

Option 11

Topic booklet



Medicine in Britain c1250–present
and The British sector of the Western Front, 1914–18: injuries,
treatment and the trenches

GCSE (9-1) History

Pearson Edexcel Level 1/Level 2 GCSE (9-1) in History (1HI0)

Contents

1. Overview	3
1.1 Assessment	3
Section A Historic environment	3
Section B Thematic study	3
2. Medicine in Britain, 1250–present	5
2.1 Introduction	5
2.2 Content guidance	5
Key terms	6
Content exemplification and mapping	7
3. The British sector of the Western Front, 1914–18: injuries, treatment and the trenches	16
3.1 Introduction	16
3.2 Content guidance	16
Sources	17
4. Student timeline	18
5. Resources	20
5.1 Resources for students	20
5.2 Resources for teachers	22
5.3 Resources for the historic environment	23

1. Overview

At its heart, the Medicine in Britain study is the story of the development of science and its place in British society. The study begins in the Middle Ages, with a focus on the importance of the Church in everyday life and its reluctance to abandon faith in old methods for new, untested ideas, or its position of authority in the study of medicine. Following the decline of the power of the Church the study moves through the Renaissance, the scientific revolution, the process of industrialisation and into the nineteenth century, when new discoveries and developments started to have a big impact on the understanding of disease. The study finishes with a focus on the rise of technology in the twentieth century. In the linked historic environment, students learn about the relationship between conditions on the Western Front and their impact on the nature of illness and the provision of medical care, within the broader context of developments in medicine in the early twentieth century.

There are several fascinating key figures studied as part of the course, including William Harvey and Edward Jenner, British scientists who pioneered medical developments still important in modern medicine. There are plenty of engaging tales about everyday life in Britain through the ages; for example, the arrival of the Black Death and the cholera epidemics of the nineteenth century.

Studying Medicine in Britain will give students an overview of the impact that improved knowledge, understanding and technology has had in Britain from 1250 onwards. It provides a rich contextual environment to support students in their understanding of Britain's citizens and rulers, and their attitudes, since 1250.

1.1 Assessment

Section A Historic environment

For the historic environment, students answer one question requiring them to describe features (AO1) and a two-part question targeting AO3. Question 2 uses two contemporary sources; one of them may be visual, but at least one will be written.

- Question 1: students describe features.
- Question 2 (a): students assess the usefulness of two sources for a specified enquiry, making use of their knowledge of the historical context.
- Question 2 (b): students suggest a follow-up enquiry.

Section B Thematic study

Students answer three questions for the thematic study: Question 3, Question 4 and either Question 5 or Question 6.

- Question 3: this focuses on similarity and/or difference over time.
Questions will cross sections and will normally span at least a century (and may span much longer periods).
- Question 4: this focuses on the process of change (e.g. why there was a rapid change/slow change/why change continued).
Questions will normally span at least a century and may span much longer periods.
- Questions 5/6: requires a judgement and may focus any of the following: the *nature* or *extent* of change (change/continuity); *patterns* of change (turning points, i.e. significance); the *process* of change (factors bringing it about, i.e. causation); or the *impact* of change (i.e. consequence).

1. Overview

Questions will normally span at least two centuries and may span much longer periods.

Detailed information and guidance on assessment can be found in the separate Getting Started Guide.

2. Medicine in Britain, 1250–present

2.1 Introduction

The topic is structured chronologically in four blocks of time: c1250–c1500, Medicine in medieval England; c1500–c1700, The Medical Renaissance in England; c1700–1900, Medicine in eighteenth- and nineteenth-century Britain; and c1900–present day, Medicine in modern Britain.

Within each time period there are three strands: ideas about the cause of disease and illness; approaches to prevention and treatment; and case studies, which exemplify strands one and two in context. These case studies include significant epidemics, such as the Great Plague of 1665, and key individuals, such as Edward Jenner. The extra level of detail afforded by such case studies enables students to apply their understanding of developments in strands 1 and 2 to specific contextual examples and make detailed comparisons over time.

The focus of the unit is on the reasons for change, the speed and development of change, the significance of change, and the parallel elements of change and continuity. While the course is split into four time periods, it is important to recognise that the coverage of an extended period in a thematic study means that questions will cover long time periods or will ask students to make comparisons between two different sections of the chronology. A number of key factors are specified which shape the exploration of the process of change over the whole period: individuals and institutions (Church and government), science and technology and attitudes in society.

2.2 Content guidance

It is important that students have an understanding of the context and society during each time period and how these influenced developments in medicine. Contextual knowledge of the influence of the Church in medieval society, the Reformation, and the Industrial Revolution and growth of cities will be particularly relevant as these represent broader factors that inhibited or promoted change in medicine. An overview of less common topics such as the Renaissance, the Scientific Revolution and the Enlightenment would provide students with a strong framework onto which they can build their study of medicine.

Although the study now begins in 1250, background knowledge of ideas from the ancient world, such as those of Hippocrates and Galen, will be important to help students to garner a sense of continuity when studying the Middle Ages.

Students should understand that medicine in medieval England was strongly influenced by the Church: the Church controlled medical knowledge and understanding, promoting the work of Hippocrates and Galen as it had done for centuries. They should appreciate, too, that there was also a strong belief in the role of the supernatural: that God both sent and cured disease, according to one's level of sin, so that prayer fell alongside more corporal attempts to treat disease, such as bloodletting and purging, and herbal remedies that had been passed down through generations. The full spread of treatments that desperate people were willing to try is exemplified in the case study of the Black Death, which spread across England from 1348.

In the period c1500–c1700, students should understand that the Medical Renaissance in England represented a significant development in approaches to diagnosis and treatment of disease, shifting to a more scientific approach, supported and promoted through the Royal Society towards the end of the time period. They should recognise that the English Reformation saw the power of the Church wane and with it control of medical knowledge and training, and the religious hospitals that had previously provided care for the sick, leading to significant changes in the way doctors were trained. Scientific experimentation

2. Medicine in Britain, 1250–present

began in earnest, as exemplified in the case study on William Harvey and the circulation of the blood. Students should understand that new theories about the cause of disease were slow to develop and spread, however, and that old ideas, such as miasma, persisted throughout this period. The case study of the Great Plague outbreak in 1665 enables students to interrogate how much change there had been in understanding of infection and approaches to dealing with mass epidemics, making comparisons with attitudes and beliefs about the Black Death.

The third time period represents the most significant episode of change across the unit: ideas about the cause of disease saw their biggest alteration at this time, with improvements in science and technology. Students should understand the impact that this had on understanding about causes and treatment of disease, including the influence of Pasteur and Koch's work. The two case studies look at Edward Jenner and his smallpox vaccination, and John Snow and his theory about the spread of cholera. The latter provides an opportunity for comparison with the Great Plague and the Black Death, and attempts to prevent the spread of the disease. Students should also understand that surgical techniques were seeing a phenomenal improvement at this time, thanks to the discovery of anaesthetics and antiseptics, while hospitals were being cleaned up and redesigned, in part due to the work of Florence Nightingale. As the Industrial Revolution drew to a close, the government began to become more involved in all aspects of society, leading to laws focused on improving public health.

From 1900 onwards students should recognise that approaches to treatment and prevention saw a significant change. They should understand the impact of the NHS and government lifestyle campaigns such as mass vaccinations. They should also understand the impact of improvements in science and technology, leading to improvements in diagnosis and treatment. The first case study exemplifies how scientists such as Fleming, Florey and Chain developed treatments for specific diseases. Moving into the twenty-first century, the case study of the fight against lung cancer exemplifies the role of government, science and high-tech treatment in modern medicine and provides students with an opportunity to measure how much has changed in the treatment of disease since 1250.

Key terms

It may be useful to provide students with a list of key terms and concepts that they will need to be familiar with at the start of the course. The list of terms below is not intended to be a comprehensive checklist, rather simply a useful starting point for teachers to produce their own list of terms that their students may not fully understand or have difficulty spelling.

Students should understand chronological terms, such as medieval, Middle Ages, Renaissance, modern, and that, for example, 'the 1500s' is the sixteenth century and that 'c1900' means 'around 1900'.

Other key vocabulary for this option includes: diagnosis, observation, epidemic, pandemic, purging, bleeding, bloodletting, miasma, supernatural, physician, apothecary, the Church, circulation, dissection, microbe, anaesthetics, antiseptics, inoculation, vaccination, cholera, laissez-faire, genetics, DNA, penicillin, antibiotics, radiotherapy, chemotherapy.

2. Medicine in Britain, 1250–present

Content exemplification and mapping

This section provides additional guidance on the specification content. It should be remembered that the official specification is the only authoritative source of information and should always be referred to for definitive guidance. Any examples provided here do not constitute additional specification content, and other relevant material illustrating aspects of change within periods can be used.

c1250–c1500: Medicine in medieval England	Exemplification	Exemplification of the role of factors in change	Changes from 2013 Edexcel History B (SHP) 1A Medicine
<p>1 Ideas about the cause of disease and illness</p> <ul style="list-style-type: none"> • Supernatural and religious explanations of the cause of disease. • Rational explanations: the Theory of the Four Humours and the miasma theory; the continuing influence in England of Hippocrates and Galen. 	<ul style="list-style-type: none"> • The belief that illness was a punishment from God. • The use of astrology in the diagnosis and treatment of illness, representing a new development in this time period. • The Theory of the Four Humours, created by Hippocrates in Ancient Greece and developed by Galen in Ancient Rome; promoted by the Church and used widely by doctors. • Miasma: the idea of disease being caused by bad air and foul smells. 	<ul style="list-style-type: none"> • The role of individuals and institutions: the Church's influence and resulting continuity in beliefs about the cause of disease, as the Church promoted the Theory of the Four Humours and outlawed human dissection. • The role of attitudes in society: supernatural and religious explanations of illness. 	<ul style="list-style-type: none"> • The option now starts in c1250 (not c50AD) so only covers medieval England in this first period. • The focus of the content for c1250–c1500 is largely unchanged. • Miasma is now specified but very likely to have been covered previously.
<p>2 Approaches to prevention and treatment</p> <ul style="list-style-type: none"> • Approaches to prevention and treatment and their connection with ideas about disease and illness: religious actions, bloodletting and purging, 	<ul style="list-style-type: none"> • Religious actions included prayer and flagellation. • In connection with the Four Humours, the use of bleeding and purging to rebalance the body. 	<ul style="list-style-type: none"> • The role of individuals and institutions: the Church's provision of some hospital care; the Church's influence over medical training for physicians, leading to continuity in this area. • The role of individuals and 	<ul style="list-style-type: none"> • First bullet point – the focus of this content is largely unchanged. • The provision of water supplies and disposal of waste are

2. Medicine in Britain, 1250–present

<p>purifying the air, and the use of remedies.</p> <ul style="list-style-type: none"> New and traditional approaches to hospital care in the thirteenth century. The role of the physician, apothecary and barber surgeon in treatment and care provided within the community and in hospitals, c1250–1500. 	<ul style="list-style-type: none"> Herbal remedies from the apothecary or mixed at home – most common form of treatment. Hospitals provided by the Church as centres for recuperation rather than for the sick. Treatment and care for most sick people at home by the women of the household. Availability of physicians only for the rich. Apothecaries and barber surgeons: provided herbal remedies and carried out small surgeries, such as the treatment of haemorrhoids. 	<p>institutions: local government clearance of foul-smelling areas, such as overflowing cesspits, due to the belief in miasma.</p> <ul style="list-style-type: none"> The role of attitudes in society: preventative actions and treatments based on supernatural and religious beliefs. 	<p>no longer specified.</p> <ul style="list-style-type: none"> Second bullet point – approaches to hospital care now to be considered broadly, rather than just within the scope of Church influence. The focus has shifted away from the training of doctors to the different roles played by three key groups of medical practitioners.
<p>3 Case study</p> <ul style="list-style-type: none"> Dealing with the Black Death, 1348–49; approaches to treatment and attempts to prevent its spread. 	<ul style="list-style-type: none"> Religious methods included prayers, donations to the Church and flagellation. A very broad spread of other treatments, including charms, potions and sitting in sewers to drive away the miasma. Some rudimentary attempts at quarantine (not often successful). 	<ul style="list-style-type: none"> The role of individuals and institutions: the Church's promotion of religious methods to tackle the disease. The role of individuals and institutions: introduction by local government of some measures to keep streets clean and free from excessively noxious smells. The role of attitudes in society: attitudes were fatalistic: if it was God's will, you would die. 	<ul style="list-style-type: none"> No change to focus of content.

2. Medicine in Britain, 1250–present

c1500–c1700: The Medical Renaissance in England	Exemplification	Exemplification of the role of factors in change	Changes from 2013 Edexcel History B (SHP) 1A Medicine
<p>1 Ideas about the cause of disease and illness</p> <ul style="list-style-type: none"> Continuity and change in explanations of the cause of disease and illness. A scientific approach, including the work of Thomas Sydenham in improving diagnosis. The influence of the printing press and the work of the Royal Society on the transmission of ideas. 	<ul style="list-style-type: none"> Continuing use of the Theory of the Four Humours. Thomas Sydenham’s championing of observation over theory when diagnosing patients and development of the concept of ‘species’ of disease to improve observation. His book, <i>Observationes Medicae</i>, as the standard medical textbook for the next two centuries. More widespread use of printing, allowing better access to up-to-date medical texts. Founding of the Royal Society in 1660. Their sponsorship of scientists in research and assistance with publication, improving the spread of knowledge. 	<ul style="list-style-type: none"> The role of science and technology: printing more widespread and cheaper, improving the spread of ideas. The role of science and technology: dissections leading to better understanding of the human anatomy. The role of individuals and institutions: decline in the influence of the Church, and with it the focus on God as the cause of illness. The role of individuals and institutions: Thomas Sydenham and studies of epidemiology and clinical medicine, though his impact was mainly posthumous. 	<ul style="list-style-type: none"> The work of Thomas Sydenham is new. The broader impact of the Renaissance is no longer specified. The focus of the remainder of the content is unchanged.
<p>2 Approaches to prevention and treatment</p> <ul style="list-style-type: none"> Continuity in approaches to prevention, treatment and care in the community and in hospitals. Change in care and treatment: improvements in 	<ul style="list-style-type: none"> The loss of many of England’s hospitals following the dissolution of the monasteries. Setting up of some free hospitals, funded by charitable donations and run by trained physicians instead of monks. Publication by Vesalius, a 	<ul style="list-style-type: none"> The role of individuals and institutions: the decline of the influence of the Church and the impact of this on both hospitals and medical training. The role of science and technology: impact of printing, including that Vesalius’ book could 	<ul style="list-style-type: none"> There is a continued focus on hospital treatment. This is likely to have been covered under the old specification, which combined

2. Medicine in Britain, 1250–present

<p>medical training and the influence in England of the work of Vesalius.</p>	<p>professor of surgery in Padua, of <i>The Fabric of the Human Body</i> in 1543, with detailed drawings of human dissections, leading to an improvement in anatomical understanding.</p> <ul style="list-style-type: none"> • Continuity in most medical training being theoretical and based on classical works such as Galen. Carrying out of some dissections. 	<p>be distributed widely and cheaply.</p>	<p>this time period with the study of the Middle Ages.</p> <ul style="list-style-type: none"> • The focus of the remainder of the content is unchanged.
<p>3 Case studies</p> <ul style="list-style-type: none"> • Key individual: William Harvey and the discovery of the circulation of the blood. • Dealing with the Great Plague in London, 1665: approaches to treatment and attempts to prevent its spread. 	<ul style="list-style-type: none"> • William Harvey's <i>An Anatomical Account of the Motion of the Heart and Blood in Animals</i>, published in 1628, proved that blood circulated around the body. • Great Plague in 1665: government action to prevent its spread, including quarantining infected households, cancelling public assemblies and killing cats and dogs. Continuity in many treatments, similar to those used during the Black Death. 	<ul style="list-style-type: none"> • The role of individuals and institutions: impact of Harvey's work – it began to be taught in medical schools towards the end of this period. • The role of individuals and institutions: local councils took greater action during the outbreak of the Great Plague. • The role of science and technology: new mechanisms such as the pump inspired scientists like Harvey to think of the body functioning as a machine. Some development of better microscopes. 	<ul style="list-style-type: none"> • No change to focus of content.

2. Medicine in Britain, 1250–present

c1700–c1900: Medicine in eighteenth- and nineteenth-century Britain	Exemplification	Exemplification of the role of factors in change	Changes from 2013 Edexcel History B (SHP) 1A Medicine
<p>1 Ideas about the cause of disease and illness</p> <ul style="list-style-type: none"> Continuity and change in explanations of the cause of disease and illness. The influence in Britain of Pasteur’s Germ Theory and Koch’s work on microbes. 	<ul style="list-style-type: none"> Little change at the start of the period. Some theorising by scientists about germs being produced by decaying matter – spontaneous generation. Continuity in the belief in miasma. Publication in 1861 of Louis Pasteur’s Germ Theory, which proved that microbes in the air caused decay. Limited impact of Germ Theory on medicine in this time period because each disease had to be researched individually. Robert Koch’s development of Pasteur’s work by developing a process for identifying specific microbes, such as TB and cholera. 	<ul style="list-style-type: none"> The role of individuals and institutions: Pasteur’s discovery, which came when he was investigating why liquids turned sour for the brewing industry. The role of science and technology: new, more powerful microscopes, which enabled Pasteur to observe tiny organisms in liquids. The role of science and technology: Koch’s process of growing colonies of bacteria on agar jelly and staining them with dyes. The role of attitudes in society: the search for rational explanations in the aftermath of the Scientific Revolution. 	<ul style="list-style-type: none"> Research teams are no longer specified.
<p>2 Approaches to prevention and treatment</p> <ul style="list-style-type: none"> The extent of change in care and treatment: improvements in hospital care and the influence of Nightingale. The impact of anaesthetics and antiseptics on surgery. New approaches to 	<ul style="list-style-type: none"> Change in hospital conditions from dirty, dingy places to clean, airy, modern spaces. Impact of Florence Nightingale’s ideas about hospitals and nursing on these changes. Anaesthetics were developed, most notably chloroform, which was discovered by James Simpson 	<ul style="list-style-type: none"> The role of individuals and institutions: Florence Nightingale’s observations of high death rates in field hospitals during the Crimean War and her campaigns for cleaner, better hospitals and higher standards among nurses. The role of individuals and institutions/The role of attitudes in 	<ul style="list-style-type: none"> First bullet point – the focus of hospital care and the work of Nightingale remains the same. Anaesthetics and antiseptics are

2. Medicine in Britain, 1250–present

<p>prevention: the development and use of vaccinations and the Public Health Act 1875.</p>	<p>in 1847.</p> <ul style="list-style-type: none"> • Move towards an emphasis on the importance of keeping surgery clean and free from germs. Joseph Lister's use of carbolic acid to prevent infection during surgery from 1866. • Vaccination against smallpox; the introduction by the government of a nationwide vaccination program. • Some efforts by the government to improve public health, but real improvements only after the second Public Health Act of 1875, after the publication of Germ Theory. 	<p>society: the government's move away from its policy of <i>laissez-faire</i>; greater acceptance in society of government intervention in everyday life.</p> <ul style="list-style-type: none"> • The role of individuals and institutions: smallpox vaccination made compulsory in 1852. 	<p>new (but were previously included in the Unit 3 Surgery content).</p> <ul style="list-style-type: none"> • Second bullet point – the development of vaccinations would previously have been covered in further study of the work of Pasteur and Koch. • Edwin Chadwick is no longer specified. • Bazalgette and the sewer system is no longer specified. • The 1848 Public Health Act is no longer specified.
<p>3 Case studies</p> <ul style="list-style-type: none"> • Key individual: Jenner and the development of vaccination. • Fighting Cholera in London, 1854; attempts to prevent its spread; the significance of Snow and the Broad Street pump. 	<ul style="list-style-type: none"> • Jenner's publication in 1798 of his observation that exposure to cowpox acted as a preventative for smallpox; term 'vaccination' coined. • Vaccination effective against smallpox developed. Limitations of Jenner's discovery: not a process applicable to other diseases. 	<ul style="list-style-type: none"> • The role of individuals and institutions: Jenner's observation, as a rural doctor, that dairy maids rarely suffered from smallpox. • The role of individuals and institutions: parliament's grant of £30,000 to Jenner to open a vaccination clinic. • The role of individuals and 	<ul style="list-style-type: none"> • First bullet point – the focus of this content is unchanged • Second bullet point – the focus has narrowed to a case study of the 1854 outbreak

2. Medicine in Britain, 1250–present

	<ul style="list-style-type: none">• Urgency in discovering the cause of cholera due to the epidemics that swept through London in the nineteenth century.• John Snow's discovery, through careful observation, of the source of a cholera outbreak in 1854, tracing it back to the Broad Street pump. Impact of his work.	institutions: observations by Snow and their impact – an understanding that cholera was waterborne led to greater acceptance for legislation on water supplies and sewerage – e.g. 1875 Public Health Act.	and the work of John Snow
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2. Medicine in Britain, 1250–present

c1900–present: Medicine in modern Britain	Exemplification	Exemplification of the role of factors in change	Changes from 2013 Edexcel History B (SHP) 1A Medicine
<p>1 Ideas about the cause of disease and illness</p> <ul style="list-style-type: none"> Advances in understanding the causes of illness and disease: the influence of genetic and lifestyle factors on health. Improvements in diagnosis: the impact of the availability of blood tests, scans and monitors. 	<ul style="list-style-type: none"> Development of Germ Theory, isolating viruses and bacteria as different causes of infection and targeting them in different ways. The discovery of the structure of DNA and the subsequent mapping of the human genome; the search for cures to genetic conditions. Improved diagnosis as a result of x-rays, scans, blood tests and other technology enabling earlier interventions, and therefore more effective treatments. 	<ul style="list-style-type: none"> The role of science and technology: the study of genetics, enabling scientists to isolate genetic conditions that are hereditary. The role of science and technology: wide variety of technological advances, enabling doctors to see inside the human body with more clarity, improving diagnosis and allowing for more targeted treatment. The role of science and technology: monitors for things like blood pressure, enabling people to take control of their own health. 	<ul style="list-style-type: none"> First bullet point – genetics should now be considered in the wider context of understanding about disease. Crick and Watson are no longer specified. Second bullet point – the focus of this content is unchanged.
<p>2 Approaches to prevention and treatment</p> <ul style="list-style-type: none"> The extent of change in care and treatment. The impact of the NHS and science and technology: improved access to care; advances in medicines, including magic bullets and antibiotics; high-tech medical and surgical treatment in hospitals. 	<ul style="list-style-type: none"> Improvements in access to medical care. The impact of the NHS on access and provision. Development of new drugs, including Salvarsan 606 and Prontosil, the so-called magic bullets. The use of chemical drugs to treat illnesses. The impact of vaccination campaigns on diseases like polio and diphtheria. 	<ul style="list-style-type: none"> The role of science and technology: genetic research, leading to improved skin grafts and better vaccines. The role of science and technology: new technology, such as the MRI scanner, improving diagnosis and treatment in hospitals. The role of individuals and institutions: increased 	<ul style="list-style-type: none"> First bullet point – the focus of this content is unchanged. The Liberal welfare reforms are no longer specified. The role of Bevan is no longer specified.

2. Medicine in Britain, 1250–present

<ul style="list-style-type: none"> • New approaches to prevention: mass vaccinations and government lifestyle campaigns. 	<ul style="list-style-type: none"> • Government-launched campaigns to promote the maintenance of good health to the population, for example, encouraging smoking cessation. 	<p>government intervention in everyday life, e.g. the introduction of the NHS in 1948 and lifestyle campaigns and legislation.</p>	<ul style="list-style-type: none"> • Second bullet point – the focus of this content is unchanged.
<p>3 Case studies</p> <ul style="list-style-type: none"> • Key individuals: Fleming, Florey and Chain’s development of penicillin. • The fight against lung cancer in the twenty-first century: the use of science and technology in diagnosis and treatment; government action. 	<ul style="list-style-type: none"> • Alexander Fleming’s discovery of penicillin in 1928. His publication, but not further development, of his findings. • Florey and Chain’s interest in Fleming’s research in 1938. Subsequent government funding to develop penicillin into a usable treatment. • Lung cancer: diagnosis with new technologies such as CT scans; treatment with modern medical techniques such as radiotherapy and chemotherapy. Also some genetic treatments in development. • Government actions on lung cancer, including national ‘Stop Smoking’ campaigns, the steady reduction in permissible cigarette advertising and, most recently, the move to plain packaging for cigarettes. 	<ul style="list-style-type: none"> • The role of individuals and institutions: Alexander Fleming’s discovery of penicillin when researching antibacterial agents. Development of Fleming’s original discovery by Oxford scientists Florey and Chain. Funding from the British and American governments to enable penicillin to be developed into a usable drug. • The role of science and technology: careful scientific method and the publication of scientific papers, allowing Florey and Chain to build on Fleming’s research. • The role of science and technology: use of CT scanners in lung cancer diagnosis; treatments such as chemotherapy and radiation therapy. • The role of individuals and institutions: major campaigns to prevent lung cancer. 	<ul style="list-style-type: none"> • First bullet point – the focus of this content is unchanged. • Second bullet point – this is new content, though it builds on increased government intervention in the 2013 specification.

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

3.1 Introduction

The historic environment study examines 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, as well as the impact of provision for medical care in the locality in the broader context of developments in medicine in the early twentieth century.

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 content is assessed through a question on features of the period and also through a historical enquiry.

For the historical enquiry, students will need to develop the skills necessary to analyse, evaluate and use contemporary sources to make substantiated judgements, in the context of the historical events studied. To aid teaching, the content is divided into two sections: the first covers the site in its historical context; the second covers knowledge, selection and use of sources relevant to this historic environment for enquiries.

There is a wide range of contemporary source material that can be used to investigate this environment: army records, newspapers, government reports, medical articles, personal accounts, photographs, hospital records, army statistics.

3.2 Content guidance

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 with 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. Students need to understand 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 should also be covered.

Students should understand 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.

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

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.

Students should understand that 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. Students should understand 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.

Sources

As we mark the 100th anniversary of the First World War, an enormous variety of memoirs and first-hand accounts of the Western Front are available more readily than ever before. These provide rich pickings for contemporary sources and are ideal for using with students in the classroom. As well as giving them additional layers of knowledge, they can use their prior learning to interrogate the sources.

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. Students may find these useful for practising their inferring skills.

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.

4. Student timeline

4. Student timeline

The timeline below could be given to students, and could be further edited and added to by them. Inclusion of dates and events in this timeline should not be taken as an indication that these are prescribed: the official specification and associated assessment guidance materials are the only authoritative source of information and should always be referred to for definitive guidance.

1348	Arrival of Black Death in Britain
c1439	Invention of the printing press
1536–40	Dissolution of the monasteries – interruption of the Church’s provision of hospitals
1543	Publication of Vesalius’ <i>The Fabric of the Human Body</i>
1628	Publication of William Harvey’s work on the circulation of the blood
1660	Establishment of the Royal Society
1665	Outbreak of the Great Plague
1676	Publication of Thomas Sydenham’s <i>Observations Medicae</i>
1796–98	Development of smallpox vaccination by Jenner
1847	James Simpson’s discovery of chloroform as an anaesthetic
1854	Severe cholera outbreak in London
1854	John Snow’s observations linking the cholera outbreak to a specific pump
1856	Start of Florence Nightingale’s lobbying of government to improve hospitals
1859	Publication of Florence Nightingale’s <i>Notes on Nursing</i>
1860	Opening of Florence Nightingale’s School of Nursing
1861	Pasteur’s discovery of Germ Theory
1866	Start of carbolic acid being used by Joseph Lister to create an antiseptic environment for surgery
1875	Second Public Health Act
1876	Koch’s isolation of the bacteria responsible for anthrax
1881	Pasteur’s development of a vaccination for anthrax
1895	William Röntgen’s discovery of x-rays
1901	Karl Landsteiner’s discovery of blood groups, making transfusions possible

4. Student timeline

1909–10	Paul Ehrlich's discovery of the first magic bullet, Salvarsan 606
1914	Start of the First World War
1914	Albert Hustin's discovery that sodium citrate stops blood from clotting, making storage for transfusion possible
1914	Marie Curie's development of mobile x-ray units to be used to detect shrapnel on the frontline
1915	Use of chlorine gas on troops at Loos
1915	Use of chlorine-phosgene gas on troops at Ypres
1916	The Battle of the Somme
1917	First blood depot at the Battle of Cambrai
1917	Use of mustard gas on troops at Ypres
1928	Fleming's discovery of penicillin
1932	Discovery of the second magic bullet, Prontosil
1941	Florey and Chain's development of Fleming's discovery of penicillin into a usable treatment
1948	Launch of the NHS
1953	Franklin, Watson and Crick's discovery of the structure of DNA
1990	Mapping of the Human Genome

5. Resources

The tables below list a range of resources that could be used by students and teachers for this topic. Inclusion of resources in this list does not constitute endorsement of those materials. While these resources — and others — may be used to support teaching and learning, the official specification and associated assessment guidance materials are the only authoritative source of information and should always be referred to for definitive guidance. Links to third-party websites are controlled by others and are subject to change.

5.1 Resources for students

Details of new resources published to support this specification will be added when these become available.

Resource	Details
<i>Edexcel GCSE History (9-1) Medicine through time, c1250-present</i> (Pearson, 2016)	Student book written for this option in the new GCSE specification.
<i>Hodder GCSE History for Edexcel: Medicine through time, c1250–present</i> (Hodder Education, 2016)	Student book written for this option in the new GCSE specification.
Cathy Warren and Nigel Bushnell, <i>Schools History Project: Medicine and Surgery</i> (Pearson, 2009, updated edition 2013)	Textbook written for the 2009 Edexcel GCSE History B specification.
Ian Dawson, Dale Banham, Dan Lyndon, <i>Edexcel Medicine and Health Through Time</i> (Hodder Education, 2009)	Textbook written for the 2009 Edexcel GCSE History B specification.
BBC Education Medicine through time www.bbc.co.uk/education/topics/zhphvcw	A set of videos aimed at GCSE students.
Science Museum Brought To Life: Exploring the History of Medicine www.sciencemuseum.org.uk/broughttolife	Extremely detailed website covering most aspects of the course. The profiles of the key individuals are particularly useful.
Ken Follett, <i>World Without End</i> (Pan Books 2008) Also a TV series – clips available on YouTube	Good for the Middle Ages. Shows the juxtaposition of medical treatments promoted by the Church and provided by local wise women. Also provides information on the Black Death.

5. Resources

Pain, Pus and Poison: The Search for Modern Medicine www.bbc.co.uk/programmes/p01f51s5	Documentary series about developments in surgery and treatment. The BBC website contains clips and related links from the BBC and across the web.
Scream: A History of Anaesthetics	Documentary detailing the development of anaesthetics in the nineteenth century. Can be found on YouTube.
Seven Wonders of the Industrial World: Bazalgette's Sewers	Covers the cholera epidemics of the nineteenth century and actions taken in relation to them (note that Bazalgette is no longer specified content). Can be found on YouTube.
CancerProgress.Net www.cancerprogress.net/timeline/lung-cancer	An American website with a timeline mapping the fight against lung cancer.

5. Resources

5.2 Resources for teachers

Resource	Details
William Bynum, <i>The History of Medicine: A Very Short Introduction</i> (Oxford University Press, 2008)	Good overview. Useful to read when preparing to teach the topic.
Carole Rawcliffe, <i>Medicine and Society in Later Medieval England</i> (Sutton Publishing, 1995)	Detailed information about the medieval period with many quotes from original sources.
Rosemary Horrox, <i>The Black Death</i> (Manchester University Press, 1994)	A collection of contemporary accounts of the Black Death, including accounts of its impact and theories about its origins and treatment.
Emily Cockayne, <i>Hubbub: Filth, Noise and Stench in England, 1600–1770</i> (Yale University Press, 2008)	Very readable text about public health and medicine 1600–1770, covering the Great Plague.
Evelyn Lord, <i>The Great Plague: A People's History</i> (Yale University Press, 2014)	Provides details of the impact of the 1665 outbreak of the plague on the whole country, from first-hand accounts.
Richard Thomas Williamson, <i>English Physicians of the Past</i> (General Books LLC, 2010)	Provides additional detail about Sydenham and Harvey and their work.
Sandra Hempel, <i>The Strange Case of the Broad Street Pump</i> (University of California, 2015)	Provides details of the cholera epidemics and public health conditions in nineteenth century London, using a wide variety of contemporary sources.
Thinking History activities http://thinkinghistory.co.uk/ActivityKS/ActivityGCSESHP.html	A number of activities are given under the heading 'Development Studies: Medicine'.
The Wellcome Library http://wellcomelibrary.org/	Wide variety of articles and publications relating to many aspects of the course.
Thackray Medical Museum www.thackraymedicalmuseum.co.uk	Online resources, as well as talks and tours for visitors.
Hunterian Museum www.rcseng.ac.uk/museums/hunterian	Run GCSE Medicine through Time workshops.

5. Resources

5.3 Resources for the historic environment

Resource	Details
<i>Edexcel GCSE History (9-1) Medicine through time, c1250-present</i> (Pearson, 2016)	Student book written for this option in the new GCSE specification.
<i>Hodder GCSE History for Edexcel: Medicine through time, c1250–present</i> (Hodder Education, 2016)	Student book written for this option in the new GCSE specification.
Susan Cohen, <i>Medical Services in the First World War</i> (Shire Publications, 2014)	A short but comprehensive introduction to the topic.
Ana Carden-Coyne, <i>The Politics of Wounds: Military Patients and Medical Power in the First World War</i> (Oxford University Press, 2014)	Very detailed study of the topic. Good background reading for teachers and higher ability students.
Andrew Davidson, <i>Fred's War: A Doctor in the Trenches</i> (Short Books, 2013)	Biography of Fred Davidson, one of the first doctors to receive the Military Cross. A rich resource of contemporary photographs.
Lyn MacDonald, <i>The Roses of No Man's Land</i> (Penguin, 2013)	Combines first-hand accounts of the war from a wide range of individuals, including nurses, surgeons and ambulance drivers.
BBC The Crimson Field Drama	Dramatisation of MacDonald's book.
Anzac Girls	A series following the lives of Australian and New Zealand nurses working on the Western Front. Excellent context for the topic.
WW1: The Medical Front www.vlib.us/medical/	A collection of relevant articles and published works. Includes a variety of contemporary sources and links to other helpful websites.
A War Nurse's Diary: Sketches From a Belgian Field Hospital www.ourstory.info/library/2-ww1/warnurse/wnTC.html	Contemporary account of a nurse's experiences in field hospitals.
Military Medicine on the Western Front http://myweb.tiscali.co.uk/drericwebb/docs/mgw.htm	Provides a good overview of the topic.
Army Medical Services Museum, Aldershot	A museum dedicated to the development of medicine on the frontline.

5. Resources

<p>National Army Museum War Surgery, 1914–18 www.nam.ac.uk/whats-on/lunchtime-lectures/video-archive/war-surgery-1914-18</p>	<p>Video and transcript of a talk about the improvements in the care of the wounded in casualty clearing stations and base hospitals in France during the First World War.</p>
<p>BBC How did WW1 change the way we treat war injuries today? www.bbc.co.uk/guides/zs3wpv4</p>	<p>A useful and visual overview.</p>
<p>BBC World War One: Medicine www.bbc.co.uk/schools/0/ww1/25403864</p>	<p>Useful micro-site with sections on illness and injury, medical advances and treating soldiers.</p>
<p>Imperial War Museum First World War: Firsts of the First World War www.iwm.org.uk/history/first-world-war</p>	<p>Useful articles and sources on the Western Front, trenches etc.</p>
<p>First World War Centenary Battlefield Tours Programme www.centenarybattlefieldtours.org/</p>	<p>The programme is designed to provide the opportunity for a minimum of two students and one teacher from every state-funded secondary school in England to visit battlefields on the Western Front between 2014 and 2019, as part of the Government's plans to commemorate the centenary of the First World War. The site also has teaching resources.</p>

There is no requirement to visit the historic environment site, but for those wishing to, a number of tours to the Western Front operate which visit the Ypres Salient, Hill 60, the Somme, Arras and Cambrai.