [Raglan] have not a notion whence the officers could be taken [as] there is a great want of them at Scutari.'[684] This dilemma was echoed a year later by the PMO, Scutari who informed Smith that the 'hospital at Smyrna will require a large staff; none can be spared from here.'[685]

Similarly, the need to provide military and medical staff on hospital transports exacerbated the shortage of manpower.[686] In addition, the piecemeal movement of

678 Smith to Military Secretary, 11 May 1854; *PoL* and BPP (1857-58), No. 2379, p. 7 with an extract in *The Lancet*, 21 Apr. 1855. Smith mentioned that the French had arranged for hospital facilities at Candia (now Iráklion).

679 Smith to Military Secretary, 4 Apr. 1854; RAMC/397/F/CO/2/7 (Manuscript), RAMC/397/524/14/2 (Typescript).

680 Cantlie (1974), II, pp. 54-5.

681 Hall to Raglan and QMG, 27 Oct. and Hall to Menzies, 28 Oct. 1854; RAMC/397/F/CO/1/1/819, 820 & 842, and BPP (1857-58), No. 2379.

682 Hall to Cumming, 10 Nov. 1854; RAMC/397/F/CO/1/1/892.

683 PMO, Scutari to Hall, 10 Nov. 1854; *PoL*. In the event *Emeu*, HMS *Arethusa*, *Blake*, *Trent*, *Jura*, and *Ripon* disembarked invalids at Malta between 17 Nov. and 31 Dec. 1854; WO/15/1187.

684 Raglan to Newcastle, 10 Jan. 1855; WO/1/370/747-752.

685 PMO, Scutari to Smith, 25 Jan. 1855; *PoL*.

686 Estcourt to Wetherall, 3 Feb. 1855; NAM-1962-10-95-2.

patients presented the Army authorities with administrative problems, particularly in the early stages, as it proved difficult to keep track of their whereabouts, despite a General Order of 18 December 1854 stipulating that Purveyors were 'strictly ordered to communicate to regiments […] the death, or removal to England, of any soldier.'[687]

In the event Gozo appeared to be the only hospital developed specifically for convalescents while Corfu, Rhodes, and Sinope were considered as potential locations, but none were utilized. Additional accommodation for convalescents was subsequently provided in the general hospitals at Scutari and Kuleli while civilian hospitals at Smyrna and Renkioi only came into use when the health of the Army had much improved, and hence many of the patients sent there would have been close to becoming convalescents when they arrived.[688]

Convalescent facilities in the Mediterranean, Ottoman Empire, and the Crimea

The Mediterranean

The British Army maintained a number of garrisons in the Mediterranean and these provided scope for accommodating convalescents. Malta was an obvious place to send convalescent soldiers and for disembarking invalids too ill to proceed to England, for example, patients with sloughing wounds on *Talavera* and *Sultana*.[689]

The medical facilities on the island were poorly developed initially as there were only 120-150 beds for the sick in the summer of 1854,[690] and they probably remained in a rudimentary state during the campaign since Captain Galton and Dr Sutherland reported in 1861 that there was no single good military hospital on the island.[691] Nevertheless, by October, Hall felt able to 'apply officially for lighter cases of disease to be sent to Malta, rather then England', although the proposal had to be 'put […] in official shape for the naval authorities to act.'[692] A few weeks later Hall told the PMO,

687 WO/28/130. The order was restated on 8 Jan. 1855 as it had not been fully implemented.

688 See Hall to QMG, 15 Oct. 1855; RAMC/397/F/CO/1/2/3412.

689 PMO, Malta to Smith. 9 Jan. 1855; *PoL*.

690 PMO to Smith, 12 July 1854; *PoL* and Hall 'Unpublished memoirs'.

691 BPP (1863), No. 3207, p. 21.

692 Hall to Smith, 27 Oct. 1854; *PoL* and BPP (1857-58), No. 2379, p. 103. For example, a disembarkation return in WO/25/1187 indicated that HMS *Arethusa* left Scutari for Malta on 9 Nov. with 146 convalescents arriving there on 20 Nov. The health of the invalids was 'tolerably

Scutari that Raglan was anxious that invalids should be sent to England and convalescents to Malta as expeditiously as you can manage,'[693] thus releasing space at Scutari for more casualties.[694]

A month later the GOC, Malta reported ample accommodation for convalescents on the island,[695] and inevitably the increased number of both invalids and healthy troops[696] prompted a request for 'additional medical officers' together with 'a purveyor, a steward, and wardmasters.'[697] By April 1855, however, the 'want of accommodation.' necessitated Raglan suspending sending sick to Malta,[698] although by this time plans were afoot for developing a convalescent hospital on Gozo.

It was planned to send a draft of the 'not very sick' from Scutari to Corfu in *Dunbar* in January 1855,[699] although in the event some patients were wounded and others were in a 'disgraceful state […] suffering from dysentery, debility after fever, chest complaints and rheumatism.'[700] Not surprisingly the arrival of these patients prompted a request for additional medical staff.[701] The returns for these 463 invalids from February to November 1855 are summarized in Table 9.1[702] and it is probable that over two thirds returned to their regiments although after four months some patients were not fit enough to return to duty or be repatriated to England.[703]

Panmure's plan to establish a depot there for invalids was abandoned in favour of a hospital for 500-1,000 men at Gozo,[704] possibly because it was on the direct route to the Black Sea, unlike Corfu. Smith was also against the plan because 'during the hot

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good under the circmustances' and there were no deaths. Similarly, *Jura* sailed from Scutari on 15 Dec. with 283 invailds arriving at Malta on 21 Dec.

693 Hall to Cumming, 10 Nov. 1854; RAMC/397/F/CO/1/1/892.

694 Cumming to Smith, 10 Nov. 1854; *PoL*.

695 Hall to Cumming, 27 Nov. 1854; RAMC/397/F/CO/1/1/961.

696 Smith informed the PMO, Malta on 9 Jan. 1855 to expect 10,000 men to be quartered on the island; *PoL*.

697 PMO, Malta to Smith, 9 Jan. 1855; *PoL*.

698 PMO, Malta, to Smith, 18 Apr. 1855; *PoL*.

699 Paulet to AG, 8 & 14 Jan. 1855; WO/28/186.

700 PMO, Corfu to Smith, 3 Feb. 1855; *PoL*.

701 Smith to Deputy Secretary, 2 Feb. 1855; *PoL*.

702 WO/28/185.

703 AG to QMG, 15 June 1855; WO/28/197.

704 Undersecretary to Smith, 10 Apr. 1855; *PoL*.

season fever of a severe type often appears, and invalids would be less able to resist than healthy troops.'[705]

In March 1855 Panmure instructed the GOC, Malta to 'take measures for the establishment of a convalescent depot for a 1,000 men on Gozo' but it is possible their letters crossed as earlier in the month he informed Panmure of difficulties encountered in obtaining accommodation for the Army as relationships between the military and civil authorities and private property owners was ill defined, though Ford Chambray, on Gozo, was in the process of being refurbished as a hospital or convalescent depot, and it would be ready in about five weeks.[706]

Smith was apparently not consulted officially about the plan,[707] though he had 'no doubt that [Gozo] would prove a most eligible locality;'[708] and took matters forward by requesting the appointment staff for a 300-bed hospital,[709] only to be informed that the plan was for 500 convalescents,[710] later increased to 1,000-1,500. The barrack could accommodate 500[711] and hence the Commissary-General was instructed to provide 40 huts for 25 men, although Panmure favoured tents rather than new buildings.[712] In the event huts provided by Messrs Weikersheim of Vienna[713] proved unsatisfactory and the cost of rendering them habitable was £3,580; a sum subsequently authorized by Panmure.[714]

Smith suggested 15 MOs of various grades for 500-1000 men[715] and shortly afterwards his request for passage to Gozo for three medical officers was confirmed,[716] while 14 wardmasters and orderlies passed the Isle of Wight en route for Gozo on 17

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705 Smith to Military Undersecretary, 13 Mar. 1855; *PoL*.

706 Panmure to GOC, Malta, 12 Mar. and GOC, Malta to Panmure, 7 Mar. 1855; WO/6/70 & WO/1/513.

707 Referred to in Deputy Secretary to Smith, 10 Apr. 1855; *PoL*.

708 Staff Surgeon Armstrong to Smith, 6 Mar. 1855; *PoL* and Smith to Armstrong, 13 Mar. 1955; *PoL*.

709 Smith to Military Undersecretary, 30 Mar. 1855; *PoL*.

710 Undersecretary, to Smith, 7 Apr. 1855; *PoL*.

711 PMO, Malta to Smith, 18 Apr. 1855; *PoL*.

712 Panmure to GOC, Malta, 24 Apr. 1855; WO/6/70.

713 Following the loss of *Prince* the ambassador in Vienna (Earl of Westmorland) arranged a contract with the House of Weikersheim to supply warm clothing; *Morning Post*, 10 Jan. 1855.

714 Panmure to General Pennefather, 29 Oct. 1855; WO/6/71.

715 Smith to Military Secretary, 18 Apr. 1855; *PoL*.

716 Smith to Military Secretary, 30 Apr. 1855; *PoL* and Smith to DIGH Gibson, 9 May 1855; *PoL*.

August 1855.[717] In the first instance it was planned to obtain hospital stores from Marseilles[718] and Vienna.[719] These arrived on *Earl of Mulgrave* on 15 May,[720] while equipment prepared in England by early May[721] was not dispatched until over two months later.[722] In the mean time, Panmure ordered that any stores duplicating those supplied by Weikersheim should be forwarded to other hospitals.[723]

Panmure informed Simpson and Paulet on 18 July that the GOC, Malta would notify them when Gozo was ready, viz. 500 beds in Fort Chambray and 500 in huts.[724] In August 1855 the hospital could accommodate 250-300 and the medical staff comprised 1 DIGH (Dr J.B. Gibson), 4 surgeons, and 16 assistant surgeons.[725] There are no records of this hospital in the *M&SH*,[726] though Smith recommended its use when he counselled against repatriating patients to England during the winter,[727] while during the evacuation of the Crimea invalids and convalescents from the 'late seat of war' were quartered there, as was the 31st Regiment that landed there on 16 June 1855;[728] and lost several men as a result of cholera in the weeks that followed.[729]

Panmure informed Paulet that he could 'avail' himself of accommodation for 400 convalescents in Gibraltar 'for relieving the hospitals in the East.'[730] However, Hall, who had lived there for four years, considered it unsuitable for convalescents during the summer and recommended they should be sent to England;[731] an opinion which was

717 *The Times*, 20 Aug. 1855.

718 Deputy Secretary to Smith, 19 Apr. 1855; *PoL*.

719 Military Secretary to Smith, 8 May 1988; *PoL*.

720 PMO, Gozo to Smith, 18 May 1855; *PoL*.

721 Smith to PMO, Malta and Undersecretary, 1 & 9 May 1855; *PoL*.

722 Director of Transport Service to Smith, 21 July 1855; *PoL*.

723 Military Undersecretary to Smith, 9 June 1855; *PoL*, p. 646.

724 WO/6/71.

725 <maltaramc.com> consulted on 15 Sep. 2105.

726 The monthly reports of the AG in Malta recorded a total of only 280 deaths during during the 27 month period, Apr. 1854-June 1856; WO/17/2160-2.

727 Smith to Undersecretary, 5 Nov. 1855; *PoL* and BPP (1857-58), No. 2379, p. 77.

728 *The Times*, 12 June 1856 and WO/25/1188.

729 Malta Family History website entry for Fort Chambray, Gozo. Incidentally, there are no enteries in the register for invalids evacuated to there from the Crimea.

730 Panmure to Paulet, 2 Apr. & 6 May 1855; WO/6/70.

731 Hall to QMG, 12 May 1855; RAMC/397/F/CO/1/1/2974.

reinforced by a board of MOs.[732] Authority was, however, given for transports returning to England to embark any invalids from regiments serving in the Crimea if required.[733]

Paulet was subsequently instructed not to send patients there in summer,[734] though some invalids unfit to proceed to England were landed at Gibraltar and attached to a regiment in the garrison while under treatment.[735] They then continued to England following the approval of a Medical Board.[736]

At the end of June 1855 the King Ferdinand II of the Two Sicilies gave consent to Sir William Temple for a military convalescent hospital to be established on Ischia, though nothing came of this initiative.[737]

Ottoman Empire

Stratford informed Raglan on 31 August 1854 that the General Hospital and the barracks at Scutari and Kuleli would be cleared by the Turkish authorities and made available for the British Army.[738] The buildings were subsequently used as hospitals for patients from the Crimea and the local military depots though with time some facilities were developed for convalescent soldiers.

In Bulgaria 'light cases' and convalescents were encamped at the south side of Varna bay,[739] while nearly two weeks before the invasion Hall informed the PMO, Scutari that '*Bombay* and *Mercia* will bring 400 and 250 convalescents.'[740] He continued: 'We have had an enormous number of sick thrown on our hands […] and have been much pressed to provide for them' and by pointing out that Raglan wished to 'gradually get the sick

732 Smith to the Undersecretary, 20 June 1855; *PoL*.

733 Newcastle to GOC, Malta, 24 Jan. 1855; WO/6/70.

734 Military Undersecretary to Smith, 5 July 1855; *PoL* and Panmure to Paulet, 7 July 1855; WO/6/71.

735 For example, Gibraltar Garrison Orders, 6 Mar., 10 June, 11 July, 9 Aug., 25 Sep., & 24 Oct., 1855 & 14 Jan. & 7 July 1856; WO/284/71 & 72.

736 Gibraltar Garrison Orders, 1 Jan.; WO/284/71 and *The Times*, 12 Jan. 1855

737 *Essex Standard*, 11 July, *Daily News*, 12 July, and *The Lancet*, 14 July 1855.

738 WO/28/197.

739 Hall to Smith, 29 Aug. 1854; RAMC/397/F/CO/1/1/665.

740 Hall to Smith, 4 Sep. 1854; *PoL*. Hall estimated that *c.*2,000 sick remained in Bulgaria.

away' and 'they will be sent down when […] convalescent, and opportunities for transport present.'[741]

In order to reduce pressure on hospital accommodation men sufficiently recovered were returned to the front from the beginning of November 1854, while effective men and convalescents would be moved to Kuleli from the Barrack Hospital if large numbers of sick and wounded arrived.[742] Convalescents were also employed as hospital orderlies while others guarded wounded Russians,[743] or were sent to the depot, located initially in the Barrack complex, or to vessels moored at the mouth of the Golden Horn.

Huts were erected in the quadrangle of the Barrack Hospital and, although Cumming did not 'approve of their situation', he intended to 'occupy them with convalescents […] which will thin the wards and corridors,'[744] and thus allow the walls of the wards to be whitewashed.[745] However, one of the perceived 'evils' of housing convalescents adjacent to a town was the men had access to grog shops and some relapsed and had to be 'sent back to their wards.'[746] Other hospital buildings utilized included the Pavilion which formed part of the Barrack Hospital and housed officers; it was closed towards the end of 1855 to reduce expense, while the Harem at Haidar Pasha was destroyed by fire a few weeks later.[747]

Some weeks after the invasion a Turkish frigate, and *Bombay*, a fine Indiaman, were moored in the Golden Horn and fitted up for convalescents,[748] as reported by Hall and Sillery:

> Hall: Today we […] move 500 convalescents onto an old line of battle ship […] fitted up and moored within the Seraglio point, and in a day or two we shall be able to despatch 170 invalids to England […] and 50 women whose husbands have either died or been killed in action, and who, poor creatures, are an embarrassment to us in the way of accommodation.[749]

741 Hall to PMO, Scutari, 2 Sep. 1854; RAMC/397/F/CO/1/1/682. Incidentally, Cantlie (1974), II, p. 42 implied incorrectly that Hall ordered these vessels to Scutari; the Royal Navy controlled the movement of transport vessels.

742 Sillery to AG, 9 & 15 Nov. 1854; WO/28/186

743 Paulet in answer to letter from the AG, 24 Dec. 1854; WO/278/186.

744 Cumming to Smith 22 Feb. 1855; *PoL* and BPP (1857-58), No. 2379, p. 36 and BPP, 1854-55, No. 449, p. 26.

745 Cumming to Hall, 2 Mar. 1855; RAMC/397/F/CO/19/9.

746 *MT&G*, 26 May 1855.

747 PMO, Scutari to Smith, 29 Nov. 1855 & 7 Feb. 1856; *PoL*.

748 *ILN*, 11 Nov. 1854 includes an engraving of the Turkish hulk used as the hospital ship.

749 Hall to Raglan, 5 Oct. 1854; original in NAM-1968-07-293 but no copy in RAMC/397/F/CO/1/1.

> Sillery: We sent about 400 men on board the hospital ship yesterday, all convalescents, all improving. I sent 1 officer, 3 sergeants, 3 cooks, and 10 orderlies. […] a naval assistant surgeon in medical charge. […] I think the ship very comfortable […] all can sit down for their meals.[750]

Some weeks later the Hospital Commissioners considered it 'inexpedient to send convalescents on board ship' as the confinement was 'prejudicial both their health and spirits.' Although initially intended for convalescents the two hulks had effectively become floating hospitals by the time they were inspected by the Sanitary Commissioners, who likewise found them unsatisfactory,[751] and they had ceased to be used for this purpose by the spring of 1855.[752]

Permission to utilize the barracks at Kuleli was obtained from the Porte in December 1854 and the first patients were admitted the following month,[753, 754] while the 'fine riding-school' was subsequently used as a convalescent hospital for 180 men.' 'It was 'contiguous to the Bosphorus [and] proved very healthy'.[755] It was seemingly 'much admired' and 'kept in beautiful order''[756] It was later retained for the British Army during November 1855 when the principal buildings were handed over to the British German Legion.

Abydos: Calvert, the Consul on the Dardanelles, organized hospital facilities at Abydos with 400 beds to cater for the troops when they first arrived in 1854.[757] Hall advised Raglan in June that a lazaretto there would make a suitable hospital,[758] and Dr Jameson

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750 Sillery to AG, 4 Oct. 1854; WO/28/186. Hall and Sillery were referring the Turkish vessel as *Bombay* did not arrive until later with '460 sick, mostly convalescents who would soon be fit for duty'; Sillery to AG, 11 Oct. 1854.

751 For the Commissioners report to Admiral Gray and his response dated 17 & 18 Mar. 1855 respectively, see FO/195/452 (longhand copy) and WO/33/1/24/55 (Cabinet paper), with a summary in BPP (1857), Session 1, No. 2196, pp. 27-8.

752 BPP (1854-55), No. 1920, p. 47. On 23 Mar. 1855 Cumming informed Hall that '*Bombay* has been emptied […] The Turkish hulk will also if possible be vacated;' RAMC/397/F/CO/19/14. Paulet also informed Panmure that he had 'caused the Turkish hulk […] to be cleared […] *Bombay* convalescent transport-ship has also been cleared […]'; BPP, 1854-55, No. 449, pp. 22-3.

753 Paulet to AG, 20 Dec. 1854; WO/28/186.

754 Incidentally, the demand for accommodation near the Bosphorus resulted in few suitable buildings remaining available for hospitals or stables; Stratford to Clarendon, 17 Jan. 1855; FO/78/1070.

755 Paulet to Panmure, 25 Apr. 1855; BPP (1854-55), No. 449, p. 22.

756 A Lady Volunteer (1856), II, pp. 273-5.

757 Evidence given on 31 May 1858; BPP (1857-58), No. 482, p. 220.

758 Hall to Smith, 23 June 1854; *PoL*. A lazaretto is a reception centre for those in quarantine.

was instructed to form a general hospital there during October.[759] *Kangaroo* and *Emeu* arrived on the 6 and 25 December with 207 and 142 patients respectively with the *Robert Lowe*, *Brandon*, and *Melbourne* bringing 316 more during February and April 1855.[760]

The hospital proved 'an out of the way place, very inconvenient,'[761] and it became used more for convalescents,[762] although by August it was 'almost empty and scarcely required', with only 32 men remaining to be repatriated.[763] By October 1855 it was no longer needed by the Army[764] and Panmure approved that military medical personnel could be replaced by civilians from the hospital at Renkioi, though with Captain Segrave in military command.[765]

Storks, Paulet's replacement, favoured transferring convalescents awaiting discharge to Abydos as they could be 'kept under closer discipline' than 'they are likely to be at Renkoy (*sic*).'[766] On the other hand, Hall recommended sending them to Scutari 'where facilities for their reception already exist.' In Hall's opinion Renkioi was 'little more than a convalescent station' because 'its distance from the Crimea rendered it unfeasible to send acute cases,'[767] and 'with the exception of the Land Transport Corps, which had been most injudiciously recruited, no serious disease prevailed.'[768] Hall's opinion appears to have prevailed and Storks was instructed to send convalescents from Renkioi to Scutari and not Abydos.[769] The hospital was subsequently turned over to the French,[770] although a wharf was retained for the use of a LTC depot.

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759 Hall to Jameson, 19 Oct. 1854; RAMC/397/F/CO/1/1/826.

760 *M&SH*, II, p. 478. *Kangaroo* then sailed to Marseilles; ADM/7/576.

761 Cumming to Hall. 28 July 1855; NAM-2007-07-16-43.

762 Smith to PMO, Scutari, 10 May 1855; *PoL*.

763 PMO, Scutari to Smith, 16 & 30 Aug. 1855; PoL.

764 Hall to QMG, 15 Oct. 1855; WO/28/140.

765 Parkes to QMG, 22 Sep. 1855; WO/28/140; Panmure to Storks, 13 Oct. 1855; WO/6/71; Scutari District Orders, 15 Oct. 1855; WO/28/103.

766 Storks to QMG, 25 Oct. 1855; WO/28/186.

767 Hall to QMG, 15 Oct. 1855; RAMC/397/F/CO/1/2/3412.

768 Hall 'Unpublished memoir'.

769 QMG to Storks, 22 Oct. 1855; WO/28/192

770 Stratford to Clarendon, 1 Oct. 1855; FO/78/1088. The French had earlier expressed an interest in the facilities and were assured they would not be used by General Beatson's Irregular Cavalry; Paulet to Stratford, 24 Aug. 1855; FO/195/452.

Sinope: In the spring of 1855 Hall informed the QMG that if there was the need for another hospital away from the Crimea he would recommend Sinope,[771, 772] and this opinion was echoed by PMO, Scutari who considered it 'would answer well enough.'[773] The Sanitary Commissioners subsequently reported that Sinope was 'as good a place for a large hospital as could be desired' although temporary buildings were required, and further expense would be incurred in providing storage for water.[774] Hall accepted that a deficiency of water would render the location 'ineligible,'[775] and no further action was taken. After the war Hall opined that the 'the want of water could not have been a well-founded objection, from the number of animals belonging to the Commissariat and LTC that were subsequently collected and kept there.'[776] A reasonable conclusion given there were 3,994 mules, 1,215 camels, 948 horses, and 105 donkeys there in January 1856,[777] and equidae can consume 5-20 gallons a day depending on the weather, their size, diet, and workload.[778]

Smyrna: There was a small British hospital in Smyrna which provided for expatriates and sailors using the port but it was not in such satisfactory state as the French equivalent,[779] and was obviously too small for military purposes. Clarendon ordered Stratford to procure additional hospital accommodation[780] and accordingly a Staff Surgeon and a Commissariat officer were ordered to Smyrna to seek suitable facilities for a convalescent hospital.[781] They recommended a Turkish barrack located near the

771 Hall to QMG, 23 Mar. 1855; RAMC/397/F/CO/1/1/1684 and BPP (1857-58), No. 2379, p. 118.

772 Now spelt Sinop.

773 Cumming to Hall, 10 Apr. 1855; NAM-2007-07-16-19.

774 Sanitary Commissioners to Raglan, 19 June 1855; WO/33/1/49/55/Inclosure 14.

775 Hall to Military Secretary, 23 June 1855; RAMC/397/F/CO/1/1/2448, WO/28/176 and BPP (1857-58), No. 2379, p. 125.

776 Hall 'Unpublished memoir'.

777 Commandant, Sinope to HQ, 31 Jan. 1856; WO/28/193.

778 Hinton (1978).

779 A. Stafford, MP, to Newcastle, 6 Nov. 1854; BPP (1854-55), No. 218, Appendix 12. On the 13 July 1855 Newcastle noted that he had seen the 'civil hospital, which is being rebuilt under the direction of the Foreign Office in consequence of the serious complaints made about me at the commencement of the war. […] the cost […] is £15,000 and it will contain 30 patients. Close to this […] is the Dutch hospital […] The French also have a better establishment;' Diary entry, University of Nottingham, Newcastle papers, Ne/2F/10/1.

780 Newcastle to Raglan, 11 Dec. 1854; WO/6/70/712 and Cabinet paper; W&SHC/2057/F8/III/C/65.

781 Departmental Order issued by the PMO, Scutari, 20 Dec. 1854; FO/195/452

shore, and close to an 'abundant market'.[782, 783] The building comprised a casement, which was deemed unsuitable for patients, and two upper stories which could accommodate 520 patients with safety,[784] as well as a large number of attendants. Quarters were available nearby for the medical staff.[785]

The hospital opened on 15 February 1855 and was staffed by military MOs until replaced by civilians during the course of March. Six hospital transports sailed there from Balaklava between 3 and 16 February, and, although all called at Scutari to disembark the worst cases,[786] it soon became over crowded,[787] necessitating a request for additional accommodation in a nearby barracks and lazaretto.[788]

It was suggested before the hospital opened that, notwithstanding the shortage of medical staff, it should not be used solely for convalescents as they were relatively few patients in this category compared to the number of sick needing treatment.[789] Initially there was a bias towards the less seriously ill, since during the first 2½ months to the end of April the ratio of deaths to admissions was 12% as compared to 28% in the Scutari hospitals.[790] Thereafter the ratio was much reduced to 2.2%,[791] thus confirming that Smyrna became a 'convalescent station', as was originally envisaged.[792] A sensible policy given that the long voyage from the Crimea 'should not be thought of' both for those in 'the trying state of a severe disease [or] severe surgical cases.'[793, 794]

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782 FO/195/456. Staff Surgeon Moorhead's report is reproduced in *PoL*, I, Appendix No. 3.

783 Illustrated in *ILN*, 1855, I, p. 472.

784 It was suggested that there would be 2,000 beds; *The Lancet*, 27 Jan. 1855

785 Hospital Superintendent to Panmure, Mar. and 14 Apr. 1855; BPP (1854-55), No. 449, pp. 54-6.

786 These comprised *Adelaide* (173 men), *Emeu* (155), *Melbourne* (151), *Brandon* (120), *Medway* (196), and *Tynemouth* (301). Of these 11 died during the voyage across the Black Sea and 96 were disembarked at Scutari; *M&SH*, II, pp. 469-470 & 479. Incidentally, Cumming pointed out to Smith on 28 Apr. 1855 that the policy of disembarking the worst cases at Scutari would result in fewer patients dying at Smyrna; BPP (1854-55), No. 449, p. 46.

787 *MT&G*, 24 Mar. 1855 based on information dated 3 Mar.

788 Paulet to Stratford, 21 Feb. and Storks to Stratford, 1 Mar. 1855; FO/195/452.

789 Lawson to Smith, 28 Jan. 1855; *PoL*.

790 Enclosure of the cemetery with masonry for £93/-/12d was authorized; Panmure to Storks, 15 Sep. 1855; WO/6/71.

791 The principal causes death were diarrhoea or dysentery (67 cases), fever (38), frostbite (18), scurvy (14), and respiratory disease (11); *M&SH*, II, General Hospital Returns VIII.

792 For example, Herbert to Cumming, 5 Jan. 1855; W&SHC/2057/F8/III/C15.

793 *The Lancet*, 24 Feb. 1855 and *MT&G*, 23 Aug. 1855.

794 Dr Spencer Wells, a naval surgeon employed in a civilian capacity, noted in a letter dated 16 June 1855 that the 'length of the voyage from Balaklava to Constantinople is generally about thirty hours. It is about fourteen hours further to the hospitals on the Dardanelles, and another sixteen or eighteen hours to Smyrna'; *MT&G*, 30 June 1855.

Paulet visited Smyrna in June and told Raglan privately that 'a civil hospital [was in no way] advantageous; it is very expensive, and it certainly does not improve the discipline of our soldiers.' He continued by saying that both Smyrna and Abydos 'required many things doing for [the soldiers'] comfort' and 'we have comfortable accommodation for nearly 3,000 sick [at Scutari]' though he suggested that 'the distant hospitals should be kept in case of [increased demand, although it involved] a great deal of trouble when men are at a distance, and Smyrna lays quite out of the regular line of ships from and to England.'[795]

Incidentally, Panmure informed Paulet during March that the high summer temperatures at Smyrna may hinder recovery[796] and that this may account in part why there were no further sailings from Balaklava after *Sydney* and *Brandon* departed at the end of April until *Severn* and *Imperador* left on 26 October 1855, although both called first at Scutari.[797] This would appear to be in response to an instruction from the Deputy Secretary since Hall informed Storks that:

> His Lordship's [Panmure] orders will be complied with, when the hospital ships now fitting are ready for the reception of sick but the distance of Smyrna and Renkioi is a drawback to their usefulness and if they are to be occupied an additional quantity of sick transport will be required.[798]

Hall also suggested to Smith that the reasons the Deputy Secretary gave for sending patients to Smyrna 'would amuse you […] It was not that they were requiring accommodation, but the expensive civil establishment employed by government might have occupation.'[799]

At the end of October Storks informed the QMG that the Secretary of State's instructions had been put into effect and the transfer of 377 and 215 patients to Smyrna and Renkioi had resulted in 2,228 beds being available at Scutari.[800] Smith was subsequently informed of these developments,[801] and there the matter rested as the

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795 Paulet to Raglan, 22 June 1855; WO/28/186.

796 Panmure to Paulet, 5 Mar. 1855; WO/6/70. Incidentally, Nightingale considered it would be untenable within a month of her writing to Herbert on 26 Mar.; McDonald (2010a), p. 172.

797 *M&SH*, II, p. 479.

798 Hall to Storks, 9 Oct. 1855; RAMC/397/F/CO/1/2/3340. There is no despatch from Panmure on this matter in WO/6/71.

799 Hall to Smith, 10 Nov. 1855; Mitra (1911), pp. 401-2. Hall suggested that the Deputy Secretary had intervened to avoid awkward questions in Parliament; though there is no record any were posed.

800 Storks to QMG, 30 Oct. 1855; WO/28/186.

801 Undersecretary to Smith, 5 Nov. 1855; *PoL*.

hospital closed at the end of the month and was handed over to the British Swiss Legion which was based in Smyrna from the beginning of December until the end of the war.

Renkioi: The decision to construct a prefabricated hospital designed by I.K. Brunel was taken in London during February 1855 and, Dr E. Parkes, the nominated civilian superintendent, was informed that it was Panmure's wish that he should be wholly 'responsible for the efficiency of the hospital […] to be established on the shores of the Bosphorus [at] a site chosen by you,' after taking into account the information collected by Paulet.[802] In the event, neither Raglan nor Hall heard of this plan officially though Hall assured Parkes of his support on 23 April: 'If there is anything I can do to assist you, or forward the object you are sent out to accomplish, I shall be very happy, and you may command my services.'[803] Hall wrote again to Parkes a few months later and made the following, frank, but not unfriendly comment: 'I regret its distance from us will militate against your usefulness, but with my good wish for the success of your undertaking.'[804, 805]

Parkes failed to find a suitable site on the Bosphorus and decided on Renkioi, apparently on the recommendation of the Consul on the Dardanelles.[806] The first prefabricated components arrived on 17 May and by 14 July, when Newcastle passed by, it was ready for 300 patients, although the design was for 3,000. The number had increased to 500 by mid-August at which time Panmure made it clear that the hospital should not receive Sardinian patients but should be 'kept as a reserve for the sick and wounded of the British Army.' He also recommended that patients should be sent there from Scutari, even if there was surplus accommodation, as this would keep the 'establishment in working order and so prepare it for the heavier labours which may be anticipated in the ensuing winter.'[807] Neither suggestion was unreasonable given that the siege was still in progress, although it was October before the first of 1,300 admitted

802 War Office to Parkes, 4 Apr. 1855; WO/43/991.

803 Hall to Parkes, 23 Apr. 1855; RAMC/397/F/CO/1/1/1894.

804 Hall to Parkes, 13 Aug. 1855; RAMC/397/F/CO/1/2/2925.

805 For accounts see Toppin (1991) and Silver (2007), and WO/43/99 for contemporary letters and reports.

806 BPP (1857-58), No. 482, pp. 22.

807 Panmure to Storks, 25 Aug. 1855; FO/6/71.

during the first five months of operation arrived; thereafter only 30 new patients arrived before closing at the end of June 1856.[808]

Newcastle considered locating a hospital at Renkioi was a 'very questionable experiment [as] its distance from any town of any importance almost fatal for a hospital of such magnitude.' He considered that its 'only special advantage is an abundant supply of good water' and that the whole 'affair looks to me like a crochet. […] I am sure it will be expensive,' and on this Hall agreed when he wrote after the war:

> The personal pay of the medical and purveying departments amounted to 15,378*l*., and of the whole establishment to 24,930*l*. per annum, exclusive of the pay of the military staff, the diets and store expenses of the patients to say nothing of the heavy expense of erecting this magnificent establishment, which was placed at too great a distance from the seat of active operations to be of much use to the Army; and this defect was pointed out from the very first.[809]

Other locations: Newcastle suggested to Raglan during November 1854 that Rhodes might prove suitable for convalescents and HM's consul was making enquiries,[810] and Stratford confirmed that the Porte had agreed to the establishment of a sanatorium there.[811] Early in January Herbert, noted that he had heard that 'Rhodes is best for climate and buildings' but it would be difficult to supply as it is 'without much trade or market,'[812] and this, coupled with a lack of suitable public buildings,[813] meant that Smyrna was considered a better option, although Nightingale preferred Rhodes.[814]

Panmure instructed Paulet on 16 February to ascertain whether Mitylene would make a suitable venue for a hospital but an inspection indicated it 'ineligible.'[815] Finally, a Dr J.B. Thompson proposed to the military authorities that Sueida (now Samnadağ) at the mouth of the Orontes as a location for a convalescent station but it was too far away and there were no suitable port facilities.[816]

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808 The hospital received patients by sea on 10 occasions between 2 Oct. 1855 and 10 Feb. 1856; *M&SH*, II, p. 480.

809 Hall 'Unpublished memoir'. There is a marginal note in the draft version: 'Each patient cost for medical attendance £18/14/10d.'

810 Newcastle to Raglan 23 Nov. 1855; WO/6/70/155.

811 Stratford to Clarendon, 9 & 14 Dec. 1854; FO/78/1006 & 1007.

812 Herbert to Cumming, 5 Jan. 1855; W&SHC/2057/F8/III/C15.

813 Stratford to Paulet, 1 Feb. 1855 in response to a request for information by Paulet, 27 Jan. 1855; FO/78/1072, FO/195/452 and FO/352/41A/4. Incidentally, Hall informed the Military Secretary on 25 Jan. that, though he had no report on Rhodes, he thought it should prove a suitable location for convalescents, and he could provide medical staff if requited; FO/30/91.

814 Nightingale to Herbert, 26 Mar. 1855; McDonald (2010a), p. 171.

815 Panmure to Paulet, 16 Feb. & 19 Apr. 1855; WO/6/70.

816 Hall to Raglan, 20 Apr.; *PoL*, I, Appendix 15 and Hall to Smith, 21 Apr. 1855; RAMC/397/F/CO/1/2/1872 and *PoL*. Dr Thompson, MD, was 'well known in connection with the

Smith recommended that Prince's Islands in the Sea of Marmora would prove a convenient location for convalescents rather than erecting temporary hospital accommodation at Scutari, and Panmure instructed Paulet to make the necessary enquiries.[817] Smith planned to provide sufficient marquees to permit the formation of a 'breezy and salubrious camping ground' which could be moved if the 'site became objectionable.'[818] Smith also considered Proti as an alternative venue, but nothing came of either initiative.[819] Paulet was informed that permission had been obtained from the Turkish authorities to build a 'wooden hospital' to the north of Scutari at Selvi Bournou (Cypress Cape), but, again, this proposal was not put into effect.[820]

Crimea

As the facilities developed in the Crimea convalescents and 'light cases', such as ophthalmia, could be cared for locally and were thus spared the 'evils of the voyage to Scutari, or the longer passages to Abydos and Smyrna.'[821]

It was anticipated that wounded men would recover better in the Castle Hospital than at Scutari,[822] and within a few weeks of its opening on 3 March 1855 Russell noted that it was 'becoming a great curative establishment, and promises to afford great benefits to our sick and wounded men.'[823] Men with disease were admitted during the first month but the policy changed in early April and between then and the end of October wounded soldiers accounted for 1,805 (92%) of 1,966 admissions, of whom 80 (4.4%) died, as compared with 25% in the Camp General Hospital which received casualties direct from the front. Thereafter, men with disease predominated providing 317 (93.2%) of 340 admissions. None of these died which suggests the hospital was being used for convalescents, as originally intended.[824]

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proposed overland route to India via Snediah and valley of the Orontes.' He died of fever at Constantinople on 5 Aug. 1855; *GM*, Oct. 1855, p. 441.

817 Smith to Undersecretary, 1 Mar. 1855; *PoL* and BPP (1857-58), No. 2379, p. 38, and Panmure to Paulet, 5 & 12 Mar. 1855; WO/6/70.

818 Smith to Cumming, 9 May 1855; *PoL* and BPP (1857-58), No. 2379, pp. 40-1.

819 Smith to Dr Bryce, 11 Dec. 1855; *PoL* and BPP (1857-58), No. 2379, p. 82. Proti, an island in the Sea of Marmora, was used to accommodate Russian prisoners.

820 Odo Russell to Paulet, 26 Apr. 1855; FO/352/41A

821 News item, 2 Apr.; *The Times*, 18 Apr. 1855.

822 Hall to Smith, 10 Mar. 1855; RAMC/397/F/CO/1/2/1605 and *PoL*.

823 Despatch, 2 Apr., *The Times*, 18 Apr. 1855.

824 *M&SH*, II, General Hospital Returns IV.

In March 1855 Cossack Bay, which is near the entrance to Balaklava harbour, was inspected as a potential site for a convalescent hospital though Hall recommended expansion at the Castle as it was a good site with an abundant supply of water and it would 'economize our resources'.[825] The need for additional hospital accommodation was considered further the next month when Hall expressed his preference for 'uncontaminated sites' such as the plateau to the west of the entrance of Balaklava harbour or the neighbourhood of the Monastery,[826] which was eventually chosen. Cossack Bay was reconsidered in May, and Hall pointed out that landing would be difficult if a southerly wind caused a swell, though he conceded that there would be less trouble in transporting stores there than to the Monastery.[827] The Monastery never became a convalescent hospital in the strict sense although during the first five months from July 1855 the ratio of deaths to admissions was 25 (4.9%):508 suggesting a selection in favour of the less seriously ill. After this time the policy changed and ophthalmia accounted for a nearly three-quarters of the admissions although there were three deaths among the other 107 patients.[828]

When in Bulgaria the PMO of the 1st Division recommended that MOs dischargeing hospital patients who could attend daily or do light duty, and it is probable that this practical policy was adopted by other divisions.[829] For example, in the Coldstream Guards camp 'One tent per company was apportioned [in January 1855] for the use of convalescents […] usually men recently dismissed from hospital with trivial affections (*sic*: afflictions) […] it was often thought desirable to afford such men […] a few days rest from the unceasing toil […]'[830] When the railway became operational it was used to convey convalescents from Balaklava to the camps[831] while there are other references to convalescents being treated as outpatients or employed on light duties, including

825 Hall to QMG, 7 Mar. 1855; RAMC/397/F/CO/1/2/1591 and BPP (1857-58), No. 2379, p. 117.

826 Hall to QMG, 25 Apr. 1855; 1855; RAMC/397/F/CO/1/2/1923, RAMC/397/M1/15, and BPP (1857-58), No. 2379, p. 121.

827 Hall to QMG, 5 May 1855; RAMC/397/F/CO/1/2/2008.

828 *M&SH*, II, General Hospital Returns VI.

829 Memorandum, 2 Aug. 854; BPP (1857-58), No. 2379, p. 154.

830 *M&SH*, I, p. 113.

831 AG to Sir Colin Campbell, 3 Apr. 1855; WO28/108.

working in hospitals and even some constructional work, although some of those 'attending at stables' in hot weather often 're-appeared on the sick list.'[832]

Repatriation of invalids to England

Invalids were repatriated prior to the invasion using several vessels, viz, HMS *Simoom*, *Niagara*, *Tonning*, HMS *Vulcan*, *Orinoco*, *Harbinger*, *Mangerton*, *Palmyra*,[833] and *Golden Fleece*[834] but this would have been more for convenience than necessity, and it was not until the departure of *Libertas* from Scutari on 16 October 1854[835] that matters became more pressing and hospital transports from the East began to arrive regularly in English ports, principally Portsmouth, from the beginning of 1855. These events were reported in *The Times* and other newspapers; varying from one liners to accounts giving details of the voyage, the passengers, particularly officers,[836] and the various hospitals to which the invalids were distributed.

In February 1855 Smith suggested to the War Office that the sick and wounded should only be brought back to England in 'streamers with appropriate fittings' and they could not be transported at that time of year 'without risk of serious suffering from inclement or severe weather.'[837] The need to repatriate invalids during the second winter was less urgent though he advised once again that it would 'not be expedient to transport the sick and wounded back to this country […] from the beginning of December to the following April,' and they should be treated at Scutari, Gozo, and Gibraltar.[838] Initially Panmure was 'unwilling to accede to this request as he wished they should return to England as usual,'[839] although he subsequently changed his mind.

The electric telegraph became available during the campaign, and although there is no evidence it was employed routinely by the AMD, its use allowed advanced

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832 *M&SH*, II, p. 136.

833 *The Times*, 17 Apr., 5 & 30 May, 5 & 23 June, 2 & 9 Aug., and 6 Oct. 1854. Incidentally, invalids brought home on HMS *Vulcan* and *Tonning* travelled to Dublin from Portsmouth in *Ajax*; *IoWO*, 17 June 1854; and a disembarkation return in WO/25/1187 recorded the arrival of *Mangerton* at Gravesend from Malta on 14 Sep. with 63 NCOs and men from 12 regiments together with 82 women and 127 children.

834 *Morning Post*, 20 July 1854.

835 ADM/7/576.

836 Incidentally, the names of officers leaving the Crimea with a medical certigicate for Turkey, England, or elsewhere were published in General Orders.

837 Smith to Military Undersecretary, 27 Feb. 1855; BPP (1857-58), No. 2318, p. 469.

838 Smith to Undersecretary, 5 Nov. 1855 *PoL* and BPP (1857-58), No. 2379, p. 77

839 Military Undersecretary to Smith, 9 Nov. 1855; *PoL*.

warning if invalids needed hospitalization on arrival. For example, Smith informed the PMO, Plymouth that four ships from Scutari would touch there and that he should disembark up to 150 before they proceeded to Portsmouth,[840] while Codrington telegraphed that 60 of 244 invalids embarked on *Thames* on 17 June 1856 would require medical treatment,[841] and these were sent to Chichester on arrival.[842]

Provision of hospital transports

Smith addressed the problem of evacuation the sick and wounded 'from the vicinity of conflict' in May 1854 and he emphasized the need for 'a liberal supply of ships, some to convey periodically to England men never likely to become available for further service.' This advice was not heeded and in the following January he found it necessary to recommend that two good steamers would prove sufficient for transporting medical stores to the East and that the public would be 'ensured against any unnecessary loss' if they were used to carry home invalids when returning.[843] Similarly, Dr Mapleton, sometime Raglan's physician, advocated the employment of dedicated vessels for the purpose, especially during the summer as the heat in Turkey and Malta 'would impair recovery.' He calculated that four steamers of 2,000 tons could convey 2-3,000 men every six weeks. These ships would require a permanent staff of MOs, orderlies, cooks, washermen, etc. but despite this outlay the policy would obviate the vast expense of setting up hospitals in Smyrna, Abydos, etc.[844]

Panmure informed the House of Lords that:

> As soon as we can obtain a sufficiency of transports it is [intended] to establish a communication every week to 10 days direct between Scutari and England by means of steamers fitted up as hospital ships, which will bring home […] 300 or 400, or perhaps 500 […] who will be far sooner restored to health […] in this country, than […] in the place where they now are.[845]

840 Smith to PMO, Plymouth, 28 Apr. 1856; *PoL*.

841 Undersecretary to Smith, 24 June 1856; *PoL*. A later message reported 24 French nurses were on board.

842 PMO, Portsmouth to Smith, 9 July 1856; *PoL*.

843 Smith to Deputy Secretary, 23 Jan. 1855; *The Lancet*, 28 July 1855.

844 Report by Mapleton, 5 Feb. 1855; BPP (1857-58), No. 425. See also BPP (1857-58), No. 2379, p. 196-7.

845 *The Times*, 17 Feb. 1855.

He then told Paulet that he was hoping to secure the services of six steamers not required by the Navy to provide a weekly service between Scutari and England,[846] and, though Palmerston told MPs on 19 February 1855 that the War Department intended to make arrangements for a 'periodical service' between Constantinople and England for 'bringing home such invalids as [can] be transported by sea,'[847] nothing come of it, and two sailing transports, the *Great Tasmania* and *Saldanha*, were engaged instead on 29 March.

Mapleton was sent to Liverpool to superintend their modification,[848] but found them being fitted for troops in health and not invalids. The number of berths was then reduced, the bunks widened from 22 to 26ins., and additional patent air tubes installed to improve ventilation.[849] Smith was requested to advise on dietary matters as the owners were to victual for the troops both out and home,[850] and then to nominate MOs.[851] Smith's suggestion to appoint permanent medical staff[852] was approved,[853] as was the appointment of two hospital serjeants and one steward to each vessel, while the orderlies, in the ratio of 1:20 sick,[854] were to be volunteers from line regiments.[855]

Two sets of apparatus for hoisting the wounded on board were ordered,[856] and on 19 April the vessels were ready for sea.[857] Mapleton also recommended that (1) the boxes for the horses should be cleared away before the return journey as they were a source of filth and an obstruction to ventilation;[858] (2) only 12 sick officers should be sent back so that each had a separate cabin; and (3) every mess should be answerable for

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846 Panmure to Paulet, 9 Mar. 1855; WO/6/70.

847 *The Times*, 20 Feb. 1855

848 Smith to Mapleton, 31 Mar. 1855; *PoL*.

849 Mapleton to Smith. 2 Apr. 1855; *PoL* For details of the fittings see *Morning Chronicle*, 27 Apr. 1855. Following their return to England it was decided to install rotary ventilation machines and Smith suggested that a person acquainted with the apparatus should travel with the vessels; Smith to Undersecretary, 14 Sep. 1855; *PoL*.

850 Director of Transport Services to Smith, 23 Mar. 1855; *PoL*.

851 AG to Smith, 9 Apr. 1855; *PoL*.

852 Smith to Undersecretary, 13 Apr. 1855; *PoL* and BPP (1857-58), No. 2379, p. 47.

853 Military Undersecretary to Smith, 17 Apr. 1855; *PoL*.

854 Military Undersecretary to Smith, 25 Apr. 1855; *PoL*. See also Memorandum No. 942, 2 May 1855; WO/123/151.

855 Military Secretary to Smith, 1 May 1855; *PoL*. Smith issued a list of 15 regulations for display on the vessels; Smith to Undersecretary, 8 May 1855; *PoL* and BPP (1857-58), No. 2379.

856 Smith to Director of Transport Services, 14 Apr. 1855; *PoL*.

857 Mapleton to Smith, 19 Apr. 1855; *PoL*.

858 The horse stalls were removed before departure. PMO, Portsmouth to Smith, 5 May 1855; *PoL*.

all equipment to prevent its illegal disposal as this would leave the vessel under equipped for the return voyage.[859]

In September Smith and Dr Forrest inspected *Great Tasmania*, *Saldanha*, the three-decker *Britannia*, and the General Military Hospital in the Portsmouth Garrison. They expressed their satisfaction in the state of the ships for invalids, the condition of the hospital, and the treatment and progress of the patients.[860]

Smith hoped that the two vessels would convey invalids from the Crimea to England without calling at the hospitals of the Bosphorus,[861] while he suggested that the vessels should be towed by a steamer when 'calmness prevailed.'[862] The naval authorities in Gibraltar, Malta and Turkey were requested to assist in this regard,[863] and *Assistance*, *Charity* and *Prompt* were used for this purpose.[864] In the event *Great Tasmania* and *Saldanha* only completed two round trips and were paid off 22 March and 7 April 1856 respectively.[865]

Several steamers equipped as permanent hospital transports operated a shuttle service between Balaklava and the Bosphorus from January 1855 but none was told off permanently for the voyage to England, and judging by the number of different vessels employed during the campaign, their selection must have been frequently on an ad hoc basis.[866] The military authorities had no official role in the selection of these vessels, as this was a Naval responsibility, but to minimize the risk of adverse criticism Smith enjoined Hall to ensure that all transports conveying sick to England should be minutely examined and that all the specifications for provisions, medical comforts, etc. should be exact.[867]

No comprehensive list of the transports involved in this service was published but a summary of the dates of arrival in British waters of 160 voyages involving 115 vessels

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859 Smith to Undersecretary, forwarding Mapleton's letter, 20 Apr. 1855; *PoL*.

860 *The Times*, 19 Sep. 1855. *Saldanha* and *Great Tasmania* arrived in Portsmouth on 5 Aug. and by 1 Sep. respectively.

861 Smith to Military Undersecretary, 16 June 1855; *PoL*.

862 Smith to Military Undersecretary, 31 July 1855; *PoL* and BPP (1857-58), No. 2379, p. 70.

863 Military Undersecretary to Smith, 10 Aug. 1855; *PoL* and Smith to Undersecretary, 10 Sep. 1855; *PoL* and BPP (1857-58), No. 2379, p. 74.

864 BPP (1856), No. 345 and *The Times* 22 Feb. & 8 Mar. 1856.

865 BPP (1856), No. 345.

866 Conache (1987), implied incorrectly that a regular transport service to England was established (p.81).

867 Smith to Hall, 30 Nov. 1855; *PoL*.

reported in *The Times* and elsewhere are listed in Appendix 9.1. Thirty-eight (33%) were sailing vessels, which undertook a quarter of the voyages, while 61 (53%) were screw steamers, and 16 (14%) paddle wheel steamers, which were utilized for 87 (54.4%) and 32 (20%) of the voyages respectively (Table 9.2).

Hall maintained a ledger recording the departure of hospital transports and those destined for England from April 1855 until mid-June 1856 are listed in Table 9.3.

There are several reports in *The Times* of quarantine regulations being imposed at Corfu, Gibraltar and Malta, particularly with respect to cholera or smallpox, while more specifically, the need for allied transports and civilian trading vessels to obtain Turkish Bills of Health became the topic of a correspondence between the British consul at Smyrna, J.W. Brant, Stratford and Clarendon following the opening of the hospital at Smyrna.

Brant thought that vessels involved in the war effort were exempted from quarantine and that it would be reasonable for other traders to be similarly privileged. However, it transpired that the Turkish authorities had not relaxed the regulations and Stratford considered there was no chance of the official policy being changed.[868] Clarendon responded to this robustly by stating that HM's government was surprised that:

> the Turkish authorities are not only not disposed to relax […] quarantine as regards merchant vessels, but […] impose it against transports engaged in the service of the Sultan's allies. The importance of avoiding the delays […] of quarantine systems, as regards vessels employed in the service of the Allied forces, is so evident, that […] that the Porte will […] see the necessity […] for the exemption of all transports from the quarantine regulations.[869]

It has not been established if this matter was resolved but sympathy for the Turkish authorities should be entertained since many invalids arriving at Smyrna during the first four months suffered from infectious disease; with fevers, diarrhoea, and dysentery accounting for 689 (53%) of the 1,311 patients.

Voyage to England

Smith reminded Hall that all transports conveying sick to England should be inspected to ensure that 'all the specifications for provisions, medical comforts, etc. should be

868 Brant to Stratford, 4 Oct. and Stratford to Clarendon, 2 Oct. 1855; FO/78/1090.

869 Clarendon to Stratford, 16 Nov. 1855; FO/78/1068.

exact.'[870] Hall subsequently issued a Medical Department Order on the subject on 11 December 1855.[871] The Queen's Regulations also required that vessels should be appropriately inspected before departure, although, in view of the many employed to transport invalids it is probable that the facilities on board were not always ideal. For example, Hall considered *Libertas* was 'not well calculated for the purpose;'[872, 873] and his misgivings were confirmed by Staff Surgeon Baxter who travelled on the ship.[874] Raglan sanctioned that the *Emeu* could transport 'ineffective men to Malta'[875] and, though Dr Tice reported that she was 'too filthy' to receive invalids while at Balaklava,[876] she subsequently sailed from Scutari for England with *c.*400 invalids, together with 'perhaps 100 women', so relieving 'the barracks and hospital very much.'[877]

When *Himalaya* arrived at Portsmouth early in 1855 she was 'not very cleanly […] on the lower deck where the troops and the women and children were berthed 8-10 horses were also stalled with the result the stench was almost sickening.'[878] Smith complained officially only to be informed by the Admiralty, via the Military Secretary, that although fitted for horses she had been used for invalids at the urgent request of the military authorities in Malta.[879]

Some months later the PMO, Portsmouth reported that when *Lady Eglington* arrived she appeared 'short-handed and not very clean.'[880]

Mapleton considered that the men's health would 'tend to improve on the voyage especially as they knew they are going home,'[881] and this was indeed the case on

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870 Smith to Hall, 30 Nov. 1855; *PoL*.

871 RAMC/397/F/CO/1/3.

872 Hall, Diary, 7 Oct. 1854; RAMC/397/PC1/6-8. *Libertas* arrived at Devonport on 24 Dec., where some invalids were disembarked, before sailing on to Chatham; *HT&SC*, 30 Dec. 1854.

873 *Libertas* also conveyed naval invalids; Hall, Diary, 20 Oct. 1854; RAMC/397/PC/1/6-8.

874 Smith to Military Secretary, 2 Jan. 1855 *PoL*.

875 Hall to Smith, 2 Nov. 1854; RAMC/397/F/CO/1/1/855 and *PoL*.

876 AoT to QMG, 3 Nov., with an annotation by Hall, 4 Nov. 1854; WO/28/196.

877 Sillery to AG, 9 Nov.; WO/28/186 and PMO, Scutari to Smith, 14 Nov. 1854; *PoL*. A return in WO/25/1187 recorded that *Emeu* left Scutari 11 Nov. and disembarked 115 wounded convalescents and others at Malta on 17 Nov.

878 *The Times*, 3 & 4 Jan. and *HT&SC*, 6 Jan. 1855.

879 Smith to Military Secretary 8 Jan. and his reply of 24 Jan. 1855; *PoL*.

880 PMO, Portsmouth to Smith, 17 May 1855; *PoL*.

881 Report by Mapleton, 5 Feb. 1855; BPP (1857-58), No. 425. See also BPP (1857-58), No. 2379, p. 196-7.

Arabia, *Croesus*, *Julia*, *Lord Raglan*, *Hydaspes*, *Alma*, *Orinoco*, *Niagara*, and *Robert Lowe*,[882] while some men on *Great Britain*, *Great Tasmania*, *Arabia*, and *Niagara* were fit enough to be granted furlough on arrival.[883]

The manner in which the invalids were catered for on *Orinoco* and *Sultana* attracted praise,[884] while Staff Surgeon Saunders reported that invalids on *Arabia* enjoyed 'every possible comfort' when on voyage from Malta.[885] Letters of appreciation addressed to the MO and the master and crew on HMS *Neptune*, *Orinoco*, *Sultana*, *Great Britain*, *Imperatriz*, and *Euxine* were published,[886] while other comments are summarized in Table 9.5.

On occasions military priorities influenced the management of transports conveying invalids. Passengers on *Ripon* were disembarked at Malta as the vessel was required to transport French troops.[887] *Cambria* then conveyed the invalids to Liverpool where some were retained in the parish hospital until convalescent.[888] The remainder travelled to Strood by train via Coventry and London,[889] despite Smith considering it preferable to send them to Chatham by sea as they would remain 'lodged in comparative comfort, in a splendid roomy vessel [and] would be sheltered from […] the weather,' rather than be transported overland by rail; a journey 'too long for men in delicate health to sit in an erect posture' and during which time they may have up to twelve 'removals […] into and out of vehicles.'[890] The Admiralty agreed with this suggestion but Horse Guards 'desired that the men might be landed at once,' an instruction that was followed such that only nine men were sent to the Royal Infirmary and 187 to Chatham by train.[891]

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882 *The Times*, 5 & 8 Mar., 16 May, 5 & 21 July, 12, 15, & 29 Oct., & 12 Nov. 1855.

883 *The Times*, 13 Aug., 3 & 13 Sep. & 2 Nov. 1855

884 *The Times*, 12 & 28 Feb. 1855.

885 *MT&G*, 15 Mar. 1856.

886 *The Times*, 12 & 28 Feb. and 20 Aug. 1855; *MT&G*, 6 Oct. 1855; *The Times*, 14 May 1856.

887 *HT&SC*, 13 Jan. 1855. Disembarkation return in WO/28/1187: *Ripon* left Scutari on 25 Dec. with 132 NCOs and men who were wounded convalescents in whom bowel complaints were prevalent. Two died on the voyage and she arrived at Malta on 31 Dec. 1954.

888 Disembarkation return inWO/25/1187: *Cambria* left Malta on 3 Jan. and arrived at Liverpool on 15 Jan. with 139 invalids from 15 regiments together with 24 women and two children. There was one death.

889 *The Times*, 20 Jan. 1855.

890 Memorandum from Smith to Secretary at War, 20 Jan. 1855; BPP (1857-58), No. 2379, p. 29.

891 The QMG informed Smith on 24 Jan. that Hardinge appreciated the 'measures so handsomely adopted by the authorities in Liverpool' but he was 'desirous not to trench upon their hospitality longer the necessary;' *PoL*.

The weather and sea conditions also influenced the progress of vessels. Embarkation on *Great Tasmania* was delayed at Balaklava because of bad weather,[892] and she made three unsuccessful attempts to pass through the Straits of Gibraltar.[893] Gales or contrary winds slowed the progress of HMS *Arethusa*, *Harbinger*, HMS *Malacca*, which was unable to make headway with her steam, HMS *Bellerophon*, *Dunbar*, *Golden Fleece*, *Germania*, *Hope*, *Alma*, and *Cape of Good Hope*.[894] The invalids on *Talavera* 'suffered much' during severe weather on the voyage before she became 'wind bound' in Plymouth Sound for some days; *Ripon* put into Coruna to the 'great relief of the invalids [and] officers and crew who were much exhausted'; while disembarkation from HMS *Arethusa* and *Thames* was delayed due to the weather.[895] *Burmah* ran into difficulties off the French coast near Granville when en route for Deptford only to be declared a wreck. The crew was saved but no mention was made of the passengers.[896] A low tide delayed *Candia*'s progress from Southampton to Portsmouth,[897] and the tide presumably affected other vessels from time to time, although, being a common occurance, this would rarely merit comment.

Equipment failures and navigational errors caused delays on occasions. Newspaper reports noted the voyages of the *Golden Fleece* and *Himalaya* were prolonged due mechanical failure; the speed of *Simla* was reduced to six or seven knots when her screw broke about 100 miles from Ushant; both hawsers parted in a heavy gale when *Thames* was towing *Columba* about 30 miles off Cape Finisterre; *Drawback* (*sic*: *Drobak*) broke adrift from *Severn* off Cape Bon; *Adelaide* experienced 'a heavy gale […] the sick suffered severely […] and several temporary berths […] on the troop deck […] were broken;' and HMS *Highflier* had to return to Malta to repair the expansion valve.[898] *Perseverance* ran aground on Isola Point after leaving Corradino, Malta with 410 invalids. The 'united power' of *Dragon*, *Magicienne*, *Shearwater*, and *Argo* failed to extricate her and all men, together with cargo and ballast, had to be disembarked

892 AG to GOC Divisions, 14 Jan. 1856; WO/28/124.

893 *The Times*, 1 Mar. 1856.

894 *The Times*, 4 Jan., 8 Feb., 28 Mar., 2 & 11 Apr., 24 May, 6 June, 20 Sep., and 12 Oct. 1855.

895 *The Times*, 7 & 12 Feb. 1855; *The Times*, 21 Jan. 1856; PMO, Chatham to Smith, 25 Feb. 1855, *PoL*; PMO, Portsmouth to Smith, 6 July 1856; *PoL*.

896 *The Times*, 5 & 12 Mar., *Newcastle Courant* 23 Mar., and *Examiner* 7 Apr. 1855.

897 *Daily News*, 8 Jan. 1855.

898 *Morning Post*, 20 July 1854 and *The Times*, 3 Jan, 14 May, 15 Sep. 1855; 3 July 1856; 18 Apr. 1855, & 26 May 1856.

before she was refloated.[899] *Gibraltar*, the last hospital ship to leave Balaklava, broke down in the Sea of Marmora and was towed to Gallipoli by *Cumberland*, and then to Spithead by HMS *Urgent*, where she arrived on 16 August.[900]

When evacuation of the Crimea became imminent instructions were reissued which required the inspection by an MO and an army and naval officer of vessels carrying troops or horses,[901] and the whole operation was effected in a relatively short time and between 1 May and 1 August 1856 125 vessels disembarked 2,183 officers, 57,888 men and 3,931 horses at Portsmouth (Table 9.4). These numbers are exclusive of those conveyed to Liverpool, Plymouth, Woolwich, and destinations overseas, but presumably included invalids who travelled with their regiments although no information on the point was published.

The scale of this operation had implications for the hospitals at home and in this context the Invalid Depot at St Mary's Barrack, Chatham was informed in early May 1856 that 3,500 invalids were en route from the East, thus prompting preparations for their arrival, including the provision of 450 extra beds.[902]

Severn left Balaklava on 12 June with 350 invalids while '*Thames* will embark 234 more today.'[903] *Severn* towed the Norwegian bark *Drobak* with invalids from Scutari,[904] and following her arrival at Devonport some invalids were admitted to the military hospital while others were sent to their depots in Ireland, with the remainder being transferred to *Britannia*, located at Spithead from 4 July.[905] The last hospital ship to leave Balaklava was *Gibraltar* (see above), the sick having been placed on board on 11 July, the day before the final evacuation.[906]

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899 *The Times*, 29 July 1856.

900 *The Times* and *Caledonian Mercury*, 18 & 19 Aug. 1856.

901 QMG to the Commandant and AQMG, Balaklava, 14 Apr. 1856; WO/28/134.

902 *The Times*, 3 May 1856.

903 Hall to Smith, 5 July 1856; *PoL*. *Severn* also transported soldiers' wives not allowed to embark with their husbands and a large proportion of the female nursing establishment.

904 Several men with ophthalmia joined *Drobek* at Gibraltar on 10 July 1856; WO/284/72.

905 PMO, Devonport to Smith, 3 July; *PoL* and *The Times*, 5 July; *HT&SC*, 5 July, in which vessel is named *Drawback*; & IoWO, 12 July 1856.

906 PMO, Balaklava to Smith; 11 July 1856; *PoL*

Arrival in England

In January 1855 instructions were issued requiring a return of invalids admitted to hospital, or otherwise disposed of, being sent to the Invalid Depot at Chatham,[907] while from February 1855 ships touched at Plymouth to ascertain what accommodation was available at Chatham and elsewhere, and to disembark patients if it was insufficient.[908] Officers in charge of invalids were required to report to the AQMG on arrival, and following landing the invalids were to be inspected medically in order to decide on their future destination.[909]

The date and port of arrival of vessels conveying invalids from the East are listed in Appendix 9.1. *Himalaya* was the first steamer to arrive in Portsmouth with 'wounded and invalided officers from both services [and] men […] from 42 different regiments [and with others] a total of 845 souls.' She had been ordered from Malta by Admiral Stewart when seemingly unfit for sea and mechanical failures prolonged her voyage, while bad weather 'caused a great deal of discomfort to the invalids' although 'everything that could be done to make them as comfortable as the circumstances would admit.' Some invalids were brought ashore aboard a tug while disembarkation was delayed owing to a want of 'organization' due to the presence of 'small officials' but no 'head'. There were no ambulances, or men at hand to assist those who 'were wholly or partially footless, legless, armless, or eye-less', although the severely wounded were subsequently carried to hospital in Portsea on stretchers or went by omnibus, while those in a fit state were sent to Chatham by rail. A further problem was the ransacking of luggage 'on the open jetty, before a single officer or man was allowed to leave for home or hospital.' This 'disgraceful exhibition' was 'as painful to the few Custom house officers […] compelled to perform the duty as it was to a bystander to witness.'[910]

Smith requested the PMO, Portsmouth for a full account of events in order to 'exonerate' the MOs from blame,[911] and fortunately procedures had improved by the time *Candia* arrived a week later. The 'unprotected gang board […] to the jetty' was replaced by 'well-stepped and substantial double-railed landing stages' made 'quite

907 Simpson, AAG, to GOC, Portsmouth, 26 Jan. 1855; WO/3/117.

908 See *PoL*, I, pp. 371, 380, & 393.

909 Circular issued by the AG, 15 Oct. 1855; WO/123/151, WO/28/193 and reproduced in *The Times*, 1 Nov. 1855.

910 *The Times*, 4-6 Jan. 1855 and *HT&SC*, 6 Jan. 1855.

911 Smith to PMO, Portsmouth, 9 Jan. 1855; *PoL*.

secure' by carpenters,[912] while the regulations requiring 'rigid examination' of baggage by customs officials, and which had resulted in 'great dissatisfaction', were relaxed to cover only 'doubtful cases'.[913]

When Hardinge heard of these events the GOC at Portsmouth was informed that the Purveyor should supply 'such articles as are considered essential for the comfort and cleanliness' of the 'gallant soldiers'; and expenditure that this incurred was subsequently approved by the Deputy Secretary.[914]

When HMS *Retribution* docked on 24 January 1855 'Admiral Cochrane himself was present on the jetty' and 'nothing could exceed the careful attention paid to the landing of the stretcher cases, the more urgent of whom were taken to the garrison hospital and the rest to a new auxiliary hospital […] established near the Milldam. Some 'cases walked ashore' while others were 'helped by blue jackets to a waiting omnibus.'[915] Similarly, the report of the arrival of *Mauritius* noted that 'since the first unfortunate cargo (of the *Himalaya*)' the sick have 'received a progressive amount of attention and consideration from all the government authorities.'[916]

Several subsequent reports also contained additional comments and these are summarized in Table 9.6, while for a depiction of the arrival of invalids see Figure 9.1.

Himalaya hoisted a yellow (Q) flag on arrival at Spithead indicating illness on board, although she soon obtained *pratique,*[917] while the troopship *Conrad* was quarantined in Plymouth Sound, because of 'an informality about her bill of health,' as was HMS *Cressy* on arrival at Spithead from the Baltic, although no reason was recorded.[918] On the other hand, there was no specific mention of quarantine when *Black Prince*, [919] HMS *Resolute,*[920] *Emeu,*[921] and HMS *Firebrand*[922] arrived with cases of cholera on board.

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912 *The Times*, 9 Jan. 1855.
913 *The Times*, 20 Jan. 1855.
914 Wetherall to General Smith, 25 Jan. 1855; WO/3/117.
915 Hoad & Patterson (1973) and *The Times*, 26 Jan. 1855.
916 *The Times*, 5 Feb. 1855.
917 A licence to enter port.
918 *The Times*, 18 Sep. 1854 & 28 July 1856.
919 *The Times*, 13 June 1855
920 Military Secretary to Smith, 17 July and Staff Surgeon Teevan to Smith, 19 July 1855; *PoL*.
921 PMO, Portsmouth, to Smith, 11 Sep.; *PoL* and *The Times*, 15 Sep. 1855

In some cases tugs or tenders landed the sick when disembarkation was delayed, although this was not without risk or discomfort. For example, 'one Guardsman died of exposure while being transferred in a open boat [from *Libertas*] to the hospital in Stoke during inclement weather; a tragedy that would have been avoided if arrangements hade been made for disembarkation at Plymouth,[923] while invalids landed in *Sprightly* from HMS *Neptune* had to be wrapped in blankets to shield them from the cold, being all on deck.[924]

Sprightly also assisted disembarkation from *Himalaya* as did *Pygmy* from HMS *Neptune*, an unnamed tug from *Victoria*, *Comet* from *Camperdown* and *Lancashire*, and *Echo* from *Gibraltar*.[925] Similarly, *Confeance* landed invalids from *War Cloud* at Devonport while a few who had 'lost their passage on *Australian*' at Gibraltar were taken ashore by boat from HMS *Centaur* following her arrival at Spithead.[926, 927]

Examples of kindness shown to the invalids were acknowledged by the press (Table 9.7), although on one occasion this was considered excessive and banned by the military authorities, except under the direction of the MO.[928] Incidentally, the plight of the troops at the front resulted in a number of important organized charitable initiatives; see Appendix 9.2 for a brief summary.

The transports chartered by the government were manned by civilians not subjected to martial law and there were reports of mutinous behaviour on arrival, seemingly on account of disagreements of over conditions of employment (Table 9.8). An officer in the 39th Regiment, who arrived in Cork with invalids from Malta, was arrested by the QMG for a 'breach in military discipline'. He absconded and has 'not been heard of since.'[929]

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922 Admiralty to Smith, 17 July 1855; *PoL*.

923 *The Times*, 27 Dec. 1854.

924 *IoWO*, 17 Feb. 1855.

925 *The Times*, 12 Feb, 2 & 9 May, 20 Aug. 1855, and 26 May & 16 July 1856.

926 *HT&SC*, 3 Mar. and *The Times*, 5 & 6 June 1855.

927 A General Order issued in Gibraltar on 25 May named two serjeants, one corporal and five privates assigned to the 66th Regiment until their passage home was arranged; WO/284/71.

928 *MT&G*, 14 Apr. 1855.

929 *Daily News*, 16 July 1856, reporting a Cork newspaper item.

Transportation from the port to other destinations

The arrival of large numbers of incapacitated invalids posed logistical problems as bearers would be required for stretcher cases and wheeled transport for longer journeys.[930] Smith considered that properly fitted wagons were preferable to omnibuses,[931] if they could be 'hired and rendered available at one hour's notice, [932] and, although he voiced no objection to omnibuses if men could be moved 'quickly and with without risk of injury,'[933] there was one adverse report of their use for 'those wounded in the legs, or suffering from diarrhoea.'[934]

Pressure on space meant that only 'bad' cases could be hospitalized in Portsmouth[935, 936] with the others being sent to several destinations following disembarkation. For example, of 109 patients arriving in March 1856 seventeen were admitted to hospital, 44 were ordered to Chatham or Chichester, and 37 to their depots,[937] while, of those landing in the next month 40 remained in hospital in Portsmouth, with the remainder going to Chichester (38) Chatham (37), depots (20), London (15), and Woolwich (14).[938]

There are reports that the men received a hearty breakfast before departure for Chatham and were given cooked rations for the journey,[939] although there were 'grave medical objections in sending patients [to Chatham] by rail during winter'[940] as they 'suffered much discomfort from the cold and the state of their wounds deteriorated thereby',[941] particularly 'unhealed stumps and gun shot wounds.'[942] A partial solution was to issue each man with 'two blankets or rugs to wrap round their legs as they

930 Deputy Secretary to Smith, 5 May 1955; *PoL*.

931 Smith to Deputy Secretary, 5 May 1855; *PoL*.

932 Smith to Military Secretary, 11 Jan. 1855; *PoL*.

933 Smith to Surgeon Gibb, 6 June 1856; *PoL*.

934 *MT&G*, 6 Oct. 1855, p. 356.

935 Smith to Military Secretary and PMO, Portsmouth, 21 & 30 Apr. 1855; *PoL*.

936 For example, 50-60 of 200 on HMS *Neptune* and 33 of 242 on *Arabia* required 'immediate care;' PMO, Portsmouth, 8 Mar. & 4 Apr. 1855, *PoL*.

937 PMO, Portsmouth to Smith, 30 Mar. 1856; *PoL*.

938 PMO, Portsmouth to Smith, 18 Apr. 1856; *PoL*.

939 For example, men from *Mauritius*, *Neptune*, *Orinoco*, *Sultana*, and *Arabia*; *The Times*, 5, 12 & 28 Feb. & 6 Mar. 1855.

940 Smith to Military Secretary, 16 Feb. 1855; *PoL*. Incidently, Smith proffered similar advice to the PMO, Portsmouth on 14 Jan. 1856; *PoL*. The journey necessitated a journey via London and then by road from Strood to Chatham as the line did not then cross the Medway.

941 PMO, Fort Pitt, to Smith, 13 Feb. 1855; *PoL*.

942 PMO, Fort Pitt, to Smith, 21 Dec. 1855; *PoL*.

acquire no advantage from their great coats.'[943] This advice was not always heeded, however, as invalids were moved to other locations without blankets,[944] and Smith found it necessary to reiterate that 'cases of phthisis and bowel complaint' should not be moved to Chatham 'unless the journey can be made without inconvenience or suffering.,' although he was anxious men who were fit enough for discharge should be sent to Chatham for disposal.[945]

Some patients that landed at Plymouth travelled to Chatham by train and on one occasion at least Hardinge requested the Mayor of Bath during March 1855 if the town could accommodate 136 wounded men overnight as it was a two day journey. This was achieved by housing them in the United Hospital, General Hospital and Guildhall Banqueting Room, while eight women and fifteen children travelling with them stayed in the Council Chamber. A collection was made locally and each man was given half a guinea with the balance defraying the cost of the Crimean Memorial in Bath Abbey Cemetery which was dedicated on 29 May 1856.[946]

Hospital facilities in England

Several hospitals in England treated invalids from the East but unlike the nine general hospitals in the Crimea and Turkey no details about their performance were included in the *M&SH*, although general tables giving the reasons for repatriation and the causes of death were published (see below).[947]

Many of the barracks in 46 towns in England and Wales had hospitals,[948] and, although several were located near a major port, it was only those at Chatham, Devonport, and Portsmouth that were used on a regular basis, while those at Dover and Walmer were not utilized as the Admiralty considered it 'inexpedient to land invalids eastwards of Portsmouth.'[949] Not surprisingly Smith enquired of the Military Secretary how it was proposed to supply further accommodation, as, if 'the influx may be so great', the hospitals at Chatham, Plymouth and Portsmouth would prove inadequate,[950]

943 Smith to Undersecretary, 15 Nov. 1855; *PoL* and BPP (1857-58), No. 2379, p. 78.
944 PMO, Portsmouth to Smith, 21 Jan. 1856; *PoL*.
945 Smith to PMOs at Portsmouth and Chichester, 23 Aug. 1856; *PoL*.
946 Hanna (2000).
947 *M&SH*, II, pp. 229-30 & 290.
948 BPP (1857-58), No. 2318, pp. 440-1.
949 QMG to Smith, 1 Mar. 1855; *PoL*.
950 Smith to Military Secretary, 31 Oct. 1855; *PoL*.

and at the same time suggested that the Admiralty be asked to assist with the provision of accommodation at Haslar and Chatham if required.[951] In addition to developments at Chatham additional rooms were fitted up in Plymouth and Portsmouth for 226 and 80 respectively, with those at Portsmouth being ready at 'an hours notice.'[952] Further developments at Plymouth and Portsmouth, the modification of barracks at Chichester and the adaptation of two naval ships for hospital use eventually resulted in there being 1,300 beds available in all locations by the end of July 1855.[953]

The barracks at Deptford and Woolwich, and the Liverpool area were considered for possible use,[954, 955] but nothing came of these initiatives, although invalids from the RA and RS&M were sent to the Ordnance Hospital at Woolwich.

Chatham

Fort Pitt was built as a defensive stronghold on the high ground over looking Chatham and the Medway. The original barracks had been converted into hospital wards, offices, etc[956] and was the only general hospital used for invalids returning from overseas, though there was accommodation for only 170 invalids at the end of October 1854.[957] Resources at Chatham were increased by utilizing the Brompton (from February 1855) and St Mary's Barracks for accommodating invalides, and building new hospital accommodation behind Fort Pitt.[958]

Newspaper reports confirmed the pressure on space, particularly at Fort Pitt, and on occasions this could be exacerbated by the arrival of invalids from other places,[959] although the situation was ameliorated somewhat when a lunatic asylum opened at Fort Pitt in the spring of 1856.[960]

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951 The Melville hospital at Chatham served the Royal Navy. The muster book for 1854 is ADM/102157.

952 Smith to PMO Portsmouth and Military Secretary, 24 & 31 Oct. 1854; *PoL*.

953 Smith to Undersecretary, 28 July 1855; *PoL*.

954 Smith to Military Secretary, 16 Jan. 1855; *PoL*.

955 Military Undersecretary to Smith, 7 Mar. 1855; *PoL*.

956 Miles (2009), p. 85

957 PMO, Chatham to Smith, 25 Oct. 1854; *PoL*.

958 *The Times*, 22 Mar. 1855

959 *The Times*, 17 July 1855.

960 *The Times*, 16 Nov. 1855 and 18 Jan., 5 & 25 Mar. & 17 May 1856.

Palmerston subsequently informed MPs that arrangements would be made to treat invalids 'in proper and suitable hospitals'[961] but despite this assurance the facilities at Chatham were generally considered both inadequate and antiquated, and this occasioned the publication of a number of critical comments. For example, the barracks at St Mary's, housing men awaiting discharge, was considered a 'dungeon' by a 'medical officer',[962] while the Garrison Hospital was still regarded as inadequate in 1856 and Fort Pitt had to be used to accommodate the sick.[963] The generally unsatisfactory state of the facilities was confirmed by the reminiscences of DIGH Dartnell who noted that:

> The Queen and party walked across to see the Casemate Barracks […] She went into one or two of the upper rooms and was quite horrified at them. 'Are these really the barrack rooms of these invalids?' she said to me: I said, 'Yes indeed they are your Majesty' and Prince Albert, looking over towards the splendid Convict Prison recently built [completed 1850] said 'Well it seems very extraordinary that there should be no difficulty in obtaining money to erect a magnificent building like this for convicts, and that it should be impossible to find the means of building a commonly comfortable Barrack for convalescent soldiers.'[964]

An outbreak of erysipelas resulted in the postponement of the Queen's third visit (see below) and this prompted the editor of the *MT&G* to state his views in no uncertain terms:

> We hope that this measure [to build a new military hospital at Netley] is taken in order to supersede the necessity of retaining the present Military Hospital at Fort Pitt, an establishment which […] is a disgrace to a great nation. Originally intended only for barracks, this building is wholly unsuited for the reception of sick and wounded troops, its wards are low, close, and ill-ventilated; the beds, owing to deficiency of space, are too close together; the accommodation for convalescents is wholly inadequate.[965]

The first patients from the East were admitted on 4 January 1855. A few vessels sailed direct to the Thames (Table 9.9) while the majority of invalids travelled by train from Portsmouth via London to Strood were they were assisted by a fatigue party to waiting ambulances, spring vans, or omnibuses for the journey across the Medway to Chatham. Following a medical examination, the men were sent to either the supplemental hospital at Brompton Barracks for further treatment, the Casemate Barracks, the invalid depot at St Mary's Barracks, to await discharge, or, if deemed insane, to Fort Pitt.[966]

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961 *The Times*, 20 Feb. 1855.

962 *The Times*, 11 Aug. 1855.

963 *The Times*, 18 Jan. 1856.

964 *JRAMC* (1904), III, p. 92.

965 *MT&G*, 9 Feb. 1856.

966 *The Times*, 20 Jan, 28 July, 11 & 27 Aug., 3, 8, 10 & 13 Sep., 2 Nov., 22 & 25 Dec. 1855, & 3 Mar. 1856.

In all 15,707 invalids were received during the 27 months up to March 1857 and of these 9,899 (63%) were discharged, 5,054 (32.3%) returned to duty, 283 (1.8%) died, 23 (0.15%) deserted, and 14 (<0.1%) transferred. Of those discharged 2695 (27.2%) were unfit as a result of disease, wound, or injury while the remainder were discharged 'on reduction' as merely 'undesirable to retain.'[967]

It was reported that on arrival at Chatham the patients were given gratis from the government two shirts, two pairs of socks, two towels, one belt, one pair of boots, two brushes, one pot of blacking, one kerchief, one shell jacket, one pair of trousers, one forage cap, one knife, fork, and spoon. Two flannel guernseys and two pairs of flannel drawers used to be issued but this was stopped as many of the soldiers sold them to slop dealers when discharged.[968]

MOs were given authority to requisition for clothing if it was 'absolutely necessary [for] the securing [an invalid's] health and comfort whilst under treatment or when about to leave hospital.'[969] The general appearance of convalescents can be judged from an engraving of the reading room at St Mary's,[970] while a group photograph of patients at the Brompton Barracks in hospital denim coats was reproduced in the *ILN*. A diagram based on the photograph identifying several of the men by Dartnell is preserved in the Royal Archives at Windsor.[971]

Smith informed the Deputy Secretary on 28 February 1855 that he had no objection to tobacco being issued to invalids if regulated by the MOs. The Secretary of War sanctioned its issue 'when considered desirable by the MO, to the extent of 2 oz per week per patient' on 19 April and the PMO, Chatham instructed staff surgeons to record its issue in the diet rolls.[972]

The library at St Mary's has been referred to while a coffee shop was established there early in 1856 although at the time offices in the Invalid Depot were found too damp and unfit for use.[973]

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967 *M&SH*, II, pp. 237-8.

968 An Assistant Surgeon, Fort Pitt, 19 May; *The Times*, 22 May 1855.

969 *PoL* and Fort Pitt General Orders Book, 31 Jan. 1855.

970 *ILN*, 8 Mar. 1856.

971 Fisher (2013a).

972 Fort Pitt General Orders Book, 24 Apr. 1855.

973 *The Times*, 7 Jan. 1856

Distribution of medals: Fourteen men at the Invalid Depot were presented with the Crimea medal by Colonel Eden.[974]

Women and children: A large number of women and children were sent home during the course of war and some were transferred to Chatham where there was a Female Hospital in Fort Pitt with a MO in charge.

Incidentally, a War Office Memorandum issued before the war set out the expenses which legally married women and legitimate children aged 14 or less could claim when returning home.[975] They would be transported by steam vessel or railway, if available, and when walking the women and children would receive 1½d and 1d a mile, plus 2d and 1d subsistence for every eight miles travelled. An allowance was also paid if they were delayed waiting at port for transportation.

Brompton Barracks: A supplementary hospital at the barracks was in operation from the beginning of 1855. In 1856 a Board recommended that buildings constructed as a temporary hospital in 1855 should be used for the sick of the garrison with a part being set aside for the RS&M, a policy subsequently confirmed when the barracks were designated their headquarters.[976]

Medical Staff Corps: The MSC was embodied by an Order in Council on 30 June 1855 and confirmed by a Royal Warrant on 20 September 1855. The headquarters were at Chatham and literate men aged 25 to 35 were recruited so they could execute orders from MOs. The staffing of the hospitals at Chatham is summarized in Table 9.10, while drafts of men were sent out to the East on several occasions before the depot was broken up in May 1856.[977]

Portsmouth

Portsmouth was the principal port where invalids were landed and the numbers that arrived during the first two months of 1855 are given in Table 9.11. The sick and

974 *ILN*, 10 Nov. 1855.

975 Memorandum No. 1155, 12 Mar. 1855; WO/123/181. (1d was worth approximately 31p at today's prices.)

976 *The Times*, 21 Jan. and 26 Mar. 1856.

977 The MSC was subsequently replaced by the Army Hospital Corps authorized by a Royal Warrant on 1 Aug. 1857.

wounded were doing well in the new Garrison Hospital in February 1855 while 'state of the patients [there was] highly satisfactory' in February 1856, though there is great room for improvement in the details of supervision and the system of dieting the patients.[978] The hospital in Portsea was located close to the docks in the Milldam Barracks[979] and the following summer the PMO reported that there was 'a most poisonous miasma still emanating from the rampart ditch and milldam pond' and it was 'a great pity these reservoirs cannot be entirely filled up, they are frightful sources of malignant disease.'[980]

Inevitably Smith was concerned about the possibility of large numbers of invalids arriving within a short time and he recommended that only the seriously ill should be hospitalized at Portsmouth, while in November 1855 he requested additional accommodation be found so less reliance would be placed on Haslar and *Britannia* in cases of emergency.[981]

No detailed medical records have survived but Dr Leitch reported that 'scorbutic taint' was a complicating factor in the illnesses of many patients and that most of the 21 deaths among 34 men with phthisis pulmonaris were associated with a 'bowel complaint of a dysenteric character.'[982]

The Clarence Barracks provided temporary accommodation for invalids from *Neptune*, *Croesus*, *Indiana*, and *Niagara*,[983] and possibly *City of Norwich*, *Golden Fleece*, *Australian*, *Rockliffe*, *Hydaspes*, *Melbourne*, and *Hansa* when the name of the barrack utilized was not recorded.[984] Clarence Barracks also housed troops in transit; such as the Royal Wiltshire Militia. Commanded by Lord Methuen, they assisted with disembarkation of invalids from *Himalaya*, *Avon*, and *Neptune*, and also offered succour for women and children brought home in *Himalaya* before they departed for Ireland aboard the *Duke of Cornwall*.[985]

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978 *MT&G*, 3 Mar. 1855 and *The Times*, 21 Feb. 1856.

979 A ward in the hospital is illustrated in *ILN*, 10 Feb. 1855. The buildings form part of the University of Portsmouth while Milldam House is now the Registry Office.

980 AG to Smith, 12 June 1855; *PoL*.

981 Smith to QMG, 6 Nov. 1855; *PoL*.

982 *M&SH*, II, p. 229.

983 *The Times*, 12 Feb., 8 Mar., 3 Oct., & 2 Nov. 1855.

984 *The Times*, 24 May, 2 & 6 Jun, & 23, 27 & 30 July 1855.

985 *The Times*, 4, 12, 13 Jan. & 12 Feb., and *Daily News*, 13 Jan. 1855

Women and children were housed in the Camber Hospital temporarily after disembarking from *Mauritius*, as were the patients from *Arabia* in March 1855.[986] Early in 1856 militia invalids were moved there from the Garrison Hospital so that it could be reserved only for regulars.[987]

Invalids from HMS *Transit* were removed in omnibuses provided by Mr Nance, the government contractor, to quarters in the Foreshore barracks.[988] The barracks were also used by those brought home in *Brandon*.[989]

London and Woolwich

Men in the Guards arriving on *Mauritius*, *Talavera*, *Cornwall*, and *Arabia* were sent by train to London,[990] while those in the RA or RS&M on *Mauritius*, *Tynemouth*, *Canterbury*, *Arabia* and other vessels went into barracks in Portsmouth or Woolwich, rather than Chatham.[991] By the end of June 1855 the accommodation at the Ordnance Hospital Woolwich was proving inadequate and an additional six wards were provided in another building.[992]

Chichester

The possibility of appropriating barracks at Chichester for hospital use was discussed during February 1855.[993] Panmure authorized vacating the buildings in early April and Hardinge subsequently approved arrangements for sending invalids there from Portsmouth.[994] The barracks were in a healthy location and provided accommodation for 150 convalescents with a hospital for 60 sick and a canteen building that could be used as a surgical hospital.[995] Smith was anxious to transfer men there as soon as practicable in order to release space at Portsmouth,[996] and early in May 1855 invalids from

986 *The Times*, 5 Feb. & 7 Mar. 1855.

987 *The Times*, 8 Feb. 1856.

988 *The Times*, 20 Oct. 1855.

989 *The Times*, 3 Dec. 1855.

990 *The Times*, 5 & 12 Feb., 10 May, & 13 Sep. 1855.

991 *The Times*, 5 Feb., 7 & 14 May, 13 Sep. 1855, and 22 Jan. 1856.

992 *HT&SC*, 30 June 1855.

993 A water colour sketch indicated that the barracks comprised a double row of buildings with a grass parade ground in front; NAM-1992-05-41.

994 Military Secretary to Smith, 9 & 24 Apr. 1855; *PoL*.

995 Dr Forrest to Smith, 15 & 27 Apr. 1855; *PoL*.

996 Smith to QMG, 25 Apr., and the reply from the Military Secretary, 3 May 1855; *PoL* and *The Times*, 14 May 1855.

Chapman and *Canterbury* were transported there from Portsmouth by train. The report continued by stating that 'nothing had been spared to render the barracks in every respect fit for the important purpose of a hospital.'[997, 998] A draft of the MSC 60-strong joined the hospital from Chatham in May 1856.[999]

As at Portsmouth no medical records have been preserved though it was reported that invalids in a 'very bad state' were admitted as late as 6 December 1855.[1000] 'Scorbutic taint' was a common complication of other diseases, a fact that was confirmed by the beneficial effect of a 'generous diet with a liberal share of fresh succulent vegetables, and the use of malt liquor and wine.' A 'dietetic regimen, judiciously employed, [also] formed the principal feature of the treatment' in the surgical division.[1001]

The hospital was still in use towards the end of 1856 as a medical staff attendant was punished by flogging and imprisonment for stealing the money (17s) of an invalid who had recently died.[1002]

Stoke/Devonport

The hospital at Stoke was on the north side of Stonehouse Creek was completed in 1797 and had accommodation for 300-400 patients.[1003] However, on 25 April 1856 Smith was informed that there was accommodation for 183 at Devonport, but this could be increased by 160 with three additional MOs.[1004] Panmure subsequently approved the proposal to occupy the vacant accommodation and Storks was requested to order the next four vessels to touch there on their voyage to England.[1005]

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997 *HT&SC*, 19 May 1855

998 The Purveyor's opening stock comprised: port wine, 400 dozen; brandy, 50 dozen; stout, 200 dozen; vinegar, 18 gallons; Scotch barley 5,000 lb; sugar, 6,000 lb; tea, arrowroot, and oatmeal, 1,000 lb each; rice, 10 cwt; flesh, washing, and soft soap, 5 cwt each; sago, 500 lb; *HT&SC*, 14 Apr. 1855.

999 *The Times*, 14 May 1856.

1000 *HT&SC*, 8 Dec. 1855.

1001 *M&SH*, II, pp. 227-8.

1002 *Daily News*, 6 Nov. 1856.

1003 *MT&G*, 11 Nov. 1854 and Smith and QMG, 24 July 1855; *PoL*.

1004 PMO, Devonport to Smith, 25 Apr. 1856; *PoL*.

1005 Undersecretary to Smith, 30 Apr. 1856; *PoL*.

Naval facilities

Vessels: Smith was informed in early April 1855 that HMS *Britannia* and *Caledonia* were to be appropriated as hospital ships in Portsmouth and Plymouth respectively.[1006] *Britannia* was ready by mid-July[1007] and provided accommodation for 350 convalescents and a hospital for 50.[1008] Smith considered it would be undesirable to use her for invalids during winter if she was 'exposed to every wind that blows'[1009] and so she was moored near the Block House Battery at the mouth of the creek leading to Haslar Hospital.[1010]

Smith requested an inspection of *Caledonia* during April 1855[1011] and by mid-July she was being fitted up at Devonport.[1012, 1013] He was against augmenting the number of hospitals and asked for her to be moved to Portsmouth so that she and *Britannia* could accommodate convalescents not requiring hospitalization before being dispersed.[1014] After the war *Caledonia* was towed to Greenwich where she replaced *Dreadnought* as a hospital for seamen.[1015]

Hospitals: Major General Breton was against moving severely wounded men to Chichester and suggested they should go to Haslar instead.[1016] Early in May 1855 Smith was informed that 100 beds could be made available there[1017] and he subsequently directed that when there were 10 beds or fewer at Portsea, and transportation to

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1006 Military Secretary to Smith, 4 Apr. 1855; *PoL*.

1007 Smith to Adjutant General, 13 July 1855; *PoL*.

1008 PMO, Portsmouth to Smith, 9 Apr. 1855; *PoL*.

1009 Smith to QMG, 9 Feb. 1855; *PoL* and 9 Nov. 1855; BPP (1857-58), No. 2379, p. 73.

1010 Dr Odell to Smith, 10 June 1855; *PoL*.

1011 Smith to PMO, Liverpool, 9 Apr. 1855; *PoL*.

1012 PMO, Devonport, 16 July 1855; *PoL*.

1013 The items required to equip *Caledonia* included bedsteads (350), blankets (700), cases, bed, hair (350), cases, bolster, hair (35), slip cases, bolster (400), slip cases, pillow (400), covers, waterproof (100), pillows, feather (350), rugs (350), sheets (1,200), spare sackings, bed (100), spare cords, bed (100), towels (200), caps (450), gowns (450), trowsers (450), waistcoats (450), slippers, pairs (450), baths, shower (400), baths, slipper (2), close stools (20), urinals (20), crutches, pairs (100), plus some domestic equipment; PMO, Devonport, to Smith, 16 July 1855; *PoL*, II, Appendix 2.

1014 Smith to QMG, 24 July 1855; *PoL*. Incidentally, it would appear that *Britannia* was used for this purpose as 200 men of the 39th Regiment arriving on 21 June 1856 were transferred to her before being sent to Limerick; *ILN*, 28 June 1956.

1015 *The Times*, 19 July 1856.

1016 QMG to Smith, 19 Apr. 1855; *PoL*. The Haslar Hospital was opened on 1753 and could accommodate 1,800 patients; see Tait (1906).

1017 Military Secretary to Smith, 3 May 1855; *PoL*.

Chichester was not an option, patients should be sent to Haslar together with an MO,[1018] as the Admiralty favoured army surgeons caring for the soldiers.[1019]

Smith had been unwilling to utilize hospitals at Deal and Yarmouth as they were well placed for invalids from the Baltic Fleet, and in case of emergency it might have proved difficult to relocate sick soldiers in safety.[1020] However, in 1856 a formal request was made to the Admiralty to 'appropriate' 700 beds for invalids returning from the East and these were made available at Plymouth (150), Deal (200) and Yarmouth (350),[1021] where 'the men will be provided with everything necessary for their care and comfort,'[1022] while Smith agreed to use Deal during the final evacuation of the Crimea and Turkey if there was insufficient space at Portsmouth or Chichester.[1023]

Civilian hospitals

Suggestions were made for accommodating invalids at the Sussex Country Hospital, Brighton,[1024] Royal Spa Bathing Infirmary, Margate, [1025] Southam Infirmary,[1026] and London Fever Hospital, 'apart from the fever wards,'[1027] and on 26 February 1855 the Undersecretary informed the House of Commons that the government would avail themselves of offers from London and other hospitals should they have occasion to do so, although at the time there was accommodation for 1,600 in military hospitals.[1028] Offers were also made privately for civilian hospitals in England to be used but these were turned down, seemingly because of the administrative burden it would have imposed.[1029]

1018 Smith to PMO, Portsmouth, 4 May 1855; *PoL*.

1019 Smith to Military Secretary, 7 Mar. with the response on 12 Mar. 1855; *PoL*. Incidentally, a picture of an amputee in the Haslar hospital was published in the *ILN*, 3 Feb. 1855.

1020 Smith to Military Secretary, 16 Feb. 1855; *PoL*. Cantlie stated that the naval hospitals at Plymouth, Deal, and Yarmouth were used but he gave no reference; Cantlie (1974), II, p. 184.

1021 Undersecretary to Smith, 14 & 19 Apr. 1856; *PoL*,.

1022 DG, Naval Medical Department, to Smith, 22 Apr. 1856; *PoL*.

1023 Smith to QMG, 6 June 1856; *PoL*.

1024 Military Undersecretary to Smith, 14 Dec. 1854; *PoL*.

1025 Letter from the Revd J. Hodgson of Peter's, Margate, 10 Feb. 1855; *PoL*.

1026 Letter from H.L. Smith; *AMJ*, 23 Feb, and 9 Mar. 1855.

1027 *The Times*, 1 Feb. 1855.

1028 The number of vacant beds averaged 834 during that week in the hospitals in Portsmouth, Plymouth, Chatham and Chichester; *PoL*, II, Appendix 45.

1029 Cantlie (1974), II, p. 136.

Following the arrival of invalids at Liverpool on *Cambria* the Hon. Lady Cust informed Smith that 200 beds were available in the Emigrants' Home in the city.[1030] Smith ordered its inspection but it proved too small and too low to be a hospital.[1031] Land suitable for a new hospital was identified although this initiative was not pursued. Enmore Castle, Bridgwater was suggested for convalescent officers[1032] while Appuldercombe House on the Isle of Wight was surveyed as a potential hospital for naval and army invalids,[1033] but neither was apparently used.

Royal visits to military hospitals

In January 1855 Queen Victoria wrote that she felt 'much interested in [the invalids] comfort and welfare'[1034] and her visits to Chatham on 3 March,[1035] 19 June, 28 November 1855, and 16 April 1856 were reported in *The Times*,[1036] illustrated in *Pen and Pencil* and *Illustrated Times* (Figures 9.2 and 9.3), while the PMO, G.R. Dartnell, subsequently published an account of the visits.[1037] A General Order for Fort Pitt was published day after the visit on 3 March:

> The PMO has much pleasure in communicating […] the expression of Her Majesty's 'high satisfaction at the interesting scenes she witnessed yesterday, at the general healthy appearance of the wounded men, and the cleanliness, regularity and good ventilation of the wards of both hospitals.'
>
> The PMO begs […] to return his thanks to the staff surgeons in charge of Divisions of the General Hospital, Staff Surgeon Reade in charge of the Brompton Hospital, and the officers of both establishments for their excellent arrangements, and for the aid they afforded him in preparing for the reception of Her Most Gracious Majesty.

Prior to the Queen's second visit a General Order of 19 June restricted the movement of personnel within the hospital and prevented strangers from entering the premises. The wounded men in the upper wards of the General Hospital and Casemates will be:

1030 Lady Cust to Smith, 1 Feb. 1855; *PoL*.

1031 Dr Robertson to Smith, 10 & 15 Mar. 1855; *PoL*.

1032 Military Undersecretary to Smith, 15 May 1855; *PoL*.

1033 *IoWO*, *The Lancet*, and *MT&G*, 23 June 1855.

1034 Smith to PMO, Fort Pitt, 27 Jan. 1855; Fort Pitt General Orders Book.

1035 The visit is depicted in a painting by Jerry Barrett in the National Portrait Gallery, with a companion picture of Florence Nightingale receiving patients at Scutari. The Queen travelled to Strood by train and visited Fort Pitt and Brompton Barracks, but not the Garrison and Melville hospitals; *ILN*, 10 Mar. 1855.

1036 *The Times*, 3 & 6 Mar., 20 June, 28 & 29 Nov. 1855, and 17 Apr. 1856.

1037 *JRAMC*, III (1904), pp. 88-92 & 191-6 and reproduced in *TWC*, XV: iii (1997) and XV: iv, & XV1: i (1998).

transferred to one of the surgical wards and all the medical convalescents will be paraded […] the Crimean men being on the right and the other (*sic*) on the left. Every man […] is to be furnished with a board, which he will hold in his hand, and on which will legibly written his name and regiment, wound, etc.'

Onward journeys from hospital

A General Order issued at Fort Pitt of 22 March 1855 confirmed the policy of discharging men from hospital on Tuesday and Thursday, and several reports in *The Times* during the first eight months of 1856 record that some men returned to their depots while others were sent home with a daily pension of 6d to 2/6d together with clothing issued from the Crimean Fund in cases of need.

Several pensioners in the AC returning to Woolwich were sufficiently strong to proceed to their respective local districts by rail although the Quartermaster Sergeant of the Woolwich Pensioner Corps went with them to London, to see them 'safe on the train going nearest their destination.'[1038] Similarly, NCOs from the depots in Chatham were selected to accompany the 'helpless sick and wounded' on their journey home,[1039] although not all were so lucky; for example, invalids sent from Chatham to Dublin on *Oudine* did so as deck passengers 'in pursuance of government regulation' and 'were obliged to sleep on straw in the forehold.[1040]

Men were able to travel by train from Chatham to Gravesend by train if their onward journey involved a sea voyage[1041] while the War Office entered into contracts with shipping companies for passengers travelling between ports such as London and Edinburgh and Fleetwood and Belfast.

With regard to the longer term it was suggested that many declared unfit for military service would be 'capable of duties where steady habits of discipline, trustworthiness, and obedience are required [would be] well suited to act as private watchmen, gate-keepers, porters, warehouse-keepers, and as porters in attendance upon passengers at railways.'[1042]

1038 *Morning Post*, 13 Jan. 1855.
1039 *The Times*, 17 Jan. & 23 Apr. 1856.
1040 *Daily News*, 27 Apr. 1855.
1041 Commandant, Chatham to QMG, 3 Oct. 1855; WO/28/192.
1042 *Preston Guardian*, 3 Mar. 1855.

Numbers of invalids transported

The reports of the vessels returning from the East only occasionally included the number of invalids but an indication of the numbers that could be involved can be gauged from the passenger lists of the first six vessels that arrived at Portsmouth in 1855 (Table 9.11).

On Christmas Eve 1854 Hall noted that 650 patients were on passage to England,[1043] and this increased to 2,000 by the next month.[1044] In March 1855 Smith was notified that '*Indiana* is to embark 266 tomorrow; *Adelaide* 170 today or tomorrow; *Rockliffe* to go to Abydos to collect 120 for England; *Tynemouth* will leave soon with 120; *Chapman* and *Julia*, sailing vessels, are to be fitted to receive invalids,'[1045] with a further 813 being evacuated from Scutari during the next month.[1046]

This selection of reports made during the first few months of 1855 would suggest that the official total of 9,541 men in the cavalry, infantry, and ordnance[1047] is almost certainly an underestimate as it probably does not include those sent directly to their regimental depot, or were granted leave, or travelled with their regiments when finally evacuated from the East.

Reasons for repatriation and discharge

Men evacuated from the Crimea during the winter of 1854-55 were 'lousy and naked'[1048] and not unexpectedly many were in a 'very filthy state, many without shirts, and the shirts of the rest not in a fit state to use' when they arrived in England.[1049] Many invalids were debilitated with matters being complicated by the coexistence of either 'scorbutic taint' or 'phthisis pulmonaris'; while rheumatism, principally of the 'muscular or nervous variety', was usually a sequel to other illnesses.[1050]

1043 Hall to QMG, 24 Dec. 1854; RAMC/397/F/CO/6/43a.

1044 *IoWO*, 20 Jan. 1855.

1045 PMO, Scutari, 22 Mar. 1855; *PoL*.

1046 Cumming to Smith, 28 Apr. 1855; BPP (1854-55), No. 449, p. 46. The vessels employed were *Adelaide* (173 cases), *Indiana* (268), *Tynemouth* (213), *Chapman* (134), and *Julia* (184).

1047 *M&SH*, II, p. 229.

1048 Paulet to Romaine, 7 Jan. 1855; Robins (2005), p. 66.

1049 Smith to Military Secretary, 6 Jan. 1866; *PoL* and BPP (1857-58), No. 2379, p. 26.

1050 *M&SH*, II, p. 227.

The nature of the invalids changed with time, however, as noted by the PMO, Chatham:

> The great majority of the first arrivals of invalids were fine young men, in the prime of life, though sadly reduced by disease and privation. But how different were the invalids who arrived at a later date, some of them old and worn out, though of only a few months' service, others half grown, sickly looking men, who should never have been enlisted; but they were more to be pitied than condemned for having undertaken duties, the nature of which they were ignorant of, and physically unable to perform.[1051]

Two sections in the *M&SH* were devoted to the reasons for repatriation and discharge for disease and wounds.[1052] Several sources were used to compile the tables and inconsistencies can be found in the totals quoted, and hence references to the page numbers are given in the foregoing sections.

Official returns in the Medical and Surgical History

The reasons for admission to regimental and general hospitals were divided into 19 classes (I-XIX) and the number of men assigned to these in four situations, namely: (1) primary admission to hospitals, principally in the Crimea; (2) admissions to the Scutari hospitals; and (3) and (4) men selected for repatriation to England (pages 231-5) and eventual discharge from the Army (pages 241-5) are given Table 9 12.

The classes listed in this table are in the order of importance for selecting patients for repatriation, with five accounting for nearly four-fifths of cases, viz. wounds (26%), gastrointestinal, respiratory and rheumatic diseases (20.4%, 10.4%, 9.2%), and fever (13.8%). In contrast, wounds accounted for nearly half the men discharged, with respiratory, cardiovascular, and rheumatic disease being responsible for 10.6%, 6.8%, and 5.2% respectively.

Repatriation for disease

Pages 229-30: Of 9,544 individuals from the cavalry (718), guards and infantry (7,818), and ordnance corps (1,008) repatriated for disease 27.5%, 18.7%, 14%, and 12.4% had respectively gastrointestinal disease, fever and respiratory and rheumatic disease while each of the other classes accounted for <3.5% (Table 9.13).

1051 *M&SH*, II, p. 229.

1052 *M&SH*, II, pp. 223-45 & 388-9 respectively.

Pages 231-5 and 241-5: The most notable feature of the men discharged with gastrointestinal disease was the high incidence of hernias as opposed to diarrhoea and dysentery which where important reasons for repatriation and admission to both regimental and general hospitals in the East (Table 9.14).

Nearly 80% of patients repatriated with respiratory disease suffered from catarrh, phthisis, or bronchitis while among those discharged from the service non-specified lung disease and phthisis accounted for 45.7% and 39% of cases respectively. By comparison, catarrh was the most important reason for primary admissions during the campaign at 81.4% with catarrh and bronchitis being prevalent in patients evacuated to Scutari at 57% and 20.7% (Table 9.15).

Repatriation for wounds

Page 259: Of 11,515 NCOs and men wounded in action 1,758 (15.3%) died in hospital, 3,318 (28.8%) were invalided to England,[1053] and 6,439 (55.9%) returned to duty (Table 9.15). The mortality rate was greater during the first six months of the campaign (17.9% cf. 13.7%) and the 'general state of cachexia' resulting from 'insufficient or improper food, want of clothing, want of rest and sleep, and exposure to cold, damp, and other agencies' would have contributed to this as there would have been a 'want of vital power to withstand the shock […] of a severe injury' and to resist the development of complications such as sloughing and gangrene

Over the campaign proportional more injured officers than ORs were invalided to England (44% cf. 29%) than returned to duty (42% cf. 56%).

Pages 231-5 and 241-4: Primary admissions to hospital were dominated by gunshot wounds (58.5%) and contusions (21.9%) and there was evidence of selection of men with gunshot wounds for evacuation to Scutari, and these patients also formed a majority of those repatriated to England and subsequently discharged. Amputees accounted for about a fifth of those repatriated and discharged for injuries while contusions and incised wounds formed a smaller proportion of patients as time progressed, presumably because the men recovered from these injuries and returned to duty (Table 9.16).

1053 Thirteen (0.4%) of 3,318 men died; due mainly to enteric disease contracted either before or after being wounded.

Deaths during the voyage and following arrival in England

Pages 229-30: Up to the end of 1856 there were 182 deaths on passage to England and 270 after landing (Table 9.13). The principal causes were gastrointestinal disease (175, 38.7% of deaths); respiratory disease (138, 30.5%, with 96 due to phthisis), and fever (51, 11.3%). Apart from phthisis the causes of death was not specified but inspection of other data indicates that these were likely to be dysentery, diarrhoea, and continued fever.

Page 239: Of 283 deaths in England up until March 1857 146 (51.6%) and 46 (16.3%) were due to diseases of the thoracic and abdominal viscera and 23 (8.1%) for fever.

Discharge from the Army

The reasons for repatriation and discharge have to be considered separately since a man may recover from the disease or wound for which he was sent home only to be discharged for another reason.

Page 236: Respiratory, cardiovascular, rheumatic, and eye diseases accounted for 650 (20.8%), 416 (13.3%), 317 (10.2%), and 227 (7.3%) respectively of 3,120 men discharged for disease (Table 9.13).

Page 237: More specific reasons listed for 1,282 men discharged included debility and impaired health (446, 34.8%), phthisis (234, 18.2%), varicose veins (183, 14.3%), rupture (152, 11.9%), epilepsy (79, 6.2%), ulcers and cicatrices (70, 5.5%), impaired intellect (61, 4.7%), and paralysis (57, 4.4%).

Pages 237-9: A total of 15,272 men arrived at Chatham between January 1855 and March 1857 and of these 5,054 (33.1%) returned to duty and 9,899 (64.8%) were discharged (Table 9.17). This proportion was inflated by 2,695, however, because the criteria for retaining men become more stringent from September 1856, and men were discharged who were not 'totally unfit.'

The reason for discharge of the 9,899 were BFIs: 2,296 (23.2%); diseases of the thoracic viscera: 1,880 (19%); chronic rheumatism and infirmity: 1,306 (13.2%);

weakly constitution, scrofula, dropsy, deafness, stammering, ulcers, and varicose veins: 1,720 (17.4%); eye disease: 663 (6.7%); non-BFIs: 633 (6.4%); and rupture: 330 (3.3%).

Pages 241-5 and 390: Of 3,011 men discharged on account of injuries 2,118 (70.2%) had gunshot wounds and 671 (22.3%) were amputees (Table 9.16).

Miscellaneous topics

Political interference in hospital management: The development of the hospital at Smyrna was essentially a political initiative, first mooted quite reasonably when matters were pressing, and Newcastle, the minister at the time, seemingly intending that it should be used for convalescents.[1054] His successor, Panmure, took a different view as he considered that the civilian medical staff should obtain worthwhile practical experience, particularly as they had become his responsibility following Smith's refusal to be involved on the grounds that it was a civilian and not a military undertaking.[1055]

Panmure's aspirations for success resulted in a tendency for him to interfere in the day to day running of the Army; a style of management that was generally unwelcome. For example, Brevet Major G.L. Goodlake wrote home on 10 January 1856: 'Panmure sends out insulting rubbishing idiotic messages, which are ludicrous and ridiculous. I don't believe Codrington could send 500 men anywhere without being obliged to telegraph home to know if he might do so.'[1056]

The Medical Department was not spared similar interference as evinced by a letter sent to Hall by the Deputy Secretary on 30 March, which suggested Panmure adopted a policy diametrically opposed to the one promulgated during Aberdeen's administration:[1057]

> [In] organizing the civil hospital at Smyrna it was expressly stated that the successful realization of the plan will very much depend upon the class of patients to be admitted. If the hospital were […] for chronic cases and convalescents the best men would be deterred from undertaking the duties of physicians and surgeons. [It is] essential that the civil hospital

1054 Diary entry following a visit, 13 July 1855; University of Nottingham, Ne/2F/10/1.

1055 For example, Smith to Military Undersecretary, 23 Mar 1855; BPP (1857-58), No 2379, p. 45 and Smith to Deputy Secretary, 16 June 1855; *PoL*.

1056 Springman (2005), p. 166.

1057 WO/28/176. The letter was probably a response to a complaint from Meyer who 'considered it essential' that they should receive a 'fair proportion of all cases included wounded directly from the Army;' see Cantlie (1974), II, p. 169.

> should […] receive its fair proportion of all cases including wounded directly from the Army. […] Lord Panmure [instructs] you to charter ships direct to Smyrna which will carry the sick thither without [stopping] in the Bosphorus,[1058] […] Colonel Storks, the commandant at Smyrna, has been instructed to report to you the number of available beds from time to time.[1059]

Hall forwarded the letter to the QMG and informed him that he had been directed to charter ships to convey sick direct from the Crimea to Smyrna. He continued:

> at present we are not particularly pressed for hospital accommodation,[1060] but if we were I neither know the number of beds they have in the hospital at Smyrna, not if I did could I obtain the tonnage for the sick. I submit this letter, therefore, for consideration in case a necessity should arise for sending sick down to Smyrna.[1061]

The AoT also pointed out that 'the vessels would have to be steamers of which there are none at present available for charter in this part of the world.' He continued:

> Between 1 and 18 April about 600 sick have been sent […] to Scutari.[1062] The six hospital steamers can convey rather more than 700 in each 10 consecutive daily period;[1063] […] as every individual sent to Smyrna will be a deduction from the number for Scutari […] I would propose that […] the two smaller steamers should be appropriate to that service. There would then remain sufficient transport for 500 patients every ten days to Scutari [and] about 100 men a week could be sent to Smyrna.[1064]

Heath's letter was referred to Hall who reiterated that he 'did not know what number of spare beds there are at Smyrna, and he would not wish to recommend sick men to be sent there until this was ascertained.' He clearly considered the policy was unnecessary as there were '747 spare beds at Scutari.'[1065] Hall subsequently replied to the Deputy Secretary on 24 April and informed him that he was not:

> aware that the Smyrna Hospital had been established for the treatment of acute cases of disease, as it is rather too distant […] for that purpose, […] my impression was that it was [for] those […] not improving. […] I am of the opinion Smyrna will not be found a desirable

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1058 Hall's authority did not extend to chartering transport vessels, and hence it is perplexing why this was suggested.

1059 The last paragraph on the original document was marked in pencil in the margin: '!!!'. See *PoL*, I, Appendix 15 for the text.

1060 It should have known in London by the third week of March that 1,300 beds were available at Scutari; Paulet to Panmure, 8 Mar. 1855; BPP (1854-55), No. 449, p. 1. Incidentally, on 13 May Cumming informed Hall that there were 1,900 beds spare; NAM-2007-07-16-27.

1061 Hall to QMG, 15 Apr. 1855; RAMC/397/F/CO/1/2/1839 and WO/28/176.

1062 During this period *Sydney* (98 patients), *Brandon* (111), *Ottawa* (120), and *Severn* (180) sailed to Scutari; *M&SH*, II, p. 471.

1063 These vessels comprised *Australian*, *Brandon*, *Melbourne*, *Ottawa*, *Severn*, and *Sydney*; *PoL*, I, Appendix 15.

1064 Heath to QMG, 19 Apr. 1855; WO/28/176.

1065 Hall to QMG, 20 Apr. 1855; WO/28/176. Cantlie (1974), p. 170 considered that Hall's logic 'was unanswerable' but Mayer was 'annoyed, and made the invidious suggestion that Smyrna was not used because the Army medical officers were envious of its high standard compared with their own military hospitals.'

> locality either for fever cases or wounded men in the summer and autumn. With respect [to] me chartering ships for the conveyance of the sick direct from Balaklava to Smyrna […] I have no means of carrying out the measures [as all ships are controlled by] the Admiral Superintendent.[1066]

In the event the authorities in the Crimea responded in a limited manner to Panmure's instructions by sending *Brandon* and *Severn* to Smyrna on the 26 and 29 April with 99 and 97 patients respectively.[1067]

When Smith received copies of this correspondence he informed the Deputy Secretary that ordering ships for Smyrna not to stop on the Bosphorus was 'most objectionable' as if done regularly 'individuals will have to encounter […] suffering which would not fall their lot if the vessels touch at Scutari […] This measure […] is alike required for the cause of humanity and for the good of the public,' although he did concede that the hospital should not be solely for 'slight or chronic cases.'[1068] The issue did not end there, however, because a month later the Deputy Secretary requested Smith 'to give an opinion whether the ships should stop at Scutari while quarantine laws still operate and as the hospital arrangements at Balaklava are now intended to provide for all acute and urgent cases and so it would seem less necessary for the vessels to stop at Scutari where probably only convalescents will be sent.'[1069] To this Smith stated that he was unaware that vessels touching at Scutari would be subject to quarantine at Smyrna, but he thought that 'even that would be a less evil than passing Scutari without calling there.'[1070]

Shortly after the war ended the Deputy Secretary appeared to do a U-turn when he conceded that though the selection of the patients for the civil hospital was in 'the hands of the medical men' in the Crimea 'special direction had been given on the type of patient selected' but the 'altered state of things that ensued quite prevented that being acted upon, and the large extension of hospital accommodation in the Crimea has prevented so a large a number being sent to either of the civil hospitals as was originally

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1066 Hall to Deputy Secretary, 24 Apr. 1855; RAMC/397/F/CO/1/2/1832 and *PoL*, I, Appendix 15. The back of the Deputy Secretary's letter was annotated by the QMQ 'Refer this correspondence to Dr Hall, who will now have the means of reply to the Deputy Secretary at War.'

1067 Hall to Deputy Secretary, 4 May 1855; RAMC/397/F/CO/1/2/1832. It was not recorded whether the vessels called at Scutari or not.

1068 Smith to the Deputy Secretary, 5 May 1855; *PoL* and BPP (1857-58), No. 2379, pp. 52-3. Incidentally, Smith had already recommended to the Deputy Secretary on 23 May that vessels for Smyrna should touch at Scutari; *PoL*.

1069 Deputy Secretary to Smith, 6 June 1855; *PoL*.

1070 Smith to Deputy Secretary, 11 June 1855; *PoL*.

contemplated,'[1071] thus vindicating Hall's objection to the instructions from London which he made on both practical and humane grounds.

Homeopathy: A deputation of noblemen and gentleman presented a memorial to Panmure 'praying that a civil hospital at Smyrna, or elsewhere, might be appropriated for the treatment of our soldiers and sailors according to the homoeopathic system.'[1072] Panmure pointed out that, though 'deserving every attention', 'the subject presented numerous difficulties',[1073] and in the event nothing appears to have come of the suggestion.

Possible settlement of invalids in Turkey: In reply to a despatch from Clarendon Stratford replied that he thought that 'disabled British soldiers, would of all persons be the least qualified to succeed' as settlers in Turkey as proposed by the Reverend Francis Cannon, a Presbyterian Chaplain attached to the 72nd Regiment.[1074, 1075] In any event, any settler will 'stand in need of protection' as they will 'never be cordially or even willingly received by the Turkish authorities.[1076]

Summary

The need to repatriate large numbers of ineffective troops became apparent soon after the invasion. Four MOs who served in the East met in London on 8 March 1855 and concluded that the repatriation was 'most desirable, for reasons too obvious to dwell on' and that 'the beneficial effects of the voyage' and the 'escape from the crowded and polluted hospital' were 'strong arguments in favour of this measure.'[1077] In addition, the spectre of a return of cholera also prompted the speedy repatriation of invalids not likely to recover.[1078]

1071 Paraphrased from the Deputy Secretary's evidence to the Select Committee on the AMD, 18 June 1856; BPP (1856), No. 331.

1072 Incidentally, the London Homoeothic Hospital had been founded as a charity in 1849 by 'many well-connected aristocratic patrons of homoepathy;' Dean (2016).

1073 *IoWO*, 7 Apr.1855.

1074 Clarendon to Stratford, 16 June 1855; FO/78/1064.

1075 Cannon, a Presbyterian chaplain, was granted leave of absence to Scutari with a medical certificate on 6 Oct, later extended to 15 Nov. 1855.

1076 Stratford to Clarendon, 6 July 1855; FO/78/1082.

1077 Smith to Military Undersecretary, 16 Mar. 1855; BPP (1857-58), No. 2318, p. 44.

1078 Smith to Military Undersecretary, 16 May 1855; BPP (1857-58), No. 2379, p. 54.

The selection of transports was undertaken by the Royal Navy while the military and medical authorities had responsibility for discipline and providing for the patients. There was no shuttle service of steamers to England though 10 (8.7%) of 115 vessels employed undertook 36 (22.5%) of 160 voyages (Table 9.2). Two dedicated sailing transports used from the spring of 1855 only made two round trips. Given that transports were selected on an ad hoc basis it is gratifying that there were relatively few reports of serious problems apart from the usual difficulties that may be encountered during a long sea voyage.

The military authorities made no specific plans for the management of invalids and convalescents during the run up to the campaign although several potential sites for convalescent hospitals were considered after the invasion. Gozo was seemingly the only military hospital developed specifically for this purpose although no medical records have survived.

Smyrna hospital was planned originally for convalescents although this was not the case for about half the time it was in use. Smyrna, like Renkioi, came into operation too late to make a significant contribution to the war effort, especially as parts of the hospitals at Scutari and Kuleli were given over to convalescents as the campaign progressed, with the Castle Hospital at Balaklava accommodating men recovering from wounds. The hospitals at Smyrna and Renkioi were underutilized and the staff underemployed, although this could not have been foreseen when the decisions to develop them were taken. It is not possible to determine whether the initiative was worthwhile as no comparisons can be made with the testing times of the first winter, and no official assessment of their performance was published.

There was only one specific comment about providing respite in the camps in the Crimea but it is certain convalescents would have been kept in camp, especially after the fall of Sevastopol when fewer men required hospitalization.

The majority of the invalids landed at Portsmouth, rather than Chatham, which meant that vessels could be turned round quicker as the voyage was shorter. There were relatively few reports of difficulties at the port apart from some teething problems in early 1855 (Table 9.6) and hence Smith was able to inform the Roebuck Committee on

22 March 1855 that 'full provision' was being made for the reception of invalids on their arrival in England.[1079] The journey to Chatham by train could prove arduous and there were complaints that some patients suffered unnecessarily, particularly during the cold weather.

Little information about the hospitals in England has survived. Provision for returning invalids was limited at the start of the campaign, but this increased with time. There was some reasonable criticism of the quality of the facilities but there was apparently no serious shortage of beds.

It was suggested after the war that the number of men repatriated was lower than expected as a proportion of those who would have been sent home under normal circumstances either died or were 'detained at the seat of war' as a consequence of the manpower shortage.[1080] There were differences in the reasons for the primary admissions to the regimental hospitals and the discharge of invalids from the Army. The former being dominated by acute illness and recent wounds while the latter were for chronic disabilities; particularly those associated with gunshot wounds, pulmonary tuberculosis, rheumatism, and varicose veins.

1079 BPP (1854-55), No. 156, p. 449.

1080 *M&SH*, II, p. 227.

Tables 9.1-9.17

Table 9.1: Number of sick and wounded men treated in Corfu, February-November 1855

Month	No. at start of the month	Reductions			No. at end of the month
		Deaths	Repatriations	Returns to duty	
February	463*	13	0	0	450
March	450	7	0	0	443
April	443	99			344
May	344	2	0	215	127
June	127	0	62	1	64
July	64	0	12	0	53
August	53	0	0	49	4
September	4	0	2	0	2
October	2	0	0	0	2
November	2	0	0	0	2

[Summarized from WO/28/185, with minor corrections. The patients arrived during February and the return for April are wanting]

* A disembarkation return in WO/25/1187 recorded that *Dunbar* left Scutari 22 January and arrived at Corfu on 1 February with a Staff Surgeon and two assistant surgeons in attendance. A total of 462 patients were disembarked with four dying on the voyage. The surgeon noted that 'The health of about 50 of them was indifferent. The health of the remainder, taking into account they were "convalescents" [was] good.' The *Dunbar* then sailed for England on 12 February with 148 invalids together with 157 women and 259 children, arriving at Spithead on 10 April. A civilan surgeon travelled with them and reported that the health of the men was good while it was indifferent for the women and children; overall there were 14 deaths.

Table 9.2: Number of voyages made by 115 vessels employed in conveying invalids to England from the East, 1855-1856

Means of propulsion	Number of voyages/vessel					Total (%)
	1	2	3	4	5	
Sail	35	3	0	0	0	38 (33)
Screw	42	15	2	1	1	61 (53)
Paddle	9	1	4	1	1	16 (14)
Total vessels (%)	86 (74.8)	19 (16.5)	6 (5.2)	2 (1.7)	2 (1.7)	115 (100)

Means of propulsion	Number of voyages					Total (%)
	1	2	3	4	5	
Sail	35	6	0	0	0	41 (25.6)
Screw	42	30	6	4	5	87 (54.4)
Paddle	9	2	12	4	5	32 (20)
Total vessels (%)	86 (53.75)	38 (23.75)	18 (11.25)	8 (5)	10 (6.25)	160 (100)

Table 9.3: Vessels that sailed to England with invalids from Balaklava, April 1855-June 1856

Vessel	Departure date	No. of officers	No. of men
Indian	16 April 1855	0	80
Saldanha	10 June 1855	10	270
Great Tasmania	10 July 55	13	396
Alma	15 September 1855	26	4
Oronaco (*sic*)	22 September 1855	20	81
Robt Lowe	29 September 1855	29	88
Bahiana	20 October 1855	12	0
Poitiers	27 October 1855	5	85
Clifton	20 October 1855	1	100
Brandon	1 November 1855	7	99
Thames	24 November 1855	0	26
Severn	30 November 1855	10	180
Orient	30 November 1855	0	98
Great Tasmania	19 January 1856	2	434
Thames	27 January 1856	3	225
Andes	24 February 1856	9	135
Thames	29 March 1856	2	175
Severn	19 April 1856	18	196
Melbourne	10 May 1856	0	246
Severn	12 June 1856	0	344
Thames	17 June 1856	0	244

[RAMC/397/F/RT/1/1]

Table 9.4: Number of officers, men, and horses landed at Portsmouth, 1 May-19 August 1856

Month	Number of vessels	Number landed		
		Officers	Men	Horses
May	9	76	2539	742
June	34	465	11463	1808
July	63	1292	35757	1016
August	19	350	8129	365
Total	125	2183	57888	3931

[*HT&SC*, 23 August 1856]

Table 9.5: Additional comments on medical treatment during the voyage

Vessel	Comment	Reference
Calpurnia	The state of the invalid's berths […] the cleanliness and quality of their bedding, and the order and comfort of the invalids should be seen to be appreciated. Nothing has yet arrived at Portsmouth from the Crimea to equal it. Dr Mackay deserves the credit of this.	*The Times*, 6 July 1855.
Robert Lowe	Assistant Surgeon Cusack noted, in answer to an ill-founded complaint, that the accommodation for invalids on *Robert Lowe* was everything that could be desired and they were well provided with beds, bedding, blankets etc. and were supplied with fresh meat every day except three when preserved meat was issued	Cusack to Smith, 19 Nov. 1855; *PoL*.
Sydney	The invalids objected to ship biscuit although soft bread was issued to the most sick.	Staff Surgeon Barrett to Smith, 5 Dec. 1855; *PoL*.
Saldanha	The vessel was 'in wholesome condition since men who had lost limbs are fit to return to military duty.'	*The Times*, 7 Apr. 1856.
Great Western	The PMO at Portsmouth complained that although the men generally looked well the civilian surgeons in charge knew nothing of them and made no arrangements for their disembarkation.	PMO, Portsmouth to Smith. 5 May 1856; *PoL*.

Table 9.6: Press reports published following the arrival in British waters of ships conveying invalids

Vessel	Abstract	*The Times* (all 1855)
Avon	Dense fog found the authorities unprepared for her arrival, although matters were soon rectified. 'Dr. Robinson […] superintended the removal of the worst cases' although the 'the bulk will not be disembarked until the morning' allowing suitable arrangements to be made while 'Mr. Hoddes, the collector of Customs at Portsmouth, with an efficient staff, was promptly on board […] to see that no unnecessary delay, or overhauling took place with the baggage.'	13. Jan.
Avon	The *Avon* shared in the destructive effects of the great hurricane […] In other respects she is in good condition and order, and being much cleaner than the *Himalaya* […]	*Daily News*, 13 Jan.
Cork steamer	On 15 January invalids arrived at Gravesend on the Cork steamer from Plymouth. 'The whole were in a very sickly state; they were very cold, complained that they had nothing to eat since Sunday evening, and they had to stand on the deck during the passage. […] Ten men were admitted into hospital and 68 sent to the Invalid Depot for further examination.'	16 Jan.
Harbinger	These cases were all doing well […] and will leave for Chatham this morning without being disturbed. But why could not the ship have been despatched from Malta to Chatham direct, instead of first going to Southampton on Monday, waiting there all night, then going to Portsmouth yesterday, and staying there all night, finally leaving for Chatham this the third day after their arrival in England? Disembarkation return in WO/25/1187: Left Scutari on 10 January and arrived at Chatham on 12 February with 81 invalids from 34 regiments; their health was indifferent, but there was was only one death.	7 Feb.
Arabia	No medical officer or other official was sent off to the *Arabia* while at Spithead to see what was the nature of the cases and which the most urgent to be got to hospital.	5 Mar.
Dunbar	Anchored at 8 a.m. off Portsmouth, but up to 6 o'clock at night no military authority […] had been off to her [although] Major-General Breton […] asserted that 'as soon as a vessel is notified Surgeon Odell and Major Dalgetty [went to] make the necessary arrangements for landing the men.' (In the event *Dunbar* sailed on to Chatham; see Table 9.9.)	11 Apr.
Medway	[…] not taken into harbour yesterday – upwards of 50 hours after reporting herself. The captain could get no one to authorize their coming in on Saturday morning. The Port-Admiral had gone […] with a squadron of honour for the Emperor of the French; the Admiral-Superintendent of the Dockyard […] was sitting as president of the court-martial […] and he does not appear to have deputed anybody to do the duties of the port […]	16 Apr.
Victoria	'two days and a-half having lapsed since her arrival! The poor fellows […] complained of the unnecessary confinement to which they had been subjected. The delay […] is another of the many flagrant cases which have at various times been recorded. […] no blame can be attached to the Admiralty officials at Southampton, for [her arrival] was forwarded by telegraph to London. […] and it was not until too late on Monday night to send the passengers ashore that any knowledge existed of the wishes at head-quarters.'	2 May
Cornwall	'went into Portsmouth harbour yesterday to land invalid soldiers […] but no arrangements were made for their removal until 11 o'clock. Thus the invalids lost the train by which such unfortunates are usually forwarded to Chatham invalid depot (8.30 a.m.), and will not be landed until this morning. […] there was no general commanding the garrison or any staff surgeon to see to the landing and removal of these poor fellows.'	10 May
Germania	'arrived at Spithead yesterday […]The [invalids] will not be disembarked until this day, there being no accommodation for them in barrack quarters.'	6 June
Ripon	'arrived at Southampton yesterday [...] The distressed British seamen, however, remained on board the transport during the night, and will be despatched to their various destinations by the Admiralty department at Southampton this day.'	6 Nov.

Table 9.7: Generosity extended to invalids following their arrival in England

Vessel/donor	Abstract	Reference (all 1855)
Himalaya	The Relief Association 'expended a considerable sum […] assisting the poor women and children' brought home on the vessel.	*HT&SC*, 6 Jan.
Candia	Refreshments of all kinds were spontaneously tendered to [the invalids] […] but the commanding officer declined to accept it.'	*ILN*, 17 Jan
Candia	Messrs J. and G. Cokesby, merchants of Southampton, with great kindness and consideration, sent porter as a present to the invalided soldiers […] The wounded men spoke in the highest terms of the treatment received at Scutari.	*Daily News, 8 Jan.*
Sir Frederick Smith -	Major-General Sir Frederick Smith, RE […] has been constant in his visits to the poor sick and wounded soldiers […] and they were on Thursday also visited by Lady Smith who distributed among the suffers comforts and delicacies in the shape of jellies, blancmange etc. […] Mr Emmanuel and several other townsmen have collected newspapers and other things, and forwarded them for the use of the gallant patients.	*IoWO*, 10 Feb.
Sir Frederick Smith	Sir Frederick Smith reported that he had 'received nearly 100 volumes of books of interesting biography, etc., which I intend depositing in the hospital […] in a book case I am having made for them […]' Pocket handkerchiefs, neck comforters, muffatees, etc., were added to the confections dispensed by Lady Smith on Tuesday, the muffatees principally of her own and her friends' knitting.	*IoWO*, 24 Feb.
Talavera	'The report that the soldiers were in a personal state of uncleanliness is without foundation' but they were 'unprepared for the prevailing inclement weather, especially as they would have to encounter a cold passage [to] Chatham' and 'General Eden […] sent warm clothing from his private store to some of the poor fellows, a large portion of whom left Scutari with a single suit.' […] 'Earl of Mount Edgecumbe has afforded them constant supplies of vegetables from his own gardens' and before departure of the men expressed themselves in most grateful terms for the warm clothing, fruit, etc, sent off to the ship by the Mayor and other inhabitants of Plymouth.'	*The Times*, 12 Feb.
Neptune	Quartermaster Paton was indefatigable in seeing to their evening meal and breakfast on Saturday morning. Their rations being drawn, Mr Chamney, purveyor to the Queen, gratuitously, though late at night, undertook to cook the gallant sufferers' provisions at his bakery. Mr Paton was at his post next morning to see each man get his allowance before leaving for Chatham invalid depot. [The men] expressed their warmest gratitude to Lord Methuen, commanding the Wilts Militia, his officers and men, whom they loudly cheered on leaving.	*The Times*, 14 Feb.
Arabia	[…] the bounty of the Princess Mary of Cambridge was manifested towards these poor invalids by the distribution of warm and comforting clothing, such a flannels, etc., for which they appeared heartily grateful.	*The Times*, 6 Mar.
HMS *Malacca*	The invalids […] shared the bounties distributed by Major General and Lady Smith […] consisting of clothing, personal comforts, and nourishing confections. Major General and Mrs Bentinck have also forwarded a quantity of similar good things […] to distribute among the sick.	*The Times*, 28 Mar.
The Queen	Her Majesty has [sent to the General Hospital, Portsmouth] silk pocket and neck handkerchief and neck ties, hemmed by herself and ladies of the Court, together with arm-slings, etc.	*IoWO*, 28 July

Table 9.8: Mutinous behaviour by civilian crew members

Vessel	Abstract	Reference (all 1855)
Avon	The vessel was ordered to Chatham after the disembarkation of serious cases at Portsmouth but the crew refused to work the ship despite being offered £4. They 'left the ship and dockyard on a very disgraceful manner, some the worse for drink.' The commentator concluded that it was 'a barbarous state of things, and shows a very rotten bargain to have been made, either by the owners with their crew, or by the government with their contractors. But how did the poor sick and wounded soldiers behave on board all this time will probably be asked. Why, as gallantly as they had behaved in battle [and they] bore their situation patiently.' The men were eventually sent to Chatham by train.	*The Times* 15 Jan. and *HT&SC*, 20 Jan.
Mauritius	Following arrival in Portsmouth the crew refused to work when ordered to Chatham. The majority absconded, thus putting the 'lives of all the invalids on board in danger.' This event and destruction of the vessel by fire while dry dock were reported *in extenso*.	*The Times*, 5, 6, 10, 13, and 17 Feb.
Harbinger	[…] the weather having moderated [...] she again left Spithead for her destination, without the slightest symptoms of 'mutiny' having been exhibited by her crew, as has been reported.	*The Times* 12 Feb.
Arabia	'the crew, on hearing the ship was ordered to Chatham, refused to work her.' […]. 'the articles they had signed were read by the captain, whereby it clearly appeared that the men had fully discharged their obligations.' In the event the sick were to landed at Portsmouth and those fit enough sent to Chatham by train.	*The Times* 6 Mar.

Table 9.9: Vessels conveying invalids directly to the Thames

Vessel	Abstract	*The Times* (1855)
Culloden	'arrived at Sheerness […] with wounded and invalids […] assisted to the […] Nore by a private steam tug-vessel, where she was met by the Admiral's steam tender *Wildfire*, and, towed to Chatham. The wounded and invalids were with every care and attention landed, and sent to Melville Hospital.'	1 Jan.
Libertas	After disembarking some patients at Devonport she 'arrived at Gravesend […] Several died […] on their passage home. The rest were landed and conveyed to Chatham, where proper places have been prepared for their reception.' Disembarkation return in WO/25/1187*: *Libertas* left Scutari on 14 October with 85 NCOs and men, of whom nine died on the voyage;13 were disembarked at Plymouth; and the rest at Chatham on 31 December.	3 Jan.
Candia	Following arrival at Chatham […] Seventy-two were hospitalized while those able 'to bear the journey' were sent to the invalid depot at St Mary's Barracks, although all were 'in a sad condition, many of them were without shoes, and their clothing was wretched in the extreme and they appeared half starved; indeed, such a number of invalids has never been witnessed before at the hospital.'	10 Jan.
Sultana	The sick and wounded 'were landed at the Terrace-pier [Gravesend] with the tenderest care, and with every precaution regarding their comfort and convenience. A special train had been in readiness, and, after partaking of a hearty breakfast, they proceeded to Fort Pitt, Chatham.' Disembarkation return in WO/25/1187: *Sultana* left Scutari with 154 convalescents from 36 regiments on 20 Dec. 1854 and arrived at Gravesend on 27 Feb. 1855; there were five deaths.	28 Feb.
Dunbar	Sailed from Portsmouth to Chatham. (See Table 9.6 for reference Dunbar's arrival at Portsmouth) Disembarkation return in WO/25/1187: *Dunba*r conveyed 144 invalids and 152 women and 277 childen under the care of a civilian surgeon. Seventeen deaths occurred during the voyage which commenced at Corfu on 12 February. General Order of 12 April for Fort Pitt: The invalids were landed at the Gun Wharf at Chatham and were conveyed to Fort Pitt or St Mary's Barracks.	11 Apr.

* WO/25/1187 comprises an incomplete set of disembarkation returns.

Table 9.10: Complement of the Medical Staff Corps located at Chatham

Rank	General Hospital Fort Pitt	Garrison Hospital	Brompton Supplementary General Hospital	Total
Steward	2	1	1	4
Assistant Steward	2	1	1	4
Ward Master	2	1	1	4
Assistant Ward Master	2	1	1	4
Cook	2	2	2	6
Orderlies	19	11	19	49
Barber	1	1	1	3
Total	30	18	26	74

[Fort Pitt General Orders, 22 July 1855]

Table 9.11: Number of passengers, including invalids, landed at Portsmouth during January and February 1855

Vessel	Passengers listed in *The Times*, 21 February 1855	Total	Reported date of arrival
Himalaya	2 field officers, 3 captains; 2 subalterns, 2 staff, 18 sergeants, 1 trumpeter, 122 privates; 177 soldiers' wives, 229 soldiers' children	549 (*sic*)	3 Jan.
Candia	1 captain, 1 staff, 14 sergeants, 181 privates, 8 soldiers' wives	205	9 Jan.
Avon	1 staff, 20 sergeants, 1 trumpeter; 180 privates	202	12 Jan.
HMS *Retribution*	4 sergeants; 44 privates	48	26 Jan.
Mauritius	1 captain, 1 staff, 8 sergeants, 123 privates, 70 soldiers' wives, 93 children	296	3 Feb.
HMS *Neptune*	10 sergeants, 1 trumpeter, 188 privates	199	9 Feb.
Orinoco	1 subaltern, 8 sergeants, 101 privates, 9 soldiers' wives, 1 child	120	12 Feb.
	Grand total of all ranks (and 9 horses)	1619	

Table 9.12: Proportion (%) of men invalided to England or discharged from the Army, or were admitted to hospital during the campaign, classified according to the 19 categories used in the *Medical and Surgical History*

Class	Condition	Primary admissions to hospital (*M&SH*, II, General Returns A and E, No, 1)*	Admissions to Scutari hospitals (*M&SH*, II, General Hospital Returns I)	Invalided to England (*M&SH*, II, pp. 231-5 and General Return E, No. 3)*	Discharged from the service (*M&SH*, II, pp. 241-5 and General Return E, No. 4)*
XIII	Wounds or injuries	**11.2**†	**11.4**	**26.0**	**49.1**
VI	Gastrointestinal disease	**34.3**	**30.1**	**20.4**	3.1
I	Fever	**19.2**	**19.4**	**13.8**	-
III	Respiratory disease	**7.6**	**7.1**	**10.4**	**10.6**
IX	Rheumatic disease	3.2	**8.6**	**9.2**	**5.2**
XVII	Eye disease	2.0	1.3	3.7	3.7
IV	Cardiovascular disease	0.2	0.8	2.5	**6.8**
XV	Frostbite	1.5	1.9	2.1	2.8
X	Abscesses or ulcers	**7.7**	2.0	1.7	1.7
VII	Neurological disease	0.5	0.6	1.6	3.2
V	Hepatosplenic disease	0.7	0.6	1.0	0.7
XVI	Scurvy	1.3	1.1	1.0	-
XI	Venereal disease	2.3	3.3	0.9	0.9
XII	Urogenital disease	0.2	0.3	0.5	0.5
XVIII	Skin disease	0.5	0.4	0.1	0.1
II	Eruptive fever	<0.1	0.1	-	-
VIII	Cholera	4.7	0.9	-	-
XIV	Punishment	1.1	0.2	-	-
XIX	All other diseases	2.0	**10.2**	**5.1**	**11.6**
Total cases		162673	43288	12893	6131

* In some classes the proportions listed in General Return E differs slightly from those given in the table.
† Proportions of >5% are highlighted in bold type.

Table 9.13: Number of men with disease who were invalided, died either during transit to England, or after arrival, or were discharged from the Army

Class	Cause of disease	Number of men invalided (*M&SH*, II, p. 229)*		Men dying on passage (*M&SH*, II, p. 229)*		Dying after arrival to end of 1856 (*M&SH*, II, p. 230)*		Discharged from the service to March 1857 (*M&SH*, II, p. 236)*	
		Number	Proportion (%) of total	Number	Proportion (%) of total	Number	Proportion (%) of total	Number	Proportion (%) of total
I	Fever	1784	18.7	29	15.9	22	8.1	0	-
1III	Respiratory disease	1338	14.0	36	19.8	102	37.8	650	20.8
IV	Cardiovascular disease	316	3.3	5	2.7	9	3.3	416	13.3
V	Hepatosplenic disease	133	1.4	1	0.5	8	2.9	44	1.4
VI	Gastrointestinal disease	2624	27.5	72	39.6	103	38.1	189	6.1
VII	Nervous disease	206	2.2	2	1.1	4	1.5	197	6.3
IX	Rheumatic disease	1188	12.4	12	6.6	1	0.4	317	10.2
X	Ulcers etc.	214	2.2	2	1.1	2	0.7	104	3.3
XI	Syphilis	115	1.2	1	0.5	2	0.7	54	1.7
XII	UG disease	67	0.7	3	1.6	0	-	31	1.0
XIV	Frostbite	266	2.8	3	1.6	0	-	171	5.5
XVI	Scurvy	135	1.4	2	1.1	0	-	0	-
XVII	Eye disease	483	5.1	0	-	0	-	227	7.3
XVIII	Skin disease	19	0.2	0	-	0	-	8	0.3
XIX	All other diseases	656	6.9	14	6.2	17	6.3	712	22.8
	Total	9544†		182‡		270§		3120‖	

[Adapted from *M&SH*, II, pp. 229-230 and 336]

* These table also include separate totals for the Cavalry, Ordnance, Guards, and Infantry.
† Cavalry, 718 (7.5%); Ordnance, 1008 (10.6 %); Guards, 621(6.5%); and Infantry, 7197 (75.4%).
‡ Cavalry, 14 (7.7%); Ordnance, 22 (12.1%); and Guards and Infantry, 146 (80.2%).
§ Cavalry, 19 (7%); Ordnance 31 (11.5%); and Guards and Infantry 220 (81.5%).
‖ Cavalry, 391 (12.5%); Ordnance, 283 (9.1%); Guards, 193 (6.2%); and Infantry, 2253 (72.2%).

Table 9.14: Number of men with gastrointestinal and respiratory disease who were admitted to hospital, repatriated to England, and discharged from the Army

Disease		Number of cases (%)			
		Primary admissions to hospital (*M&SH*, II, General Return A)	Admissions to Scutari hospitals (*M&SH*, II, General Hospital Returns I)	Invalided to England (*M&SH*, II, pp. 231-5)	Discharged from the service (*M&SH*, II, pp. 241-5)
Gastro-intestinal disease	Diarrhoea	44164 (79.2)	8571 (65.7)	1533 (58.4)	14 (7.4)
	Dysentery	8278 (14.8)	3381 (25.9)	945 (36.0)	20 (10.6)
	Hernia	101 (0.2)	45 (0.4)	55 (2.1)	152 (80.4)
	Other diseases	3222 (5.8)	1044 (8.0)	91 (3.5)	3 (1.6)
	Total	55765 (100)	13041 (100)	2624 (100)	189 (100)
Respiratory disease	Phthisis	185 (1.5)	197 (6.4)	275 (20.5)	234 (39.0)
	Catarrh	10083 (81.4)	1742 (57.0)	555 (41.5)	32 (5.3)
	Bronchitis	1111 (9.0)	634 (20.7)	235 (17.6)	32 (5.3)
	Lung disease	Not recorded	Not recorded	Not recorded	274 (45.7)
	Other diseases	1003 (8.1)	485 (15.9)	273 (20.4)	28 (4.7)
	Total	12382 (100)	3058 (100)	1338 (100)	600 (100)

Table 9.15: Outcome for officers, NCOs, and men wounded in action

Outcome	Number of NCOs and men (%)			Number of officers (%)
	14 September 1854-31 March 1855	1 April 1855 to end of campaign	Whole campaign	Whole campaign
Died in hospital	777 (17.9)	981 (13.7)	1758 (15.3)	82 (14.2)
Returned to duty	1930 (43.3)	4509 (63.0)	6439 (55.9)	242 (41.8)
Invalided to England	1647 (37.8)	1671 (23.3)	3318 (28.8)*	255 (44) †
Total cases	4354‡, §	7081 + 80	11515	579

[Adapted from *M&SH*, II, p. 259]

* Thirteen (0.4%) of 3,318 died on the voyage to England and that this provided 'evidence of the general sufficiency of the arrangements'; *M&SH*, II, p. 388.

† According the commentary a 'very large proportion' of officers 'invalided' returned to duty after arrival in England.

‡ 80 cases remained and were carried forward into the second period.

§ Of these men, 3,516 (79.3%) were transferred to Scutari with 82 (1.8%) and 389 (8.8%) dying during the voyage or in the secondary hospitals. Of the survivors, 1,398 (31.5%) and 1,647 (37.1%) were either discharged to duty or invalided to England; *M&SH*, II, p. 257, Table No. 2.

Table 9.16: Number of men with wounds who were admitted to hospital, repatriated to England, and discharged from the Army

Nature of injury	Number of cases (%)			
	Primary admissions to hospital (*M&SH*, II, General Return A)	Admissions to Scutari hospitals (*M&SH*, II, General Hospital Returns I)	Invalided to England (*M&SH*, II, pp. 231-5)	Discharged from the service (*M&SH*, II, pp. 241-5)
Luxations	1533 (8.4)	119 (2.4)	31 (0.9)	6 (0.2)
Gunshot wounds	10691(58.5)	3690 (74.7)	2405 (71.8)	2118 (70.3)
Incised wounds	1270 (6.9)	200 (4.0)	35 (1.0)	31 (1.0)
Contusions	4006 (21.9)	494 (10)	89 (2.7)	54(1.8)
Fracture	380 (2.1)	121 (2.4)	124 (3.7)	86 (2.9)
Burns	399 (2.2)	42 (0.8)	7 (0.2)	5 (0.2)
Amputations	No data†	268 (5.4)	639 (19.1)	671 (22.3)
Resections	No data†	9 (0.2)	19 (0.6)	11 (0.4)
Other injuries	4 (<0.1)	0	0	29 (0.4)
Total	18283	4943	3349*	3011

* The total was given as 3,318 on Pages 259 and 388.

† These are treatments and not a reason for admission to the field hospitals.

Table 9.17: Outcome for NCOs and men who were repatriated to England

Outcome	January 1855-March 1857 (27 months)		Average for 27 months during the previous 10 years	
	Number	Proportion (%) of total	Number	Proportion (%) of total
Discharged	9899*	64.8	4669	73.4
Returned to duty	5054	33.1	1350	21.2
Died	283	1.9	165	2.6
Deserted	22	0.1	135	2.1
Transferred	14	0.1	45	0.7
Total	15272	100	6364	100

[Adapted from *M&SH*, II, pp. 238-9]

* This figure includes 2,695 who were discharged 'simply on reduction of the Army.'

Figures 9.1-9.3

Figure 9.1: Arrival of invalids from the East (*Lady's Newspaper*, 13 January 1855)

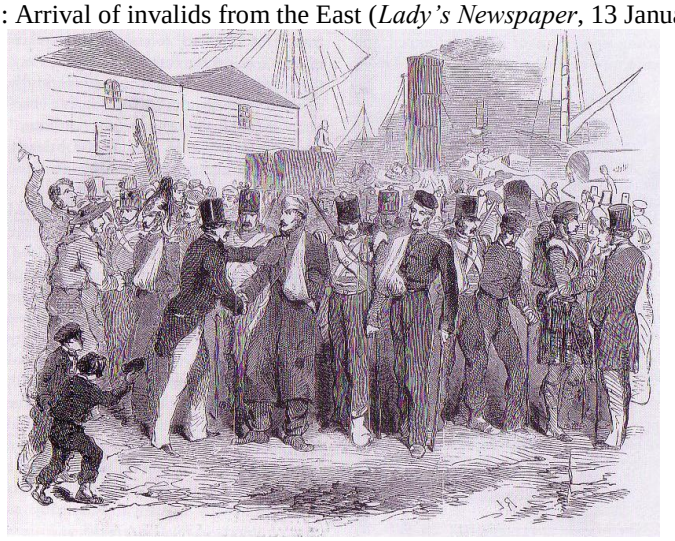


Figure 9.2: Her Majesty at Brompton hospital (*Pen and Pencil*, 10 March 1855)

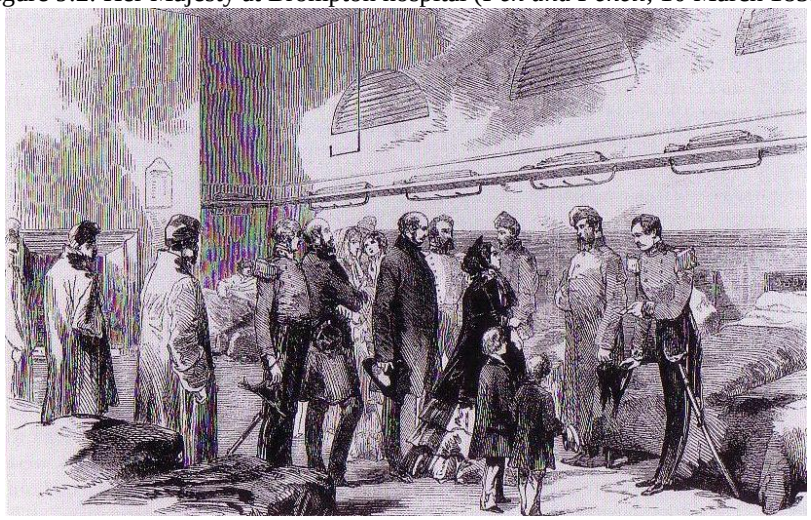
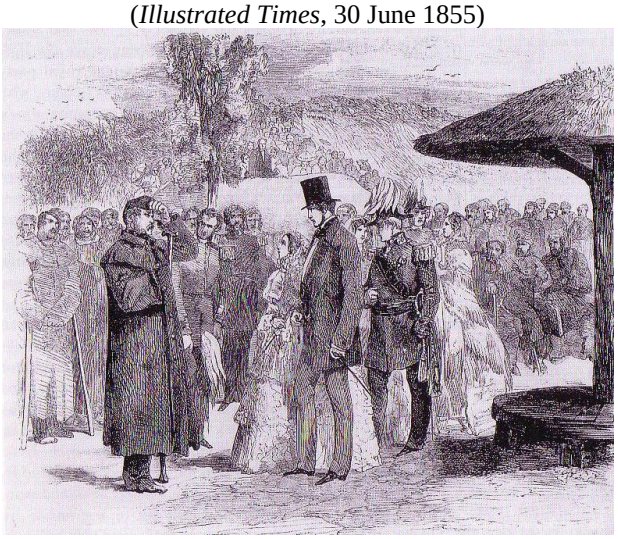


Figure 9.3: Queen Victoria inspecting the Crimean invalids as Fort Pitt (*Illustrated Times*, 30 June 1855)



Appendices 9.1-9.2

Appendix 9.1: Date of arrival in British waters of vessels conveying invalids from the East, December 1854-September 1856

Date[1]			Vessel's name	Number	Means of propulsion[2]	Port of arrival[3]
1854	Dec.	1	*British Queen*[4]	None	Sc/St	Falmouth/Liverpool
		24	*Libertas*	95	Sl	Devonport/Chatham
1855	Jan.	1	*Culloden*	35	Sl	Sheerness
		3	HMS *Himalaya* (Troopship)	104	Sc/St	
		4	HMS *Arethusia* (Troopship)	None	Sl	Plymouth
		9	*Candia*	213	Sc/St	
		12	*Avon*	None	P/St	
		16	*Cambria*	101	P/St	Liverpool
		26	HMS *Retribution*	None	P/St	
	Feb.	3	*Mauritius*	129	Sc/St	
		6	*Harbinger*	86	Sc/St	
		7	*Talavera*	98	Sl	Plymouth
		9	HMS *Neptune*	None	Sl	
		10	*Orinoco*	218	P/St	
		26	*Sultana*	32	Sl	Plymouth/Gravesend
	Mar.	3	*War Cloud*[5]	56	Sl	Devonport
		5	*Arabia*	95	P/St	
		8	*Croesus*	191	Sc/St	
		12	*Burmah*[6]	85	Sl	Wrecked en route to Deptford
		24	*Alps*	82	Sc/St	
		28	HMS *Malacca*	None	Sc/St	
	Apr.	6	HMS *Bellerophon* (Troopship)	None	Sl	
		6	*Great Britain*	187	Sc/St	
		7	*Sea Nymph*	113	P/St	Plymouth/Deptford
		11	*Dunbar*	23	Sl	Spithead/Chatham
		16	*Indiana*	147	Sc/St	
		16	*Medway*	226	P/St	
		20	*Adelaide*	238	Sc/St	Plymouth/Portsmouth
		30	*Victoria*	72	Sc/St	
	May	7	*Tynemouth*	102	Sc/St	
		8	*Gottenburg*	133	Sc/St	
		9	*Camperdown*	99	Sl	
		9	*Cornwall*	25	Sl	
		11	*Canterbury*	80	Sl	
		11	*Chapman*	118	Sl	
		14	*Simla*	118	Sc/St	
		16	*Julia*	111	Sl	
		17	*Lady Eglinton*	165	Sc/St	
		23	*City of Norwich*	None	Sc/St	
		24	*Golden Fleece*	75	Sc/St	
		28	*Sydney*	76	Sc/St	
	June	2	*Australian*	102	Sc/St	
		5	*Rockliff*	130	Sl	
		6	*Cambria*	101	P/St	
		6	*Germania*	207	Sc/St	
		6	HMS *Centaur*	None	P/St	
		12	*Black Prince*	161	Sc/St	
		25	*Arabia*[7]	95	P/St	
		27	*Cambria*	101	P/St	
	July	2	*Candia*	213	Sc/St	
		2	*Indiana*	147	Sc/St	
		5	*Lord Raglan*	89	Sl	
		6	*Calphurnia*	125	Sl	
		6	*Herefordshire*[8]	108	Sl	
		7	*Harkaway*	39	Sl	
		11	*Nimrod*[9]	112	Sl	
		17	*Tamar*	191	P/St	
		18	*Indian*	197	Sc/St	
		21	*Hydaspes*.	87	Sc/St	
		21	*Colombo*[10]	61	Sc/St	
		27	*Melbourne*	73	Sc/St	
		30	*Europa*	92	Sl	
		30	*Hansa*	206	P/St	

Appendix 9.1: Continued

1855	Aug.	2	*Timandra*	51	Sl	
		4	HMS *Simoom* (Troopship)	None	Sc/St	
		6	*Lord Dalhousie*	116	Sl	
		6	*Mercia*	2	Sl	
		6	*Saldanha*	209	Sl	
		6	*Germania*	207	Sc/St	
		8	*Tonning*	65	Sc/St	
		9	*Great Britain*	187	Sc/St	
		16	*Clyde*	145	Sc/St	
		20	*Gibraltar*	183	Sc/St	
		≤31	*Great Tasmania*[11]	210	Sl	
1855	Sep.	2	*Colombo*	61	Sc/St	
		3	*Jura*	14	Sc/St	
		5	*Ripon*	25	P/St	
		7	*Emeu*	74	Sc/St	
		8	*Arabia*	95	P/St	
		12	*City of Aberdeen*	202	Sc/St	
		15	*Thames*	92	P/St	
		19	*Columba*	110	Sl	
		20	*Hope*	64	Sc/St	
		25	*Faith*	131	Sc/St	
	Oct.	2	*Imperatriz*	150	Sc/St	
		2	*Indiana*	147	Sc/St	
		2	*Sir George Pollock*	79	Sl	
		4	*Edwin Fox*	109	Sl	
		6	*Walmer Castle*	117	Sl	
		6	*William Jackson*	93	Sl	
		8	*Lady M'Naughton*	36	Sl	
		8	*St Vincent*	18	Sl	
		12	*Alma*	1	Sc/St	
		12	*Cape of Good Hope*	229	Sc/St	
		15	*Orinoco*	218	P/St	
		20	HMS *Transit* (Troopship)	None	Sc/St	
		27	*Earl of Aberdeen*	20	P/St	
		29	*Niagara*	48	Sc/St	
	Nov.	5	*Sultana*	32	Sl	
		6	*Ripon*	25	P/St	
		8	*Great Britain*	187	Sc/St	
		12	*Robert Lowe*	134	Sc/St	
		12	*Bahiana*[9]	160	Sc/St	
		15	*Arabia*	95	P/St	
		15	*Ottawa*	137	Sc/St	
		22	HMS *Urgent* (Troopship)	None	Sc/St	
	Dec.	3	*Brandon*	139	Sc/St	
		3	*Germania*	207	Sc/St	
		3	*Sydney*	76	Sc/St	
		8	*Calcutta*	195	Sc/St	
		8	*Queen of the South*	135	Sc/St	
		18	*Thames*	92	P/St	
		20	*Canadian*	196	Sc/St	
		20	*Indiana*	147	Sc/St	
		22	*Hydaspes*	87	Sc/St	
		25	*Earl of Aberdeen*	20	P/St	
		28	*Severn*	194	P/St	
1856	Jan.	1	*Great Britain*	187	Sc/St	
		4	*Indian*	197	Sc/St	
		7	*Candia*	213	Sc/St	
		18	*Orinoco*	218	P/St	
		21	*Ripon*	25	P/St	
	Feb.	2	*Bahiana*[12]	160	Sc/St	
		11	*Oneida*[13]	222	Sc/St	Liverpool
		15	*Thames*	92	P/St	
		21	*Alps*	82	Sc/St	

Appendix 9.1: Continued

1856	Mar.	1	*Jason*	84	Sc/St	
		3	HMS *Transit* (Troopship)	None	Sc/St	
		9	*Simla*,	118	Sc/St	
		14	*Chanticleer*	88	Sc/St	
		21	*Great Tasmania*	210	Sl	
		17/26	*Andes*	100	Sc/St	Plymouth/Portsmouth
		24	HMS *Resolute* (Troopship)	None	Sc/St	
		25	*Balbec*	89	Sc/St	
		30	*Borussia*	33	Sc/St	
	Apr	6	*Saldanha*	209	Sl	
		18	*Indiana*	147	Sc/St	
		21	*Thames*	92	P/St	
	May.	5	*Great Western*[12]	6	P/St	
		12	*Severn*	194	P/St	
		16	*Minden*	122	Sl	Deptford
		16	*Victoria*	72	Sc/St	
		26	HMS *Highflyer*	None	Sc/St	
	June	16	*Melbourne*	73	Sc/St	Plymouth/Portsmouth
		28	*Harbinger*	86	Sc/St	
1856	July	1	*Mauritius*	129	Sc/St	
		3	*Severn*	194	P/St	Plymouth/ Portsmouth
		7	*Thames*	92	P/St	
		9	*Queen Victoria*[12]	1	Sc/St	
		16	*Lancashire*[13]	None	Sl	
		17	*Empress Eugenie*[14]	104	Sl	
		24	*Ottawa*	137	Sc/St	
		24	*Lady Eglinton*	165	Sc/St	
	Aug.	6	*Euxine*	None	P/St	
		8	HMS *Perseverance* (Troopship)	-	Sc/St	
		18	*Gibraltar*[15]	183	Sc/St	
	Sep.	2	*Ava*[16]	None	Sc/St	
		8	*White Eagle*	None	Sc/St	
		15	*Crest of the Wave*	37	Sl	
		22	*Prince Arthur*	85	Sc/St	

1. As the date of disembarkation was not always recorded the date of arrival in English waters reported in *The Times* is given, unless stated otherwise.
2. P/St, paddle wheel steamer; Sc/St, screw steamer, and assumed to be so in the few cases when it was not stated; Sl, sail.
3. The vessels arrived at Southampton, Spithead, or Portsmouth unless stated otherwise.
4 No departure of this vessel from Constantinople was recorded in ADM/7/576 although Major Sillery informed the AG on 24 October that five officers had embarked on the vessel at Scutari; WO/28/186.
5. *HT&SC*, 3 March. There was no mention of invalids in *TheTimes*, 27 February 1855.
6. *Burmah* was wrecked on the French coast; what happened to any invalids has not been ascertained.
7. *PoL* and *IoWO*, 30 June 1855.
8. *Hertfordshire* in the *Morning Post*, 10 July 1855.
9. From *PoL*.
10. From *IoWO*.
11. The date of arrival at Portsmouth was not reported but invalids arrived at Chatham from the vessel on 1 September; *The Times*, 3 September. 1855.
12. The presence of invalids was noted in *Po*L, but not *The Times*.
13. *Lancashire* and *Alice Jackson* left Renkioi on 29 May 1856; WO/28/186.
14. The expected arrival was reported on this date; no further details were published.
15. The last hospital ship to leave Balaklava.
16. *Ava* sailed from Malta with invalids on 28 August; the date of arrival in England has not been ascertained but she sailed for India on 1 October 1856.
17. *White Eagle* embarked some invalids at Gibraltar on 22 Aug, 1856; WO/284/72.

Appendix 9.2: Royal Patriotic Fund

One of the legacies of the Crimean War which persists to this day is the Royal Patriotic Fund.[1081] It has the distinction of being the 'first Service charity to be created as a result of national demand' and its objectives were set out in a Royal Warrant dated 7 October 1854. Its principal aim was to provide a 'just and generous benevolence towards widows and orphans of those of our soldiers, sailors, and marines who have been so killed, or who may hereafter die amidst the ravages and casualties of war.'[1082] The original members of the commission, which first met on 18 December 1854 under the chairmanship of Prince Albert, included several who had a high profile during the war, viz. the Duke of Newcastle, the Earl of Aberdeen, Viscount Palmerston, Lord Hardinge, Lord Raglan, Sir John Burgoyne, Lord Rokeby, Lord Panmure, Sidney Herbert, Sir James Graham, and Samuel Peto. 'Commissioners in Aid' were soon appointed and a 'formidable network' was set up in order to 'tap the generous flow of public contributions to the Fund.' This eventually amounted to an impressive £1,471,375 and by the 1990s the Fund had assisted almost 135,000 widows and about 150,000 orphans.

Incidentally, the Royal Patriotic Fund should not be confused with either the 'Central Association for the benefit of widows and orphans of the Army in the East', which seemingly did not prosper, or the Crimea Army Fund, whose impressive committee was chaired by the Earl of Ellesmere,[1083] and *The Times* 'Sick and Wounded Fund', whose local agent John MacDonald was an employee of the paper. Both charities made a valuable contribution to the welfare or the troops in the Crimea and at Scutari but whose activities seemingly came to an end with the cessation of the conflict.

1081 For the history and development of the Royal Patriotic Fund, upon which this paragraph is based, see Blomfield-Smith (1992).

1082 The orphans of Army and Navy personnel supported by the Fund up to 1859 are listed in a 69 page return BPP (1860), No. 51.

1083 See Crimean Army Fund (1855) for details of the Fund's activities and a list of the subscribers. The honorary agents in the Crimea were the Hon. Algernon Egerton, St Leger Glyn, Jervoise Smith, and Thomas Tower, and the principal depot was located in Kadikoi.

Chapter 10
Supplying the needs of the Army

The supply of campaigning armies over the ages has been the subject of several detailed monographs,[1084] but in the final analysis the whole highly complex topic can be summarized succinctly by the axiom 'an army marches on its stomach;'[1085] or put another way the Commissariat is 'the stomach of the Army. Without it, or an inefficient one, the line and the artillery (the limbs) are worthless.'[1086]

The benefits of an effective commissariat were appreciated by Wellington after the battle of Talavera in 1809; and 'by recognizing it [he] assured himself of ultimate success.'[1087] However, this hard learnt lesson did not result in any worthwhile reforms at the time, or in the years before 1854, and consequently the administrative shortcomings in the Commissariat, a civilian department initially administered by the Treasury, soon became apparent after active warfare commenced in 1854; and these problems were compounded further by the late start of the campaign and the absence of well made roads and facilities in and around Balaklava.

Sweetman analysed the administration of the Army at the time and concluded that in the long term the 'real British success of 1855' was not attained in the operational theatres, but in London where the 'reorganisation of army administration' was achieved;[1088] a topic that will be considered further in Chapter 12. It is unlikely, however, that strategic changes in governmental organization, for example the transfer of the Commissariat from the Treasury to the War Department during December 1854, would have had an immediate impact at the front given that improvements in the troops' well-being commenced during early 1855; and well before any reforms introduced in London could have taken effect.

The supply of the Army during the first winter was investigated by the Supplies Commissioners, Sir John McNeill and Colonel Alexander Tulloch, and their findings were published in a 728 page Blue Book which pointed out several obvious

1084 For example, Sinclair (1992), Christopher (1998), and van Crefeld (2004), although there no specific references to the Crimean campaign.

1085 Knowles (2005). It is not certain whether this phase should be attributed to Napoleon or Frederick the Great.

1086 Sterling (1895), pp. ix-x.

1087 Fortescue, *History of the British Army*, quoted by Cantlie (1974), I, p. 319.

1088 Sweetman (1984).

shortcomings.[1089] For example, it was impossible for the troops themselves to obtain fuel and vegetables and until such that these items were supplied by the Commissariat the men suffered unnecessarily as they could not keep warm and cook their food, and the unbalanced diet led to the onset of the effects of malnutrition including scurvy. The Commissioners also criticised the delay in providing facilities for baking bread locally and obtaining sufficient cattle of good quality to provide fresh meat.

The discussion hereunder focuses principally on some of the problems encountered in supplying the Army during the winter of 1854-55, and how matters were rectified during the succeeding months.

Land transport

Land transport in the Crimea proved the ultimate Achilles heel, as was expressed succinctly by P.B. Maxwell, a civilian barrister and one of the hospital commissioners, when he wrote privately to Herbert from the Crimea on 8 January 1855:

> Everybody says that the government and the public have met all the wants except one. They have sent plenty to Balaklava, but have taken no steps to bring that plenty to camp. In short, Sir, you have sent everything 3,000 miles, but the whole distance is 3,006, and the last six are more difficult to overcome than the 3,000.[1090]

This opinion should not have been a surprise to Herbert, however, as the 'crux of the supply problem […] the inadequate road' had been 'identified in London long before the winter weather arrived and made the road almost unusable;'[1091] and it was Newcastle, one of the 'political victims of the Crimean winter,' who had been responsible for introducing 'the measures which improved the position by the spring' such as the 'railway, huts, sanitary officers and Land Transport Corps […] thereby benefiting Palmerston.'[1092] In the event the railway helped keep 'the Army operational and demonstrated how important modern supply systems would be in warfare' though the 'effective organization of the LTC was not achieved until the autumn of 1855.'[1093]

1089 BPP (1856), No. 2007.
1090 W&SHC/2057/F8/III/B/363.
1091 Ponting (2004), pp. 188-9
1092 Lambert (2011), p. 201.
1093 Ponting (2004), pp. 335-6 & 190.

The Commissariat was empowered to pay for provisions obtained locally, and for land and water transport. It could also enter into contracts for ordnance stores, building materials, etc., and was responsible for superintending the issue of provisions, forage, fuel and light, and these 'duties were blended with the Army, Ordnance, Navy, and many other branches of the public service.'[1094] In the context of the Crimean campaign the Commissariat relied heavily on the cooperation of the Navy for sea transport as without its 'zealous cooperation' it would prove 'impracticable to keep the Army properly provided; Constantinople being the principal depot from which we draw our supplies.'[1095] Fortunately, the British merchant fleet was the largest in the world and the relatively high proportion of steam powered vessels meant that they could operate in most weathers, and critically during the stormy winter months. Overall there was no serious shortage of shipping though on occasions there were short term problems associated with hold-ups in the harbours, the inability to charter ships locally at short notice, delays in obtaining coal for steamers, and adverse weather conditions hampering the progress of sailing vessels.

Correspondence and reports on land transport matters are summarized in Table 10.1 and these reveal that the roads deteriorated from early November 1854, while after the hurricane of the 14 November the CG appreciated the long-term problem posed by this unforeseen setback when he informed Raglan the next day that the losses sustained had placed:

> the Army in a critical condition with respect to the supply of provisions and forage. More food may arrive but the loss of forage is irreparable as only pressed hay of which none can be obtained from Turkey can be conveyed in sufficient quantity to meet the consumption of the Army.[1096]

An officer from the QMG's department was ordered to Constantinople with wide discretionary powers on 16 November to obtain large quantities of clothing and other items.[1097] The Ambassador in Vienna was also instructed by Clarendon to procure both clothing and huts for the Army, [1098] while the GOC in Corfu took the initiative and forwarded 500 blankets, 1,500 flannel shirts, 1,115 pairs of trousers, and 200 gregos to

1094 See Hart (1856), p. 386.

1095 CG to Military Secretary, 14 Dec. 1854; WO/62/13.

1096 WO/62/13. Incidentally, Russell reported that 20 days supply of hay and corn were lost; *The Times*, 14 Dec. 1854.

1097 The list included 22,000 blankets or rugs, 4,000 Guernsey frocks, 7,600 woollen drawers, 36,000 socks, 26,000 stockings and mitts, 24,000 gregos, 2,000 Turkish boots, stove, and tarpaulins for tent floors, and 4,700 camp kettles; WO/28/28/196.

1098 Westmorland to Raglan, 10 Dec. 1854; WO/28/155.

Constantinople.[1099] Supplies from England were also en route, for example, *Alster* called at Malta on 28 December with huts, tons of wollen clothing, and 30,000 articles of fur clothing.[1100]

The poor condition of the roads limited the weight carried by carts and pack animals and when these became impassable for wheeled transport the effect of the losses of pack animals due to malnutrition and exposure became increasingly evident. It proved impracticable to replace them, however, because any new arrivals could not be fed for want of forage.[1101] Incidentally, the Supplies Commissioners concluded that this factor had a greater effect on limiting the supply of the Army than the shortage of wheeled transport and animals.[1102]

The net result was the almost complete collapse of the Commissariat transport, which was already inadequate at the beginning of the campaign,[1103] and this prompted the formation of an independent LTC which took place during the spring of 1855. This seemingly sensible development was not entirely successful and Sweetman suggested that if the 'conditions in the second winter had been similar to the first, it is doubtful it would have provided a better service than the civilian Commissariat.'[1104] Nevertheless, by 1 April 1856 it had developed into a substantial organization with *c.*7,400 officers and men,[1105] and thousands of horses and mules.

In order to keep the Army supplied during the winter of 1854-55 increasing reliance was placed on resources available in divisions and regiments, and on the over-worked troops for whom the round trip to Balaklava frequently took 'twelve hours, during the whole of which time they were without food, shelter, or rest;'[1106] and there can be little doubt that this additional excessive labour contributed to the size of the sick list.

It was decided at the turn of the year to form a depot near the British HQ where supplies for two weeks could be stored, though bad weather and the state of the roads

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1099 GOC, Corfu to Raglan, 18 Dec. 1854; WO/28/197.

1100 Malta Times, 2 Jan. 1855.

1101 Raglan to Newcastle, 30 Jan. and 10 Feb. 1855; WO/33/1/17/55 & WO28/199/1.

1102 BPP (1856), No. 2007, p. 18.

1103 Sweetman (1984), pp. 45-6.

1104 Sweetman (1984), p. 55. When the Army landed the Commissariat had sufficient carts and pack animals to convey only 80 tons and the appropriation of carts locally increased capacity to 140 tons; CG's memorandum for HQ, 16 Feb. 1855; WO/28/199.

1105 Sayer (1857), end paper.

1106 BPP (1856), No. 2007, p. 16.

meant that this objective took longer to achieve than hoped. In the first instant artillery horses and waggons, together with the recently arrived 18th and 39th Regiments, assisted with this initiative,[1107] as did Sir Colin Campbell who provided 1,300 men from the Highland Brigade, Marines, and Rifles together with 400 Turks and some horses.[1108] The net result of these concerted efforts was that the living conditions of the troops began to improve during January as food, clothing (Table 10.2), and fuel (Table 10.3) were delivered to the camps in increasing quantities, the sick list began to decrease, and by May 'wood [was] supplied for the most part by the Commissariat [and] forage is obtained without delay at the top of the hill where the rail road terminated.'[1109]

Questions were asked by Russell and others, including Panmure, as to why the roads had not been upgraded in advance of winter. In the event, this was probably a reflection of manpower shortages and the operational priorities of the siege rather than either an error of judgement or intentional negligence on the part of the QMG's department, given the colossal effort that was subsequently required for the construction of roads after the ending of the siege. A point of view, which highlighted one of the fundamental problems facing the Raglan and his successors, namely the shortage of manpower, was supported by Commander Gordon, RN, of HMS *Sanspareil* in his response to the Roebuck Committee report made in December 1855:

> A great deal of senseless clamour has been raised because Lord Raglan did not employ his army in making roads. To this Sir de Lacy Evans states that 'No road was attempted because all men, and more than could or ought to have been spared, were in the trenches [and] until the siege was over, no road could be attempted and even then it has taken 10,000 for more than six weeks to complete only from Kadikoi.'[1110]

The Engineers reported that improvements in the main roads had been made during January 1855 and wheeled transport could be used increasingly once again, while construction of the railway commenced a short while later. Progress was rapid and it became possible to transport supplies as far as Kadikoi on 23 February, and by 26 March they could be delivered to the depot at headquarters. The track was extended to

1107 Notes for Colonel Wetherall's history of the war which remained unpublished; WO/28/199.

1108 Campbell to QMG, 6 & 8 Jan. 1855; WO/28/196.

1109 GOC, 2nd Division to AG, 5 May 1855; WO/28/195.

1110 Gordon (1855).

the 3rd Division camp and the Woronzov Road by May (Figure 10.1) and to the Sardinian position in January 1856, by which time it was 19 miles in length.[1111]

A General Order of 28 March 1855 required that applications for the transport of military stores had to be made to the DG of the LTC by the heads of the 'several Departments of the Army' and that an officer of the LTC would be stationed at each terminus to oversee the loading and discharge of the waggons. However, no ledger detailing the railway's activities has been found in TNA and Cooke made no reference to one. A surviving return dated 17 April 1855 indicated that the commissariat was allocated 32+10 half waggons, the engineers 6+6 half waggons, and the artillery 22 waggons,[1112] while Beatty noted that up to 12 May 1855 the railway had conveyed shot and shell (1,000 tons), small arms (300), commissariat stores (3,600), and miscellaneous items (upwards of 1,000).[1113]

The railway ultimately had a beneficial influence on the British war effort and by the time Sevastopol was occupied it had conveyed to the front 219,723 (92%) of 238,610 projectiles, ranging from 8-inch shells to 68-pounder shot.[1114]

The experiences of the first winter remained in the minds of Simpson and his successor Codrington and the AWC and the troops spent much time during the autumn of 1855 in constructing roads, which, together with the railway, ensured the 'plenty' referred to by Maxwell was transported to the camps, and the Army remained well supplied during the rest of time it spent in the Crimea.

Harbour facilities

The port at Balaklava was inadequate for the needs of the British Army when first occupied. Its small size presented problems of organization and the lack of storage facilities ashore and the congested state of the roads leading inland soon resulted in a chaotic situation.[1115]

1111 The map by Captain F. Brine, RE, dated 1857 shows the final layout of the railway system; MPH/1/427.

1112 WO/28/175.

1113 Cooke (1997), p. 167.

1114 Cooke (1997), pp. 90 & 171-2.

1115 For correspondence about the management of the harbour when Admiral Boxer was the port admiral see BPP (1854-55), No. 512.

The development and management of the harbour was the responsibility of the Royal Navy and wharves were constructed, initially on the east side and later on the west. They were used where possible for specific purposes, for example, landing ordnance stores, huts and cattle, disembarking troops and embarking the sick and wounded, while others were reserved for the Engineers, Commissariat, and railway (Figure 10.2). These developments commenced soon after occupation of the town and by January 1855 the Engineers recorded that:

> Much had been done to improve Balaklava. The existing wharves, built during, the previous month, had been considerably enlarged, and new ones had been commenced; at the entrance of the town a pier had been constructed for the embarkation of the sick and wounded, and adjoining another pier was in progress, for unloading the Engineer stores.[1116]

while on 5 May 1855 Captain Barnston, a DAQMG, noted that:

> A very nice pier is now being made across the north end of Balaklava harbour, and we hope, with the help of Admiral Boxer, who is wonderfully energetic and particularly civil when properly managed, to make a continuous straight quay all along the east side. Boxer made all the west side himself without any military assistance, and from the great help he has been to us he deserves to be made a peer for making a pier![1117]

and, on 18 May 1855, Russell reported:

> Balaklava presents an aspect of extraordinary activity, and the amount of stores of all kinds is beyond conception. When an army has to be fed from beyond the sea, one sees what an all-consuming creature it is. […] It is to be remarked that much time and labour is lost now and then in consequence of forage being received in bulk instead of bales or sacks. Can anything be imagined more difficult to discharge but straw in bulk? […] The harbour is, however, now scarcely recognizable […] vast improvements in the wharfs and quays.[1118]

The management of the harbour was criticised by several individuals who gave evidence to the Roebuck Committee, and these accounts were justifiably refuted robustly by Commander Gordon, RN; who made it clear in a detailed account of the development and management of the harbour facilities that effective use had been made of the limited space available in the small harbour.[1119]

1116 Elphinstone (1859), pp. 79-80.

1117 Trevor-Barnston (1998), p. 81.

1118 *The Times*, 31 May 1855.

1119 Gordon (1855).

Provisioning the Army

The CG suggested to HQ that planning for the winter should be considered in August 1854; but the advice was seemingly ignored,[1120] perhaps because it was intended that the attack on the Russians was to be more of a raid than an act of conquest. Clearly Raglan had not anticipated a winter campaign given that Clarendon advised Stratford that he [Raglan] had expressed:

> the most decided opinion against wintering in the Crimea under any circumstances, but how will he get away from it? How [to] embark the two armies with all their guns, stores etc., probably in stormy weather, and with 50 or 60,000 Russians coming upon them like droves of famished wolves? It seems to me […] that we are on the verge of a monster catastrophe, the only event at all like it [was] the embarkation at Coruna but there our numbers were small and encumbrances light and we had the Spaniards to hold the walls for us.[1121]

A Council of War held after Inkerman on 6 November committed the troops to staying in the Crimea, and the next day Burgoyne wrote to the Assistant Inspector-General of Fortifications: 'There is every prospect of our wintering in […] the Crimea, without towns or villages […] or any resources but what can be drawn from the sea.'[1122] No official announcement of this decision was issued though Raglan informed Lucan privately on 8 November that he 'might prepare for winter,'[1123] while by the 22 November, an assistant surgeon in the RA recorded that: 'We have orders to winter in our present camp.'[1124]

Calthorpe, Raglan's junior ADC, recorded that Sir de Lacy Evans had: 'urged upon [Raglan] the utter uselessness, and indeed impracticability, of attempting to hold our present position […] there was nothing to be done but […] raise the siege, embark the troops […] and evacuate the Crimea,'[1125] while the Prime Minister was informed by his son, who was on the QMG's staff, that he thought that: 'the same advice would be given by every general and officer of experience in this Army, *if his opinion were asked*.'[1126]

Raglan had little option, however, as: 'he could not abandon his guns, that he had not transport for half of his army, that he could not leave the French to shift for

1120 CG to Military Secretary, 1 Aug. 1854; WO/62/13.
1121 Clarendon to Stratford, 13 Nov. 1854; FO/352/37A.
1122 Quoted by Sweetman (1993), p. 260.
1123 BPP (1854-55), No. 156, p. 302.
1124 *JRUSI*, CII (1957), p. 83.
1125 Calthorpe (1979), p. 104.
1126 A. Gordon to Aberdeen, 17 Nov. 1854; BL Add. MSS 42335.

themselves, and that he could not take such a step without positive orders from home.'[1127] And then came hurricane of 14 November, and the fate of the Army was sealed; and the 'monster catastrophe' predicted by Clarendon came to pass, and all in the Crimea were forced to extemporize the best way they could to cope with the situation.

The destruction of *Prince* and other transports anchored outside Balaklava harbour on 14 November 1854 resulted in the loss of a large quantity stores including clothing, viz. on *Prince*: woollen socks, 35,700; woollen frocks, 53,000; flannel drawers, 17,000; watch coats, 2,500; blankets, 16,100, and rugs, 3,700.[1128] Given that a lead time of over two months was required to supply sufficient lime juice to permit dosing each man daily to prevent scurvy (see below) it is obvious that some forward planning by the government must have taken place during the summer to ensure that such large quantities of essential stores arrived in Balaklava when they did, and hence it is not surprising that the deficiencies in clothing and other necessaries only began to be made good some weeks later (see Table 10.2).

The details of the large number of items issued to each regiment and the other departments were recorded in a ledger;[1129] those drawn by the Medical Department, Ambulance Corps, and General Hospital between November 1854 and May 1855 comprised jerseys, 7,933; blankets, 6,412; rugs, 5,057; drawers, 2,854; boots, 1,725; socks, 818; comforters, 650; mits, 282; fur caps, 108; and sheepskins, 104.

The area of the Crimean peninsula occupied by the allies was not well wooded and the shortage of timber for fuel soon became a serious problem, and thereafter all categories of fuel had to be imported and transported to the camps (Table 10.3). It had not been usual practice for the Commissariat to provide troops with fuel, except when in barracks, and hence no provision for this had been made in advance of the invasion. Raglan subsequently ordered the CG to provided fuel for the Army on 11 November, though it was not until the end of December that 'the troops in and near Balaklava

1127 A. Gordon to Aberdeen, 9 Mar. 1855; BL Add. MSS 42335.
1128 BPP (1854-55), No. 247, p. 40.
1129 WO/28/153.

received rations of fuel' while until the onset of spring 'the want of land transport made it impossible to carry it to the front, except in small quantities for use in hospitals.'[1130].

The provision of fuel resulted in a 'considerable addition to the duties of the Commissariat,' and some idea of the task can be gauged from the CG's estimate of the amount of fuel and light required during December 1854 to meet the requirements stipulated in a General Order of 28 May 1854, viz. charcoal, 481 tons/month and 300 pack animals per day; coal, 963 and 360, and wood, 1,927 and 720 respectively.[1131]

Nowhere is the relationship between supply and health more immediately obvious than in the case of scurvy. This deficiency disease was noted first towards the end of October 1854 (see Chapter 6) and local available supplies of lime juice were landed shortly afterwards (Table 10.4). Immediately he heard the news in mid-November Smith arranged for large volumes of juice to be forwarded to the Crimea but despite pressing the point to the military authorities it was not until the beginning of February 1855 that sufficient quantities arrived for the daily dosing of all the troops to commence. This proved beneficial, but as the soldiers' diet was not necessarily always satisfactory it was decided to continue prophylactic dosing for the duration of the campaign, with the result that in the autumn of 1855 about two tons of juice was required each day to meet this need (Table 10.4).

It can be appreciated from the correspondence summarized in Table 10.5 that inadequate living accommodation had serious repercussions for both sick and well during the months after the invasion, particularly as preference was given initially to accommodating horses and mules under cover rather than the sick, a policy understandably deprecated by Hall.[1132]

The provision of huts became a priority once it was decided to over-winter in the Crimea.[1133] Contracts were entered into in England and locally the QMG instructed the CG to purchase timber and other building materials.[1134] The first of several

1130 BPP (1856), No. 2007, pp. 10-11.

1131 CG to Raglan, 9 Dec. 1854; WO/28/193.

1132 QMG to CRE, 25 Nov. 1855; WO/28/196 and Hall, diary entry, 1 Dec. 1954; RAMC/524/15.

1133 The report of the Supplies Commissioners includes an overview on accommodation; BPP (1856), No. 2007, pp. 33-6 & 284-8.

1134 QMG to CG, 7 Nov. 1854; WO/28/198.

consignments of loose boarding etc. sufficient for 10,000 men and 3,500 horses arrived from Black Sea ports on 25 November,[1135] while the first of several ship loads of huts arrived from England on 25 December.

The unloading of this bulky material increased congestion in the harbour area and caused considerable logistical problems as the huts were heavy and 250-300 men were required to man-handle a hut for 25 up to the camps for want of wheeled transport and pack animals,[1136] while construction using sawn timber was hampered by the shortage of skilled labour.

Regimental hospitals were originally housed in bell tents and marquees but huts became increasingly used and by March 1855 the 'more seriously ill were being retained in regimental hospitals instead of being evacuated to Scutari,'[1137] though the extent of provision for the well proved more variable.[1138] The provision of accommodation was obviously considered a major priority and although hut building continued during the rest of 1855 4,000 men were still accommodated under canvas by its end, albeit all were in double tents with wooden floors.[1139]

The provision of huts proved as massive undertaking; the number sent from England numbered 4,550[1140] while *c*.38 miles of planking were imported,[1141] and as late as the spring 1856 75 miles of roofing felt was sent to the Crimea to effect repairs.[1142] Huts were certainly better than tents but they were not an unalloyed success as they could become hot in the summer and the ventilation was not always adequate. In addition, they could prove unstable in windy weather unless appropriately strutted[1143] and were a greater fire risk than with tents.[1144] Many required regular maintenance as they were constructed from poor materials, and the failure to undertake this proved a recurrent cause of complaint from MOs (see Table 10.3). For example, towards the end of 1855 Codrington informed Panmure that 'of 640 huts including hospitals […] only

1135 BPP (1856), No. 2007, p. 34

1136 This is in contrast to I.K. Brunel's prefabricated hospital erected at Renkioi; the components of which could be carried by one man or two.

1137 Shepherd (1991), p. 295.

1138 BPP (1856), No. 2007, pp. 38 & 284-8.

1139 Journal of Proceedings, 30 Dec. 1855; WO/28/143.

1140 BPP (1857), Session 2, No. 267. These comprised those for officers, 788; soldiers, 3,154; cook houses, 4; hospitals, 317; stables, 260; and stores, 27.

1141 QMG to CRE, 19 July 1855; WO/28/138.

1142 Undersecretary of War, 17 Mar. 1856; *PoL*.

1143 Burgoyne to QMG, 18 Jan. 1855; WO/28/197.

1144 DAQMG, Balaklava to QMG, 11 May 1856; WO/28/136.

100 are reported watertight. The old ones all want fresh covering, the best of the new ones leak badly at the joints, the thin single-board roofs of the smaller new ones are still worse, and felt is only just arrived.'[1145]

Codrington informed Panmure in May 1856 that the Russians did not wish to purchase huts on the plateau and so they were being sold to individuals or used for firewood.[1146] Some of the best huts were taken to Malta,[1147] while a General Order dated 22 May required that each regiment 'will leave the camp perfectly clean, the huts empty, temporary stables and kitchens leveled, dug out tents and latrines filled up.'

Some days later Codrington suggested to Panmure that the Russian government will no doubt seize every hut 'on our quitting' and if it was not an 'undignified dog-in-the-manger proceeding, what a magnificent bonfire the whole camp would make!' In his reply of 23 June Panmure opined that 'if the Russians do not buy our huts, or have the decency to ask for them civilly' he could 'see no reason why a farewell bonfire might not be made of them;'[1148] and that this happened was confirmed by Assistant Surgeon Grieg who counted 'no less that ten fires blazing all over the camp' on the night of 14 June 1856.[1149]

The amount of food needed by men and animals of the Army was considerable. For example, each day a division of *c.*7,000 men required 3.1 tons of meat and 3.1 or 4.3 tons of bread or biscuit, while the divisional animals would consume 6.25 tons of barley and 2.25 tons each of hay and chopped straw.

Under normal circumstances the diet of the men was monotonous and not particularly appetizing or nutritious and it was usual for them to cater for themselves either singly or in small messes. This was inefficient in terms of manpower and fuel, and hence a move towards catering on a larger scale was an attractive proposition; and this became a more realistic objective when Alexis Soyer, sometime head chef at the Reform Club, volunteered to go to the East to advise on the feeding of the troops. His visit received official backing and he arrived at Scutari towards the end of March 1855,

1145 Codrington to Panmure, 29 Nov. 1855; WO/1/380.
1146 Codrington to Panmure, 13 May 1856; WO/1/384.
1147 Circulars to GOC Divisions and HoDs, 19 & 28 May 1856; WO/28/140.
1148 Douglas & Ramsay (1898), II, pp. 249 &258.
1149 Hill (2010), p. 200.

where he proved of 'great service to this establishment and when his arrangements are perfected there will be little left to be done.'[1150]

His 'receipts (*sic*: recipies) have been highly approved' and 'printed by authority of headquarters,'[1151] and though Nightingale found his stoves in the hospitals answered 'every purpose of economy and efficiency' she concluded: 'The patients [at Scutari] don't like Soyer's cookery […] nearly so well as ours, and I hear nothing but complaints. But I will not reopen our kitchens yet.'[1152] The final sentence may betray a hint of bitterness, not surprisingly perhaps, as the special diet kitchens she had worked so hard to establish had been closed after the development of Soyer's centralized catering facilities.[1153]

Before Soyer arrived in the Crimea on 5 May 1855 some improvements had been in some regimental catering facilities by the provision of stone cook-houses and the employment of permanent cooks.[1154] Perhaps because of this Soyer anticipated opposition to his visit though 'instead of enemies' he found:

> from headquarters to every camp and regiment, the officers and medical gentlemen have rendered me the utmost assistance, so ready are they to improve the cooking of food for their brave companions in arms. The provisions allowed by the government I consider bountiful, and only require to be applied to the best advantage.[1155]

His stoves, which could be carried in one piece by a mule, could be used by one or two men to cook for a battalion by placing them in a row.[1156] They were also found to be 'admirably adapted as regards despatch, cleanliness, and economy.'[1157] Soyer was requested to attend a board of general officers to discuss the erection of soup kitchens and the issue of hot meals during the winter.'[1158] This proposal was subsequently considered impracticable,[1159] but his stoves were clearly not, as with some modification they were still in use some 150 years later.[1160]

1150 Cumming to Hall, 4 May 1855; RAMC/397/F/CO/19/17.

1151 Bracebrige, letter; *Lady's Newspaper*, 7 June 1855

1152 Nightingale to the Bracebridges, 7 Aug. 1855; Goldie (1997), p. 144 and McDonald (2010a), p. 211.

1153 Cantlie (1974), II, p. 148.

1154 For example, in the 1st Battalion, Rifle Brigade; Fisher (2011).

1155 Soyer to Editor of *The Times*, 3 June 1855; Soyer (1856), p. 265.

1156 IGH Alexander's evidence to the Royal Commission, 25 May 1857; BPP (1857-58), No. 2318, pp. 86-7.

1157 Dr. G. Taylor to Soyer, 5 July 1856; Soyer (1856), p. 417.

1158 AG to Soyer, 1 Sep. 1855; WO/28/123.

1159 QM to Soyer, 7 Oct. 1855; WO/28/139.

1160 Soyer's camp kitchen is illustrated in *ILN*, 22 Sep. 1855.

By the autumn of 1855 the infrastructure in the camps had been developed further and at this juncture Hall reported on the stoves to the War Office in a practical, if slightly less enthusiastic manner than some other commentators:

> Most of the kitchens in camp are substantially built with coppers and stoves set, and […] as many saucepans and kettles as they require so they are better off than if they were supplied with M. Soyer's stove kettle alone. […] many regiments are supplied with Feetham's stove which is more portable and better adapted for the hospital purpose than Soyer's. […] if the army takes the field camp kettles and A and B canteens would all that could be carried […] and M. Soyer's stoves would have to be left behind. M. Soyer's stoves would be a long time clearing its expense in the saving of fuel, as that is not generally an item of expenditure with an army in the field.[1161]

Hall issued a Medical Department Memorandum on the composition of hospital diets on 27 January 1856 and this included three of Soyer's recipes for making soup which 'may not be unacceptable to those medical officers who have inexperienced hospital chefs.'[1162] Shepherd concluded that: 'There is no evidence that the medical officers viewed [Soyer's] reforms unfavourably,' but added the caveat that 'It may well be that they were more ready to accept advice from a man, rather than from Nightingale. […] Soyer had been sent out officially and was well known to so many people of influence at home [and also in the Crimea no doubt].'[1163]

It cannot be determined if the troops would have enjoyed better health if Soyer's culinary reforms had been introduced before the Army left for the East but by the spring of 1855 the government was probably relieved to sanction a famous chef to advise on nutritional matters, and thus hopefully prevent problems with catering occurring during the rest of the campaign.

Irrespective of the problems encountered during the first winter matters were put right and when the Supplies Commissioners left the Crimea in early June 1855 they noted that: 'supplies of food to the army […] were abundant, and the diet of the soldier [is] better than […] in any former campaign,'[1164] though they did point out that: 'It [is] a defect in [the] British Army, that no one is responsible for the fitness of the diet supplied to the troops,' and they recommended that a staff officer should attend to 'the supply of the Army' thus making the best use of supplies available, especially locally. There is no evidence that this policy was put into effect in the Crimea; possibly because supplies of all kinds were freely available when the recommendation was made.

1161 Hall to Deputy Secretary at War, 19 Nov. 1855; RAMC/397/F/CO/1/2/3606.

1162 RAMC/397/F/CO/1/3.

1163 Shepherd (1991), p. 370.

1164 BPP (1856), No. 2007, pp. 14-5.

Summary

Raglan pointed out to Newcastle at the end of January 1855 that the 'the organization of the British Army, which is framed for stationary service in the colonies, or for home duty, is undoubtedly defective for operations in the field.'[1165] And how right he was; and it is clear that this shortcoming coupled with a combination of bad weather, a lack of wheeled transport, and the deterioration of rudimentary rural roads resulted in substantial difficulties in bringing the 'plenty' in Balaklava harbour to the camps during the winter 1854-55. This combination of circumstances, coupled with the effects of the losses of stores sustained during the storm of 14 November, together with the failure to make timely provision of adequate shelter, proved catastrophic. Collectively these oversights overwhelmed the limited resilience of the army supply system and thus contributed directly to the excessive losses from disease described in Chapters 5 and 6.

In his evaluation of the organization and performance of the Commissariat Sweetman concluded, inter alia, that the 'numerical strength and the experience of Filder's force were unsatisfactory,' and the events of the first winter 'cruelly exposed the dangers of relying on the existing contract system' and of obtaining 'waggons of the country [and] supplies from the theatre of war.' The net effect was that the limitations of the systems of management, which was excessively complex and rigid, were 'severely exposed' and the department resembled 'Charles Dickens' Circumlocution office.'[1166]

Wars are won or lost through logistical strengths and capabilities; for example, the loss of the American colonies can be attributed largely to a logistics failure.[1167] While the problems in the Crimea did not lead to a strategic failure, they were disastrous enough, and in the final analysis it was the tenacity of those on the ground who did much to rectify matters. Their perseverance, coupled with improvements in the roads, the rationalization of land transport, and the construction of a railway, ensured that the necessaries for life were eventually brought to the camps on a regular basis, and the health of the troops improved considerably to give the Sanitary Success of 1856 to which reference has already been made.

1165 Raglan to Newcastle, 31 Jan. 1855; WO/33/1/17/55.

1166 Sweetman (1984), pp. 41-59.

1167 See Bowler (1975) and Christopher (1998).

Tables 10.1-10.5

Table 10.1: Correspondence and reports on roads and transport, November 1854-December 1855

Originator	Date	Recipient	Abstract [Reference]
Newcastle	2 & 6 Nov.	Raglan	Informing Raglan of the plan to build a railway. [Shepherd (1991), p. 461 and WO/6/70]
General Order	12 Nov.		The bad state of the roads renders the transport of the various supplies difficult, and it is enjoined upon those [who] load the carts to make the loads lighter.
DAQMG, Balaklava	13 Nov.	QMG	If the roads in Balaklava are not repaired immediately they will soon become quite impassable. [WO/28/192]
CG	13 Nov.	QMG	The condition of the road to the camp makes it is extremely difficult to keep up the supply of the troops. [WO/62/13 and WO/28/196] (Incidentally, the Queen's Regulations make it clear that the QMG's department was responsible for roads and communications.)
General After Order	14 Nov.		The roads […] between Balaklava and the lines, having become so bad as to render it impossible to convey provisions […] it is necessary that immediate steps be taken to repair them; for that purpose the Turkish troops at Balaklava are at this moment most available. [WO/28/50]
CG	17 Nov.	Sir Charles Trevelyan	I am full of apprehension […] of keeping this Army supplied during the coming winter [...] the road from the harbour to the camp, not being a made one, is impassable after heavy rains; our obstacle in these respects will increase as the winter comes. We shall have many more stores to convey than we have hitherto had - fuel, for instance. In short, I am full of anxiety and dread on the subject. [Raglan Crimean Papers, (MM 190), quoted by Hibbert (1961), p. 211]
CG	18 Nov.	QMG	Requesting that bat horses are used to carry supplies to camp. [WO/28/186]
Commissariat Department memo	23 Nov.		Some carts were loaded with more than 600 lbs altho' the roads were nearly impassable. Such conduct must shortly lead to the destruction of the transport of the Army. When the roads are heavy no more than 4 bags of biscuit of 112 lbs each or 3 sacks of corn at 160 lbs each and other packages in proportion are to be place upon them. When pack animals are used the load is not to exceed 200 lbs. [WO/62/31]
General Order	27 Nov.		In consequence of the state of the roads, and the death of many transport animals, the Commissariat is unable to convey to the camp the requisite supplies of forage. Regimental and Staff Officers must avail themselves of their own resources to bring up from Balaklava rations for their horses.
CG	29 Nov.	QMG	The road along the quay of the harbour, it is all but impassable and if not repaired it will become impossible to forward supplies to the camp. [WO/62/13]
PMO, 4th Division	29. Nov.	Hall	[…] the almost impassable state of the roads, the inefficiency of the overworked mules, and the badness of the weather, the sick […] could not be conveyed to Balaklava in the ambulance waggon today. […] This condition […] cannot last without occasioning very deplorable results and from the state of the transport there [is] little prospect of its alleviation. [BPP (1857-58), No. 2379, p.163]
GOC, Light Division	30 Nov.	QMG	Pointing out the use of officers' chargers for carrying rations would render the regiment in efficient in case of emergency. [WO/28/196]
Russell	4 Dec.	News item	What necessity is there for all the suffering and privation created by this imperfect state of our communications? Why should not roads have been made when we sat down before the place? Their formation would have saved many lives, and have spared our men much sickness and pain. Had there been the least foresight […] we would have set the Turks to work at once while the weather was fine, and have constructed the roads which we are now trying to make under most disadvantageous conditions. [*The Times*, 25 Dec. 1854]
Hall	6 Dec.	DG	Blankets and warm underclothing have arrived […] road from Balaklava is impassable and there are only a limited number of packhorses. [BPP (1857-58), No. 2379, p. 22]

Table 10.1: Continued

CG	6 Dec.	Raglan	The Commissariat Officers attached to Divisions have not any want of zeal or exertion under very trying circumstances … endeavouring to bring in supplies the arrival of which has been prevented by impassable roads or in recovering those which have been seized by the French troops. [WO/62/13]
Captain Heath, RN	13 Dec.	Letter home	They are macadamizing our road and have done about a mile. Heath (1873), p. 125.
DAQMG, Balaklava	26 Dec.	QMG	The roads in and about Balaklava are in a very bad state. [WO/28/196]
DAQMG, Balaklava	10 Jan.	QMG	The roads are very bad from the thaw and the immense quantity of liquid muck. [WO/28/187]
Dr G. Lawson	18 Jan.	Letter home	The roads still continue in a very bad condition, almost impassable to anything but baggage animals. The French are now making roads for us, macadamizing them with the stone which exists everywhere here in such great quantities; but it is a very long job. [Bonham-Carter & Lawson (1968), p. 150]
Lord Raglan	20 Jan.	The Queen	The roads are so bad that wheeled carriages can no longer be used, and that the horse transport is diminished by sickness and deaths. [Benson & Esher (1907), pp. 87-8]
Engineer's Journal	1-3 Feb.		The roadway adjoining the harbour had been properly drained, and raised about 14 inches […]. From thence towards Kadikoi the existing road had been partially macadamized for a distance of upwards of a mile. The new road to the front, proceeding from Kadikoi by way of Karani, had been macadamized as far as the rising ground to the west of General Vinoy's division, or for a distance of upwards of a mile. [Elphinstone (1859), p.87]
Panmure	12 Feb.	Raglan	In this Major General Airey has totally failed, and thereby shown himself deficient in those qualities which constitute the very primary requirements of a QMG. To his want of foresight I mainly attribute the neglect to form a proper road between Balaklava and the camp. [WO/33/1/13/55]
Captain L. Heath, RN	? Feb.	Letter home	Our sanitary measures have from the first been neglected. The Russians were in no position to attack us when we first came round, we had no trenches to guard, our commissariat horses were still alive, the roads were still good, and yet not a tent did we send to the front for at least ten days, and much sickness was the consequence. No roads were made, no attempt to store provisions in front, no piles of firewood collected, no regimental cook houses established; each man did for himself, and three or four times the necessary fuel was used. Houses were pulled down, which now would have been invaluable as hospitals or store-houses; [no] precautionary measure was taken [in case of] failure in immediately occupying Sebastopol. Mr Filder [….] great fault has been want of foresight, and bad calculation as to the number of horses required; to which may be added a total want of even an attempt at taking care of the animals […] When the roads became so bad that carts had to be given up, he allowed his bullocks to be killed and eaten; when the roads had again hardened not a dozen bullocks [remained]. [Heath (1873), pp. 166-7]
Estcourt	23 Feb.	General Wetherall	The railroad is nearly ready to the village of Kadikoi […] Balaklava has become […] a very well ordered place. [NAM 1962-10-95-2]
QMG	1 Mar.	DAQMG, Balaklava	All forage and fuel for the camp […] will be brought up by rail and issued at Kadikoi […] assist […] in carrying out this arrangement. [WO/28/137]
DJAG	6 Mar.	Letter home	We have suffered because you good people in England or your rulers would not give us transport fit for an army of 30,000 men, properly organized to do its work. What little transport we had was under the control of Filder who had enough to do looking after his eternal contracts for biscuit salt pork and rum – No doubt mistakes have been made here […] not making a road from Balaclava […] After the wet weather set in we never strong handed enough to carry on the siege and make roads to. [Robins (2005), pp. 88-92]
G.L. Goodlake	9 Mar.	Letter home	Roads are now in capital order and everything is going well; sickness has decreased and everybody seems in better spirits. [Springman (2005), p. 106]

Table 10.1: Continued

Airey	16 Mar	Diary entry	The stationary engine at the top of the first incline began working today. [HRO/BY53/1/1-5]
Estcourt	16 Mar,	Wetherall	The rail road is at work for near two miles. It has been effective at clearing Balaklava. [NAM 1962-10-95-2]
Panmure	16 Mar.	Raglan	Admonishes Lord Raglan for not providing sufficient information on […] the failure to provide a road from Balaklava to the camp. [Douglas & Ramsay (1898), I, pp. 103-6]
Panmure	19 Mar.	Raglan	It was the duty of the QMG to have provided […] communications with the camp. This was neglected. What was the result? […] all intercourse between the Army and its supplies was carried out under unexampled difficulties. […] In regard to warm clothing; no doubt it was served out as soon as it was received from Balaklava; but why was it not received sooner? Because there was no road. [WO/33/1/22/55]
Panmure	19 Mar.	Raglan	I am glad to hear such good accounts of the railway, and hope […] it has enabled you to take up sufficient material […] You say nothing of forage, and I sincerely trust it has arrived. [Douglas & Ramsay (1898), I, p. 111]
DAQMG, Balaklava	29 Mar.	QMG	Mr Beattie indicates that the railway is ready to carry sick. [WO/28/187]
Russell	30 Mar.	Newspaper report	The railway is now completed up to the plateau, and […] carried close to headquarters, where there will be a large depôt and station established. [*The Times*, 16 Apr. 1855]
Estcourt	14 Apr.	Wetherall	The plateau has become a large town, and the rail road is well up to within ¾ of a mile from this station. [NAM 1962-10-95-2]
Captain R. Barnston	7 May	Letter home	The road to Balaklava is very good, like a board. [Trevor-Barnston (1998), p. 82]
McNeill and Tulloch (Supplies Commissioners)	9 June	Panmure	The road between Balaklava and camp broke up about 20 November and the transport power of the Commissariat was reduced by a third as it was impassable to carts. The real cause of the deficiency of transport therefore appears to have been the want of forage, not the want of ships or animals. (The special difficulties facing the Commissariat supplying a static army in a barren country was also emphasized.) [WO/33/1/44/55, pp. 5-12]
T Spencer Wells (Civilian surgeon)	16 June	Letter to the Editor	On good roads, as on those now leading from Balaklava to the camp, the patients are conveyed in great comfort in either class of the ambulance wagons. [*MT&G*, 30 June 1855]
Simpson	1 Sep.	Panmure	I […] feel anxious about this Land Transport, neither it nor the rail being at present equal to what we require of them. […] Sir George Maclean […] will I trust put our supplies beyond risk of failure. [Douglas & Ramsey (1898), I, pp. 368-9]
Panmure	11 Sep.	The Queen	The Army is delivered from the trenches. It can be spared to repair its roads and prepare for its winter repose. [Douglas & Ramsey (1898), I, p. 381]
Hall	25 Sep.	Simpson	The men are employed […] in making roads and preparing for their own comforts during the winter. [*MT&G*,13 Oct. 1855 and *The Lancet*, 20 Oct. 1855]
Simpson	25 Sep.	Panmure	Our men are free from trench work, and can be put on roads […] the Civil Corps are failures. Mr Doyne and some of his officers are excellent, but the men give more annoyance and trouble than is agreeable.[Douglas & Ramsey (1898), I, p. 405]
Simpson	9 Oct.	Panmure	As to our roads, I begin to dread their completion before winter. Our safety depends on them. [Douglas & Ramsey (1898), I, p. 436]
Codrington	17 Nov.	Panmure	Main road to the camp is nearly complete […] the Division roads from it to […] and to regimental camps are progressing. [Douglas & Ramsey (1898), I, p. 493]
Hall	27 Dec.	Chief of Staff	Frostbite has been found in men employed in carrying stones on the roads or collecting wood from Balaklava.[BPP (1857-58), No. 2379, p. 130]

Table 10.2: Reports on the supply and distribution of warm clothing and blankets in the Crimea, November 1854-January 1855

Originator	Date	Recipient	Abstract [Reference]
Hall	29 Nov. 1854	Med. Dept. Memo	Blankets and warm under clothing for the sick have arrived in the *Jura*. [BPP (1857-58), No. 2379, p. 163 and Mitra (1911), p. 371]
1st Royal Dragoons	4 Dec.	Regimental history	A good supply of warm clothing was issued during the month. [*M&SH*, I, p. 25] Incidentally, in his evidence to the Roebuck Committee Lord Lucan mentioned that 'clothing that was sent out from England began to be served out in December, and that [it] was remarkably good' [BPP (1854-55), No. 156, p. 301]
Coldstream Guards	4 Dec.	Regimental history	Some warm clothing and extra blankets were issued […] the number of the latter was increased on requisition of the MO. [*M&SH*, I, p. 112]
Captain L. Heath, RN	13 Dec.	Letter	Blankets and other warm clothing are pouring in. I observe all people connected with commissariat or other supply departments put down any deficiencies to the loss of the *Prince*. It must have been a most useful loss to them and have saved their characters on many occasions. [Heath (1873), p. 125] Incidentally, the losses on *Prince* included woollen socks, 35,700; woollen frocks, 53,000; flannel drawers, 17,000; watch coats, 2,500; blankets, 16,100, and rugs, 3,700. [BPP (1854-55), No. 247]
DAQMG, Balaklava	28 Dec.	QMG	Warm clothing was being issued […] great impediment is experienced for want of store room and sufficient unpackers and issuers. [WO/28/196]
Earl of Westmorland	30 Dec.	Mr Colquhoun, Vice Consul, Varna	Send the following message by the first opportunity to Lord Raglan. In addition to what was taken by steamers of the 8th, 15th, and 22nd December to Constantinople a steamer left Trieste for there on the 30th with: 17,156 fur coats. 24,900 fur caps, 64,000 pairs of gloves, 11,800 woollen shirts, 18,000 woollen drawers, 2,500 woollen socks, and 5 wooden houses. [WO/28/155]
Hall	7 Jan. 1855	PMO, 2nd Division	Recommends regimental surgeons apply to the QMG's store at Balaklava for blankets and warm clothing. There are plenty for sick and well. [BPP (1857-58), No. 2379, p. 112]
Engineer's Journal	13 Jan.		Vast quantities of warm clothing […] had been disembarked, and […] almost every man had been supplied with a second blanket, a jersey frock, flannel drawers and socks, and with some kind of winter coat, in addition to the ordinary great coat. [Elphinstone (1859), pp. 79-81]
Dr G. Lawson,	18 Jan.	Letter home	Things were beginning to improve, though very slowly at first. Warm clothing had already arrived 'in enormous quantities', and 'a daily inspection of the men is now ordered' to see they really have the warm clothing that has been issued to them. [Bonham-Carter & Lawson (1968), p. 150]
Estcourt	20 Jan	General Wetherall, AG, Horse Guards	The warm clothing has been a great comfort; the sheep skin coats especially, and the buffaloe [*sic*] skins in the field hospitals; but we cannot make much progress in getting the men off the ground. […] the boots sent are much too small. [NAM 1962-10-95-2]
Special Correspondent	20 Jan	News item	The warm clothing is now being carried up in larger quantities to be divided amongst the troops. [*Daily News*, 3 Feb. 1855]
Surgeon J.A. Bostock	22 Jan	Letter home	Each man [in the SFG] has had one pair of cloth trousers, woollen drawers, and under-shirt given him, but these only supply the place of the rags he had been wearing for more than a year previously, and are no sufficient protection against the weather we have to endure. One hundred great coats lined with fur are the only extra clothing as yet supplied for the whole regiment, with twenty buffalo skins which I use for the sick in the hospital tents. In other respects the men are dressed as you see them in England. [Bostock (1897), p. 224]
Mr Monsell, MP	3 Mar.	Statement to House of Commons	Between Nov. 1854 and Jan. 1855 the Ordnance sent out about 2,000 tons of warm clothing. [*Hansard*, 5 Mar. 1855]

Table 10.3: Correspondence and reports on fuel supplies, August 1854-February 1856

Originator	Date (1854-56)	Recipient	Abstract [Reference]
CG	1 Aug. 1854	Military Secretary	The provision of fuel is a matter of great importance. I do not apprehend any difficulty in laying in an adequate supply of wood but it would require time. […] The stoves and grates must be sent from England. (also referred to obtaining coal.) [WO/62/13]
News item	12 Aug.		On Turkish coal mines on the Black Sea. [*ILN*, 12 August 1854]
Raglan	23 Oct.	Newcastle	Finding water and of getting wood has been a daily unceasing exertion, and the climate has told on them.[Kinglake (1891), IV, p. 451]
OC, 21st Regiment	28 Oct.	Letter	Our wood too is beginning to run short, and they have to go some way for it. [Lagden (1980)]
DAQMG, Balaklava	2 Nov.	QMG	The patent fuel is to be landed and Mr Adams wants me to allow it to put into our yard, as he says the Turks will steal it if piled up in the open. Am I allowed to place it there on not? [WO/28/192]
Surgeon, 6th Dragoon	2 Nov.	CO, 6th Dragoons	Points out the difficulty of obtaining fuel even to cook the men's rations in hospital, to say nothing of the impossibility of affording them warm drinks etc. [BPP (1857-58), No. 2379, pp. 171 & 200]
Lord de Ros	2 Nov	Herbert	An apparatus called an Etna […] can without fuel make a hot drink in 5 minutes with a small quantity of naphtha. This is invaluable in a barrack or hospital where there is a difficulty about fires at night. [W&SHC/2057/F8/III/B/321a] Smith subsequently agreed on 21 Nov. that it was a good proposal and some stoves had been sent to Scutari. [W&SHC/2057/F8/III/B/321b]
DAQMG, Balaklava	4 Nov.	QMG	Charcoal has been landed [and] heaped up against the wall. If exposed to the wet it will be quite useless. […] If it were in bags, I would be able to put it into some house, but it would be much better if possible to have it kept on board ship, than landed, till required. (The CG was requested to furnish a house or store where the charcoal for the army could be kept dry.) [WO/28/192]
PMO, Light Division	4 Nov.	Lt Col. Sullivan	Requesting the issue of camp kettles and a supply of wood. If large cooking places were erected the consumption of fuel would be less. [BPP (1857-58), No. 2379, p. 146]
Surgeon, SFG	15 Nov.	Diary	No wood has been issued … and as forests do not exist here, the only fuel consists of brushwood, now rapidly used up. [Robinson (1856), p. 214]
Secretary to the Admiralty	18 Nov.	Admiral Boxer	Communicate with Lord Stratford de Redcliffe respecting purchasing supplies of fuel, wood and coal at Heraclea. To be forwarded to the Army as soon as possible. [Précis in WO/28/192]
DAQMG, Balaklava	22 Nov.	QMG	The patent fuel has been landed and Mr Adams wants […] it to be put into our guard […] the Turks will steal it if it is piled up in the open. [WO/28/192]
DAQMG, Balaklava	22 Nov.	QMG	The captain of the *Victoria* is ordered away and states that he has still a quantity of charcoal which occupies the space of 400 tons of other cargo. [WO/28/192]
Surgeon, SFG	22 Nov.	Diary	Wood is the material most difficult to procure, as well as for fires as for the construction of huts, most of the brushwood having been exhausted. [Robinson (1856), p. 218]
QMG	24 Nov.	Military Secretary	Fuel much wanted for the army. Sir E. Lyons states there are always large vessels in the Bosphorus ready laden with firewood for Constantinople market. Any number at once might be sent up to Balaklava - suggests a letter to Lord Stratford. [WO/28/192]
CG	27 Nov.	Captain Christie, RN	Respecting the proper preservation of charcoal. […] Some is being thrown ashore near the mouth of the harbour. [WO/62/13]
Hall	29 Nov.	QMG	Recommending charcoal to be issued to the sick and well to cook their food with. [RAMC/397/F/CO/1/1/973]

Table 10.3: Continued

Surgeon, 19th Regiment	29 Nov.	PMO, Light Division	Many of the men […] return from their necessarily severe duties, almost in a torpid state […] the want of proper cooking utensils; and from want of fuel, the food is not sufficiently nutritious. [WO/28/196]
Surgeon, 21st Regiment	November	Regimental history	The general health of the men is deteriorating progressively […] Exposure to the inclemency of the weather, severe night duties, defective commissariat, want of fuel for cooking, are causes more than sufficient to account for the change. [*M&SH*, I, p. 210]
QMG	3 Dec.	Hardinge	It is with the greatest difficulty that the men can collect a sufficiency of firewood to boil their little mess tins of water, and altogether the suffering of the troops is very great. [Cambridge University Add. 9554/1/9]
Hall	4 Dec.	Purveyor Wreford, Scutari	Today an order has been given to issue compressed fuel and light which will be a great boon to them if they can get them brought up from Balaklava. [RAMC/397/F/CO/1/1/1013]
PMO, Light Division	4 Dec.	GOC, Light Division	Something has to be done in the shape of hutting, cooking places, fuel etc. as the soldier being without fuel has to consume his miserable food half raw. Unless some precautions are taken I fear the army will soon be totally inefficient. [BPP (1857-58), No. 2379, p. 147]
Hall	6 Dec.	Smith	Order has been given […] for the issue of compressed fuel [….] and there are only a limited number of packhorses. [*PoL* and BPP (1857-58), No. 2379, p. 22]
AG	12 Dec.	Memorandum	A board [is] ordered to assemble to-morrow [to] consider and report on the scale on which fuel and light are to be issued to the army. [WO/28/193]
General Order	16 Dec.		The Order lists the fuel allowances for the different ranks, including the medical officers. [WO/28/53]
QMG	19 Dec.	Memorandum	It [seems] most singular that the CG should be unable to commence the issue of this fuel at once, for he admits that on the 13 November he wrote to Scutari for the stores of charcoal which were ready at that place to be sent to this country. From the 13 November to 30 December is a period of more than 6 weeks, amply sufficient for fresh supplies to be brought up from Scutari. [WO/28/192]
Surgeon, 42nd Regiment	19 Dec.	Dr Linton	Difficulty of obtaining wood as all timber in the neighbourhood has been destroyed. Requests that his hospital is supplied with fuel. [BPP (1857-58), No. 2379, p. 198]
Engineer's Journal	23-31 Dec.		Left Attack: […] many damages had been done to the parapets by the troops breaking up the fascines and gabions for firewood. It was the only resource they had of procuring wood for cooking their meals in the trenches. [Elphinstone (1859), pp. 74-6]
DJAG	28 Dec.	Letter home	The French I hear are more in dread of a lack of fuel than anything else. The trees and brushwood have long disappeared and there are not roots for much longer within any reasonable distance. [Robins (2005), pp. 56-59]
General Order	29 Dec.		... that charcoal may be used as fuel in tents with safety during the day, as sufficient ventilation is then maintained; but that during then night, when the tents are closed, its use is dangerous. The Commander of Forces […] directs that in […] tents, where charcoal is burned, the braziers shall be removed and the stoves extinguished at tattoo. (Incidentally, this Order was issued prior to the deaths of several officers from carbon monoxide poisoning in early January; See Hinton (2001))

Table 10.3: Continued

Surgeon, 57th Regiment	Dec.	Regimental history	[..] temporary kitchens were erected at an early period, but the supply of fuel failed at the beginning of December. [*M&SH*, I, p. 337]
DAQMG	8 Jan. 1855	QMG	A great quantity of wood was landed from some vessels. [WO/28/187]
Dr W. Cruickshank	8 Jan.	Dr J. Forrest	Officers in the General Hospital have complained about the insufficient supply of fuel. The supply of charcoal is barely sufficient for culinary purposes and so there is not enough for warming the quarters. [WO/28/197]
QMG	10 Jan.	CG	Lord Raglan desires that charcoal for the hospital in every regiment may be sent up daily to camp. [WO/28/137 and WO/28/179]
QMG	12 Jan.	Sir E. Lyons	Can the Navy collect the driftwood floating about, as a store of fuel for the Army. [WO/28/137]
Letter from Balaklava	12 Jan.	News item	Wood from the wrecks of 14th November [on] the beaches that fringe the cliffs [would supply] the Army of a month. The Navy will not lend their boats and men to collect the wood [and] they will not let the transport service do it. [*ILN*, 3 Feb. 1855]
Engineer's Journal	13 Jan.		These frosts hardening the ground improved the communication to the front, but they materially added to the difficulty of supplying fuel for hospital and cooking purposes. There is a great scarcity of wood of every description […] The brushwood on the Inkerman ridge had long been used up … steps had been taken to supply this deficiency, by employing working parties to cut brushwood in the neighbourhood of the Monastery of St George, the supply thus obtained was altogether too insignificant for the wants of the Army. […] fortunately large quantities of charcoal arrived at Balaklava, and great exertions were made to collect it in front. Manual labour was employed, as no other means of transport existed; […] a division of Turkish troops was almost entirely withdrawn from the Engineers. The siege works suffered […] but the Army at large derived great benefit […] and a daily allowance of charcoal was soon after issued to the troops on duty in the trenches, independently of the […] supplies which they received in camp. [Elphinstone (1859), pp. 79-81]
AG	14 Jan.	CG	From the great difficulty the troops experience in procuring fuel for themselves, the commander of the forces desires that you forthwith take measures to supply them daily. [WO/28/108]
H. Roberts, War Department	17 Jan.	Smith	Requesting an opinion on a stove patented by Messrs Price and Co., Vauxhall, called the Crimean Army Stove, which, from its portability, facility of heating, it is thought would prove useful on the field and hospitals. Smith replied on 25 January and recommended that 100 are sent to the Crimea, and if they proved valuable more should be sent. They could be adapted to provide warm water if a square pan is fixed in the oven which the edibles occupy. The Secretary to the Ordnance informed the Smith on 8 February that the 'boiling vessels' had been added to the order. Hall subsequently informed Smith on 19 February 1856 that it was the opinion of the majority of MOs that they were not applicable to army service. A particular type of fuel has to be carried with the lamp, which might not be available when expended. [*PoL*]
Surgeon, SFG	18 Jan.	Diary	We burn charcoal generally during the day in rude braziers (old mess kettles with holes punched in), or Maltese stone stoves. Fuel is procured easily in Balaklava, but there is much difficulty in getting it up. [Robinson (1856), p. 245]
QMG	19 Jan.	Capt. Christie, RN	*Negociator* and *Arabia* to proceed to Bourgas for firewood without delay. [WO/28/137]
DJAG	19 Jan.	Letter home	Fuel is terribly wanted.[Robins (2005), pp. 70-3]
QMG	20 Jan.	Capt. Christie, RN	To name a steamer to proceed to Constantinople for charcoal. [WO/28/137]

Table 10.3: Continued

DAQMG, Balaklava	20 Jan.	QMG	Charcoal, sheepskin coats, buffalo robes, forage, and planks were carried away during the day on horses. [WO/28/187]
Commandant, HQ	21 Jan.	QMG	Turks at the wood heap near the Monastery have […] carried away […] in 20 days at least, 56,000 lbs, on average 75 Turks have been employed per day. This would give 40 lbs as the weight each man carries. They have carried off all the trees and a considerable portion of the top and lop. The artillery has been supplied with from 2 to 3 thousands stakes. […] A considerable amount of top and lop still remains. The root grubbing is going on and there will probably be full employment for the Turks as carriers for the next fortnight. After that there will be no wood of any kind for the use of the army, either British or French, to the south of Headquarters as far as the sea. [WO/28/193]
QMG	27 Jan.	Capt. Christie	Give instructions that when there is no charcoal wood must be issued. [WO/28/137]
CG	29 Jan.	QMG	Wood is issued when charcoal cannot be procured. [WO/28/178]
J. Wood, Ordnance Board	31. Jan	DG	The Board has accepted an offer of Messrs Price and Co. to supply 250 candle stoves and 93,000 lbs of fuel. 100 for the General Hospital; 100 for Scutari; 50 for Smyrna. [*PoL*]
1st Regiment, 1st Battalion	January	Regimental history	Latterly there has been a sufficiency of fuel and [and] the duty men […] have more time to cook their rations and to clean their persons. […] On the 13th a supply of camp kettles was received and two men per company were told off to act as cooks. [*M&SH*, I, p. 133]
19th Regiment	January	Hall's monthly summary	A ration of charcoal, tho' ordered has only been issued once to the men for the want of transport. [RAMC/397/F/RT/1/1]
68th Regiment	January	Regimental history	The cooking throughout the winter has been tolerably well effected, as the men were out into messes of tents … and all not on duty were required to attend to the cooking, and to help to procure roots for fuel. [*M&SH*, I, p. 357]
Panmure	12/2/55	Raglan	[In future] General Officers will mention in [their] reports any difficulties [with] the issue of rations, fuel or forage; and [to inquire] into all neglect and visit upon the delinquent punishment due to this fault. [WO/33/1/13/55]
Hall	26/2/55	DG	Duty is very severe at the front where fuel and water are scarce. [*PoL*]
Captain R. Barnston	28/2/55	Letter home	We send to […] Heraclea for coal. [Trevor-Barnston (1998), p. 61]
88th Regt	February	Regimental history	The want of fuel was still experienced. [*M&SH*, I, p. 400]
QMG	1 Mar.	DAQMG, Balaklava	All forage and fuel for the camp before Sebastopol will be brought up by rail and issued at Kadikoi. [WO/28/137]
Supplies Commissioners	9 June	Panmure	When the Army arrived before Sevastopol it was impossible to organise the established regimental system of cooking […] Each man had to cook for himself, to procure his own fuel and light his own fire. [WO/33/1/44/55, pp. 5-12]
Hall	20 July	DG	Charcoal cannot be obtained in the Crimea but is freely available in the neighbourhood of Constantinople and the Bosphorus. [RAMC/3978/F/CO/1/2/2737]
DG	4 Aug.	Military Undersecretary, War Department	Charcoal is very objectionable and should not be used unless coal and wood cannot be provided. [*PoL*]
Letter from camp	1 Dec. 1856	News item	In the adjacent commissariat store (near the Artillery) an immense stack of wood was blown down with a noise resembling a very heavy cannonade. Horses that were stabled in tents were terribly frightened by the unexpected fluttering of the canvas around them. [*ILN*, 22 Dec. 1855]

Table 10.3: Continued

General After Order	2 Sept.		The following ration of fuel will be issued by the Commissariat until 15/10/1855: 1½lb wood or ¾lb coal daily per man. [WO/28/108]
Hall	23 Dec.	Chief of Staff	[…] complaints are still made of insufficiency of fuel for the stoves in the hospital huts. […] the allowance having been fixed by rations instead of by weight. […] the difficulty might be met by allowing extra fuel […] in emergencies like that of the 19th when the thermometer fell to 2½º, and this could be arranged with the Divisional authorities. [Mitra (1911), pp. 414-5]
Major R. Barnston	24 Feb.	Letter home	For fear of running short of firewood I had 1,000 men in Sebastopol yesterday and to-day to pull down houses, and we have got such a stock. […] The wood is a wonderful mixture - shelves, doors, window-seats, pieces of cupboards, boats, masts, gun-carriages etc., a great deal of it much too good for firewood though, and, with the aid of the carpenter is to be used to make porches for all the hospital hunts first, and afterwards to any purpose that may be required. [Trevor-Barnston (1998), pp. 143-4]

Table 10.4: Supply of lime juice to the Army

Originator	Date	Recipient	Abstract [Reference]
Dumbreck	24 Oct. 1854	AG	Scurvy has been diagnosed in the 1st Bn, Rifle Brigade. Recommends procuring fresh vegetables, onions, potatoes, etc. from neighbouring ports. [BPP (1857-58), No. 2379, p. 161] (Dr Dumbereck was deputizing for Hall who was on duty at Scutari.)
Hall	30 Oct.	Med. Dept. Memo	Lime juice having been landed superintending MOs can obtain a case each for their Division, each case contains 36 pints. [RAMC 397/F/RT/2]
Hall	2 Nov.	Smith	The state of health as of 28 October is by no means satisfactory. Efforts are being made to supply vegetables as the men are beginning to show symptoms of scurvy. [WO/33/2A and BPP (1857-58), No. 2379, p. 18.]
Smith	17 Nov.	Military Secretary, Horse Guards	Following the receipt of Hall's letter of 2 November Smith requested the 'urgent necessity of immediately transmitting a supply of lime or lemon juice for the use of the forces in the Crimea.' The Military Secretary reported on 20 November that directions had been given to ship 40,000 lbs in steamers to the Commissary General as there was insufficient available on board ships in the Black Sea and in store in Malta. It was squeezed last year and it is doubtful if the quality is equal to that issued to the Navy. Smith informed Hall of this the next day. [WO/32/2A; *PoL*; and BPP (1857-58), No. 2379, pp. 18 & 20]
Smith	27 Nov.	Hall	*Holyrood* and *Esk* steamers will sail on the 24 and 25 November with 10,080 lbs and 20,016 lbs of lime juice respectively. [WO/33/2A]
Hall	1 Dec.	Monthly report for November 1854	In a short time I hope limejuice will arrive in sufficient quantity to issue a portion to each soldier daily. At present it is issued freely to all who require it. [WO/17/1730; RAMC 397/F/RT/1/1 (in Hall's hand); BPP (1856), No. 2007, p. 159]
Smith	6 Dec.	Hall	An additional supply of lime juice amounting to 40,000 gallons will shortly be sent to the Crimea. [BPP (1857-58, No. 2379, p. 22]
Military Secretary	11 Dec.	Smith	The Naval Department has no lime juice to spare but suggests that a supply may be obtained from Messina. [WO/33/2A]
Smith	27 Dec.	Dr Hall	9,900 lbs of lime juice have been shipped from Deptford on *Sydney Hall* completing the order for 40,000 lbs. [WO/33/2A and *PoL*]
Hall	1 Jan. 1855	Monthly report for December 1854	Lime juice has been freely issued medicinally, but it should be given […] as a preventive measure, and fresh meat and vegetables should be procured at any price if obtainable. [WO/17/1730; RAMC/397/F/RT/1/1 (in Hall's hand); BPP (1856), No. 2007, p. 159]

Table 10.4: Continued

CG, Malta	3 Jan.	Sir C.E. Trevelyan, Treasury	Regarding the purchase of 40,000 gallons of lime juice. The addition of 10% alcohol will act as a preservative while the provision of dried vegetables should reduced the need for lime juice. [WO/33/2A]
Smith	16 Jan.	Undersecretary, War Department	There should be no delay in sending out at least 20,000 gallons of line juice in the next two months. He does not advise sending oranges as he fears distribution would prove 'almost impracticable.' [WO/33/2A]
Hall	27 Jan.	AG	The daily issue of lime juice to the troops is to commence. Preserved vegetables should be issued if available. Instructions for their cooking have been circulated to medical men. [BPP (1856), No. 2007, p. 163]
HQ	31 Jan.	General Order	Lime juice will be issued and mixed as follows: 5 pints lime juice, 8 pints rum, 18 pints water, and 4 lbs sugar for 100 men. [WO/28/130]
Smith	2 Feb.	Military Secretary	The quantity of lime juice sent out in *Holyrood* and *Esk* will not be sufficient for the needs of the Army. No lime juice had arrived in Balaklava according to letter of 12 January. The necessity of the immediate delivery is now very urgent. [WO/33/2A]
Military Secretary	5 Feb.	Smith	The lime juice conveyed by *Holyrood* had been landed at Balaklava on 19 January. [WO/33/2A]
Estcourt	6 Feb.	General Wetherall	We are giving lime juice mixed with rum, and preserved vegetables when we can. The order is that these should be issued to the troops by the Commissariat upon requisition, but the difficulty is always getting them up to camp [NAM 1962-10-95-2]
Smith	7 Feb.	Undersecretary, War Department	Mr Wild (CG, Malta) should be required to make every effort to forward lime juice to the Army. [*PoL*]
Estcourt	10 Feb.	General Wetherall	Vegetables and lime juice is being administered all through the camps; but to improve the condition of the blood is the work of time. [NAM 1962-10-95-2]
Hall	14 Feb.	QMG	The issue of lime juice has been attended with the most beneficial effects when it has been regularly administered and should be given daily as a ration to the whole Army. If given in that way and combined with fresh vegetable and fresh meat it would soon correct the tendency to scurvy. [WO/28/176 and RAMC/396/F/RT/2 (copy)]
QMG	15/2/55	CG	Are you prepared to issue a daily ration of 1 oz of lime juice to the troops? [WO/28/137]
HQ	16 Feb.	General Order	Till further orders, one ounce of lime juice may be issued as part of the daily ration. The Commissary General will be pleased to deliver this ration at the camps. [WO/28/130]
Smith	22 Feb.	Military Secretary, Horse Guards	Reporting the receipt of a letter from Dr Hall dated 2 February. Lime juice has arrived and is being daily issued to every man in the force. [*PoL* and WO/33/2A]
Hall	12/3/55	Smith	Scurvy is disappearing fast and bowel complaints are neither so numerous nor so intractable as they were. [*PoL* and BPP (1857-58, No. 2379, p. 436]
Hall	24 Feb.	Raglan	In view of the sameness of the men's diet and the want of a full an constant supply of fresh meat and bread, as well as vegetables, I am of the opinion lime juice could not be dispensed with. Strongly recommend its continuance. [WO/33/2A]
Hall	1 Oct.	Smith	Measures have been taken by the CG to keep up an ample supply of lime juice and vegetables, either fresh or preserved. [WO/33/2A]
CG	7 Dec.	Hall	The demand of 14,000 gallons monthly exceeds the supply in accessible markets, but it will be obtained as far a possible from England. [WO/33/2A]
Hall	20 Dec.	Smith	Refers to the adulteration of supplies from Constantinople with vinegar. [WO/33/2A]

Table 10.5: Correspondence and reports on accommodation, November 1854-December 1855

Originator	Date	Recipient	Abstract [Reference]
Hall	2 Nov. 1854	Smith	If the Army is to winter in the Crimea it is to be properly housed, for no person could possibly exist under canvas when the winter sets in. [RAMC/397/F/CO/1/1/855]
Newcastle	18 Nov.	Raglan	Lord Stratford has been requested to secure suitable hutting material for 20,000 men and to 'engage native artisans [for] making and erecting the huts of a temporary nature which may hereafter be superseded by the frame houses ordered in England.' [WO/6/70/22]
Hall	19 Nov.	QMG	If the army is to remain […] it will be absolutely necessary to provide more shelter for the sick [or many] will perish. The storm of the 14th November blew down all the hospital marquees and […] I question whether they can be repaired. [BPP (1856), No. 2007, p. 103]
QMG	25 Nov.	Captain Gordon, RE	Recently purchased timber and planking should be used to house horses of the cavalry and RA. [WO/28/196]
Captain G.F. Dallas, 46th Regiment	26 Nov.	Letter home	We are told to 'build huts for the Winter', the only objection to this being having no wood, and the men having no time […] but to cook their scanty rations, and snatch a little sleep in their soaking tent when not in the trenches. [Mawson (2001), p. 53]
Hall	27 Nov.	Diary entry	Nothing has been done about hutting the sick and the Pasha said that we might have as many Turkish troops as we wished to do it. [RAMC/524/15]
Surgeon, 28th Regiment	Nov.	Regimental history	It is scarcely to be expected that the general health of the regiment will improve until the weather moderates and more adequate shelter is procured by hutting. [*M&SH*, I. p. 227]
Surgeon, 77th Regiment	Nov.	Regimental history	There is a great want of hospital huts and cooking utensils, and [fuel]. [*M&SH*, I, p. 375]
Hall	1 Dec.	Diary entry	Captain Chapman of the Engineers came over about huts for the sick […] but Lord Raglan desired the cavalry horses and those of the artillery are to be put under cover first. When I applied for the sheds at Karani it was the commissariat donkeys that were to have preference over sick soldiers, and now it is horses, and then men, Ha. Ha. Ha. Ha. The world has come to a fine pass. No provision has been made for sheltering any portion of the Army. [RAMC/524/15]
PMO, Light Division	4 Dec.	GOC, Light Division	I request you urge on the authorities the imperative necessity [of doing something] in the shape of hutting, cooking places, fuel etc. […] Unless some precautions are taken I fear the army will soon be totally inefficient. [BPP (1857-58), No. 2379, p. 147]
Colonel E. Hodge, 4th Dragoon Guards	13 Dec.	Diary	Rode […] to see [the AQMG] about getting wood for hutting. […] there was none for officers, that the work must be done by ourselves, and we must find our own transport. This is an impossibility as we now have to carry up the provisions for the army […] for which purposes 120 horses and sixty men went today, besides 10 for our own forage, 4 for stores. [Angelsey, 1971, p. 64]
DJAG	28 Dec.	Letter to C.J. Selwyn	Well houses are arriving thick and fast at Balaklava they might as well be at Kamschatka [on Russia's Pacific coast], there is no possibility of their being transported to the front until the works of the siege are over. [Robins (2005), p. 57]
Hall	2 Jan. 1855	Smith	Tent accommodation very defective […] and although purchased waterproof coverings etc. for the bottoms, the men suffered from being wetted. [*PoL*]
Hall	4 Jan.	QMG	Wooden huts, with stoves, need to be erected at once both in Balaklava and in camp. Bell tents do no afford sufficient protection for sick men during the inclement weather and proper protection is required for their preservation. [BPP (1857-58), No. 2379, p. 111]
Surgeon E. Howard, 20th Regiment	5 Jan.	PMO, 4th Division	Will need 110 men to carry up one hut. The General of Division has ordered that no men can go on a fatigue party to Balaklava until they have been off trench duty for 24 hours. [RAMC/397/F/CO/32/2]

Table l0.5: Continued

Surgeon Longmore, 19th Regiment	6 Jan.	CO, 19th Regiment	In a Circular Memorandum […] Dr Hall stated that [there are] wooden huts now in Balaklava […] and he invites MOs to second his efforts by making demands for the comfort and welfare of the sick under their care! I cannot obey this injunction otherwise than again by stating […] the absolute necessity of some further protection for the sick, and healthy men also, than the tents at present occupied by them. […] the prospects of recovery of the patients are very much diminished by the limited protection offered by my hospital accommodation. (Annotated by General Codrington: 'There is no doubt of the necessity of some better accommodation for the sick than exists at present.' Further annotated by the QMG: 'Every effort is made to bring up huts for the sick by artillery stripped wagons. But the Commissariat transport, having failed, no assistance can be expected from the legitimate quarter.') [WO/28/192]
Lieutenant E.R. Fisher 4th Dragoon Guards	8 Jan.	Letter home	The houses they have made so much fuss about in England […] have arrived, but they are useless for want of nails, which they say have been forgotten. [Fisher (2011), p. 144]
QMG	10 Jan.	GOC, 3rd Division	Every endeavour will be made to bring up huts for sick. All available Division transport may be used. [WO/28/137]
Surgeon E. Howard, 20th Regiment	10 Jan.	Colonel F. Horn, 20th Regiment	Each hut with the tools weighs 25 cwt. and 100 men to bring them up so each will only have to carry 28 lbs. Horn declined to provide the men as it […] was the duty of the government to provide for the troops. [A 4th Division] order states that no soldier can go to Balaklava unless he has 24 hours clear of the trenches. […] He hopes the IGH will lay the matter more clearly before the Field Marshal than it yet appears to have been done. [BPP (1857-58), No. 2379, p. 169]
Hall	12 Jan.	Smith	An effort is being made to get wooden huts … Some regiments [send] fatigue parties […] for them. Other commanding officers say it is the duty of the government to provide transport […] and do nothing. In the meantime men are deprived of the shelter [they need]. […] Had huts and stores been here at the beginning of October instead of January things would have been better. Our duty now is to do the best we can for the sick with the means at our disposal. Want of transport, and the almost impassable state of the roads, have prevented the MOs from doing what they wished for the sick. [PoL and BPP (1857-58), No. 2379, p. 276]
Dr Hall	15 Jan.	PMO, 1st Division	[…] above all try and get wooded huts for the sick. […] so housed would get well as soon as at Scutari. [BPP (1857-58), No. 2379, p. 113]
DJAG	18 Jan.	Letter to C.J. Selwyn	None of the men are yet in the wooden houses. They will not understand in England that we have not transport for heavy goods […] the pieces of huts are large and heavy. It takes 180 men to carry up a hut for 20 men. [Robins (2005), p. 67]
Hall	18 Jan.	Smith	Waterproof bottoms [for tents] do not answer in practice as the water [leaking into the tents] forms pools instead of being absorbed into the earth. […] whereas a strip of McIntosh cloth spread under the blankets answers admirably well [and] might be adopted with great advantage to the health of the troops. [BPP (1857-58), No. 2379, pp. 32-3]
Burgoyne	18 Jan.	QMG	The huts received from England are unstable in windy weather and require appropriate strutting. [WO/28/196]
QMG	19 Jan.	GOC, Divisions	(1) Every regiment to send one or more carpenters to Balaklava to be instructed in the manner in which [huts] are to be put together, and (2) The barrack huts sent from England have no stability in themselves to withstand a strong wind, […] they should be carefully strutted; beams for the purpose will be issued. [WO/28/196]
Special correspondent	20 Jan.	News item	The huts are showing themselves about our position. The hospitals are being got up first. The houses look very snug. [Daily News, 3 Feb. 1855]
Raglan	23 Jan.	Newcastle	[…] if the Commissariat were adequately provided with transports, and [huts] brought up, there would be no other cause of suffering than the severity of a Crimean winter, and the duties imposed of carrying on a siege in such a climate at this season of the year. [WO/1/371 and The Times, 8 Feb. 1855]
Cavalry Division	25 Jan.	Orders	Timber for huts […] should not be allowed to drag on the ground as a portion of the mortised timber is worn away. [WO/28/159]

Table 10.5: Continued

J.C. MacDonald, *The Times* Fund	4 Feb.	Evidence to Roebuck Committee	The wooden huts at the hospital at Balaklava were well adapted for hospitals […] and the men seemed to be pretty comfortable. [BPP (1854-55), No 156, pp. 288-9]
QMG	8 Feb.	Admiral Boxer	Representations have been made that the wharf for landing huts has been appropriated for other purposes. He must make arrangements to facilitate landing them. [WO/28/137]
QMG	11 Feb.	Capt. Keane	Admiral Boxer has been written to prevent the crowding of the wharf where the huts were landed. [WO/28/137]
AS E. Bowen, RA	12 Feb.	Letter to the editor	In the first week of February, when we were fortunately supplied with a hospital hut, the strikingly rapid improvement in the more aggravated cases, and the speedy convalescence of the slighter ones. Pointed out the fons et origo mali [source and origin of evil], as well as their palpable remedy and prevention. [MT&G, 31 Mar. 1855]
Hall	23 Feb.	Smith	The sick are [comfortable] in huts or marquees that now begin to appear more like fixed establishments. [RAMC/397/F/CO/1/2/1519 and PoL]
Estcourt	23 Feb.	Wetherall, AG, Horse Guards	If [the government] had prepared the huts, and warm clothing; and all had been waiting in the Bosphorus for our call, we should not have cared much about winter. [NAM 1962-10-95-2]
Hall	1 Mar.	QMG	Complaints have been made of the leaky condition of the hospital huts in camp, and of the inconvenience and injury the sick have sustained […] I request […] this very serious defect [is] remedied as soon as possible. [BPP (1857-58), No. 2379, p. 126]
SS2 Hanbury	6 Mar.	PMO, Balaklava	The temperature in the huts […] is considerably increased under […] the sun […] absorbing power of the black felt. Suggest [a] whitewash is applied. [BPP (1857-58), No. 2379, p. 194]
PMO, Balaklava	10 Mar.	Dr Hall	Recommending that the roofs of the huts are painted with a white colour the rain will not wash off as even now when the sun is at its height the heat is very great. [BPP (1857-58), No. 2379, p. 207]
41st Regt	Mar.	Monthly summary	Great improvement since the men moved into huts. [RAMC/397/FR/T/1/1]
Rifle Brigade, 1st Battalion	Mar.	Regimental history	The troops were much employed in constructing huts for barrack and hospital accommodation, and many of the tents were boarded over, and made tolerable dry and comfortable. [M&SH, I, p. 447]
AS D. Greig	24 Apr.	Letter home	The first look of the camp certainly astonishes you. What a multitude of tents and wooden huts everyone exclaims. Scattered in all directions as far as the eye can see. [Hill (2010), p. 280]
79th Regiment	Apr.	Monthly summary	Health improved and should improve further following the move of some men from huts to tents. [RAMC/397/FRT1/2]
Hall	10 May	QMG	Forwarding a letter from SS Hadley reporting the wretched condition of the roofs of the huts at the Castle Hospital. [RAMC/397/F/CO/1/2/2059 and BPP (1857-58), No. 2379, p. 207, p. 122]
QMG	12 May	CG	To procure a supply of tarred canvass from ships in harbour to cover hospital huts with, and report the quantity that can be procured. [WO/28/138]
Hall	13 May	QMG	The use of waterproof blankets to protect the bedding in the huts was insufficient, given the extent of the leaking. [RAMC/397/F/CO/1/2/2077 and BPP (1857-58), No. 2379, pp. 207 & 123]
DJAG	21 May	Letter home	You people at home are quite insane - you send us out hospital huts three ship loads, you so arrange that when one ship arrives, not a hut can be put up as a part of each hut is [in] each ship so if one had been burnt or lost the whole wd have been useless. [Robins (2005), pp. 142]
QMG	28 May	General Jones, CRE	Requesting him to carry out the system of ventilation of the hospital huts proposed by Dr Hall. [WO/28/138]

Table 10.5: Continued

T. Spencer Well	16 June	Letter to the Editor	Each regiment has a certain number of wooden huts, or canvas marquees, devoted to the sick. In each division, also, a number of huts form a General Divisional Hospital. The huts are of two sizes; one, 28 feet by 16 for 16 patients; the other, 60 feet by 20, for 30 patients. The floor is boarded, and raised about a foot from the ground; the interspace, in those most recently erected, being filled with charcoal. Free ventilation is secured by side windows, but the beds appeared […] too crowded, both in the huts and marquees. […] There is no attempt at drainage to these huts; all excrement, etc., is carried to holes dug in the neighbourhood. Water is obtained by digging wells. [MT&G, 30 June 1855]
QMG	19 July	General Jones, CRE	Of the 199,780 feet [37.8 miles] of planking 24,780 feet [4.7 miles] are still available. [WO/28/138]
28th Regiment	July	Monthly summary	[Hospital] huts erected in February are now so leaky from exposure to sun and rain […] The roofs are out of repair from shrinking of the felt; there are so many cracks in the boards comprising the other parts the patients are obliged to move from the weather side during wind and rain. [RAMC/397/FR/T/1/2]
Hall	1 Aug.	QMG	158 hospital huts are required, viz. infantry, 50; cavalry, 14; RA and RS&M, 30; Ambulance Corps, 2; LTC, 12; stores, 22; and staff and offices, 80. [RAMC/397/F/CO/1/2/2853 and RAMC/397/M/1/16]
Hall	3 Aug.	QMG	Timber and boarding will be needed for hospital kitchens and latrines. Huts in use require upgrading; the walls need to be double thickness or covered in blankets, and the roofs carefully felted. Reference was also made to improvements for the tents. [RAMC/397/F/CO/1/2/2858 and BPP (1857-58), No. 2379, p. 126]
Smith	4 Aug.	Military Undersecretary	As troops are likely to over winter in the Crimea it is essential they should be furnished with tents of a superior description. The bell tent is in many respects objectionable […] insufficient to protect from the wet or the cold, and is altogether uncomfortable. [PoL]
Simpson	9 Aug.	Panmure	Many of the old huts may probably serve another winter, when strengthened, newly felted, and repaired. All this has been contemplated. Gloster huts are far the best. [WO/28/198]
Panmure	22 Aug.	Simpson	Huts are going out to accommodate 1,600 officers, 50,000 men, and 3,160 patients. State whether you can with the material on the spot and supplies from Sinope provide accommodation of the remainder of the Army and all horses. [WO/28/198]
QMG	6 Sep.	General Jones, CRE	General Simpson is anxious with regard to the stability of hospital huts and wishes to know […] how they may be strengthened etc. [WO/28/192]
Hall	7 Sep.	Smith	Hospitals have covered kitchens, mostly built of stone. Latrines with paved pathways are in the course of erection The regimental hospitals [appear like] fixed quarters with iron bedsteads, bedding etc. These would be difficult to move […] in a hurry. [RAMC/397/F/CO/1/2/3091 and PoL]
Major G.F. Dallas, 46th Regiment	12 Oct.	Letter home	We have heaps of huts come out in various patterns, but unfortunately no one knows how to put them together. I believe they have telegraphed home for the necessary conjurer, but until his arrival, they are lying about like melancholy Chinese puzzles! [Mawson (2001), p. 191
Hall	27 Oct.	QMG	The roofs of the huts at the Castle Hospital are defective; and immediate steps are needed to be taken to render them weather tight. It is of vital importance. [RAMC/397/F/CO/1/2/3412]
33rd Regiment	Oct.	Monthly summary	As winter approaches it is regretted that that huts have not been provided for those still under canvas. [RAMC/397/FR/T/1/2]
44th Regiment	Oct.	Monthly summary	Huts reported with leaking huts have not been repaired. [RAMC/397/FR/T/1/2]
47th Regiment	Oct.	Monthly summary	Hospital huts are being prepared for the winter, insufficient felt has been supplied. [RAMC/397/FR/T/1/2]
Hall	10 Nov.	Smith	I have been fighting and battling to get the hospital huts put in order for the winter, but anything for the sick is such uphill work one would imagine the sick were not an integral part of the Army. [Wellcome MS 8520 ff. 282-90 and Mitra (1911), pp. 401-4]
Codrington	17 Nov.	Panmure	The main road to the camp is nearly complete – the division roads are progressing. I wish more huts were up. [Douglas & Ramsay (1898), I, p. 493]

Table 10.5: Continued

Codrington	18 Nov.	Hall	Pray tell me if there is any regimental hospital that you think inadequate or incomplete for the fair probability of sick. Some must have good hut accommodation for upwards of 100, others of course less; but is there any one really defective for its probabilities. [RAMC/397/F/CO/18/1]
AS D. Greig	19 Nov.	Letter home	Huts are being erected in all directions. [Hill (2010), p. 150]
QMG	22 Nov.	GOC, Cavalry Division	Cavalry regiments should take steps to repair their own hospital huts as has been done by the many of the infantry regiments who have secured the walls by building walls around them. Felt will be issued. [WO/28/139]
Codrington	24 Nov.	Panmure	Hutting is going fairly well […] and the damages of so many huts by the explosion (31 destroyed and 62 damaged) are being quickly remedied. [Douglas & Ramsay (1898), I, p. 501]
Codrington	27 Nov	Panmure	The huts are not the least watertight, very bad roofs, leak at joints, thin wood, and defective. [Douglas & Ramsay (1898), I, p. 511]
Codrington	29 Nov.	Panmure	Of 640 huts including hospitals on this plateau, only 100 are reported watertight. The old ones all want fresh covering, the best of the new ones leak sadly at the joints, the thin single-board roofs of the smaller new ones are still worse, and felt is only just arrived. [WO/1/380, ff. 359-382]
Hall	1 Dec.	Monthly report for Nov.	The hutting of an Army is, however, a great undertaking, and I fear the work will not be completed before the winter sets in. Wooden huts too are apt to leak from fitting defects, and unless felt arrive in time much discomfort will be experienced. Many of the old hospital huts require repair, and few new ones have arrived to replace them. Repairs are being proceeded with as quickly as possible in all the divisions. [WO/70/1731]
Codrington	1 Dec.	Panmure	The huts sent out are anything but decently watertight. […] the best new ones, those long ones of 70 feet, with double boards and felt, were yet defective at the junction of the roof-squares [so] that the water came in plentifully, and the men had to use their waterproofs […] while lying down … I had ordered that the hospital huts containing the sick should first have all assistance […] to make them sound; but to limit […] to huts that actually contain sick. [Douglas & Ramsay (1898), II, pp. 2-3]
Smith	1 Dec.	Dr Hall	The DG regrets some hospital huts are in need of repair and he directs that the QMG should be pressed again for action to be taken. Failing that the subject will be brought up with the Minister for War. [PoL]
MT&G	1 Dec.	News item	In the great majority of the Regimental Hospitals, warm, double-walled, and spacious huts have [replaced] marquees; and in [in the remainder changes] will be made before winter finally sets in. [MT&G, 1 Dec. 1855]
Major R.B. Hawley, 89th Regiment	3 Dec	Letter home	The new huts in the front have, too, succumbed to the blast from the Euxine, all for a want of a few additional sticks as ties between the rafters and uprights. [Ward (1970), p. 91]
QMG	15 Dec.	Codrington	Considerable progress has been made in hutting the troops […] owing to the men not being so much employed upon public works. [WO/28/134
Hall	20 Dec.	Smith	No efforts have been spared to get old huts repaired, but very few new ones have been received. The huts of the Light Division destroyed or damaged by the explosion have been repaired. [RAMC/397/F/CO/1/3/3828 and PoL]
HQ	24 Dec.	Journal of proceedings	The new single boarded plate huts let the water in […] and a want of felt has been experienced. [WO/28/143]
HQ	30 Dec.	Journal of proceedings	There are now not more than 4,000 soldiers under canvas […] in double tents with wooden floors. [WO/28/143]

Figures 10.1-10.2

Figure 10.1: Railway network, 13 April 1855 (WO/78/1028)



Figure 10.2: Balaklava harbour, July 1855 (MPH/1/121)



B, RE hutting and timber yard; C, sick wharf; D &E, RE wharf and office; F, rough timber wharf; H & K, corn wharf and rum store; M & N, railway depot, saw mill and wharf; O, fuel wharf; R & S, ordnance shot depot and wharf; T, cattle wharf; V, Sardinian wharf; W, French wharf.

Chapter 11
Commissions and committees

The serious health problems in the Army during the winter of 1854-55 prompted the government to send three Commissions of enquiry to investigate matters on the spot, while a Select Committee chaired by John Roebuck, MP, was convened after the resignation of Aberdeen's administration to ascertain what had been going wrong, and who was to blame.[1168] The proceedings of these enquiries were published (see Bibliography) and the crucial question posed in this chapter is:- Did the results of their deliberations have an immediate beneficial impact on the health of the troops in the Crimea?

Hospital Commission

The first of the three Commissions sent to the East comprised Drs A. Cumming, T. Spence, who drowned on *Prince* on 14 November 1854 and was replaced by Dr P.S. Laing, and P.B. Maxwell, a barrister. Their brief was to make recommendations rather than institute reforms and the matters addressed in their report included, inter alia, staffing levels, particularly hospital orderlies, the duties of the purveyor, laundry facilities, and the preparation and distribution of food, while with respect to Scutari they suggested the acquisition of a ship for a store, a steamer to ply between Scutari and Constantinople, and open boats to assist the landing of evacuees.

Much criticism has been levelled against the hospitals at Scutari and part of the problem was the lack of an overall command structure, as enunciated by Stratford: 'Sillery, Boxer, and Menzies are excellent well-intentioned men, but they are not of the most clear-headed or energetic race, and the great obvious want is that of a head.'[1169] Not surprisingly Maxwell was critical of several aspects of management when he visited on 10 November 1854 though his 'first impression [was] favourable […] I found ample ventilation, comfortable bedding, and healthy looking convalescents. The fine weather, the ample building, and abundant supply of water may have contributed to give the

1168 For further details see Shepherd (1991), pp. 373-411.

1169 Stratford to Raglan, 16 Nov. 1854; Lane-Poole (1888), pp. 381-2.

place an air of cheerfulness.'[1170] Similarly, the PMO reported to Hall that Nightingale's initial reaction was encouraging:

> The hospitals are […] in tolerable order as regards cleanliness and comfort, and this opinion has been expressed […] by various officers of our own and Naval service, and […] Nightingale, who had been to most hospitals in Europe, and stated that on her arrival here that after all she had heard she was surprised at the regularity and comfort which appeared in our wards.[1171]

Clearly things deteriorated when large numbers of seriously ill patients arrived during the next few weeks, but that was more a reflection of the facilities being overwhelmed than anything else; and by the time the Sanitary Commissioners arrived in March 1855 conditions had improved once again (see below).

Maxwell also confirmed that the wards and latrines were not as bad as has been stated by some critics, and that the PMO was not to blame: 'I have been backwards and forwards in that [Barrack] hospital for three months; though I found sometimes the effluvium from the privies offensive […] I never found anything positively offensive in any of the wards or corridors.'[1172] However, the unsatisfactory state of the latrines at Scutari was due principally to their construction, and the misuse to which they are put, as explained by Hall and the resident military engineer:[1173]

> Hall: The water closets […] speedily got choked up from the men recklessly thrusting old shoes and other articles down them. When […] put right, I advised small iron gratings to be placed over them, so as to prevent [this], but it was not attended to; hence the disgusting scene, described by Mr Osborne, in the Barrack Hospital. Nothing of that kind existed when I was there in October, but to become so would only require a few days.[1174]

> Resident engineer: The soil, etc., was, conveyed from the closets […] by means of earthenware piping 7 inches in diameter, protruding from the inner side of the walls of the building. The whole system of drainage was most defective, and constant repairs were therefore needed […] About the middle of September 1854 a general repair of […] the closet pipes in the Barrack Hospital was made [and] up to the 5th December [they] underwent a general repair no less then three separate times. […] caused chiefly by the obstruction of the pipes from […] throwing old clothing, bones, and other refuse matter down them, thus completely stopping the passage or bursting the pipes, and thereby causing most offensive smells. In one instance […] the obstruction was […] caused by the body of a newly born infant.[1175]

1170 Maxwell to Herbert, 10 Nov. 1854; W&SHC/2057/F8/III/B/356.

1171 Cantlie (1974), pp. 123-4. Incidentally, Bostridge (2008, p. 224) suggested that Nightingale, showed self-discipline by 'making a tactical move designed to disarm [Menzies].' It is difficult to know how this was the case given the remark was made soon after her arrival and the hospital had yet to be overwhelmed.

1172 Cantlie (1974), II, p. 100.

1173 Captain E.A. Gordon, RE

1174 Letter to Editor, 9 July; *The Times*, 27 July 1855.

1175 Elphinstone (1859), Appendix 53, p. 291.

Incidentally, the resident engineer also reported on 5 December that: 'The pipes conveying the water supply were entirely renewed from its source, a distance of upwards of four miles, and sedimentary wells were formed at intervals along its course.'

Select Committee of the House of Commons

The Roebuck Committee investigated the 'Condition of the Army before Sebastopol' and produced five reports, three of which contain the answers to 21,431 questions posed to witnesses.[1176] The responses provided by senior commanders who had returned home suggested that overwork, and not a shortage of food, was the principal factor that caused the breakdown in the health of the troops (Table 11.1).

The fifth report, which provides a short summary of some of the problems that faced the Army, opened with the following obvious realistic conclusions, although they were only made after making allowance for difficulties resulting from a long period of peace, and the storm of 14 November 1854:

> An army encamped in hostile country, at a distance of 3,000 miles from England, and engaged in a severe winter in besieging a fortress which for want of numbers, it could not invest, was necessarily placed in a situation where unremitting fatigue and hardship had to be endured. Your Committee are, however, of the opinion that this amount of unavoidable suffering [was] mainly to be attributed to dilatory and inefficient arrangements for the supply of this army with necessaries indispensable to its healthy and effective condition.[1177]

A serious shortcoming of Roebuck's initiative was the impossibility of cross-examining personnel with the Army, and all the information they considered was necessarily out of date. Incidentally, Herbert made a pertinent observation with respect to the AMD: '[The Committee's] acceptance of gossip and hearsay evidence, […] the bullying Old Bailey tone to Dr Menzies and the small fry contrasted with the civility to Newcastle [and] the condemnation of Dr Hall, who is unheard.'[1178]

In the event the Committee made no specific recommendations; an omission perhaps, although by June 1855 most of the problems would have been already addressed, either wholly or in part.

1176 BPP (1854-55), No. 156, 218, 247 & 318.

1177 BPP (18554-55), No. 318, p. 3.

1178 Herbert to Gladstone, 9 July 1855; Stanmore (1906), I, p. 451.

Supplies Commission

The Commissioners, Sir John McNeill and Colonel A.M. Tulloch, arrived in Constantinople on 6 March 1855, too late to have much impact as by then abundant supplies of food, clothing and other necessaries were being received, huts were being erected, a railway was under construction, and the roads were under improvement so wheeled transport could be used again.

The Commissioners subsequently reported their retrospective assessment to Panmure on 10 June:

> The sick from the Crimea were nearly all suffering from diseases chiefly attributable to diet […] supplied […] during the winter, consisting principally of salt meat and biscuit with […] insufficient […] vegetables, [which] was calculated […] to produce those diseases. […] Dr Sutherland, of the Sanitary Commission […] entirely concurred in the necessity of substituting fresh meat for salt, and fresh bread for biscuit, as well as increasing the supply of fresh or preserved vegetables.[1179]

The commissioners also made some additional observations in their official report:

> The medical evidence appears […] against […] anything peculiarly unfavourable in the climate, and all the officers […] examined, referred to overwork, improper diet, exposure to cold and moisture, with deficient shelter, inadequate clothing, and defective boots, as the causes of disease. […] there can be no doubt that the mortality was really the effect, not of any one cause apart from the others, but of a combination of the whole. […] this enquiry [has] demonstrated how indispensible it is to the soldier's efficiency, especially in the field, that he shall be supplied with [sufficient] wholesome food.[1180]

As with the Hospital Commission no formal recommendations were made and hence the report represents little more than a source of historical information. This fact might explain in part why its publication was delayed until after the war and the blame game had come into operation. This not unexpected development resulted in the convening of the so called Chelsea Board of General Officers whose controversial report exonerated the QMG and AG from any blame for the events of the winter of 1854-55, although Filder, the CG, did come in for some criticism,[1181] and he responded to this by publishing a pamphlet by way of a defence.[1182]

No specific comments were made in the Supplies Commissioners' report about the functioning of the AMD, and there was little on health matters with the exception of an apparent misunderstanding about the availability of quinine and the supply and issue of lime juice to prevent scurvy. Smith, however, did ask Hall for his opinion on the

1179 BPP (1856), No. 2007, p. 1.

1180 BPP (1856), No. 2007, p. 37 & 47.

1181 BPP (1856), No. 422 & 2119.

1182 Filder (1856).

report and his reply of 28 April 1856 included comments on marquees and other equipment, the provision of transport, the issue of warm clothing, and the availability and supply of medicines. He also suggested corrections on matters of detail.[1183]

The report of the Chelsea Board was considered a whitewash by several contemporary commentators; and by implication an animadversion of the Commissioners. McNeill chose to make no response publicly,[1184] but Tulloch published a rejoinder in which he emphasized that in his opinion the losses from disease would have been substantially less if supplies had been adequate, and, on this basis he could not accept the conclusion of the General Officers that nobody in the Crimea was blameless, as more should have been done to source food and other necessaries locally.[1185]

Sanitary Commission

Palmerston appreciated that that the health problems in the Army were not dissimilar to those faced by the public health authorities in Britain (see Chapter 1)[1186] and shortly after he became Prime Minister he sent a Sanitary Commission to the East with a view to establishing civilian standards of hygiene in the camps and hospitals.

The Commissioners, Dr J. Sutherland, Mr R. Rawlinson, a civil engineer, and Dr H. Gavin received their instructions from Panmure on 19 February 1855, and they, with a small staff,[1187] arrived at Constantinople on 3 March tasked with dealing with 'the hospitals, but not with the sick, and the camp, but not with the troops.'[1188] Their brief was to attend principally to environmental matters, and it is clear from their report there was plenty of scope for this in and around the various general hospitals and the town and harbour of Balaklava, and much effort was subsequently expended in attempting to put these matters to rights.

Palmerston, who had been a supporter of Edwin Chadwick, adopted a bellicose attitude over the sanitary issue before the Commissioners arrived in Turkey by assuming

1183 Mitra (1911), pp. 479-503.

1184 McNeill subsequently provided a forward to the 2nd edition of Tulloch (1857) published during 1880. In this he was critical of both Kinglake and the Chelsea Board.

1185 Tulloch (1857), pp. 149-69.

1186 Palmerston to Panmure, 13 Feb. 1855; Douglas & Ramsay (1898), I, p. 63.

1187 Gavin died following a shooting accident and was replaced by Dr Gavin Milroy who arrived in the Crimea on 22 July 1855.

1188 BPP (1857), Session 1, No. 2196, p. 4.

they would be: ‘opposed and thwarted by the medical officers, by the men who have charge of the port arrangements, and by those who [clean] the camp. Their mission will be ridiculed and their recommendations and directions set aside unless enforced by the peremptory exercise of your [Raglan’s] authority.’[1189]

In the event this extreme view proved unwarranted as the Commissioners told the Commandant at Scutari that they ‘cannot but express their gratification at the zealous cooperation they have received not only from your Lordship, but from the officers […] at Scutari and Kulali.’[1190] In like manner, Raglan instructed that every facility should be given to the Commissioners ‘in the execution of the duties confided to them.’[1191] Hall collaborated with them by providing ‘much information respecting the health of the Army, and for facilities in examining the camps and hospitals,’[1192] while at the end of May Hall informed Raglan that; ‘Every precaution is being taken to remove nuisances from the camps […] and to improve their sanitary condition […] and in this the Sanitary Commissioners […] afford cordial assistance;’[1193] although, as the editor of the *AMJ* surmised, progress was probably not as rapid as it might have been because:

> The mismanagement of medical matters in the East [had] arisen rather from the want of fuller power and authority in the heads of the AMD, than from any absence of ability or deficiency of skill, is a sufficient proof of the necessity there is for entrusting all purely sanitary arrangements to properly qualified medical men.’[1194]

It is important to add that the active support of the Commander-in-Chief was essential to achieve progress and it has been suggested that in this respect Raglan should not escape censure. For example, he: ‘had it within his power to beat cholera [when in Bulgaria as his] medical staff had already pointed out the need to construct latrines [and] filter the drinking water;’[1195] while after the invasion he tried unfairly to blame the medical department for the inadequate treatment of the sick and wounded.[1196]

1189 Palmerston to Raglan, 22 Feb. 1855; NAM-1968-07-290-1.

1190 WO/33/1/24/55, p. 4.

1191 General Order, 26 Mar. 1855.

1192 BPP (1857), Session 1, No. 2196, p. 79.

1193 Hall to Raglan, 14 May 1855; RAMC/397/F/CO/1/2/2086.

1194 *AMJ*, 4 May 1855.

1195 Small (2007), pp. 40-3.

1196 Ponting (2004), pp. 192-3.

Scutari

The military barrack at Scutari was far from ideal as a hospital, yet in February 1855 Panmure seemed content with the arrangements that Paulet had made for the sick[1197] while the resident engineer reported favourably on a visit paid by the Commissioners on 6 March: 'On their inspection of the various buildings in British occupation […] they expressed themselves as agreeably surprised at the cleanliness and comfort of the different establishments,' and 'there was little or nothing left for them to point out, by way of amelioration.'[1198] The Commissioners themselves told Paulet on 10 March that they had found that:

> The wards of the Barrack Hospital are lofty, and not over crowded. [In our opinion] the Barrack Hospital bears marks of much having been done to improve its sanitary condition; […] The General Hospital […] is the best of all the Scutari hospitals, as its structure admits of adequate ventilation, and the greater part of it is scrupulously clean.[1199]

Paulet subsequently reported to Panmure: 'Drs Sutherland and Gavin […] who have made a cursory inspection of the hospitals, have expressed themselves agreeably surprised at their cleanliness and comfort, and state that there will be very little for them to point out here.'[1200] While in their final report the Commissioners commented that 'there was abundant evidence that the military authorities had been actively engaged before our arrival, in improving this hospital, and much had evidently been done with that object.'[1201]

That there was scope for improvement in the various hospitals is not at issue and the Commissioners set to work in clearing the vicinity of the hospital of animal carcasses and filth, and suggested modifications for the hospital building. Nightingale appeared to be satisfied by their industry though the PMO, resident engineer, and Charles Bracebridge, Nightingale's companion, seemed less impressed:

> Nightingale: The Sanitary Commission is doing something, and has set too work burying dead dogs and whitewashing infected walls, two prolific causes of fever.[1202]
>
> PMO: The Sanitary Commission […] went mooning about here telling us what every one with eyes and nose could not fail to detect and have left the place much in the same state they

1197 Panmure to Paulet, 23 Feb. 1855; WO/6/70 and 28/199/1.

1198 Elphinstone (1859), Appendix 53, pp. 292-3.

1199 WO/33/1/55/24, pp. 1-2. This point was repeated in the official report; BPP (1857), Session 1, No. 2196, p. 18.

1200 Paulet to Panmure, 8 Mar. 1855; BPP (1854-55), No. 449, p. 1.

1201 BPP (1857), Session 1, No. 2196, p. 14.

1202 Nightingale to Herbert, 18 Mar. 1855; BL Add MS 43,393.

> found it.[1203] […] The graveyard has been inspected by the Sanitary Commissioners who have made some suggestions. There never appeared to me any injurious consequences to be apprehended from it. The smell is from the sewer.[1204]
>
> Resident engineer: One of their few recommendations, (with respect to the ventilation of the privies built in the angle of the Barrack yard), was at variance with the expressed opinion of the Engineer officer, and ordered the compliance with which was the cause of subsequent complaint on the part of the medical authorities. […] In March the Commissioners ordered some slight alterations to some of the privy drains, and the reconstruction of one of the main sewers, the results of which were of a very dubious character and were the cause of constant complaint by the medical authorities.[1205]
>
> Bracebridge: The Commissioners were 'incompetent' and that 'these patchings are of little use.'[1206]

An anonymous contemporary commentator also questioned the effectiveness of the Commissioners in a well-researched pamphlet printed after the publication of the Royal Commission's report:

> The Eastern Sanitary Commission […] after ten days spent in examining, and maturing their plans […] commenced their works [but by] the beginning of July, they say, 'after all that could be done in the way of temporary improvement, cleansing, and flushing, the drains under and near the hospitals, from their inherent bad construction, were still nothing but cesspools, communicating, by open tubes, with the interior of the hospitals.'[1207] Such miserable results, after four months of 'scientific labours,' appeared unsatisfactory even to the Commissioners, though they in no degree retarded *the rapid decrease of the mortality* in the hospitals.[1208]

It was not unreasonable for the Non-Commissioner to question why the Commissioners took so long to reach this conclusion and why they did not admit that the objectionable smells did not appear to have a detrimental effect on the health of the patients. The Non-Commissioner continued by quoting several more extracts from the Commissioners' report and concluded that their 'endeavours […] were attended with no better success than those of the officer of the Royal Engineers during the winter [of 1854-55];' a reasonable opinion in the circumstances that does not accord with suggestion made by a biographer of Sir Edwin Chadwick who wrote that the influence of the 'famous Crimean Sanitary Commission […] on the campaign is incalculable in its importance,' but that 'the story of that intervention is too well known to be repeated here;'[1209] while more recently McDonald stated erroneously that the Barrack Hospital at

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1203 Cumming to Hall, 10 Apr. 1855; NAM-2007-07-16-19.

1204 BPP (1854-55), No. 449, p. 37 and BPP (1857-58) No. 2379, pp. 46 & 132.

1205 Elphinstone (1859), Appendix 53, pp. 292-3.

1206 Bracebridge to WEN, 18 Mar. 1855; Claydon 273 quoted by Bostridge (2008), p. 249.

1207 BPP (1857), Session 1, No. 2196, p. 52.

1208 A Non-commissioner 'Report', pp. 25-7; RAMC/397/M/2.

1209 Finer (1952), p. 485.

Scutari 'had to be re-engineered by a team of visiting experts before the death rate could be brought down.'[1210]

Nearly all the British land forces were located in a relatively small area of the Crimean peninsula, and, as was demonstrated in Chapters 5 and 6, it was the high incidence of serious and potentially fatal diseases amongst them that strongly influenced the mortality rates in the hospitals at Scutari, a point made by Hall in his evidence to the Royal Commission on 19 June 1857: 'The sanitary commission claim credit for reducing the sickness at Scutari […] but forgot that Scutari was supplied from the Crimea, and that the supply of sick had fallen off one half. […] It was the character of disease that had changed.'[1211]

It would appear at that Nightingale agreed with Hall at the time when she told Herbert unequivocally that:

> Scutari was only a symptom of the army's malady, not a cause, and once things began to improve at Balaclava, things improved at Scutari. Once the men on the plains below Sevastopol began to get better food and the weather became warmer, their strength increased, they became more resistant to disease, the numbers arriving at Scutari went down, the wards became less crowded, and the medical personnel were under less pressure.[1212]

Sutherland, nevertheless, questioned Hall's assertion by suggesting to the Royal Commission that the some of the improvements were due to the activities of the Sanitary Commissioners, though he did 'attribute part of the diminished mortality in the hospitals to the very cause to which Sir John Hall appears desirous of attributing the whole.'[1213]

Clearly there was a conflict of interests as Sutherland would have been anxious for the Commissioners to get some credit, otherwise their mission might be perceived as pointless. Nightingale suggested misleadingly that their work was nearly complete by June 1855,[1214] but, unfortunately for supporters of Sanitary Commission, Shepherd has proposed a more realistic explanation:

> [Kinglake's] suggestion that the mortality rates fell at the end of March because of the work of the Commission is scarcely tenable. It is inconceivable that the work involved in relaying drains and other major improvements was completed in two weeks. More likely the mortality

1210 McDonald (2010b), p. 72.

1211 BPP (1857-58), No. 2318, p. 181.

1212 Undated reference; Gill (2004), p. 383.

1213 BPP (1857-58), No. 2318, p. 344.

1214 McDonald (2010a), p. 884 and McDonald (2010b), p. 87.

> rate fell because the admission rate came down at this time, thus reducing the lethal effect of overcrowding, because the severity of the medical cases admitted from the Crimea lessened at this time, and because the climatic conditions improved.[1215]

Another issue that obviously affected peoples' judgment of the hospitals was their previous experience. For example, AS Edward Wrench, informed his father on 28 December 1854 that he had received two letters from Scutari. One was from somebody who had not been to the Crimea and thought that it was uncomfortable and horrid and the other from Harvey Ludlow who thought it was a sort of Paradise,[1216] while at the end of January AS J.J. Scott, 57th Regiment, who, like Ludlow was at Scutari on sick leave from the Crimea, thought the Barrack hospital was 'as comfortable as can be expected' and 'well supplied in with good rations and warm dress.'[1217]

Crimea

When the Commissioners landed in the Crimea on 2 April 1855 they considered the 'health of the army […] was by no means good,' but 'hardly below […] the usual standard of armies in the field, and its health was better than that often experienced by armies similarly circumstanced,'[1218] while two weeks after their arrival the Chief of Staff informed Panmure that: 'The state of our camps is another subject of misrepresentation at home. I know them all […] and more cleanly encampments I never saw. I consider them quite healthy and wholesome in all respects.'[1219] This may have been due in part to Hall and several MOs having visited the camps weekly to inquire 'into the state of the sick and the sanitary condition of the camp.'[1220]

Balaklava: The town and harbour of Balaklava[1221] were small and it was soon 'in a filthy and revolting state', and though Raglan issued orders for it to be cleansed there was no one to attend to it.[1222] A board of inquiry into the sanitary state of the town was

1215 Shepherd (1991), p. 400.

1216 University of Nottingham, Wr/C/2/23. Acting ASS Ludlow served in the Crimea until invalided to Scutari with a medical certificate.

1217 Letter dated 26 Jan. 1855 quoted by Dawson (2014), p. 156.

1218 BPP (1857), Session 1, No. 2196, p. 79.

1219 Douglas & Ramsay (1898), II. pp. 151-3.

1220 Special Correspondent, 19 Mar.; *The Times*, 2 Apr. 1855.

1221 The management of shipping in the harbour is explained in Gordon (1855).

1222 Russell, 4 Oct.; *The Times*, 23 Oct. 1854.

convened on 17 January 1855 with Sir Colin Campbell as President.[1223] The report has not been found but despite any recommendations matters deteriorated further as a consequence of the excessive traffic passing to and from the port.[1224] Towards the end of March things began to improve and the resident PMO informed Hall that 'attention was at last aroused and the town is in consequence improving in every way,' latrines 'much wanted here are about to be built' and a 'police has been established to prevent the committing of nuisances in the street, a practice much in vogue at one time.'[1225]

Not surprisingly the Commissioners deemed the harbour unsatisfactory as being non-tidal the water became congested with refuse including, carcasses, offal and dung, with the consequent 'evolution of large quantities of sulphuretted hydrogen gas.' However, they conceded that the Commandant and Port Admiral had used 'their best endeavours to improve the sanitary condition of the place' but they were hampered by a 'want of labour and means of transport;' a problem that, despite the activities of the Commissioners appeared to persist until the arrival of the AWC as native labourers were 'by no means efficient […] and most expensive.'[1226]

The Commissioners made several requests to Headquarters during the following weeks for assistance with labour and equipment, only to be informed that the demands of the siege frequently made this impossible. Raglan himself, though not unsympathetic, considered that the government should have provided the Commissioners with the wherewithal to obtain the resources they needed to carry out the tasks expected of them, and not have had to rely on the Army to provide them. Incidentally, this was a potential problem anticipated earlier by the Earl of Shaftsbury when he wrote to Panmure on 18 February 1855:

> The Commissioners should have the power of hiring, on their account, such numbers of workmen as they may find necessary. The entire success of this undertaking will depend on instructions given to Lord Raglan, Lord W. Paulet, and other authorities, *to carry into execution without delay* whatever the Commissioners may declare to be essential to health and safety.[1227]

1223 The board members included three MOs, a chaplain of each persuasion, a captain, RN, if possible, and the Commandant; WO/28/108. This was about a month before Panmure issued the Sanitary Commissioners with their instructions on 19 Feb. 1855.

1224 For example, see a letter dated 26 Feb. in the *ILN*, 24 Mar. 1855.

1225 RAMC/397/F/RT/1/1.

1226 BPP (1857), Session 1, No. 2196, pp. 89-91.

1227 Hodder (1898), p. 504.

In the event, Sutherland later acknowledged that improvements occurred only gradually so that by 'several months before the evacuation' Balaklava had 'became as clean and healthy a little sea-port as one would wish to see' and that 'it required little or no interference on [the Sanitary Commissioners] part.' He also pointed out that this satisfactory state of affairs was only achieved after 'a great expenditure of labour and money.'[1228] This improvement was also confirmed by Major Barnston who wrote on 7 January 1856 that Balaklava: 'is a most astonishing place now; and nothing could be cleaner or more regular. The harbour is quite black with cormorants; they have turned out such excellent scavengers that any one shooting at them is immediately flogged […] and his gun seized.'[1229]

Harbour police: This unit, which comprised ten men who wore a distinctive uniform resembling that of the Thames Police, was responsible for maintenance of the sanitary condition in the port.[1230] However, despite unambiguous harbour regulations,[1231] the masters of the cattle transports ignored these instructions on occasions and threw carcasses and dung over board while in harbour instead of waiting until after they put to sea. The disposal of general fifth and the offal from the animals slaughtered in the town presented a continual logistical challenge and, like the carcasses, most had to be taken out to sea in a 'dirt barge' and disposed of well away from land.[1232]

On the matter of carcasses the QMG requested Boxer to 'devise some means for preventing the dead carcasses towed out to drift again into harbour.' He replied to say the steam tug's captain had strict instructions 'to tow cattle and offal well out to sea and to the lee of the harbour's entrance. Every practicable means are made to keep the harbour [clear] and great praise is due to the water police for their vigilance.'[1233] On occasions the carcasses did not sink and those 'floating off the rocks beneath the Genoese Castle and Sanatorium' represented a 'serious detriment [to] the inmates and [was] in direct violation of the port and harbour regulations, with respect to dead cattle

1228 Sutherland (1857), p. 23.

1229 Trevor-Barnston (1998), pp. 138-9.

1230 Boxer to Lyons, 1 June 1855; BPP (1854-55), No. 512, p. 2. For an illustration see *Illustrated Times*, 9 June 1855.

1231 Dated 6 Mar. 1855 and reproduced in BPP (1854-55), No. 512, pp. 10-1. The regulations were reissued on 1 Jan. 1856; WO/28/194.

1232 There are several references to this matter in the Sanitary Commissioners' report.

1233 QMG to Boxer, 27 Apr. 1855 and his reply; WO/28/123 & 183.

and the like.'[1234] To obviate this problem it was recommended that 'before being let go their sides and entrails should be freely slashed, so as to cause the carcass to sink.'[1235]

Camps before Sevastopol: The impression given by some commentators is that Hall and his colleagues were remiss in not ensuring that the camps, including the latrines, were kept in a satisfactory state from a hygienic point of view. Hall was well aware of the problem, however, and reported incidents to HQ from time to time,[1236] while the Queen's Regulations made it clear that the responsibility for camp cleanliness lay with the military authorities, and not the AMD. For example, a General Order of 12 May 1854 required the privies to be examined daily by a QM and MO, and to report weekly on their cleanliness.

The topic was the subject of several General Orders issued during the summer of 1854,[1237] with one of 11 November requiring that 'all burials may take place at a sufficient distance from the sources of water supply, from the camps of any troops.' The topic apparently ceased to be a priority after the hurricane of 14 November and it was not until the spring of 1855 that a proactive interest was taken by HQ once again. For example, the GOC of Divisions were reminded that their AQMG was required to ensure that all dead animals are buried at least 3 feet deep; latrine trenches are dug sufficiently deep and earth thrown on the soil every morning, and […] the most stringent measures are taken to prevent men answering the calls of nature except in the latrines; all offal, dirty clothes, rags, broken bottles etc. are burned or buried every morning; and particular attention is paid to the cleanliness of that part of the camp near the commissariat, ambulance, hospital and reserve ammunition.[1238] These instructions do not appear to have been followed implicitly on occasions and a divisional commander had to be reminded of his responsibilities:

> I am desired by Lord Raglan to call your attention to the sanitary condition of the camp under your command, and to beg that dead horses may be buried, the latrines attended to, and the

1234 Sanitary Commission to Captain Hamilton, RN, 14 June 1855; WO/32/7580. See also SS Matthew to Sanitary Commission, 30 Oct. 1855; BPP (1857-58), No. 2379, p. 193.

1235 Sanitary Commission to Port Admiral, Balaklava, 30 Oct. 1855; WO/32/7580.

1236 See McDonald (2010a), pp. 655-7.

1237 On 12 May, 27 June, and 1 Aug. 1854.

1238 AG to GOC, 2nd Division, 8 Feb. 1855; WO/28/72, and a memorandum issued by the QMG on the same day; WO/28/159.

> collections of the refuse, rags and rubbish either buried or burnt. In the latter case, care must be taken to prevent accidents.[1239]

Hall also wrote in strong terms to the AG on the subject of 'camp nuisance' on 24 January 1855:

> Proper latrines should be dug in all camps, and the soil covered over daily with earth, all dead animals ought to be buried […] The pioneers [should be] directed to clean round the hospital marquees and men's tents daily, collect all offal, dirty and condemned cloths, and rags which are merely thrown outside the tents and allowed to rot. The trenches […] should be deepened to carry off surface water […] the matter will have to be enforced by authority, because no regiment can be so pressed for duty men, as not be able to spare a party for a short time daily to perform the essential offices of camp economy.[1240]

Shepherd considered that the need for Hall to have to remind the AG 'of such elementary rules of hygiene at this stage of the campaign was a considerable reflection on all concerned.' Shepherd did not exclude the regimental doctors from criticism, however, as he thought they should have done more to get matters better organized, though he conceded that it reflected, in part, 'the complete lack of executive power of even the most senior medical officers.'[1241]

The QMG subsequently requested that a general of the day be appointed to 'supervise the regularity and cleanliness [of the camp] in every particular' in accordance with the Queen's Regulations.[1242] This was not acceded to by Raglan although he convened a board of senior MOs with Hall as President to investigate the sanitary condition of the Army, possibly in response to the impending arrival of the Sanitary Commissioners in the Crimea. The Board reported on 10 March with recommendations on diet and water, clothing, camps, and duties,[1243] and attention of the COs was drawn to the subject by the AG:[1244]

> General Officers commanding Divisions, and the Officers Commanding in the camps of the siege trains, and of the R. Sappers and Miners, will send daily […] a report that the cleanliness of their camps has been attended to, that dead animals have been buried, and rubbish and broken glass removed and destroyed.[1245]

These instructions must have resulted in improvements because by the end of March 1855 Hall was able to report to Raglan:

1239 AG to GOC, Cavalry Division, 31 Jan. 1855; WO/28/192.

1240 BPP (1857-58), No. 2379, p. 113.

1241 Shepherd (1991), p. 313.

1242 QMG to Military Secretary, 5 Mar. 1855; WO/28/192.

1243 BPP (1857-58), No. 2379, pp. 118-20.

1244 Hall to Smith, 12 Mar. 1855; RAMC/397/F/CO/1/2/1630.

1245 Circular Memorandum, No. 299, 9 Mar. 1855; WO/28/122

> The rations are abundant, the men are well clothed, and due attention is paid to the sanitary condition of the different camps. The supply of water is ample at present, and means are being adopted to insure it in future, by constructing new tanks, cleaning out those already in use, and digging fresh wells. […] The hospitals are on a respectable footing, and amply provided […] for […] the sick.[1246]

The Sanitary Commissioners found as a consequence of these developments: 'the camp [before Sevastopol was] remarkably clean and the external sanitary arrangements […] well attended to,' in spite of 'the pressing nature of the siege duties' and, although there were some defects, there were 'some regimental camps to which it would have been difficult to have suggested improvements.'[1247] This state of affairs was reported to the QMG following an unannounced tour of the camps unertaken by the Commissioners towards the end of April. They expressed themselves:

> much surprised and gratified with the appearance of the camp and of the hospitals, and said that were it were not for Balaklava, they might at once return to England, as no sanitary recommendations were required from them for the upper camp. One of them (Mr Sutherland) said 'It would be an insult to the Army if we were to offer any suggestion.' [while] Mr Rawlinson said 'There can be no sanitary measure we could recommend which I have not seen carried out today in some phase or other, varying, of course, in different regiments according to the ability and zeal of the commanding officers and surgeons.'[1248]

On 17 May 1855 the Commissioners sent Raglan a list of obviously sensible recommendations, viz. refuse should be burnt, carcasses and offal should be buried at least three feet deep, waste food should be burnt or buried and not thrown into latrines, latrines should not be kept open for too long and the contents should be covered daily with earth and charcoal until the level is within two feet of the surface when the latrine should be closed, places where animal are picketed should be kept constantly clean and the dung and refuse burnt, and tents should be struck regularly and the ground exposed to the air and sunshine.[1249] General Simpson confirmed to the Commissioners on the 20 May 1855 that most if not all of these recommendations had already been introduced, and hence no further orders were needed; indeed the camps were 'well policed, and clean considering all things.'[1250] Nevertheless, continued watchfulness was necessary as an inspection made during July 1855 found that, unlike the infantry regiments, some

1246 Hall to Raglan, 3 Apr. 1855; RAMC/397/F/CO/1/2/1743; *LG*, 20 Apr. 1855; Sayer (1857), p. 131.

1247 BPP (1857), Session 1, No. 2196, p. 121.

1248 AQMG to QMG, 26 Apr. 1855; WO/33/1/49/55, Inclosure 12 and WO/28/192.

1249 WO/33/1/49/55, Inclosure 9, and BPP (1857), Session 2, No. 2196, pp. 127-9.

1250 CO, 14th Regiment to Wetherall, 11 June 1855; NAM-1962-10-94-2.

cavalry camps were not in a 'good sanitary condition,'[1251] while shortly afterwards it was stressed that 'great attention' was being paid 'to cleanliness in the camps, and to prevent overcrowding in either tents or huts.'[1252]

Hall agreed with the Commissioner's suggestions, though he begged 'to observe, that on almost all points had been anticipated,'[1253] while after the war he informed the Royal Commission that 'the recommendations made by the Sanitary Commission had been recommended before by the medical men and most of the things had been put into effect, more or less.'[1254] When he gave evidence to the Royal Commission on 17 July 1857 Sutherland claimed that he had not seen the recommendations made by Hall's Board, which in the circumstances seems rather unlikely, and he clearly objected to Hall's statement as it implied that the Commission did not have much impact on events.[1255] The upshot was that Sutherland was requested to clarify the contents of a letter he wrote on 19 July 1855 to Lord Shaftsbury in which he had stated unequivocally 'that the sanitary recommendations made by [him] had been anticipated by the army medical officers on the spot.' In his reply Sutherland dodged the issue by stating that his comments referred only to the sanitary state of the camps, and not to either Scutari or Balaklava, and that the Commissioners 'had only wished the worst practices to be avoided and the best systematically adopted. […] all depends on the commanding officers of regiments [but] we […] found the medical officers thoroughly alive to the nature of the changes required […] but without power to carry them out.' Sutherland also mentioned that they had 'endeavoured […] to limit our requirements to what was barely necessity' and concluded by stressing that none of his comments should be construed as any criticism of the 'medical officers in the field', whom he held in 'high esteem.'[1256]

In his unpublished account of the campaign Hall noted, with some justification, that 'if the same power had been granted to the medical officers of the Army that was conceded to the Sanitary Commissioners, there would have been no occasion to send the

1251 BPP (1857), Session I, No. 2196, pp. 149-50.

1252 Hall to Military Secretary, 14 Aug. 1855. Forwarded to Panmure with Simpson's despatch of 17 Aug.; WO/1/377/ff. 859-60.

1253 Hall to QMG, 27 May 1855; BPP (1857-58) No. 2379, p. 124.

1254 BPP (1857-58), No. 2196, p. 181.

1255 BPP (1857-58), No. 2318, pp. 333-5.

1256 BPP (1857-58), No. 2318, p. 360. The letter was published in *The Times*, 22 Aug. 1855.

latter out to the seat of war,'[1257] and, not unexpectedly, he considered that their contribution to the well-being of the troops in the Crimea was relatively limited, although he was mindful to add a caveat:

> So far as the labours of the Sanitary Commissioners came under my notice, I think their services might have been dispensed with without any detriment […] as there was nothing […] which had not been either suggested, or was not in actual operation before their arrival. I speak of what came under my own observation in the Crimea; but they may have furnished other reports and valuable information to the authorities at home.[1258]

Hall was not alone in his views on the usefulness of the Commission as the following quotation from an anonymous letter, possibly a MO, attests:

> It makes me sick to read of people being sent out to investigate the cause of our great mortality. What else could any one expect under the circumstances? Starving men without clothes to their back, or shoes to their feet, exposed to inclement weather in a manner that beasts are never exposed; for the latter can run about, whereas the former were obliged to lie down.[1259]

while the artist William Simpson opined that: 'A sanitary commission could have done nothing [in the winter]' and when the good weather came I don't know any better sanitary authority than it was. Well the sanitary gentlemen did arrive, and lived I think in Balaklava.'[1260]

Trenches before Sevastopol: The conditions in the trenches clearly deteriorated in the autumn of 1854[1261] and tended to be unsanitary (see Table 11.2) so the men were exposed to 'an atmosphere, often unavoidably vitiated by the excretions of the masses engaged on such duty.'[1262] William Simpson inferred that the Sanitatary Commissioners were unwilling to risk going close to the front line[1263] and so it is perhaps not surprising that, apart from a recommendation for burying the dead, there was only one specific reference to the trench system in their report when Sutherland wrote to Simpson 18 July 1855 about the 'bad sanitary conditions in the trenches' and the 'offensive emanations'

1257 Hall, 'Unpublished memoir'.

1258 Hall, 'Unpublished memoir' and Mitra (1911), pp. 375-6.

1259 *MT&G*, 19 May 1855.

1260 Eyre-Todd (1903), p. 53.

1261 See Eyre-Todd (1903), p. 25.

1262 *M&SH*, II, pp. 75-6.

1263 Eyre-Todd (1903), p. 53.

that arose following the disturbance of graves, and recommended the area should covered with peat charcoal.[1264]

Personal cleanliness: The Sanitary Commission seemingly did not consider the personal cleanliness of the troops was part of their brief as soap was not mentioned in their report. In fact, the shortage of soap became an issue within weeks of the invasion; for example, the surgeon in the 77th Regiment noted during November 1855 that there was none for washing 'hospital blankets and other things, as the patients are very filthy.'[1265] This situation caused Smith to complain to Horse Guards that there was a 'great want of the means of securing personal cleanliness in the Army [arising] from the impossibility of obtaining soap.'[1266] Hall was informed shortly afterwards that 'thirty tons of soap have been shipped for the use of the troops; ten of which were forwarded at the close of November.'[1267]

There is no doubt that the personal cleanliness of the men was an important issue as evinced by a memorandum written by the AG following representations from MOs. It was undated but the context suggests that it was written during the spring of 1855 and was directed at divisional GOCs:

> greater attention is necessary to the ventilation of the tents, and the cleanliness of the persons of soldiers. These are points [that should] be looked to by the Commanding Officers of regiments […] They are subjects for their own care and vigilance. […] The men must also be encouraged to wash their clothes and their persons thoroughly, and means should be taken to enforce this necessary duty of cleanliness upon those whose habits may less incline them to the exertion to do so.[1268]

Hall also issued a memorandum to divisional PMOs informing them he was sorry to find that:

> itch, scurvy and ulcers and great personal filth prevail amongst the men […] for want of […] regimental MOs in making periodic inspections [as] required by the Regulations of Service. He [Hall] therefore requests […] that this duty is performed weekly. […] government has provided soap, and there is no excuse for the men going about from one week's end to another without either washing their person or changing their flannels and shirts.[1269]

1264 BPP (1857), Session 1, No. 2196, pp. 148-9 and WO/32/7580. Incidentally, there is no mention of the unsanitary conditions in the trenches in the reports of the Hospitals Commission and Royal Commission.

1265 *M&SH*, I, p. 375.

1266 Smith to Military Undersecretary, 21 Dec. 1854; *PoL* and BPP (1857-58), No. 2379, p. 24.

1267 Smith to Hall, 2 Jan. 1855; *PoL* and BPP (1857-58), No. 2379, p. 25.

1268 WO/28/195.

1269 Medical Department Memorandum, 17 Feb. 1855; RAMC/397/F/CO/1/3 and BPP (1857-588), No. 2379, p. 116.

Not surprisingly this relatively terse memo provoked a defensive reaction from some MOs. For example Surgeon W.G. Watt, 23rd Regiment, responded:

> The tents are frequently visited by the Assistant Surgeons or himself during the week and he is perfectly aware of the filthy state of the men and from the amount of duty this is almost unavoidable. The men frequently only have 12 hours off duty and the extreme difficulty of procuring wood and water even for cooking has been pointed out by me more than once.[1270]

While a letter from another surgeon was published in the *Daily News* on 10 March 1855:

> Dr Hall: […] accuses the regimental surgeons of inflicting scurvy and all kinds of disease and abominations on the men by their neglect. […] Recrimination has always been held to be a bad arrangement, and to place those who have recourse to it in a very suspicious position. […] Regimental surgeons have been well aware of the uncleanly state of their men […] I have […] tried with my commanding officer to devise a plan for the personal ablution of the men. But […] hardly able to get sufficient water […] with no means of heating water but open fires […] no vessels for purposes of washing, no soap, […] no change of underclothing etc. […] it becomes impossible […] to carry out a system of proper cleanliness. […] the regimental surgeon has no power for forcing a system among men on duty in a regiment; his control extends only over the sick in hospital. He may recommend, but his power stops there.

The anonymous surgeon clearly did not hold Hall in high regard as he then accused him unfairly of negligence: 'Let the country judge between the regimental surgeons and Dr Hall whose name has become so familiar in connexion with the neglect at Alma, neglect in camp, neglect on sick transports, and neglect in the hospitals at Scutari.'

Select Committee on the Army Medical Department

The proceedings of the Stafford Committee were published on the 3 July 1856 and the recommendations they made for the reform of the AMD were clearly influenced by what took place in the Crimea.[1271] The committee members obviously appreciated the contribution made by the MOs as they had been told of: 'the admirable manner in which the army and civil surgeons have performed their duties in the East, and [the] Committee are glad to [acknowledge] the high opinion they entertain of their merits,'[1272] while later in the report they recorded their praise for the 'zeal, energy, and courage' displayed by the MOs and civil surgeons 'under the most trying circumstances.' The report contained only one specific reference to the health of the troops in the Crimea, however, viz. Colonel Lord West opined on 30 May 1856 that

1270 Watt to PMO, Light Division, 17 Feb. 1855; RAMC/397/F/CO/31/13.

1271 BPP (1856), No. 331. For a commentary on this topic, and a list of the recommendations, see Cantlie (1974, I, pp. 198-200.

1272 BPP (1856) No. 331, p. iv and *The Lancet*, 26 July 1856.

this had been affected by overwork and want of proper food, and that the MOs were not responsible for this or the 'great sickness that prevailed in the Crimea;' which was exacerbated by a 'deficiency of all proper appliances, medical comforts, and medicines.'[1273]

Dr Hall's rejoinders

Hall was obviously upset by criticisms that he and the AMD received in these official reports on matters which were either outside his control or for which he had no executive responsibility, and this prompted him to make a number of public statements in order to set the record straight.

Roebuck Committee Reports: Hall sent a letter to the editor of *The Times* on 9 July 1855 following receipt of the reports and it was published on 27 July (See Appendix 11.1). In addition to defending his statement to Raglan on the condition of the Scutari hospitals he pointed out that sufficient bandages and lint had been available during the battle of Inkerman, and confirmed that a substantial amount of alcoholic beverages and other comforts that had been issued by the Purveyor for the benefit of the sick and wounded by listing the amounts distributed.

The principal bone of contention was that in October 1854 Hall had informed Raglan that the hospitals at Scutari were 'in as good a state as could reasonably expected,'[1274] and some nine months later, despite all that had occurred in the meantime, he still was prepared to adhere 'to every syllable I then wrote, and I consider I am quite as good a judge of the subject, and quite as worthy of credit, as the Duke of Newcastle's informants, whose reports may, perhaps, refer to an earlier or a later period than mine.'[1275]

Some of the correspondence and opinions about the Scutari hospitals during the time of Hall's visit and during the weeks following are summarized in Table 11.3 and it is clear from these he was justified in his response to the Committee's reports for the following reasons: Dumbreck's evidence to the Committee was misrepresented as he ventured no opinion on the subject of Hall's visit. He was in the Crimea at the time and

1273 BPP (1856), No. 331, p. 124.
1274 BPP (1854-55), No. 318, p. 20.
1275 BPP (1854-55), No. 247, p. 243.

that he had been too unwell to examine the hospitals at Scutari on his way home, although he was visited on board by the Cumming, the PMO.[1276] This Dumbreck made clear in a letter to *The Times* in which he concluded 'that he has been most unfairly placed in seeming antagonistic to Dr Hall'[1277] (see Appendix 11.1).

Newcastle's criticism of Hall was unfounded as, given the time interval; he must have been referring to events at Scutari which took place after the battle of the Alma when things were indeed extremely disorganized. By the time Hall arrived matters had settled down and this was confirmed by several commentators who held similar opinions to Hall, including Nightingale (Table 11.3), although she changed her mind later by saying that Raglan could have 'corrected' the 'wrongs' if he had not been misled by Hall's report of 'flourishing' conditions in Scutari.[1278] However, this was a misinterpretation of events on her part as it was some weeks later when the hospitals were overwhelmed by the large number of seriously ill patients from the Crimea; something nobody could have predicted at the time.[1279]

Hardinge also censured Hall and suggested that Raglan should have taken action against him;[1280] however, there was no need for an enquiry on Raglan's part as he would have been satisfied with Hall's assessment since it had been confirmed by the British ambassador, his senior ADC, Lord Burghersh, and Paulet (Table 11.3), and hence this suggests that it was unreasonable of Nightingale to agree months later with the opinion expressed by Hardinge at that time.[1281]

Sanitary Commission Report: The report contains no personal criticism of Hall but he responded by issuing a pamphlet, presumably because he thought there was necessity to defend his reputation.[1282] This prompted Sutherland, to publish a reply,[1283] following which Hall published a rejoinder.[1284] Thereafter the debate ceased, in public at least.

1276 BPP (1854-55), No. 156, p. 605.

1277 *The Times*, 1 Aug. and *The Lancet*, 4 Aug. 1855,

1278 McDonald (2010a), p. 20.

1279 Over 12,000 patients were admitted to the hospitals on the Bosphorus during the three months from Nov. 1854; *M&SH*, II, General Hospital Returns I.

1280 BPP (1854-55), No. 247, pp. 243-4.

1281 McDonald (2010b), p. 84.

1282 Hall (1857).

1283 Sutherland (1857). The Commissioners submitted a preliminary report to Panmure on 17 Mar. 1855. A version was 'printed solely for the use of the Cabinet' on 14 Apr. 1855; WO/33/1/24/55 & 33/1/25/55.

1284 Hall (1858).

The three pamphlets contain considerable detail and are valuable historical documents. Together they comprise over 40,000 words and there is evidence of the authors trying to score points off each other. In his response Sutherland pointed out that there had been no advanced planning with respect to the sanitary condition of the camps and hospitals, and suggested that if this may have contributed to the high mortality during the first winter. However, a long siege had not been envisaged by the military authorities and so there would have been little incentive to spend time and money on such matters, and by the time the calamity of the first winter became apparent it was too late to do anything until camp life became better organized in the spring. Action was then taken to improve the environment generally from a sanitary viewpoint and for this Hall claimed some credit and not unreasonably stressed that in his opinion the contribution of the Commissioners was much less than they asserted.

Supplies Commission Report: During a debate in the House of Commons on the role of the Supplies Commissioners held on 12 March 1857 Palmerston made a passing reference to the Sanitary Commission: 'Dr Sutherland and his associates took the medical arrangements of the hospitals and of the camp into immediate consideration and suggested improvements which were of the utmost consequence to the troops [and] the sick and wounded.'[1285]

This seemingly innocuous remark provoked a reposte from Hall dated 14 March, a reply made by Sutherland in order to safe guard his own reputation, and two further letters in support of Hall's 'spirited and courageous' stance. The texts of all four are given in Appendix 11.2, and confirm the differences in the opinions held by the MOs and the sanitarians with respect to the management of the camps and hospitals in the Crimea.

Hall was also supported by J.M. who served in the Crimea and made the point to the editor of the *MT&G* that: 'The so-called Sanitary Commission only arrived in the Crimea in the month of April, when we had emerged from our difficulties, and "the sun of our prosperity had begun to shine," to use an Oriental proverb,' and that some of their ideas would have been 'amusing' if they had not been 'presumptuous and insulting.'[1286]

1285 *Hansard* and *The Times*, 13 Mar. 1857.

1286 J.M. (1857).

Royal Commission

The members of the Royal Commission convened to enquire into the health of the Army in 1857 considered it their 'duty not to neglect the lessons that may be drawn from [the late war].' For example, in their report,[1287] they emphasized the contrast between the two winters of the campaign thereby agreeing with other commentators that during the first winter the troops suffered from: 'work altogether disproportioned to their strength, from broken rest, insufficient clothing and shelter, unwholesome food, and want of cleanliness.'[1288] The report continued: 'As the spring advanced, to these causes of disease and mortality were added others, arising from want of drainage and ventilation, and the nuisances resulting from the lengthened occupation of the same ground without sufficient countervailing precautions.' This opinion, which reflected the views of Nightingale, is at variance with that of the Sanitary Commissioners who had observed that during this time the camps were generally well managed from a sanitary standpoint. However, there can be little doubt that the improvements in the living conditions of the troops made during 1855 contributed to the good health that they enjoyed during 1856 and so it comes as no surprise that the Commissioners stressed that the provision wholesome food and huts that were well drained and ventilated, together with ensuring the camps were thoroughly cleansed, were all factors contributing to this success.

Incidentally, the Commissioners analysed data on mortality among home-based British troops during the 1840s and up to 1853, and were rightly alarmed when they appreciated how much higher their mortality rate was than in the civilian population. The assessment of their recommendations demands great care, however, since it can be demonstrated that the decrease in mortality rate which continued up to the beginning of World War One seemingly started at the beginning of the 1850s and not after 1858, albeit for reasons which are likely to be complex and which have yet to be specifically investigated in detail (Figure 11.1).[1289]

1287 Other aspects of the report will be considered in Chapter 12.

1288 BPP (1857-58), No. 2318, p. xxxi.

1289 See Rosenbaum (1859, 1990) for reviews of the work of the Royal Commission and the collection of army medical statistics during the century that followed.

Summary

The Hospital Commission had an opportunity for making an immediate difference as one of the Commissioners assumed medical charge at Scutari early in 1855, but the conflicting reports emanating from the hospitals during the following weeks makes it difficult to ascertain how much was actually achieved. Nightingale considered the Commission a 'lame duck',[1290] but given the Sanitary Commissioners found that conditions were not as bad as expected some weeks later implies that improvements had been made in line with the Hospital Commissioners' suggestions.

The reports of the Supplies and Sanitary Commissions and the Roebuck Committee provide an insight into what went wrong during the winter of 1854-55 but their deliberations started too late to have any worthwhile impact on the health and well-being of the troops at the front.

Hall took steps to protect his reputation, and that of the AMD, when he appreciated that the Sanitary Commissioners were granted credit officially for merely enunciating what he knew was required; and could have been done if the AMD had been accorded the necessary power and resources so to do. To suggest that his reactions were sour grapes, as suggested by some commentators, is unreasonable as he took care to provide evidence to support his viewpoint.

Some of the Sanitary Commissioners' recommendations were little more than common sense. However, to be fair, Sutherland did appreciate that there was 'really nothing to learn' in 'sanitary methods or procedure […] but much to avoid,' and there was undoubtedly 'the supreme necessity of greater vigilance in preventing the occurrence of sanitary defects.'[1291]

The Sanitary Commission remained in the Crimea until the end of the campaign and this would have assisted Hall as they had the power to insist on corrective measures being taken as required. After the war one of Hall's colleagues, J.M., suggested that the Commissioners were there merely 'to assist us in forcing on the military authorities more immediate and prompt attention to our [the MOs] recommendations, being invested in more power than […] the principal medical officers of the Army'.[1292]

1290 Bostridge (2008), p. 129.

1291 Sutherland (1857), pp. 35-6.

1292 J.M. (1857).

Exchanges between Hall and Sutherland after the war reveal that both sought to justify their actions, and preserve their reputations. Hall was probably in a stronger position in that he had previously identified the problems, and that these could have been rectified by the AMD if provided with suitable resources. The relative weakness of Sutherland's position was illustrated by his responses to the Royal Commission in which he attempted to talk up the Commissioners successes. He had no alternative but to concede that the improvement in the 'health of all the hospitals' on the Bosphorus was due in part to 'the less severe character of the cases sent from the Crimea' but he was at pains to point out that this 'favourable change' had 'advanced simultaneously with the progress of the sanitary works.'[1293]

The sustained improvement in health was acknowledged by Panmure in spring of 1856 when he informed Codrington that he was 'easy […] as long as I see Dr Hall's columns in the Morning State as they are,'[1294] and then again in the House of Lords on 8 May 1856 when proposing a vote of thanks to the armed forces:

> A comparison between [the Armies'] health and that of troops at home are truly remarkable […] for the week ending April 21 […] admissions to the hospitals were 1.56 per cent in proportion to the strength; the deaths 0.02, and proportion of sick to well 3.72 per cent. […] During the above period the admissions [in the camp at Aldershot] were 2.71 per cent; deaths 0.006, and the proportion of sick to well 3.59. It is very gratifying.[1295]

Panmure's sentiments were reiterated by Nightingale who wrote in 1858 that: 'history does not afford its equal – of any army after a great disaster arising from neglect, having been brought into the highest state of health and efficiency.'[1296] Nevertheless, by this time it suited the political agenda of Panmure, Nightingale, and the sanitarians to ascribe the Sanitary Success to environmental and other improvements recommended by the Sanitary Commissioners. However, this cannot be proved, and in reality it was more probably the enhancement in living standards and primary health care, which involved, inter alia, segregation of patients and minimizing overcrowding, coupled with the ending of duty in unsanitary trenches, that accounted for what was recorded.

After the war Nightingale and her associates reconsidered the medical statistics and chose to conclude that the fall in the mortality rate at Scutari was a direct result of

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1293 BPP (1857), Session 1, No. 2196, pp. 48-9.

1294 Panmure to Codrington, 21 Dec. 1855; W&SHC/2057/F8/III/C/43 & 47 and Douglas & Ramsay (1898), II, p. 28.

1295 *Hansard*, 8 May 1856.

1296 See Cantlie (1974), II, p. 201 and McDonald (2010a), p. 864.

the arrival of the Sanitary Commissioners. By doing this, they failed to acknowledge that improvements were already in hand, and that the majority of patients were from the Crimea where the health of the troops in the camps had improved during the spring without any input from the Commissioners and as a result by May 1855 there were 1750 of 3000 beds at Scutari spare and that nearly all patients were suffering from a 'fever of a rather peculiar form from which few die.'[1297]

Tables 11.1-11.3

Table 11.1: Responses of senior officers to questions posed by the Roebuck Committee during March 1855 on the health of the troops under their command, and recorded in the second report

Officer	Question no.	Abstract of the response
Sir De Lacy Evans, 2nd Division	717	[The troops'] suffering [was] mainly attributable to exposure and overwork […] not so much a want of clothing.
	914	The main cause [of the misery] was overwork and exposure at night […] we [in the 2nd Division were] never really […] deprived of any regular issue of provisions […]
Major-General H. J. W. Bentinck, Guards Brigade	1209	[The troops suffered] from hard work, not want of food
	1323	[Illness was due] principally [to] over-work in the trenches and on picket; exposure to damp and wet, over exertion, in short.
	1361	[Mortality was] principally to exposure more than the want of clothing.
H.R.H. Duke of Cambridge, 1st Division	3860	I conceive that the men were worked to a degree that no man could stand it without being seriously affected in their health by it.
	4090	I think [the medical men] were very efficient in deed. I have no fault to find what ever in that respect.
Lt. Col. J. P. Sparks, 38th Regiment, 3rd Division	5305	The duty became very severe latterly; […] the extreme severity of the weather and […] more duty to than usual, was what caused the disease.
	5306-7	Not badly [off for provisions] for troops in the field. We had a good deal of fresh provisions in the 3rd Division.

[BPP (1854-55), No. 156]

1297 *The Lancet*, 2 June 1855.

Table 11.2: References to the unsanitary conditions in the trenches before Sevastopol, April-June 1855

Date	Sender	Recipient	Abstract [Reference]
30 Apr.	Hall	QMG	Cases of cholera have taken place in front, all admitted from the trenches, The stench in the advanced trench and about the caves arises from human excrement and from the decomposition of bodies buried there. [RAMC/397/F/CO/1/2/1960 and BPP (1857-58), No, 2379, p. 122]
31 Mar.	Hall	Monthly summary	Continued fever has prevailed in the 88th Regiment […] the sanitary state of the camp is good; the filthy state of the trenches may have something to do with the fever.' [RAMC/397/F/RT/1/1]
11 May	HQ	General Order	The dirty state of some of the trenches, particularly the Right Attack, had been reported to the Commander of the Forces. Field Officers on duty will give directions that a party of the guard shall be employed in covering the places used as latrines with sufficient lime and soil. This work is to be continued daily. [WO/28/130]
31 May	Hall	Monthly summary	The filthy state of the trenches seems to exercise a baneful influence on the health of the men. The sanitary condition of the camp continues satisfactory. [RAMC/397/F/RT/1/2]
4 June	Hall	AG	The surgeon in medical charge of the Light Division reported on the 'offensive nature of the latrines in the trenches' […] complaints of this nature are so frequently made, there must be grounds for them. [RAMC/397/F/CO/1/2/2286 and BPP (1857-58), No, 2379, p. 124]
30 June	Hall	Monthly summary	The surgeon of the 14th Regiment attributes bowel complaints to exposure in the trenches, sudden changes in temperature, and miasmata occasioned by decomposition of animal and vegetable matter. [RAMC 397/F/RT/1/2]
1 July	AG	Trench QM of the week	The caves on the left of the 3rd parallel are in a very dirty state and require immediate cleansing. The latrines in the 3rd parallel require more lime. In the Right Attack the privies and graves about the quarries are offensive and a coating of charcoal would prove useful. [WO/28/110]
*M&SH**	Cholera	p. 42 *et seq.*	Refers to the filthy state of the trenches and that a proportion of cases of cholera occurred either when in the men were in trenches or shortly after they came off duty.
	Diarrhoea or dysentery	p. 142	These enteric diseases were thought to be associated with 'deleterious emanations evolved from the trenches and other places.'
	Fever	p. 161	'during the spring and beginning of summer, fever of a remittent form prevailed […] probably caused by the miasmata generated in the trenches, for since the fall of Sebastopol cases have not been noticed.'
		p. 213	The Medical Officers 'attributed the more severe forms of the fever pre-eminently to the filth and effluvia of the trenches.'

* BPP (1857-58), No. 2434.

Table 11.3: State of the hospitals on the Bosphorus during September and December 1854

Date	Sender	Recipient	Abstract [Reference]
4 Sep.	PMO, Scutari	Smith	Everything connected with the hospital [presumably the General Hospital] is going smoothly […] the whole hospital [has been obtained] from the Turkish authorities, which will provide for nearly 200 more sick. [*PoL*]
12 Sep.	PMO, Scutari	Smith	All the sick and wounded will be placed in the General Hospital, and remove slight cases to the barracks, now fitted up as a temporary hospital. Not yet received the hospital attendants requested from Dr Hall. [*PoL*]
25 Sep.	Own correspondent (Chenery)	News item	The barracks, though left in a very dirty state by Turkish soldiers, have been cleansed and white-washed, and, though not sumptuous, are sufficiently comfortable. […] the health of the men is wonderfully improved by the air of the Bosphorus, and most of those under the surgeon's hands on their arrival are convalescent in a few days. [*The Times*, 9 Oct. 1854]
29 Sep.	PMO, Scutari	Smith	Hospitals very crowded; has taken measures for the prevention of low fevers and gangrene, by cleanliness and ventilation. All the wounded attended to and going on well. [*PoL* and BPP (1854-55), No. 156, pp. 554-5]

Table 11.3: Continued

29 Sep.	PMO, Scutari	Hall	'all the wounded were […] doing well. In a hospital […] crowded with men [with] wounds yielding a constant offensive discharge, […] precaution is […] necessary to ward off […] low fever and gangrene, and accordingly I […] ensure a thorough and constant ventilation [and] instant removal of all noxious substances such as old dressings, and paying […] attention to the patients' personal cleanliness. [Cantlie (1974), II, p. 63]
3 Oct.	Hall	Diary entry	Arrived at Scutari and went to the General Hospital […] I find it crowded with sick and wounded. Great inconvenience has been experienced in consequence of Mr Tucker's neglecting to send down the Purveyor's stores from Varna. I have reported him and will bring him to court-martial if charges can be proved. [RAMC/524/15/6 and quoted by Shepherd (1991), p. 171]
5 Oct.	Dumbreck*	Military Secretary	Dr Hall has made every provision for the attendance in the sick at Scutari. Reporting that Dr Menzies has detained some MOs in transit, and also some convalescent MOs for service at Scutari. [RAMC/397/F/CO/1/1/730]
5 Oct.	Hall	Raglan	[…] the sick and wounded are going on better almost than could have been expected. From the sudden and great influx of patients from the Crimea some confusion and difficulty getting them put up at first was experienced for want of hospital equipment which I had directed Mr Tucker, Purveyor to send down from Varna to Scutari when the Army embarked for the Crimea but which he had not attended to. The sick and wounded are all accommodated either in the General Hospital or in part of the main Barrack where there is still space for more sick or wounded […] The removal of these 500 convalescents on board ship and the departure of invalids, with the additional wards in the General Hospital and […] in the main Barrack […] will I hope be sufficient to meet any emergency that might arise. [NAM-1968-07-293-5]
5 Oct	Hall	Smith	The sick and wounded are doing better than I could have expected and Dr Menzies under many disadvantages has done wonders for their accommodation. [RAMC/397/D/CO/1]
14 Oct.	Commandant, Scutari	QMG	The deaths in the hospital are decreasing, and the wounded officers are improving fast. [WO/28/186]
17 Oct.	Lt H. Foster, 95th Regiment	Letter in the *Morning Chronicle*	Having just returned from Scutari, on sick leave, I learn with regret and astonishment that reports […] to the effect that the sick and wounded have been grossly neglected, and that there was a great want of lint and bandages, and dressings […] as well as wine and other comforts […] these reports, to my certain knowledge, are utterly false and groundless. […] The wounded in [*Andes* and *Vulcan*] were well cared for. […] Nothing could exceed the devoted attention of the medical staff […] No distinction [was made between officers and men]. [Also published in *The Globe*, 18 Oct., *AMJ*, 20 Oct., and *ILN*, 21 Oct. 1854]
19 Oct.	Letter home	News item	The state of the hospital is now much improved, thought there not a little left to be desired. A vessel full of medical stores […] has been brought back. But The sufferings of the men are very great. There are many who declare that there wounds have not been looked at for four, five, or six days at a time. [Hampshire Advertiser, 4 Nov. 1854]

Table 11.3: Continued

20. Oct	Hall	Smith	The whole hospital establishment has now been put in a very creditable state, and the sick and wounded are all doing as well as could possibly be expected.† […] Some little confusion was occasioned […] by the sudden influx of an immense number of sick and wounded, which was increased by Mr Purveyor Tucker's neglect of orders to send down all the spare stores from Varna to Scutari; […] by the strenuous and unceasing labour of Menzies and the MOs under him, all difficulties have in great measure been surmounted in a short time. I flatter myself we shall have a hospital establishment that will bear comparison with one of the same magnitude, formed under similar disadvantages, or indeed, may I venture to say, under any circumstances and I feel assured that the arrival of Mr Wreford will infuse new life into the Purveyor's department which are much required. I should wish, however, the footing on which the Purveyor's Dept with regard to the Medical dept is to be placed should be distinctly defined by official authority. […] I have no ambition to add to my labours or add to incur any additional responsibility, and if the finance concerns of the hospital are removed from my control I shall be delighted; but I question, from what I have seen, if it would be a wise proceeding for the interests of the public, to remove the Dept from local control, and supervision, and where the establishments are most like the hospitals here it is not judicious to let the accounts run on for months without check. [RAMC/397/F/CO/1/1/833, with an abstract in PoL. The text in italics was quoted in Nightingale (1863); See McDonald (2010a), p. 642]
20 Oct	Hall	Diary entry	Embarked in the Himalaya on my return to the Crimea and sailed on the morning of the 22nd.‡
24 Oct.	Stratford	Raglan	I [visited] the hospitals and barracks at Scutari. […] there is room for improvement; but things are in much better order than at first, though many new sufferers have just come in. […] medical attention was no longer deficient; and that medicines were so abundant to make the offers of a respectable chymist (sic) here superfluous. [Lane-Poole (1888), p. 377]
25 Oct.	PMO, Scutari	Smith	Dr Hall, on his visit, expressed himself satisfied with the hospitals and all the arrangements. Lord Stratford de Redcliffe visited on the 22nd inst. and was satisfied with all he had seen, also the cleanliness and the care and attention shown to the sick. [PoL]
25 Oct,	Stratford	Clarendon	'When I last visited the hospital and barracks […] I found […] considerable improvements […] Those with whom I conversed […] spoke with cheerfulness and contentment; and the medical attendants assured me that, […] they were sufficiently numerous to attend, not only the British, but to the […] Russians […]' [FO/78/1004]
26 Oct.	The Times correspondent	News item	Scutari is in much more decent order, although there is a deficiency of medical attendance. The supply of medicines is now sufficient, and the place has been cleansed of its former impurities. But the sufferings of the men have been very great, and it cannot be too frequently impressed on those in authority at home that the preparations for such events as those now occurring ought to be on the largest scale. [The Times, 8 Nov. 1854]
27 Oct.	Hall	Raglan	I only left Scutari on the 21st. I can speak from personal observation of the satisfactory progress the majority of the wounded are making there. […] amongst such a number of severe and dangerous injuries […] a certain number of casualties can be expected […] I am sure his Lordship will be pleased to hear that numbers of men are already able to walk about, and some few even have been discharged from hospital. […] There is 35 medical staff […] The evacuation to non-effectives to England will release accommodation. This, with 35 MOs, and more expected, should be sufficient for all our wants. [RAMC/397/F/CO/1/1/819]
4 Nov.	Spence	Smith	Just returned from Scutari perfectly delighted to find things so well managed. A great number of sick and wounded from Balaklava just landing, those unable to walk carried to hospital on stretchers and put to bed immediately they arrive. All beds on trestles have a neat and comfortable appearance, 400 excellent iron bedsteads have lately been obtained for the Turks. [W&SHC/2057/F8/III/B/315]

Table 11.3: Continued

4 Nov.	Hall	News item	Dr Hall states the sick and wounded at Scutari are going on most satisfactorily; that every man is provided for his comfort and accommodation, and that although 2,103 beds are occupied, there are 1,100 more in readiness. [MT&G, 4 Nov. 1854]
8 Nov.	Bracebridge	Herbert	The place is clean and airy; few bad smells. [Quoted by Goldie, 'Letters', p. 64] On returning to England Bracebridge changed his view, as evinced in a speech he made that was reported in The Times, 16 Oct. 1855.
10 Nov.	Maxwell	Herbert	I have devoted a little time to a quiet survey of the hospitals. […] My first impression is favourable […] I found ample ventilation, comfortable bedding, and healthy looking convalescents. The fine weather, the ample building, and abundant supply of water may have contributed to give the place an air of cheerfulness. [W&SHC/2057/F8/III/B/356]
13 Nov.	Anonymous correspondent	Letter	At present everything is going on satisfactorily at Scutari, and I have not heard any complaints made of overcrowding on the transports that have come with the wounded from the Crimea. [ILN, 2 Dec. 1854]
14 Nov.	Apothecary, Scutari	Smith	There was no want of medicines and surgical appliances and all statements to the contrary were false and unfounded. [Evidence to Roebuck Committee, 22 Mar. 1855; BPP (1854-55), No. 156, p. 427 and MT&G, 31 Mar. 1855]
15 Nov.	Own correspondent	News item	The state of the hospitals [at Scutari] continue to steadily to improve, and notwithstanding the very large number of wounded brought down since the battle of Inkermann (sic), a degree of order is maintained, which, under all the circumstances, must be considered creditable to the authorities. […] it is really wonderful there has been so little confusion. [The Times, 30 Nov. with a note in the AMJ, 1 Dec. 1854]
18 Nov.	Raglan	Newcastle	Lord Burghersh, Raglan's senior ADC, passed through the Bosphorus between 12 and 14 November and reported that the hospitals were in a satisfactory condition, while Dr Cumming, one of the hospital commissioners, also assured Lord Raglan that he was quite pleased with the state in which he found things there. [WO/1/170/ff. 109-112]
28 Nov.	Herbert	Smith	Mr Bracebridge speaks highly of Dr Cumming. He says things are decidedly mending, that they have derived a great deal of assistance from The Times fund, […] that the service medical men are indefatigable. […] Nightingale speaks very well of Dr Menzies, zealous and humane, but wanting in energy to keep the young ones to their work. Of Dr Macgregor (sic) she speaks in unmeasured terms of praise. [W&SHC/2057/F8/III/B/332]
29 Nov.	Herbert	Cumming	I am very glad to have received a very improved account of the hospitals at Scutari. […] Nightingale [speaks] in high terms of the medical men. Indeed all do justice to their exertions. But they had a task put upon them beyond any strength, and the confusion of the transport service […] no doubt added much to their difficulties, by leaving without any certainty of regular supplies. [W&SHC/2057/F8/III/B/331]
1 Dec.	Paulet	Raglan	In general […] the patients are better looked after than has been expected and appear as comfortable as circumstances will admit. [NAM-6807-293-8]
9 Dec.	Mark Marwick	Editor, MT&G	I yesterday [visited] both Hospitals of Scutari. […] I have never passed through wards more cleanly, […] I could make a hearty meal in the centre of any one ward. The sick and wounded, fast approaching convalescence, looked cheerful and happy. […] an officer of the 47th Regiment, who assured me that he believed no hospitals in the world could be spoken of in truth with greater satisfaction. [MT&G, 13 Jan. 1855]

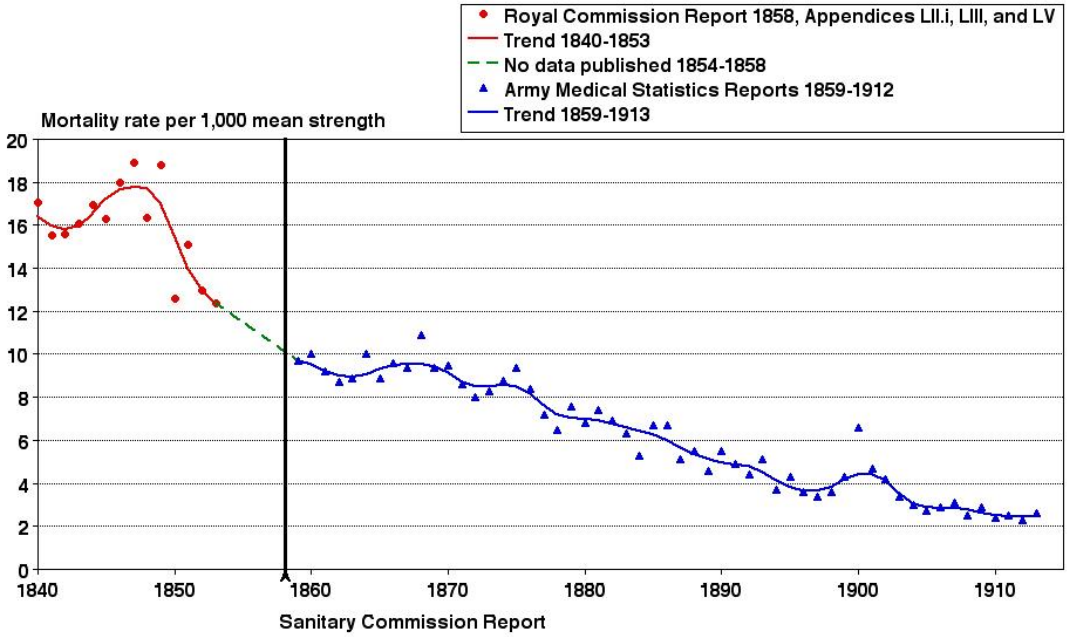
* Dumbreck acted as PMO in the Crimea during Hall's absence at Scutari.

† Cantlie quotes this correctly, (1974, p. 67) while Shepherd (1991, pp. 172 & 202), and Bostridge (2008, p. 222), who probably copied Shepherd, wrote 'are doing better that I would have expected', thus altering the emphasis of Hall's assessment. In *PoL* the word 'state' was replaced with 'footing'.

‡ Hall's return to the Crimea was reported in *The Times*, 14 Nov. 1854.

Figure

Figure 11.1: Mortality among British troops stationed in the United Kingdom, 1840-1913



Appendices 11.1-11.2

Appendix 11.1: Abstract of a letter to the editor of *The Times* from Dr Hall dated 9 July and published on 27 July 1855, and in *The Lancet* on 4 August

(The text in italics was referred to in Nightingale's '*Notes*'; see McDonald (2010a), p. 642.)

[In] the report of the Committee on the State of the Army before Sebastopol […] notice the following statement:- 'With this confirmation by Dr Dumbreck […] of the whole testimony relating to this painful subject, your Committee are totally at a loss to comprehend the report of Dr Hall [regarding] the Barrack Hospital, the scene of so much misery and suffering. The Duke of Newcastle states that the disgraceful condition of the hospitals was first brought under his notice in the middle of October. *Dr Hall was at Scutari from the 3rd to the 23rd of October. Dr Hall's report seems to have misled both Lord Raglan and the government at home, and to have occasioned much delay in measures taken afterwards for the remedy of evils which might have been arrested earlier in their progress.'*

You pronounce these observations […] to be 'a just rebuke for my false report,' without […] knowing anything of the circumstances under which it was written. […] so far from my report being a false one**,** *I reiterate and adhere to every syllable I then wrote, and I consider I am quite as good a judge of the subject, and quite as worthy of credit, as the Duke of Newcastle's informants, whose reports may, perhaps, refer to an earlier or a later period than mine*.

Dr Dumbreck's evidence […] refers to a later period than […] my report. […] he was […] in the Crimea […] until the 17th of November. Now, my report refers to a period not later than the 21st of October [when] I left Scutari, and [when] every man in hospital had new and clean bedding, and all his substantial wants were […] attended to. With ordinary capacity on the part of the principal medical officer […] and activity on that of the purveyor, this condition of things ought to have been maintained, if not improved. The General Hospital itself, a building erected, furnished, and set apart for the reception of sick, was from the first well-appointed, but in the Barrack Hospital [had been] temporarily and hurriedly converted into a hospital for the reception of sick and wounded brought in suddenly in great numbers,

there was, necessarily, considerable confusion for the first few days; […] and I have no hesitation in saying that 2,000 wounded men would derange the economy of any hospital in London for some days, notwithstanding all the resources of means and medical attendance. […] When I was at Scutari there was ample accommodation for the sick and wounded then in hospital, and for half as many more, but the battles of Balaklava and Inkermann (*sic*) filled this at once […]

When I was at Scutari in June 1854, I desired washermen to be hired to do the washing of the hospital, and before I left for Varna they were in full and efficient employ. This plan, I understood, was changed afterwards [by Mr Ward] to one of contract, which broke down, as might have been expected. Another subject which I had great difficulty in getting arranged was the condition of the water closets, which speedily got choked up from the men recklessly thrusting old shoes and other articles down them. When these were put right, I advised small iron gratings to be placed over them, so as to prevent a repetition of the evil, but it was not attended to; hence the disgusting scene, described by Mr Osborne, in the Barrack Hospital. Nothing of that kind existed when I was there in October, but to become so would only require a few days.

Appendix 11.2: Sir John Hall's response to a speech made by Lord Palmerston on 12 March 1857

Hall's letter, 14 March 1857: It was with astonishment that I read in the report of that part of Lord Palmerston's speech […] that the excellent condition of the military hospitals in the Crimea was attributable to the advice and suggestions of Dr Sutherland and other Sanitary Commissioners.

His Lordship has been misinformed on this matter, and I owe it to my reputation to state that neither Dr Sutherland nor any member of the Sanitary Commission had anything whatever to do with either the organization or management of the military hospitals in the Crimea, and I believe them all to be gentlemen of too much honour and probity to take credit of anything of the kind.

What valuable information they have furnished to the government at home I am unable to say; but as far as their suggestions on sanitary matters in the Crimea are concerned it is admitted by themselves that almost everything they could think of was either in actual operation, or had been recommended by the Medical Department before their arrival; but as they were invested by government with greater power than was accorded to the PMO of the Army, they thought they might assist in getting useful measures carried out.

I should have allowed this report to have gone unnoticed, as I have done many others, did it not proceed from an authority which stamps it in the public estimation as a denial, on that part of government, of all credit, due either to myself to the medical department, for months of anxiety, toil, and privation in the Crimea; and it is disheartening to medical officers to find that the need for praise which is so justly their due has been given to civilians who arrived after the difficulties of the army had been surmounted.[1298]

Sutherland's reply, 18 March 1857: In *The Times* of this date there is a letter from Sir John Hall, referring to Lord Palmerston's speech of the 12th inst., and containing certain observations on the proceedings of the Sanitary Commission in the Crimea, in reply to which I should feel obliged by your permitting me to say a few words.

It is quite true as stated by Dr (*sic*) Hall that the Commission had nothing whatever to do 'with either the organization and management of the military hospitals.' We were, in fact, precluded by our instructions with these matters. But we were required to see that the sanitary condition of the hospitals, as to ventilation, water supply, number of sick etc., was such as to give scope to medical treatment. We also had to see to the removal of all sanitary defects in the Crimea and at the hospitals on the Bosphorus.[1299]

A M.D.'s letter, 17 March: I happened to be engaged at the Balaklava hospital when Dr Sutherland first arrived in the Crimea [and who] had nothing to find fault with – nothing even to suggest beyond what had been suggested over and over again if we had means to carry out our common-sense suggestions. I believe every other hospital in the Crimea was in the same improved condition when Dr Sutherland made his first appearance. […] it is absurd to overrate the value of his labours in the Crimea, or yet compare them with those of Sir John Hall.[1300]

1298 Hall to Editor, 14 Mar.; *The Times*, 17 Mar. 1857.

1299 Sutherland to Editor, 17 Mar.; *The Times*, 18 Mar. 1857.

1300 M.D. to Editor, 17 Mar.; *The Times*, 19 Mar. 1857.

Pars Parva's undated letter: I can bear […] testimony to the reasonable nature of the protest which Sir John Hall has put forward […] against the preposterous assertion that the Sanitary Commissioners had the smallest share of bringing about the healthy and effective condition of the troops in 1855-6. […] They hunted out smells, wrote reports, sniffed among the *latrines* and slaughterhouses, jotted down bad odours, meddled without mending. But what practical good they did I [and] many others, never knew […] At all events, let it be seen how far they are justified in appropriating any of the credit due to the hard-worked, laborious, much-censured, ill-requited medical staff of the army.[1301]

1301 Pars Parva to Editor; *The Times*, 19 Mar. 1857.

Chapter 12
Aftermath of the Crimean War

The exploitation of modern technology during the Crimean War and the institution of the Victoria Cross an the award of other orders and medals are considered in the first two sections while administrative reform and the reorganization of the Army Medical Department recommended by the Royal Commission are then discussed. Many campaigns have been characterized by inadequate planning and a lack of resources; features not only of the Crimean War but also campaigns in South Africa (1899-1902), Mesopotamia (1914-18) and Gallipoli (1915-16); analyses of which comprises the fourth section , while the final pages comprise a retrospective discussion on the whole project.

Technology and medicine

Numerous technological advances were a feature of the 19th century and their utilization has justified several commentators considering the conflict as the first modern war. However, with the possible exception of Brunel's design for a prefabricated pavilion hospital, a concept which proved of value in future wars,[1302] there is little evidence that the conflict acted a catalyst for specific development; unlike the World Wars which stimulated many influential innovations, for example, in the field of reconstructive surgery and the development of medicinal drugs and equipment. Nevertheless, extensive use was made of steam powered ships to bring supplies from distant ports to harbours close to the front, while the development of a railway network facilitated their distribution to the Army; a situation in stark contrast to the Russian experience in which supplies had to be conveyed long distances overland using pack animals and carts drawn by draught animals.[1303] Notwithstanding technological advances in firearms and ordnance, such as the rifled musket, other benefits of industrialization included the employment of a floating bakery, steam powered saw mills, vulcanized rubber products, a desalination plant,[1304] and an engineering factory ship; while the electric telegraph

1302 Hill (1870) and Shepherd (1996).

1303 Though an important development, it is an exaggeration to suggest that 'the railway, a symbol of the industrial power commanded by the middle class, was the sole unqualified success of the Crimean War' as suggested by Lalumia, (1981), p. 52.

1304 Similar equipment that was employed during the Gallipoli campaign, albeit sited on Mudros; Harrison (2010), p. 200.

improved communications between London and the front and could have be used to facilitate the supply of essential items if necessary.

Victorian inventiveness also resulted in various items of medical equipment being sent to the Crimea for assessment.[1305] These included electro-magnetic coils for stimulating weakly patients, washing machines, soda water makers, vapour baths, cork mattresses, waterproof beds, Liston splints, chloroform inhalers, and patent cooking stoves. As early as July 1854 Hall noted in this diary that he had been sent several 'new inventions to report on, as if we have nothing else to think about but the jims of quacks and speculators.' This comment suggests that that some of this equipment probably proved to be of little or no value, although Hall reported that vulcanized India rubber cloth was better than oiled cloth,[1306] and Ritchie's cork mattresses proved: 'A good and really useful invention for field service and in the event of the war continuing they will come into universal use.'[1307]

From the point of view of medical practice chloroform anaesthesia, which had come into use towards the end of the Kaffir War of 1846-1852, was regularly used[1308] but otherwise surprisingly little was published on clinical topics by MOs who saw active service; and from this Shepherd concluded that: 'It was not easy to judge to what extent the intensive clinical experience in medicine and surgery gained during the war was assimilated [and] influenced practice in either service or civilian life.'[1309] Macleod and Fraser published on the surgical treatment of gunshot wounds[1310] but it was not until the New Zealand Wars that the benefits of avoiding interference with wounds, burning all foul dressings, employing an effective disinfectant based on potassium permanganate, and the insistence on frequent hands washing were recognized. As a result conditions such as erysipelas, gangrene, and secondary haemorrhage became less

1305 Cantlie (1974), II, p. 136.

1306 Hall to Smith, 24 Apr. 1855; RAMC/397/F/CO/1/2/1908.

1307 Hall to Smith, 22 Feb. 1856; RAMC/397/F/CO/1/3/4287.

1308 For authoritative reviews on the subject see Shepherd (1985), Connor (1998), and Metcalf (2005), while Scotland and Heys (2013) provide a general account of the development of military anaesthesia during the 19th century. Prior to the invasion Hall advised against the use of chloroform under battlefield conditions prior and for this he subsequently received unwarranted criticism; for a discussion on this issue see Hinton (2015).

1309 Shepherd (1991), p. 597.

1310 Macleod (1858) and Fraser (1859).

of a problem, while both starving a fever and blood-letting had also become a 'thing of the past.'[1311]

The crucial role of water in the epidemiology of cholera was not generally accepted during the mid-1850s, and, as the germ theory was a development for the future the management of what are now classed as infectious diseases was along the traditional lines current at the time, and do not resonate with 21st century clinical medical practice. In contrast, attention to basic hygiene, including the separation of wounded convalescents from medical cases and reducing overcrowding, clearly paid dividends; the mass administration of lime juice successfully prevented scurvy;[1312] simple casualty clearing stations utilized during the assaults of 18 June and 9 September 1855 would have permitted patient selection, now termed triage; while the advantage of treating of BFIs close to the front, as was amply demonstrated during World War One,[1313] was also recognized by Hall and his colleagues.

Victoria Cross, orders and medals

One of the lasting legacies of the war was the institution of the Victoria Cross by a Royal Warrant dated 29 January 1856.[1314] The names of the 111 winners of the medal were published in eight editions of the *LG* between the 24 February 1857 and 6 May 1858 with three MOs being included in the 2nd, 5th and 6th lists, namely, ASs T.E Hale, 7th Regiment,[1315] and H.T. Sylvester, 23rd Regiment,[1316] who both won the medal on 8 September 1855, and Surgeon, later DIGH, J. Mouat, 6th Dragoons, who saved the life of Captain Morris, 17th Lancers, during the battle of Balaklava.[1317] All three surgeons had been assisted by an NCO, and in the case of Mouat and Sylvester, they also received the VC, namely, Sergeant Major C. Wooden, 17th Lancers, and Corporal R. Shields, 23rd Regiment.[1318] When the draft citation for Hale's VC was submitted to Panmure on 28 April 1857 he queried if the sergeant (C. Fisher, 7th Regiment) had been

1311 Cantlie (1974), II, p. 257.

1312 Incidentally, scurvy, which may retard the healing of fractures, proved a problem during the American Civil War and some theatres in World War One; Bourne (1944).

1313 Harrison (2010), p. 297.

1314 *LG*, 5 Feb. 1856.

1315 *LG*, 5 May 1857 and the *MT&G*, *The Lancet*. & *BMJ*, 9 May 1857.

1316 *LG*, 20 Nov. 1857; *The Lancet* & *MT&G*, 28 Nov.; and *BMJ*, 5 Dec. 1857.

1317 See Hinton & Starling (2011) for an account of Mouat's gallant conduct in New Zealand.

1318 *LG*, 26 Oct. 1858 & 24 Feb. 1857.

recommended. The Military Secretary confirmed that he had not, although his name appeared in Hale's citation.[1319] On the other hand, Lieutenant W. Hope, 7th Regiment, who assisted in the saving the wounded Lieutenant Hobson during the same action did receive the medal.[1320]

Of the 83 VCs won by Army personnel 49 (59%) were awarded during six days of engagement in battle with the remainder during the year long siege (Table 12.1). A surprisingly large number (34, 41%) of the deeds involved assisting a wounded comrade, either wholly or in part and this included all three surgeons and over half (56%) of the NCOs (Tables 12.2 and 12.3).

It was stipulated in the Royal Warrant that the VC could be awarded to any member of the armed services irrespective of rank. However, there was a strong bias in favour of the military officers; in that although the MOs, military offices, NCOs, and men comprised approximately <1%, 4%, 14%, and 82% of the army strength they were awarded 3.5%, 31.5%, 32.5%, and 32.5% respectively of the 83 VCs won by Army personnel in the Crimea.[1321]

MOs and other members of the AMD, and a few civilian surgeons, who served in the Crimea between 18 September 1854 and the fall of Sevastopol were entitled to the Crimea medal and where appropriate the clasps for Alma, Inkermann (*sic*), Balaklava, and Sebastopol.[1322] Personnel who arrived either after 8 September 1855, or who served only in Turkey did not qualify for the medal, although some commentators held the opinion that those stationed in the base hospitals in Turkey merited the medal given the risks they took to their health attending the sick, and to a lesser extent the wounded.

Several senior MOs were awarded the Order of the Bath[1323] (Table 12.4) although the distribution did not entirely satisfy the editor of the *MT&G* who pointed out that the only one naval surgeon received the CB in contrast to one KCB and seven CBs awarded

1319 WO/32/7303.

1320 *LG*, 5 May 1857.

1321 This disparity illustrates the divisive aspect of any system of awards; a topic discussed *in extenso* with respect to the VC by Mead (2015).

1322 The medal rolls from the Crimean campaign are WO/100/22-34.

1323 *LG*, 5 Feb. 1855.

to military surgeons.[1324] The naval hospitals appear to have functioned better than those of the Army, and, although Dr David Deas deserved credit for that, the comparison is hardly fair since the soldiers generally suffered more hardship than the sailors, even those manning the batteries, as they did not have the benefit of assistance from the fleet for supplies and means of respite.[1325]

The list of recipients of the Legion of Honour were published in the *LG* on 4 August 1856 (449 individuals) and 1 May 1857 (102).[1326] Of 551 awards five recipients participated in the siege of Kars while 31 (5.5%) of those who served in the Crimea were MOs, with preponderance being on the medical staff (Table 12.5). The Legion of Honour was not awarded for bravery but five of ten medical staff officers awarded the 5th Class had been noticed for conspicuous bravery, namely, DIGH J. Mouat, CB; SS2 H.T. Sylvester, MD; ASS T.C. Brady; and Acting ASs G. Fair, MD, and C. O'Callaghan. Similarly, two of the three regimental surgeons similarly honoured were mentioned in despatches for their courage, namely, ASs W.Y. Jeeves and J. Gibbons. The overall ratio of MOs to Army Officers to NCOs and men in the Army was *c*.1:4:95 while the comparable ratios for those decorated were 1:19:5 thus indicating bias in favour of the military officers.

Dr H. Sandwith was the first member of medical profession to receive the Order of the Medjidie for special services rendered during the siege of Kars.[1327] The awards to 66 MOs who served in the Crimea were published during 1858 (Table 12.6).[1328]

The Victor Emmanuel II, King of Sardinia authorized the issue of 400 'Al Valore Militaire' medals to officers, NCOs, and men of the British Army.[1329] Seven medals were awarded to regimental surgeons, but none to staff surgeons (Table 12.7).

1324 *MT&G*, 29 Mar. 1856. In the event, Deas, who died in 1876, was advanced to KCB in 1867: *Annual Register Chronicle*, 1876, pp. 129-30.

1325 In the event, Deas, who died in 1876, was advanced to KCB in 1867: *Annual Register Chronicle*, 1876, pp. 129-30.

1326 *LG*, 4 Aug. 1856. A decree issued by the Emperor of France on 3 Apr. 1857 authorized the award of the Legion of Honour (5th class) to a further 12 medical officers printed in the *LG*, 1 May 1857 and also in the *MT&G* and *The Lancet*.

1327 *LG*, 8 Feb. 1856.

1328 *LG*, 2 Mar. & 8 June 1856.

1329 BPP (1857), Session 2, No. 2259.

Administrative reform

The lessons learnt in the Crimea can be separated into those specific to the campaign and those that could have been learnt in previous campaigns. The unique elements revolved around the theatre of operation as a logistical problem, and the dangers of a large scale raid turning into a prolonged siege conducted by a static army, and it was this component that provided the principal topic for this thesis, and which was resolved in large part by the personnel in the Crimea. The second category is more fundamental and concerns the administration of the Army; a topic expanded upon in a monograph by Sweetman to which reference has been made, and whose final chapter forms the basis of the following summary.[1330]

Discussions on the reform of the Army during the decades prior to the war evinced little enthusiasm for change, and it needed the declaration of war to provide an impetus for reorganization, albeit limited in extent. Briefly, the administration was simplified with the responsibilities for War and Colonies being separated into two departments (June 1854); the transfer of the Commissariat from the Treasury to the War Office (December 1854); the discontinuation of Herbert's post of Secretary at War (February 1855); and the abolition of the Board of Ordnance (May 1855), with the consequence that when the war ended the Secretary for War had political control over the 'Commissariat, Ordnance Department, reserve and line troops together with the legal and financial duties of the War Office.'

Several senior politicians clearly considered that the Commander-in-Chief of the Army (Lord Hardinge) was not a 'powerful military voice' and the failure to appoint a strong successor meant that the Army had little impact on departmental changes, and hence 'tighter political control [was] achieved over the Army, and outstanding problems of civil-military relations […] had moved decisively in favour of the politicians,' with the result that 'the relevant victories and defeats in the field of army administration occurred not on the Heights of Sevastopol, but in the Palace of Westminster.'

Despite these positive developments the 'relative positions of the Minister for War and the Commander-in-Chief [were not] as clearly defined as desirable' and when the '[War] Department concentrated in Pall Mall […] Horse Guards [was left] utterly isolated in Whitehall.' Whether this physical separation contributed to the lack of

1330 Sweetman (1984), pp. 128-33.

progress in reform is a matter of speculation; needless to state it required Bismark and Napoleon III later in the century 'to goad the national conscience into military reform once more.' Furthermore, the Army remained largely amateur with promotion by purchase remaining in place until 1871. This was consistent with British concerns about militarism but it limited the scope for effective reform.

At the level of practical administration the Crimean War reinforced 'the oft-repeated cries for military supply services,' and this resulted in belated the formation of several 'quasi-military' units, viz. the Medical Staff Corps, Land Transport Corps, Mounted Staff Corps, Army Works Corps and Civil Engineering Corps' and of these only two 'survived the war to be fully militarised and reorganised respectively as the Army Hospital Corps and the Military Train. Making use of able-bodied soldiers and ultimately commanded by Horse Guards, they became part of the Army.

The Royal Commission

Cantlie concluded that Herbert was the 'first Minister who ever set himself the task of saving the life of the soldier' and though out of office when the war ended he played a leading role in the most high profile post-war initiative, as President of the Royal Commission convened to enquire into the '*Regulations affecting the sanitary conditions of the Army*'.[1331] The Commission took evidence between May and July 1857 and their report published in February 1858 was directed towards future reorganization rather than a retrospective analysis of what occurred in the Crimea; and there was no attempt to apportion blame for any failures that occurred during that time. The Commission's recommendations included the reorganization of the Medical Department, the institution of an Army Medical School and a Statistical Branch, and the improvement in the construction of barrack and hospital accommodation; four topics addressed subsequently in greater detail by dedicated sub-commissions. These developments suggest that the Crimean experience had awakened the national conscience to the reality that soldiers deserved to be treated with care and consideration during both peace and war. In addition, a Royal Warrant promulgated in October 1858 'brought about new and advantageous prospects for medical officers.'[1332]

1331 See Chapter 11 for the Commissioners' conclusions on the health of the Army.

1332 Cantle (1974), II, p. 196.

The Medical School, inaugurated at Fort Pitt during March 1860, moved to Netley in 1863.[1333] Dr Parkes, one of the first professors, published a *Manual of Practical Hygiene* in 1864.[1334] Parkes, a civilian, had no first hand experience of combat, and it is not obvious how its contents, which essentially describe best contemporary practice, were influenced by what he may have heard about what took place during that campaign. There are no index entries for the Sanitary Commission, sanitary officers or female nurses. There is a brief mention of cholera in the French Army when in Bulgaria (p. 62) and clothing in the Crimea (p. 366), but no acknowledgement of Nightingale's post-war contribution to matters of hygiene, apart from a passing comment on the design of hospitals (p. 310).[1335] The book, which was dedicated to the memory of Lord Herbert and is probably more a legacy of the Royal Commission than the Crimean War, become a standard text on the subject and ran to several editions including a number issued after Parkes' death.

Hospital developments

The foundation stone for a hospital at Netley Abbey on Southampton Water was laid by Queen Victoria on 19 May 1856,[1336] too late to play a part in the war, though it proved a welcome replacement for the unsatisfactory facilities at Chatham. The Royal Victoria Hospital subsequently proved an asset during both World Wars, given its location on Southampton Water, but by the 1970s it became redundant and all but the chapel, which now houses a museum, was demolished.

A military hospital was also constructed in Sheerness, and although planned during the war, the foundation stone was not laid until July 1856. It opened the following year and was decommissioned following the closure of the dockyard in 1960.[1337]

1333 For details see Cantlie (1974), pp. 217-33.

1334 Parkes (1864).

1335 The American equivalent of Parkes' book was published by Hammond in 1863, and includes a few references to the Crimean War. For example, the design of the hospital huts (pp. 394-6), the poor ventilation of hospitals (pp. 429-31), and the 'alimentation of the soldier' (pp. 556-65).

1336 *ILN*, 24 May 1856.

1337 For details see Hughes (2016).

Army Medical Department

The development of the AMD during the remaining years of the 19th century have been covered comprehensively in chapters entitled 'Era of reform' and 'Reorganisation' by Cantlie; 'Epilogue' by Shepherd; and 'Medical Reforms after the Crimean War' by Scotland and Heys.[1338] A detail assessment of this topic lies outwith the aims of this thesis but it is germane to note that Surgeon Thomas Longmore, 19th Regiment, was appointed Professor of Surgery at the Army Medical School in 1860 and went on to publish 'many useful texts, including studies relating to his experiences in the Crimean War.' No less than six Crimea War veterans became the DG of the AMD; namely, Thomas Alexander (appointed 1858), James Gibson (1860), Thomas Logan (1867), William Muir (1874), Thomas Crawford (1882), and William Mackinnon (1889). Shepherd concluded that when Mackinnon retired in 1896 the 'service following this succession of directors-general [was] substantially reshaped and improved to face the new century;'[1339] for example the scheme devised in 1885 for the evacuation of casualties from the front back to England;[1340] and doubtless the experience these officers gained in the Crimea would have contributed in some degree to this optimistic situation.

Of the civil surgeons several went on to have impressive careers: T. Spencer Wells and J.W. Hulke became Presidents of the Royal College of Surgeons, G. Macleod succeeded Joseph Lister[1341] as the Professor of Surgery at Glasgow University; G. Rolleston became the Linacre Professor of Anatomy at Oxford University; and J. Streatfeild Professor of Clinical Ophthalmic Surgery at UCL.[1342]

Conduct of future campaigns

The Indian Mutiny (1857-9) took place too soon after the Crimean War for the 'medical service to be influenced by either its experience in [that war] or by the observations of

1338 Cantlie (1974), pp. 196-237 & 267-91; Shepherd (1991), pp. 591-624; and Scotland & Heys (2013), pp. 259-76.

1339 Shepherd (1991), pp. 610-1.

1340 Bricknell (2002).

1341 Among his many accomplishments Lister developed the concept of antiseptic surgery during the mid-1860s

1342 Shepherd (1996). Incidentally, Shepherd (1991), pp. 640-5 provides a brief CV for these individuals and several other civilian surgeons.

the Royal Commission' and hence the 'only significant gain […] was the presence of [MOs] who had seen recent active service.'[1343] The China Wars of 1858-60 also benefited from experienced MOs; while two notable features were the employment of a sanitary officer for the first time and the 'provision of two 200-bed hospital ships, the *Mauritius* and the *Melbourne*, which were well-equipped with operating rooms and "all the latest appliances".'[1344] The Chinese experience proved 'noteworthy' for 'the excellence of its medical arrangements and the high standard of health which was maintained throughout.'[1345] A conclusion that confirms Shepherd's proposition that 'some reforms had already been put to the test' and had 'proved their worth.'[1346] However, institutional inertia ensured that the restructuring of the medical services proceeded slowly despite the recommendations of the Royal Commission. The dictum *si vis pace pare bellum*[1347] was never acted upon and fundamental errors in military planning were repeated with 'the result that 'the hard earned experience of previous campaigns was often forgotten and lessons had to be painfully re-learned,'[1348] or as George Santayana (1863-1952) opined: 'Those who cannot remember the past are condemned to repeat it.' For example, the South African War (1899-1902) and the campaigns in Mesopotamia (1914-18) and Gallipoli (1915-16) were:

> run [like] colonial wars […] with authority concentrated in the commander and his small staff; [a system] wholly unsuited to large, complex operations [which] required […] co-ordination between the different branches of the Army, as well as between the Army and Navy. [In addition] medical matters were rarely given serious consideration [with the] commanders […] in the Dardanelles and Mesopotamia deliberately [excluding] medical officers from their staff. Preparations for the evacuation and treatment of the wounded were consequently based on wildly unrealistic estimates [and as] sanitation and hygiene were treated with indifference […] thousands of deaths [were] caused by diseases such as dysentery and cholera.[1349]

One of consequences of the medical disasters encountered during these campaigns was the convening of official commissions of enquiry.[1350] These evaluated the problems

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1343 Shepherd (1991), pp. 601-3. No female nurses were officially employed during the campaign.

1344 Shepherd (1991), p. 604. Both vessels were employed as hospital transports during the Crimean campaign. Incidentally, a floating steam factory ship, *Volcano*, also accompanied the expedition; *The Times* & *Daily News*, 25 May 1857.

1345 Cantlie (1974), II, p. 253.

1346 Shepherd (1991), p. 604

1347 'If you want peace, prepare for war.'

1348 Shepherd (1991), p. 620.

1349 Harrison (2004), p. 11. See also Harrison (2010), pp. 201-2.

1350 BPP (1901), Cd. 453, 454 & 455; BPP (1917-18), Cd. 8610; and BPP (1919), Cd. 371.

and suggested policy changes that might prevent their recurrence. The reports contain much information of historical interest but there was a tendency for the 'establishment' to protect its own and several of the senior military commanders appear to have been let off relatively lightly; shades perhaps of outcome of the Chelsea Board of General Officers which was convened after the Crimean War, and which exonerated both Airey and Estcourt, the QMG and AG.[1351]

Selected extracts from reports of these commissions support the proposition that although 'each theatre of operation [is] ecologically distinct and [poses] unique problems,'[1352] the approaches adopted to solve medical problems and the predisposing military causes have certain similarities, although not every problem occurs in every campaign and the solutions may differ in detail. In addition, it was not necessarily possible to adopt techniques found successful in one campaign in another; for example the approach to wound management adopted on the high veldt proved inadequate when employed in the ravaged fields of Flanders where gas gangrene was a complication of wound infection.[1353]

When the South African War commenced there were sufficient medical personnel and equipment for only two Army Corps and one general and two stationery hospitals and inevitably this resulted in staff shortages later in the campaign. Further problems which resonated with the Crimean experience included a shortage of adequately trained hospital orderlies necessitating the employment of privates or convalescents, while the provision of hospital transport on requisition from the Army Services Corps caused avoidable delays on occasions. The ambulance waggons were heavy and uncomfortable for patients and more suitable vehicles were required; similarly the design of the tents and marquees supplied by the British Army needed improvement. On the other hand not all was bad, viz.: Requisitions from South Africa concerning the sick and wounded were 'promptly met by the home authorities' and they were 'ably supported by [those] in South Africa;' the 'civil surgeons [did] their duty extremely well;' the way the orderlies 'discharged their duties has deservedly been the subject of high praise;' and 'great assistance [was rendered] by the Red Cross and other charities.'

1351 BPP (1856), Nos. 422 & 2119.
1352 Harrison (2010), p. 291.
1353 Harrison (2004), p. 110.

The Mesopotamian Commission concluded that the Indian government failed persistently to 'minister to the wants of the forces.' For example, hospital facilities for patients evacuated to India during 1915 were totally inadequate and did not become available until a year after the invasion.[1354] Fortunately, improvements were introduced during latter part of campaign and medical needs figured prominently in the planning of military operations, with obvious beneficial effect.[1355] Specific recommendations of a medical nature included granting the DMS greater powers during wartime; forming a sanitary organization which reported to the PMO but was separated from personnel treating the sick and wounded;[1356] and locating responsible officers permanently at the ports to ensure that medical equipment and personnel were properly embarked and disembarked.

The Dardanelles Commission conceded that the failure to advance rapidly after the initial landing in Gallipoli inevitably necessitated the immediate evacuation of the wounded and thus precluded triage and severely limited the amount of emergency treatment that could be provided on the beaches. On the other hand, Harrison concluded that in the case of sanitation and water supply the GOC (General Hamilton) and his staff were 'largely (and wrongly) absolved of blame, but in the case of the evacuation they did not evade censure altogether.'[1357]

It was concluded that the military authorities gave insufficient consideration 'to the measures necessary to carry out such an expedition with success,' and the 'difficulties of the operations were much underestimated.' The DMS had no 'opportunity of estimating the number of hospital ships required,' and the failure to include him in the Headquarters Staff was a mistake as he was not kept 'fully informed of the operations which were proposed;' an oversight that Harrison concluded was probably 'the most important reason for the shortcomings of medical operations.'[1358]

1354 See Harrison (2010), pp. 207-9 for a harrowing commentary on the inadequate provision made for the sick and wounded during the first years of the campaign.

1355 Harrison (2004), p. 12.

1356 Incidentally, it was stipulated that the Sanitary Commission sent to the East should play no part in the management of the sick and wounded, but concentrate on improving the environment from a sanitary point of view.

1357 Harrison (2010), p. 195.

1358 Harrison (2010), p. 201.

The supervision of transports was hampered by a want of satisfactory communication between the ships and shore although the field ambulances and clearing stations operated efficiently given the circumstances; the supply of medicines and medical requisites was generally adequate; the food was satisfactory although it lacked variety; and considerable assistance was received from the naval surgeons on the transports and other vessels.

Some of the considerable amount of statistical information generated during these campaigns was summarized in one of the official histories of the Great War.[1359] The summary in Table 12.8 indicates that though there was a considerable reduction in mortality from disease in the later campaigns this was not the case for wounds; a reflection possibly of the increase in the killing power of weaponry since the Crimean War rather than a comment on the skills of the surgeons in the RAMC.

Final discussion

Assessment of 19th and 20th century British military campaigns indicates that the Crimean War was not exceptional from a medical point of view, though it proved challenging for several reasons: dysfunctional management systems in the Army as a whole, especially during the early months; long lines of communication and the total reliance on shipping for supplies; the need to evacuate large numbers of sick and wounded during the first winter; epidemics of cholera in 1854 and 1855; and the appearance of scurvy and other medical conditions associated with malnutrition and excessive hardship during the winter of 1854-55. It was these last two factors that proved crucial in precipitating the catastrophic deterioration in the health of the troops during the winter of 1854-55; rather than either a primary breakdown in hygiene or the presence of the cholera bacillus.

The practical problems of attempting the invasion of the Crimea late in the season were set out in a memorandum prepared by Burgoyne on 29 August 1854:

> There are two causal circumstances that may prove great impediments to the success of this enterprise. One is the advance of the season. The equinoctial gales […] may interrupt […] the

1359 Mitchell & Smith (1931).

> communications between the armies and the fleet. And the other is, that […] the troops […] enfeebled and much shaken in body, as well as […] morale, by climate, disorder, and the want of excitement by engaging with the enemy.[1360]

The overall consequences of landing in the Crimea under these circumstances were summarized subsequently in a private letter written by Estcourt on 23 February 1855 to Wetherall, the AG at Horse Guards:

> The cause of our difficulties and losses too is simply a want of preparation for such an enterprise as this. When the Government had determined to undertake for political reasons the invasion of the Crimea contrary to military advice, it would at least have been wise, in as much as the military discouragement arose from the lateness of the season, the want of time before winter, to prepare for a winter's siege. If they had done so: if they had prepared the huts, and warm clothing; and all had been waiting in the Bosphorus for our call, we should not have cared much about winter. If we had been successful and had marched into Sebastopol […] the expense would have been added to the expense of the war. […] Ah! If you had been listened to and each man had been supplied with a water proof sheet, I do believe we should have saved many lives. […] we have lost many men because our men have been lying upon the ground.[1361]

In the spring of 1855 the editor of the *MT&G* noted that Pringle had observed that 'winter expeditions, though severe in appearance, are attended by little sickness, if the men have good shoes, quarters, fuel and provisions.' However, these simple requirements were not met during the winter of 1854-55 and hence the 'mortality has been what might have been anticipated' and that the men 'died by thousands' from those diseases expected under these circumstances such as 'diarrhoea, dysentery, fever, rheumatism, thoracic inflammations, and frost-bites.'[1362] This disaster necessitated the evacuation of large numbers of patients with a grave or hopeless prognosis and this factor largely determined the mortality rates recorded in the hospitals on the Bosphorus. Improvements in hospital facilities and primary health care in the Crimea, which were made difficult by the exingencies of the siege, eventually resulted in the capacity to treat seriously ill patients locally. The health of the troops in the Crimea improved slowly, but not uniformly, from the end of January 1855, well over a month before the arrival of the Sanitary Commission. Given that most patients at Scutari came from the Crimea the reduction in the mortality rates after March would, at least in part, be attributable to this factor. Nightingale supported this opinion when she informed Panmure that: 'The men sent down to Scutari in the winter died because they were not sent down till half

1360 Wrottesley (1873), II, p. 72.

1361 NAM-1962-10-95-2.

1362 *MT&G,* 10 Mar. 1855.

dead,[1363] while Cantlie considered, on the basis that many patients suffered untreatable conditions such as intestinal ulceration associated with dysentery or typhoid, that Fortescue had implied incorrectly that it was bad hospital conditions that caused many deaths.[1364]

Raglan appreciated that conditions had began to improve after the turn of the year when he wrote to the Queen and the Newcastle on the 20 and 23 January 1855 respectively:

> To the Queen: Lord Raglan can […] assure your Majesty that […] all his thoughts are occupied in endeavouring to provide for […] your Majesty's troops. It has not been [possible] to lighten […] their duties. Those exacted […] for the preservation of the trenches and batteries; and there are many other calls upon the men, […] the roads are so bad that wheeled carriages [cannot] be used, and […] horse transport is diminished by sickness and deaths and the Commissariat […] cannot bring up the daily supplies without their assistance thereby adding […] to their labour and fatigue. […] the Allied Armies […] can derive no resources from [the country] and consequently all […] stores and provisions […] must be imported. Such a necessity forms […] a difficulty of vast magnitude […] productive of the most serious consequences to the comfort of the Army.[1365]

> To the Duke: The weather has become milder; but the country is still in a dreadful state from melted snow. The army is well supplied with warm clothing, and if the Commissariat were adequately provided with transports, and the huts could be at once brought up, there would be no other cause of suffering than the severity of a Crimean winter, and the duties imposed of carrying on a siege in such a climate at this season of the year.[1366]

Improvements in the Crimea were also appreciated in Constantinople when the Ambassador reported on 8 February that 'a marked improvement has taken place in […] the health of the Army.'[1367] A few days later a staff officer at Scutari was informed by an officer 'just come in from the Crimea' that 'matters are greatly improved in the last few days and it is really to be hoped they will continue improving.'[1368] On the same day, Paulet, the commandant at Scutari, informed Herbert that 'Everything seems to be improving and the increased accommodation […] will enable us to thin the hospitals considerably.'[1369] Panmure also heard of these developments from Raglan when he wrote on 24 February: 'There is certainly an improvement in the sick, and if the weather becomes moderate, I expect further amendment;'[1370] while Sir Henry Ward, the Lord

1363 Small (1999), p. 76.

1364 Cantlie (1974), p. 125.

1365 Benson & Esher (1907), pp. 87-8.

1366 *The Times*, 8 Feb. and *WB&CA*, 9 Feb. 1855.

1367 Stratford to Clarendon, 8 Feb. 1855; FO/8/1072.

1368 Captain Macdonald, 93rd Regiment, to his mother, 8-12 Feb. 1855; Hinton (2010).

1369 W&SHC/2057/F8/III/C/21.

1370 Douglas & Ramsey (1898), I, p. 78.

High Commissioner in the Ionian Islands, reported to Panmure privately on 4 March: 'Things are certainly improving in the Crimea. All letters today agree about that. The weather has been atrocious, but the camp is healthier, the warm clothing generally is in use, and the rations more regularly received.'[1371] Similarly, the QMG informed the AG at Horse Guards on 15 March: 'the general health of the men is improving vastly, still we want one thing to put us right on our legs again, viz. rest.'[1372]

These opinions were confirmed by the official report of the Hospital Commission:

> […] our visit to the Crimea took place [during the first three weeks of January] when the condition of the sick and wounded and the state of the hospital accommodation […] were at their worst. We believe that they have much improved since our departure. Signs of improvement were already perceptible before we sailed from Balaklava; for abundance of warm clothing was in course of distribution, and the materials for huts were being carried up to the camp. Since then, commodious huts have been […] erected in the encampment of each regiment, for hospital, as well as other purposes and the sickness which prevailed among the troops in December and January has become both less general and less severe.[1373]

This report provided independent confirmation of Hall's medical report for February 1855: 'Altho' much sickness, and mortality continued to prevail in the Army […] there is evident improvement in the general health of the men; and from their increased comforts there is every reason to believe that this will continue.'[1374] Hall's prediction proved correct as admission rates to the hospitals in the Crimea, and the mortality from disease in the Army, fell during the spring until late May 1855 when the illnesses frequently associated with summer campaigning made their appearance. If it had not been for a recrudescence of cholera in the Crimea during the summer the overall mortality rate from disease would have been much reduced although not to the low levels recorded following the fall of Sevastopol (see Figure 1.6).[1375]

Most senior officers lacked the experience at the start to prosecute a campaign far from home; a position summarized by Harrison:

> It was not that generals were particularly callous, or that military doctors were incompetent, as some observers later claimed. Rather, the nations involved had not fought a large war for

1371 National Archives of Scotland, GD45/8/200. NB Letters received at Corfu would have been written at least seven to ten days previously.

1372 Airey to Wetherall, 15 Mar. 1855; NAM-1962-07-97-17.

1373 BPP (1854-55), No. 1920, p. 14.

1374 WO/17/1730, with a longer version in Hall's hand in RAMC/397/FRT1/1.

1375 Snow's conclusion that cholera was spread by water was published in 1855; too late to have an impact on the management of the epidemics in the Crimea; Snow (1855).

> some time; war ministers, generals and senior medical officers were all largely inexperienced in planning the logistics of a major campaign.'[1376]

It is not surprising, therefore, that things went wrong during the months following an inadequately planned invasion late in the season by an inexperienced and relatively poorly equipped army, to face an enemy of uncertain strength in a country about which little was known, and which had extremely limited resources to provide for the needs of the armies such as harbour facilities, shelter, roads, and sources of forage and fuel.[1377]

The majority of MOs would have had little or no experience of active warfare and working under battle field conditions and obviously had to learn on the job,[1378] while to complicate matters the composition of the Army changed constantly.[1379] Many new arrivals were young lads ill-equipped for camp life and trench warfare and would only have learnt the ropes after they arrived in camp. Fortunately, as time progressed there would have been an increasing number of experienced NCOs and men (many of whom would have replaced those in the original invading force) who could provide necessary discipline, assistance, and encouragement which would have been greatly to their benefit.

The senior Army staff came in for criticism for their apparent lack of efficiency, particularly during the first winter when they were faced with insuperable difficulties. It would be wrong to assume that the likes of Estcourt, Airey, Filder, and Hall were not essentially effective men of business who were well aware of what was needed to rectify matters. A glance at their official and private correspondence will confirm that they were this from the start, while perusal of General Orders demonstrates that the Army was administered formally throughout the campaign irrespective of the trials and tribulations experienced.

The main problem was that these men and their subordinates had to operate within a system which had been run down since 1815 and had not been reformed. It may have been sufficient to manage during peacetime but proved woefully inadequate for an army on campaign. In due course, and in a relatively short time, workable systems of

1376 Harrison (2008), p. 14.

1377 Roger Fenton's photographs of the British camps attest to the barren nature of the countryside.

1378 For example, on 14 Sep. 1854 Smith wrote to Hall; 'You will have […] great difficulties for the first twelve months while the inexperienced get experienced;' NAM-2007-07-16-5.

1379 For example, the Guards Brigade had seven COs during the campaign; Springman (2008), pp. 202-5.

management were developed locally which were satisfactory by the standards of the day and ultimately contributed to the Sanitary Success of 1856. The signing of the peace treaty in March of that year resulted in a major change in priorities, and the rapid evacuation of the troops became the imperative. Fortunately the military authorities remained committed to maintaining sanitary discipline in the camps. For example, each regiment was required to leave its camp; 'perfectly clean, the huts empty, temporary stable and kitchens levelled, […] tents and latrines filled up. General Officers will […] turn their attention to this subject, which is of importance to the health of the troops who remain.'[1380] It is not possible to determine the impact of this Order but the inevitable reduction in the impetus for further infrastructural improvements, coupled with the concomitant dismantling of the camps, did not have a detrimental effect on the men's health during the final weeks of occupation.

The historiography of the campaign has tended to concentrate on the disasters of the first winter and the perceived incompetence of the heads of department on the one hand, and to overemphasize the contributions made by the talented and well connected Nightingale and the experienced government sponsored Sanitary Commissioners on the other. Inevitably this has resulted in an unbalanced view of what took place, and this has been distorted further by commentators who to have failed to consider events in strict order of occurrence and have been influenced by hindsight. In consequence this aspect of the war has been inaccurately portrayed in both academic works and popular culture.

Smith and Hall both came in for considerable criticism, particularly during the first year of the campaign. However, they both remained in post throughout when there would have been opportunities to have had them replaced. Why was this? Could it be that they and their medical colleagues were good at their jobs and the blame lay elsewhere? In the final analysis, the solutions for the Army's health problems were not strictly medical but ones that required the provision of sufficient supplies coupled with improvements in infrastructure and basic health care.[1381]

1380 General Order, 22 May 1856.

1381 It would seem that Hall was sufficiently well regarded by Panmure for him to support his application for an increase in his half-pay pension of £1/10/- a day given that the had served for 39 years and 11 months. In the event an increase to £1/17/11d was authorized, backdated to 1 Jan. 1857; WO/43/519/ff. 25-81.

The medical services in the two World Wars have been evaluated *in extenso* by Harrison. He concluded, inter alia, that an 'army in disarray […] finds it extremely difficult to implement effective measures for the prevention of disease and treatment of the sick and wounded' and though 'such difficulties were never insurmountable' and they could be overcome by 'efficient organization and sanitary discipline.' The 'medical failures were generally a failure of command, and that their [successful resolution] depended on the intelligent co-operation of the Army as a whole;'[1382] hence 'epidemics are as much a consequence of military failure as their cause,'[1383] though even 'ubiquitous' diseases such as dysentery could be controlled by introducing appropriate control measures and paying attention to detail.

Harrison's conclusions resonate to a degree with the events of 1854-56 when the British Army, initially thrown into 'disarray', subsequently proved that the 'difficulties were never insurmountable;' and as has been mentioned in Chapter 10, it was one the hospital commissioners (Maxwell), who after a short time in the Crimea, appreciated that a principal problem was deficient means of transporting supplies from Balaklava to the camps.[1384]

A systematic evaluation of archival and contemporary published sources have verified that the turning point in the Army's fortunes was achieved shortly after Maxwell wrote to Herbert, and that the foundations for the recovery of the troop's health were laid by personnel in all departments of the Army working under hazardous and trying conditions during the first months of 1855. The Sanitary Commissioners together with railway navvies and AWC, with the assistance of the LTC, were then able to build on these foundations, and their contribution, coupled with improvements in management and infrastructure generally, ensured that the 'plenty' referred to by Maxwell was brought to the camps, and that the hard-won Sanitary Success of 1855 continued throughout the final months of the campaign.

1382 Harrison (2004), pp 277 & 283.

1383 Harrison (2010), p. 292.

1384 Maxwell to Herbert, 8 Jan. 1855; W&SH/2057/F8/III/B/363.

Tables 12.1-12.8

Table 12.1: Award of the Victoria Cross to Army personnel during the Crimean campaign, 1854-56

Corps	Battles*	Siege		Total (%)
		Assaults†	Siege ops‡	
Cavalry	9	0	0	9 (11)
Infantry	16	14	27	57 (68.5)
Royal Artillery	2	3	3	8 (9.5)
RE and RS&M	0	4	4	8 (9.5)
Army staff	1	0	0	1 (1)
Total VCs (%)	28 (33.5)	21 (25.5)	34 (41)	83 (100)

[Based on the synopses in Arthur (2005).]

* Alma, Inkerman, and Balaklava. All the cavalry VCs were won during the battle of Balaklava including that awarded to Surgeon Mouat.

† The assaults of on the Quarries and on the Redan on 18 June and 8 September 1855, during which two assistant surgeons won the medal.

‡ Includes the engagement on 26 October 1854 known as Little Inkerman.

Table 12.2: Nature of the deed for which the Victoria Cross was awarded to Army personnel during the Crimean campaign, 1854-56

Corps	Principal act of bravery*			Total VCs
	Action with the enemy (E)	Assisting the wounded (W)	E and W	
Cavalry	-	9	-	9
Infantry	37	15	5	57
Royal Artillery	6	1	1	8
RE and RS&M	5	-	3	8
Army staff	1	-	-	1
Total VCs (%)	49 (59)	25 (30)	9 (11)	83 (100)

* Based on the synopses in Arthur (2005).

Table 12.3: Ranks of Army personnel awarded the Victoria Cross during the Crimean campaign, 1854-56

Rank	Principal act of bravery*			Total VCs	Proportion (%) W and E & W
	Action with the enemy (E)	Assisting the wounded (W)	E & W		
Major and above	6	-	-	6	-
Captain and lieutenant	13	5	2	20	35
NCO	12	11	4	27	56
Private	18	6	3	27	33
Surgeon/Assistant Surgeon	-	3	-	3	100
Total VCs (%)	49 (59)	25 (30)	9 (11)	83 (100)	41

* Based on the synopses in Arthur (2005).

Table 12.4: Medical Officers appointed to the Military Division of the Order of the Bath*

London Gazette	Class	Recipient
5 February 1855	Knight Commander(KCB)	IGH Dr John Hall
	Companion (CB)	DIGH Dr David Dumbreck (KCB, 1871)
		DIGH Dr William Linton (KCB, 1865)
		DIGH Dr John Forrest
		DIGH Thomas Alexander†
		DIGH John Robert Taylor
		Staff Surgeon 1st Class Dr Archibald Gordon
		Staff Surgeon 1st Class James Mouat (KCB, 1894)
2 January 1857	Companion (CB)	DIGH James Brown Gibson‡ (KCB, 1865)
		Senior Surgeon Richard Coffin Elliot, RA

* Dr H. Sandwith, late Inspector General of Hospitals in the service of the Sultan of Turkey, was admitted as an Honorary Member of the 3rd Class of Civilian Division of the Order on 10 May 1856; *LG*, 13 May 1856, p. 1757.

† Director General of the Army Medical Service, 1858-1860.

‡ Director General, 1860-1867.

Table 12.5: Award of the Legion of Honour, by class, to army personnel

Corps	Class						Total (%)
	1st-3rd	4th		5th			
	Officers	Officers	Surgeons	Officers	Surgeons	NCOs & Men	
Army staff	22	23	-	47	-	-	92 (17)
Medical staff		-	1	-	22	-	23 (4)
Commissariat		-	-	6	-	-	6 (1)
Cavalry Regts		2	-	17	-	12	31 (5.5)
Infantry Regts		19	-	202	3	60	284 (51.5)
Royal Artillery		6	-	52	4	19	81 (15)
RE and RS&M		2	-	20	-	7	29 (5)
Siege of Kars	1	2	-	1*	1	-	5 (1)
Total (%)	23 (4)	54 (10)	1	345 (62.5)	30 (5.5)	98 (18)	551 (100)

[*LG*, 4 August 1856 and 1 May 1857]

* A civilian, Henry Adrian Churchill, Esq., CB.

Table 12.6: Award of the Order of the Medjidie to 66 members of the medical profession by class of the Order and the rank of the recipient

Rank*	*London Gazette*					Total (%)
	2 March 1858			8 June 1858		
	3rd class	4th class	5th class	4th class	5th class	
Inspector General of Hospitals	1	2	-	-	-	3 (4.5)
Deputy Inspector General of Hospitals	-	4	3	2	-	9 (14)
Staff Surgeon 1st class	-	-	14	-	1	15 (23)
Staff Surgeon 2nd class	-	-	3	-	-	3 (4.5)
Surgeon	-	-	20	-	-	20 (31)
Assistant Surgeon	-	-	16	-	-	16 (23)

* As given in the *LG*.

Table 12.7: Award of the Sardinian Medal '*Al valore Militaire*' to the various corps in the Army of the East

Corps	Officers	Surgeons	NCO's and men	Total (%)
Army Staff	43	-	-	43 (10.75)
Cavalry	19	1	10	30* (7.5)
Infantry	178	4	82	264 (66)
Royal Artillery	32	2	15	49 (12.25)
RE and RS&M	11	-	3	14 (3.5)
Total (%)	283 (70.75)	7 (1.75)	110 (27.5)	400 (100)

[BPP (1857), Session 2, No. 2259]

* Thirty-two medals were allocated to the cavalry regiments but no nominations were received from the 6th Dragoon Guards; these medals were subsequently issued to two infantry officers and these are included in the infantry total.

Table 12.8: The number of NCOs and men who suffered from wounds, sickness or injury during World War One campaigns, the South African War, and the Crimean campaign

Location	Period	Force	Wounds			Sickness or injury		
			Number	Deaths	Ratio (%)	Number	Deaths	Ratio (%)
Western Front (p. 108, Table 2)*	1914-18	British	1904287	142898	7.5	3401183	30841	0.9
Macedonia (p. 188, Table 4)*	1915-18	British and Dominion	17256	1223	7.1	467419	3668	0.8
Dardanelles (p. 201, Table 5)*	1915-16	British	46154	2931	6.4	139140	2043	1.5
Egypt and Palestine (p. 210, Table 3)*	1915-18	British and Dominion	37426	2761	7.4	485400	5734	1.2
Mesopotamia (p. 224, Table 5a)*	1914-18	British	20821	2156	10.3	283064	4534	1.6
Mesopotamia (p. 224, Table 5b)*	1914-18	Indian	35411	2817	8.0	517392	11892	2.3
South African War (p. 271, Table 9a)*	1899-1902	British	21292	1835	8.6	404126	13682	3.4
Crimean campaign†	1854-56	British	18253	1761	9.6	144420	16297	11.3‡

* The page and table number in Mitchell & Smith (1931).

† *M&SH*, II, General Return A.

‡ 8.6% if cholera is excluded.

Bibliography

A (i) Primary Material: Unpublished official documents, etc.

Abbreviation	Title [Notes]
ADM	Admiralty papers in The National Archives.
FO	Foreign Office papers in The National Archives.
General Orders	General Orders were issued by the Army HQ on most days during the campaign and several collections have been preserved in TNA, e.g. WO/28/50, WO/28/51, WO/28/130, and WO/28/131. Longhand transcriptions can found in divisional order books in WO/28. A book containing the General Orders issued at Fort Pitt is preserved in the Army Medical Services Museum.
NAM-1962-10	The papers of General Sir Augustus Wetherall in the National Army Museum. [Wetherall was AG at Horse Guards until succeeded by General Richard Airey]
NAM-1968-07	Lord Raglan's papers in the National Army Museum.
NAM-2007-07	Sir John Hall's papers in the National Army Museum.
MPH	Maps and plans from War Office records in The National Archives.
PoL, I or II	*Précis of Letters Written and Received by the Director-General of the Army Medical Department in Reference to the Medical Arrangements Required at the Commencement and during the War with Russia 1854-55-56*, (War Office, 1858) [The in- and out-letters are listed in date order in two volumes and hence the volume and page number are only included in a reference when the date is not given. The date of publication is not stated but it is listed as 1858 in several library catalogues.]
RAMC/397 and RAMC/524	Sir John Hall's papers in the RAMC archive in the Army Medical Services Museum [A digitized version of some of the archive is available on line via the Wellcome Library web site.]
W&SHC/2057	Sidney Herbert's papers in the Wiltshire and Swindon History Centre, Chippenham.
WO	War Office papers in The National Archives.

A (ii) Primary Material: Unpublished private correspondence, diaries, etc.

Abbreviation	Title [Notes]
Hall, 'Unpublished memoir'	J. Hall, *Observations on the Difficulties Experienced by the Medical Department of the Army, During the Late War in Turkey, by Sir John Hall, M.D., K.C.B., Principal Medical Officer of that Army*. [There is longhand (RAMC/397F/RT/2) and printed, but unpublished, version (WO/33/3B). The latter was headed 'Confidential'.]
Williams (Undated)	Transcripts in the author's procession of letters written by Assistant Surgeon John Ignatius Purcell Williams, 1st Battalion, Rifle Brigade. The original letters, together with Williams's medals, were sold by DNW on 27 June 2012.

B (i) Primary material: Published official documents, etc

Abbreviation	Title
Colborne & Brine (1857)	J. Colborne and F. Brine, *The Last of the Brave*, (London: Ackermann, 1857). A second edition was published in 1858 under the title *Memorials of the Brave*.
General Orders	Book: *General Orders Issued to the Army of the East, from April 30, 1854 to December 31, 1855 Selected by the Hon Sir Alex H Gordon*, (J.W. Parker, London, 1856). CD: Crimean War Publisher, Crimean War General Orders 30th April, 1854 to 30th June, 1856 (2012). Available from <http://cw-publishers.russianwar.co.uk>
Hart (1856)	H.G. Hart, *The New Annual Army List, and Militia List for 1856*, (London: John Murray, 1856).
Parkes (1857)	*Report on the Formation and General Management of Renkioi Hospital on the Dardenelles, Turkey*, (War Department, April 1857)
Sayer (1857)	Captain Sayer, *Despatches and Papers Relative to the Campaign in Turkey, Asia Minor, and the Crimea during the War with Russia in 1854, 1855, 1856*, (London: Harrison, 1857).
Queen's Regulations (1844)	*The Queen's Regulations and Orders for the Army 1844*, 3rd edition, (London: Parker, Furnivall, and Parker).

B (i) Primary material; British Parliamentary Papers

Abbreviation	Title (Short title) and [Notes]	Publication date
BPP (1854-55), No. 126	*Military Medical Officers (Turkey). Return of the Medical Officers Attached to the Forces Serving in Turkey.*	23 Feb. 1855
BPP (1854-55), No. 156	*Select Committee on the Army before Sebastopol*: Second Report.	30 Mar. 1855
BPP (1854-55), No. 204	*Return of the Total Number of Officers and Men in the Army who have been Killed in the Crimea; and Like Return of the Number Wounded* […] *up to 15th Match 1855.*	1 May 1855
BPP (1854-55), No. 218	*Select Committee on the Army before Sebastopol*: Third Report.	3 May 1855
BPP (1854-55), No. 247	*Select Committee on the Army before Sebastopol*: Fourth Report.	17 May 1855
BPP (1854-55), No. 318	*Select Committee on the Army before Sebastopol*: Fifth Report.	18 June 1855
BPP (1854-55), No. 428	*Medical Officers* (*Army and Navy*).	4 May 1855
BPP (1854-55), No. 449	*Official Reports on the Hospitals at Scutari, Kululee, Abydos, and Smyrna, since February Last.*	1 Aug. 1855
BPP (1854-55), No. 512	*Correspondence Relative to the State of the Harbour at Balaklava.*	11 Aug. 1855
BPP (1854-55), No. 1920	*Report upon the State of the Hospitals on the British Army in the Crimea and Scutari.* (Hospital Commission)	23 Feb. 1855*
BPP (1854-5), No. 1990	*Report on the results of different methods of treatment pursued in epidemic cholera throughout England and Scotland in 1854.*	Undated
BPP (1856), No. 331	*Report from the Select Committee on the Medical Department* [*Army*]. (Stafford Committee)	3 July 1856
BPP (1856), No. 345	*Return of Ships Engaged as Transports, Between 1 January 1855 and 1 April 1856, Inclusive.*	8 July 1856
BPP (1856), No. 422	*Index to the Report of the Board of General Officers Appointed to Enquire into the Statements Contained in the Reports of Sir John M'Neill and Colonel Tulloch.* (Chelsea Board)	29 July 1856
BPP (1856), No. 422	*Index to Report of the Commission of Inquiry onto the Supplies of the British Army in the Crimea.* (Supplies Commission)	29 July 1856
BPP (1856), No. 2007	*Report of the Commission of Inquiry onto the Supplies of the British Army in the Crimea.* (Supplies Commission)	10 June 1855 & Jan. 1856*
BPP (1856), No. 2119	*Report of the Board of General Officers Appointed to Enquire into the Statements Contained in the Reports of Sir John M'Neill and Colonel Tulloch.* (Chelsea Board)	4 July 1856*
BPP (1857) Session I, No. 42.	*Return Concerning the Late Army of the East.*	13 Feb. 1857
BPP (1857), Session 1, No. 71	*Medical Statistical Returns of the Baltic and Black Sea Fleets, during the Years 1854 and 1855.*	27 Feb. 1857
BPP (1857), Session 1, No. 133	*Return of the Names of Offi*cers […] *of the Army* […]	17 Mar. 1857
BPP (1857), Session 1, No. 2196	*Report to the Right Hon. Lord Panmure, G.C.B., etc. Minister at War, of the Proceedings of the Sanitary Commission Dispatched to the Seat of War in the East, 1855-56.*	1 Dec.1856* & Mar. 1857
BPP (1857), Session 2, No. 267	*The Number of Huts Supplied by the Ordnance or War Departments during the Years 1854-55 and 1855-56*	13 Aug. 1857
BPP (1857), Session 2, No. 2229	*Report of the Pathology of the Diseases of the Army of the East.*	Mar. 1856
BPP (1857), Session 2, No. 2259	*List of Officers, Non-Commissioned Officers, and Men Selected to Receive the 400 was Medals for Military Valour, Presented by His Majesty the King of Sardinia to the British Army Engaged in the Late War in the East.*	1857
BPP (1857-58), No. 425	*A Report* […] *Relative to the Sanitary Condition of the Army of the East* […] *by Dr Mapleton.*	5 Feb. 1855
BPP (1857-58), No. 482	*Select Committee on Consular Services.*	27 July 1858
BPP (1857-58), No. 2318	*Report of the Commissioners Appointed to Inquire into the Regulations Affecting the Sanitary Condition of the Army, the Organization of Military Hospitals, and the Treatment of the Sick and Wounded.* (Royal Commission)	9 Feb. 1858

BPP (1857-58), No. 2379	*Report of the Commissioners Appointed to Inquire into the Regulations Affecting the Sanitary Condition of the Army, the Organization of Military Hospitals, and the Treatment of the Sick and Wounded*, Appendix LXXIX. [Transcripts of 977 letters and documents that relate to medical matters.]	9 Feb. 1858
M&SH vice BBP (1857-58), No. 2434	*Medical and Surgical History of the British Army which Served in Turkey and the Crimea during the War against Russia in the Years 1854-55-56.*	1858
BPP (1860, No. 51	*Return relating to the Patriotic Fund.*	6 Feb. 1860
BPP (1863), No. 3207	*Report of the Barrack and Hospital Improvement Commission on the Sanitary Condition and Improvement of Mediterranean Stations.*	1863
BPP (1901), Cd. 453, 454, & 455	*Report of the Royal Commission Appointed to Consider and Report upon the Care andTreatment of the Sick and Wounded during the South African Campaign.*	Jan. 1901
BPP (1917-18), Cd. 8610	*Report of the Commission Appointed by Act of Parliament to Enquire into the Operation of War in Mesopotamia.*	17 May 1917
BPP (1919), Cd. 371	*The Final Report of the Dardanelles Commission.*	4 Dec. 1917

B (ii) Primary material: Published private correspondence, diaries and memoirs, newspapers and journals, etc.

Abbreviation	Title [Notes]
A Lady Volunteer (1856)	A Lady Volunteer (Frances M. Taylor), *Eastern Hospitals and English Nurses*. (London: Hunt and Blackett, 1856).
Anglesey (1971)	The Marquess of Anglesey (ed.*) Little Hodge. His Letters and Diaries of the Crimean War*, (London: Leo Cooper, 1971).
Anon (1856)	*Instructions to Army Medical Officers for their Guidance on the Appearance of Spasmodic Cholera in the United Kingdom*, (London: Eyre and Spottiswoode, 1856).
Bostock (1897)	J.A. Bostock, *Letters from India and the Crimea*, (London: George Bell, 1897).
Buzzard (1915)	T. Buzzard, *With the Turkish Army in the Crimea and Asia Minor* (London: John Murray, 1915).
Calthorpe (1979)	S.J.G. Calthorpe, *Cadogan's Crimea* (London: Hamish Hamilton, 1979).
Crimean Army Fund (1855)	*Report of the Committee of the Crimean Army Fund, September 1855*, (London: Richard Clay, 1855)
Elphinstone (1859)	H.C. Elphinstone, *Journal of the Operations of the Corps of Royal Engineers*, Part 1, (London: Eyre and Spottiswoode, 1859).
Eyre-Todd (1903)	G. Eyre-Todd (ed.), *The Autobiography of William Simpson, R.I. (Crimean Simpson)*, (London: T. Fisher Unwin, 1903).
Filder (1856)	Commissary General Filder, *The Commissariat in the Crimea: being Remarks on those Parts of the Report of the Commission of Enquiry into the Supplies of the British Army which Relate to the Duties of the Commissariat*, (London: W. Clowes, 1856).
Fisher (2011)	G. Fisher (ed.), *Crimean Cavalry Letters*, (Stroud: The History Press, 2011)
Fraser (1859)	P. Fraser, *A Treatise upon Gunshot Wounds of the Chest*, (London: John Churchill, 1859).
Gavin (1848)	H. Gavin, *Sanitary Ramblings*, (London: John Churchill, 1848).
Gordon (1855)	W. Gordon, *Balaclava and the Sebastopol Inquiry*, (Dated December 1855; downloaded from Dracobooks, 5 May 2015).
Hall (1857)	Sir J. Hall, *Observations on the Report of the Sanitary Commissioners in the Crimea during the Years 1855 and 1856*, (London: W. Clowes, 1857).
Hall (1858)	Sir J. Hall, *Sir John Hall's Rejoinder to Dr. Sutherland's Reply to his Observations on the Report of the Sanitary Commissioners, at the Seat of War in the East in 1855 and 1856* (London: W. Clowes, 1858).
Heath (1873)	L.G. Heath, *Letters from the Black Sea during the Crimean War, 1854-1855*, (London: Richard Bentley, 1873).
H.B. (1856)	H.B., *Letters from the Crimea during the Years 1854 and 1855*, (London: Emily Faithfull, 1856). [Henry Blishen, Rifle Brigade, was killed on 8 Sep. 1855.]
Hill (2010)	D. Hill, *Letters from the Crimea*, (Dundee: Dundee UP, 2010).
Hodge (1856)	W.B. Hodge, 'On the mortality arising from military operations'. *Journal of the Statistical Society of London*, XIX: iii (1856), pp. 219-71.

J.M. (1857)	J.M., 'The Crimean Sanitary Commission and the Army Medical Officers', *Medical Times and Gazette*, 4 Apr. 1857. [Probably James Mouat, MD, who was awarded the VC for bravery during the battle of Balaklava.]
Macleod (1858)	G.H.B. Macleod, *Notes on the Surgery of the War in the Crimea with Rremarks on the Treatment of Gunshot Wounds*, (London: John Churchill, 1858).
Mawson (2001)	M.H. Mawson (ed.), *Eyewitness in the Crimea*, (London: Greenhill Books, 2001).
Milroy (1858)	G. Milroy, 'On the Sickness and Mortality in the French Army in the East from 1854 to 1854', *British Medical Journal*, 17 Apr. 1858 and *Medical Times and Gazette*, 1 May 1858.
Nightingale (1859)	*A Contribution to the Sanitary History of the British Army during the Late War with Russia*, (London: Harrison, 1859). [Published anonymously]
Osborne (1855)	S.G. Osborne, *Scutari and its Hospitals*, (London: Dickinson Brothers, 1855).
Robins (2005)	C. Robins (ed.), *Romaine's Crimean War*, (Stroud: Sutton Publishing, 2005).
Robinson (1856)	F. Robinson, *Diary of the Crimean War*, (London: Richard Bentley, 1856).
Snow (1855)	J. Snow, *On the Mode of Communication of Cholera*, (London: Churchill, 1855).
Soyer (1856)	A. Soyer. *Soyer's Culinary Campaign*, (London: G. Routledge & Co., 1856).
Sterling (1895)	A. Sterling, *The Highland Brigade in the Crimea*, (Minneapolis: Absinthe Press, 1995). [First published in 1895.]
Sutherland (1850)	*Appendix (A) to the Report of the General Board of Health on the Epidemic of Cholera of 1848 and 1849*, (London: HMSO, 1850).
Sutherland (1857)	J. Sutherland, *Reply to Sir John Hall's 'Observations' on the Report of Sanitary Commission Despatched to the Seat of War in the East, 1855-56*, (London: Harrison, 1857).
Terrot (1898)	S. Terrot, *Reminiscences of Scutari Hospitals in Winter 1854-55*, (Edinburgh: Andrew Stevenson, 1898).
Thompson (1857)	R. T. Thompson, 'Mortality among Officers of the British Army in the Crimea', *Journal of the Statistical Society of London*, XX (1857), pp. 54-60.
Trevor-Barnston (1998)	M. Trevor-Barnston (ed.), *Letters from the Crimea and India*, (Whitchurch: Herald Printers, 1998).
Tulloch (1857)	Colonel Tulloch, *The Crimean Commission and the Chelsea Board Being a Review of the Proceedings and Report of the Board*, (London: Harrison, 1857).
Ward (1970)	S.P.G. Ward, (ed.) *The Hawley Letters*, (Society of Army Historical Research Special Publication No. 10, 1970)
Wrottesley (1873)	G. Wrottesley, *Life and Correspondence of Field Marshal Sir John Burgoyne, Bart*., (London: Richard Bentley, 1873), Vol. II.
Wyatt (1858)	J. Wyatt, *History of the First Battalion Coldstream Guards During the Eastern Campaign from February 1854 to June 1856*, (Privately printed, 1858).

C: Earlier and later published works

Abbreviation	Title [Notes]
Adkin (1996)	M. Aidkin, *The Charge. The Real Reason Why the Light Brigade was Lost*, (London: Leo Cooper, 1996).
A Non-commissioner (Undated)	A Non-Commissioner, *A Report on the Sanitary Condition of the Army Particularly during the Late War with Russia*, (Undated pamphlet).
Arthur (2005)	M. Arthur, *Symbol of Courage. The Men Behind the Medal*, (London: Pan Books, 2005).
Badem (2010)	C. Badem, *The Ottoman Crimean War (1853-1856)*, (Leiden: Brill, 2010).
Baldwin et al. (2004)	G. Baldwin, M. Daniel, and S. Greenough, *All the Mighty World. The Photographs of Roger Fenton, 1852-1860*, (New Haven: Yale University Press, 2004).
Barham, (2006)	J. Barham, 'A Tragic Second Winter for the French Army', *The War Correspondent*, XXIV: i (2006), pp. 23-6.
Barnsley (1963)	R.E. Barnsley, 'Teeth and Tails in the Crimea', *Medical History*, VII (1963).
Barnsley (1966)	R.E. Barnsley, 'Sir John Hall', *Transactions of the Cumberland and Westmorland Antiquarian Society*, LXIV, (1966), pp. 402-8. [See RAMC/524/15/10 and NAM-1967-10-14 for a copy]
Barthorp (1991)	M. Barthorp, *Heroes of the Crimean War. The Battles of Balaklava and Inkerman*, (London: Blandford, 1991).
Bartrip (1996)	P. Bartrip, *Themselves Writ Large. The British Medical Association 1832-1996*, (London: BMJ Publishing Group, 1996).

Baudens (1862)	L. Baudens (Translated by F.B. Hough), *On the Military and Camp Hospitals and the Health of Troops in the Field Being the Result of a Commission to Inspect the Sanitary Arrangements of the French Army, and Incidentally Other Armies in the Crimean War*, (New York: Baillière Brothers, 1862).
Benson & Esher (1907)	A.C. Benson and Viscount Esher (Eds), *The Letters of Queen Victoria*, (London: John Murray, 1907), Vol. III.
Blanco (1971)	R. Blanco, 'Sir James McGrigor and the Army Medical Corps', *History Today*, XXI (1971), pp. 132-9.
Blomfield-Smith (1992)	D. Blomfield-Smith, *Heritage of Help. The Story of the Royal Patriotic Fund*, (London: Robert Hale, 1992).
Bodart (1916)	G. Bodart, *Losses of Life in Modern Wars. Austria Hungary, France*, (Oxford, Clarendon Press, 1916).
Bonham-Carter & Lawson (1968)	V. Bonham-Carter and M. Lawson, *Surgeon in the Crimea*, (London: Military Book Society, 1968).
Bostridge (2008)	M. Bostridge, *Florence Nightingale. The Woman and Her Legend*, (London: Viking, 2008).
Bourne (1944)	G.H. Bourne, 'Records of Older Literature of Tissue Changes in Scurvy', *Proceedings of the Royal Society of Medicine*, XXXVII (1944), pp. 512-6.
Bowler (1975)	R.A. Bowler, *Logistics and the Failure of the British in the America 1775-1785*, (Princeton: University Press, 1975).
Brandon (2004)	R. Brandon, *The People's Chef. Alexis Soyer, a Life in Seven Courses*, (Chichester: John Wiley, 2004).
Brebner (1938)	J.B. Brebner, 'Joseph Howe and the Crimean War Enlistment Controversy between Great Britain and the United States', *Canadian Historical Review*, (1938), pp. 300-27.
Bricknell (2002)	M.C.M. Bricknell, 'The Evolution of Casualty Evacuation in the British Army 20th Century (Part 1) – Boer War to 1918', *Journal of the Royal Army Medical Corps*, CXXXXVIII (2002), pp. 200-7.
Brighton (2004)	T. Brighton, *Hell Riders. The Truth about the Charge of the Light Brigade*, (London: Viking, 2004).
Browning (1988)	D.C. Browning, *Dictionary of Quotations and Proverbs* (London: Chancellor Press, 1988).
Cantlie (1974)	N. Cantlie, *A history of the Army Medical Department*, (Edinburgh: Churchill Livingston, 1974), Vols I or II.
Collier (2008)	M. Collier, *The Unification of Italy 1815-70*. (Harlow: Heinemann, 2008).
Conache (1987)	J.B. Conache, *Britain and the Crimea, 1855-56. Problems of War and Peace*, (London: Macmillan, 1987).
Connor (1998)	H. Connor, 'The Use of Chloroform by British Army Surgeons During the Crimean War', *Medical History*, XL (1998), pp. 161–93.
Cook (1913)	Sir E. Cook, *The Life of Florence Nightingale* (London: Macmillan, 1913).
Cooke (1997)	B. Cooke, *The Grand Crimean Central Railway*, 2nd edition, (Knutsford: Cavalier House, 1997).
Cooter (2003)	R. Cooter, 'Of War and Epidemics: Unnatural Couplings, Problematic Conceptions', *Journal of the Society of the Social History of Medicine*, XVI: ii (203), pp. 283-302.
Christopher (1998)	M. Christopher, *Logistics and Supply Chain Management*, 2nd edition, (London: Financial Times Management, 1998).
Curtiss (1979)	J.C. Curtiss, *Russia's Crimean War* (Durham, N.C.: Duke University Press, 1979).
Dawson (2014)	A. Dawson, *Letters from the Light Brigade*. (Barnsley: Pen & Sword Military, 2014)
Dean (2016)	M.E. Dean, 'Selective Suppression by the Medical Establishment of Unwelcome Research Findings: the Cholera Treatment Evaluation by the General Board of Health', *Journal of the Royal Society of Medicine*, CIX: v (2016), pp. 200-5.
Douglas & Ramsay (1898)	G. Douglas and G.H. Ramsey, *The Panmure Papers*, (London: Hodder and Stoughton, 1898), Vols I or II.
Fergusson (1846)	W. Fergusson, *Notes and Recollections of a Professional Life*, (London: Longman & Co., 1846).
Figes (2010)	O. Figes, *Crimea. The Last Crusade* (London: Allen Lane, 2010).

Fisher (2011)	G. Fisher, 'Rifleman John Fisher', *The War Correspondent*, XXIX: iii (2011), pp. 10-8.
Fisher (2013a)	G. Fisher, 'Doctor Dartnell's List', *The War Correspondent*, XXX: iv (2013), pp. 29-42.
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Gill (2004)	G. Gill, *Nightingales, The Story of Florence Nightingale and her Remarkable Family*, (London: Hodder and Stoughton, 2004).
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Hinton (1978)	M. Hinton, 'On the Watering of Horses', *Equine Veterinary Journal*, X (1978), pp. 27-31.
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Principal personalities

Name in the text	Full name*	Post(s)
Aberdeen	George Hamilton-Gordon, 5th Earl of Aberdeen	Prime Minister to Jan. 1855.
Airey	Major General Sir Richard Airey, KCB	QMG, Army of the East, Sept. 1855 to Nov. 1855 when succeeded Sir James Freeth as QMG to the Forces.
Alexander	Dr Thomas Alexander	PMO, Light Division. A member of the Royal Commission, he succeeded Smith as DG of the AMD during 1858.
Aitken	Dr William Aitken, MD	A civil surgeon appointed to assist Dr R.D. Lyons in the investigation of 'the nature of the diseases from which the troops were suffering.' Their report was published as BPP (1857), Session 2, No. 2229.
Boxer	Rear Admiral Edward Boxer	Sometime Port Admiral on the Bosphorus and then at Balaklava. He died on cholera on 4 June 1855.
Bracebridge	C.H. Bracebridge	He and his wife accompanied Miss Nightingale to the East.
Brunel	Isambard Kingdom Brunel	A civil engineer who designed the ss *Great Britain* which was employed as a troop ship and the prefabricated hospital erected at Renkioi.
Burgoyne	Lieutenant General Sir John Burgoyne, RE	Served on the staff in the Crimea as as Lieutenant General but npot as the CRE. An advocate of a formal siege, he was recalled during February 1855 to resume his duries as Inspector General of Fortifications.
Calvert	Frederick William Calvert	HM's consul on the Dardanelles.
Christie	Captain Peter Christie, RN	Agent of Transports, Balaklava. He died of disease on 1 May 1855.
Clarendon	George William Frederick Villiers, 4th Earl of Clarendon	Foreign Secretary, 1853-1858.
Codrington	General (LR) Sir William John Codrington, KCB	GOC, Light Division and then GOC Army of the East, 11. Nov. 1855-July 1856.
Cumming	IGH Alexander Cumming	A Hospitals Commissioner and then PMO, Scutari, Feb.-Oct 1855.
Dumbreck	DIGH David Dumbreck	Acted as PMO when Hall when was sent to Scutari by Raglan. He was invalided to England during Nov. 1854.
Estcourt	Major General James Bucknall Bucknall Estcourt	AG, Army of the East, Aug. 1854 until his death on 24 June 1855. He was succeeded by Brevet Colonel William Lygon Pakenham.
Fergusson	Lieutenant General Sir James Fergusson, KCB	GOC Malta and then Governor of Gibraltar.
Filder	William Filder	The Commissary General until recalled in July 1855

Fremantle	Rear Admiral Charles Howe Fremantle	Sometime Port Admiral, Balaklava
Gavin	Dr Hector Gavin, MD	A Sanitary Commissioner. He died on 21 Apr. 1855 as a result of a shooting accident.
Hall	Dr, later Sir, John Hall, MD, KCB	PMO, Army of the East.
Hardinge	Field Marshal Viscount Henry Hardinge	C.-in-C. British Army 1852-1856.
Hawes	Benjamin Hawes	Hawes held an unelected position of Deputy Secretary at War, 1851-7. He was a brother-in-law of I.K. Brunel,
Herbert	Sidney Herbert, later Baron Herbert of Lea	Secretary at War to Feb. 1855; Chairman of the Royal Commission, 1857; Minister of War 1859-1861.
Lawson	DIGH Robert Lawson	Sometime PMO at Balaklava. Transferred to Scutari after the *Avon* affair on the authority of a General Order.
Layard	Austen Henry Layard	A Liberal MP who paid an unofficial visit to the East.
Linton	IGH William Linton	Served in the Crimea until becoming the PMO at Scutari during Oct. 1855 in succession to Cumming.
Lyons, RN	Admiral Sir Edmund Lyons	Lyons succeeded Admiral Dundas in command of the Mediterranean Fleet.
Lyons, MD	R.D. Lyons	A civil surgeon appointed by Panmure to investigate 'the nature of the diseases from which the troops were suffering.' He was assisted by Dr Aitken and their report was published as BPP (1857), Session 2, No. 2229.
McGrigor	Sir James	Smith's predecessor as DG of the AMD.
McNeill	Sir John	A Supplies Commissioner who collaborated with Miss Nightingale after the war.
McMurdo	Colonel (LR) William Montague Scott McMurdo	The DG of the LTC.
Mapleton	Dr Henry Mapleton, MD	Sometime physician to Raglan. His report 'relative to the sanitary condition of the Army of the East' was prepared for Smith in 1855 and published as BPP (1857-58), No. 425.
Maxwell	Peter Benson Maxwell	A barrister and Hospitals Commissioner. Author of the anonymously published pamphlet *Whom shall we hang?*
Menzies	DIGH Duncan Menzies	PMO, Scutari from June 1854 until invalided in Jan. 1855.
Milroy	Dr Gavin Milroy	A Sanitary Commissioner from 22 July 1855.
Mundy	Colonel G.C. Mundy	Military Undersecretary at the War Office.
Newcastle	Henry Pelham Clinton, 5th Duke of Newcastle	Minister of War until Feb. 1855 when he was succeeded by Lord Panmure.
Nightingale	Florence Nightingale	Superintendent of a party of nurses sent to Turkey by Sidney Herbert and remembered by many by the sobriquet 'the lady with the lamp.'
Osborne	The Hon. the Revd Sidney Godolphin Osborne	Visited Scutari in a private capacity for about six weeks, leaving on the 19 December 1854. He gave evidence to the Roebuck Committee and published *Scutari and its hospitals* in 1855.
Pakenham	Brevet Colonel William Lygon Pakenham	Succeeded Major General Estcourt as AG.
Palmerston	Henry John Temple. 3rd Viscount Palmerston	Prime Minister from Feb. 1855.
Panmure	Fox Maule, Lord Panmure	Minister of War from Feb. 1855.
Parkes	Dr Edmund Alexander Parkes	A civilian who was the Superintendent at the Renkioi Hospital.
Paulet	Major General (LR) Lord William Paulet	Commandant on the Bosphorus from Nov. 1854 until he assumed command of the Light Division, Nov. 1855.
Peel	Frederick Peel	Liberal MP for Bury and Undersecretary for War under Lord Palmerston.
Raglan	Field Marshal Fitzroy Somerset, 1st Baron Raglan	C.-in-C., Army of the East, until his death on 28 June 1855.

Roebuck	John Arthur Roebuck, MP	Liberal MP for Sheffield. He chaired the Select Committee of the House of Commons which was convened to investigate the 'Condition of the Army before Sebastopol'.
Romaine	William Govett Romaine	The Deputy Judge Advocate General for the Army of the East. A civilian appointed by the Government, and hence not part of the military establishment.
Russell	William Howard Russell	Special correspondent of *The Times*.
Sayer	Captain Frederic Sayer	Sayer served in the Crimea until invalided for wounds in Oct. 1854. Published *Despatches and Papers relative to the Campaign in Turkey, Asia Minor and the Crimea during the War with Russia in 1854, 1855, 1856* in 1857.
Sillery	Major Charles Sillery	Commandant at Scutari, June-Nov. 1854. He continued serving there on the staff of his successor, Paulet.
Simpson	General Sir James Simpson, KCB	Chief of Staff from Mar. 1855 until he succeeded Raglan. He resigned on 10 Nov. 1855
Smith	Dr, later Sir, Andrew Smith, MD, FRS	Succeeded Sir James McGrigor as DG, AMD, in 1852. A member of the Royal Commission, he resigned in 1858 and was appointed KCB (Civil) in the same year.
Raglan	Field Marshal Fitzroy Somerset, 1st Baron Raglan	C.-in-C., Army of the East, until his death on 28 June 1855.
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Spence	DIGH Thomas Spence	A member of the Hospitals Commission He drowned on *Prince* on 14 Nov. 1854.
Stafford	Augustus Stafford	Conservative MP for Northamptonshire North who visited Scutari and the Crimea. He was a member of the Royal Commission.
Storks	Major General (LR) Henry Storks	Commandant at Smyrna from Mar. 1855 until he succeeded Paulet as Commandant on the Bosphorus in Nov. 1855. He was a member of the Royal Commission.
Stratford	Viscount Stratford de Redcliffe	Ambassador in Constantinople.
Sutherland	Dr John Sutherland, MD	A Sanitary Commissioner, a member of the Royal Commission, and a collaborator of Miss Nightingale after the war.
Tulloch	Colonel Alexander Murray Tulloch	A Supplies Commissioner.
Wetherall	Major General Sir George Augustus Wetherall, KCB	AG of the Forces, 1854-1860.

* The rank of military personnel is that they held when the Peace Treaty was ratified on 27 April 1856, or when they died. LR = Local Rank