The British sector of the Western Front, 1914–18: injuries, treatment and the trenches

Examine the relationship between conditions in a locality – the British sector of the Western Front during the First World War – and their impact on the nature of illness and the provision of medical care.

The brutal conditions that this war created, including the trench system and new types of wounds and disease caused by new weapons and battle techniques, triggered rapid progress in techniques for treating and healing patients, including solving the problem of blood loss.

The First World War broke out in 1914 and lasted for four years. The First World War saw a significant technological advancement in the way that countries fought one another: distance weapons such as new types of gun, bombs, gas shells and mines reduced the amount of hand-to-hand combat to almost nothing, while at the same time delivering a set of new, devastating injuries which doctors were completely unfamiliar. However, necessity is the mother of invention and these technological advances in warfare were matched by some meteoric developments in medical practice.

The environment for this study is the British sector of the Western Front and the theatre of war in Flanders and northern France: the Ypres salient, the Somme, Arras and Cambrai. The context in which the war was fought – including the trench system, the use of mines and the use of subterranean tunnels – and how the terrain and conditions impacted on injuries and treatment. The underground hospital at Arras.

The problems of wounds from weapons such as rifles and bombs and that new techniques in the treatment of wounds and infection had to be found or existing techniques adapted. For example, the new x-ray had to be developed into a mobile machine for use on the frontline, enabling doctors to find and remove shrapnel and bullets that were deeply embedded and lessen the chance of infection. The Thomas splint led to a dramatic reduction in deaths in soldiers with a broken femur.

Poison gas had been developed for use in trench warfare and this forced doctors to seek methods for treating the symptoms of gas poisoning, such as fluid on the lungs and temporary blindness.

The old problems of surgery – pain, infection and blood loss – had been solved in some respects during the nineteenth century, but the still-new methods had to be further developed for use in field hospitals, and quickly. The shelf life of donated blood stretched from seconds to weeks thanks to the use of preservatives such as sodium citrate, which meant that by 1917 Britain’s first blood bank had been opened for the Battle of Cambrai.

Aside from the conditions created by the new weapons, conditions in the trenches also caused a variety of diseases which needed treating, for example trench foot and trench fever, caused by lice.

With so many casualties occurring in the field, the importance of in situ medical facilities was profound. The Western Front occupied rural territory that was far from the large hospitals of the cities; the transport was mainly powered by horse and therefore slow and difficult, particularly in muddy conditions. The British army had no choice but to set up a system for treating the significant number of casualties in the fields surrounding their trenches.

The work of the Royal Army Medical Corps (RAMC) and The First Aid Nursing Yeomanry (FANY) in transporting and treating patients should be covered. The ‘chain of evacuation’ – a series of field posts focused on separate tasks, for example, assessing patients and dressing wounds. This significantly improved the efficiency of medical treatment at the frontline. At casualty clearing stations, the wounded were treated and either returned to active duty or evacuated to hospitals elsewhere in France and England.

Newspaper reports from the time also provide evidence that is useful to students studying this period, but should be approached with slightly more caution, in light of the need to keep morale high at the time. Students will need to be aware that they are not necessarily being provided with the complete picture.

Many doctors published their observations of war injuries or new techniques used during the First World War and these provide further documentary evidence of the medical developments of the time. Such sources tend to be very factual in focus.

Developments in photography by 1914 meant that the First World War was heavily photographed. As with accounts by doctors, these sources provide a snapshot of the time and enable students to do the work of inferring from them and interrogating them. Photographs might prove particularly useful in helping students to consider further lines of enquiry as they often provide a very singular point of view with little further explanation.