

1. Causes of illness and disease

Game Changer: understand how and why the causes of illness and disease changed over time

[BBC
overview
video](#)



Key Words

malnutrition
health problems caused by a lack of proper food and nutrients
famine
death of many people from starvation
contaminated
made dirty
bacteria
microscopic organisms that can cause disease
Renaissance
a period of European 'rebirth' in the 15th and 16th centuries.
Ancient Roman and Greek texts were rediscovered, encouraging new scientific thinking and discoveries.
miasma
'bad air' that people thought spread disease.

MEDIEVAL

1000-1450 AD (a.k.a. Middle Ages)

1 Poverty

- Most people depended on their fields for food. **Malnutrition** was common.

Famine

- Regular famines, caused by poor weather. The worst was 1315-17, when torrential rain ruined the harvest for 3 years (10% of the population died).

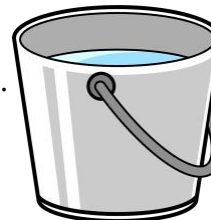
Warfare

- Battle injuries from axes or swords. As armies grew bigger, more people died in battle.
- Big armies took food from local people, causing food shortages.



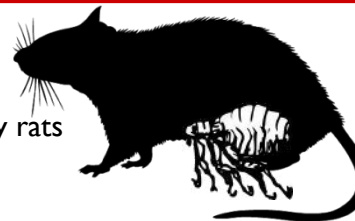
2 Lack of hygiene

- Drinking water was **contaminated** by sewage and rubbish. Overcrowded housing let disease spread fast.
- Limited attempts by some towns to pass laws to clean up the streets.



3 Black Death 1348-49

- 50%** of the population killed by the **bubonic plague**. Many historians believe it was spread by rats carrying fleas containing the plague **bacteria**.



EARLY MODERN

1450AD-1750, includes the Renaissance

4 Lack of hygiene

- Animals continued to live in towns as they had in the Middle Ages
- Doctors continued to have very little understanding of the causes of disease.
- People continued to believe that God was responsible for illness, rather than poor hygiene



5 Great Plague 1665

- The Great Plague of 1665 killed 100,000 people in London (25% of the population).
- Like the Black Death, it was caused by bacteria.
- People, including most doctors, fled the city and spread the plague to other parts of the country.
- Many thought plague was spread by **miasma**.



1. Causes of illness and disease

Game Changer: understand how and why the causes of illness and disease changed over time

[Six](#)
[diseases](#)
[video](#)



Key Words

urbanisation

more people living in cities

contagious

can be caught by contact

epidemic

when a disease spreads to a large number of people.

endemic

present all the time

pandemic

an epidemic that spreads across the world

antibiotics

drugs used to treat bacterial infections

virus

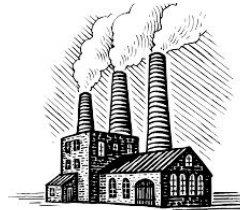
an organism that can cause disease. Unlike bacteria, they cannot be treated with antibiotics

MODERN

1750-present, includes the Industrial Revolution

6 Effects of industrialisation

- The **Industrial Revolution (1750-1900)** caused **urbanisation** as people moved to work in factories.
- Overcrowding forced families to share a room. Hundreds of people shared a toilet.
- Contagious** diseases spread fast, including **smallpox**, **tuberculosis**, and **measles**. In Manchester 57% of children died before age 5.
- Poor children had malnutrition. **Rickets** is a Vitamin D deficiency caused by a lack of sunlight and Calcium in the diet. It was so common it was called the 'English disease'.



7 19th Century Cholera and Typhoid

- Both are **bacterial** infections
- Cholera** was the most feared infectious disease. Cholera **epidemics** killed thousands (1831-32 50,000 dead, 1848 60,000 dead, 1854 20,000 dead).
- Typhoid** was an **endemic** disease in industrial cities.
- The largest outbreak was in Maidstone, Kent in 1897-8. It killed 132 and was ended by shutting down a contaminated water reservoir.



8 20th century bacteria and viruses

- Soldiers returning home around the world after WWI led to 20-40 million deaths from the 'Spanish Flu' influenza virus **pandemic** of 1918-19. 20% of those infected died (280,000 in Britain).
- Tuberculosis** was a bacterial infection and killed 50% of victims
- Bacteria became less dangerous once **antibiotics** were invented after WW2. Recently, **antibiotic resistant bacteria** have developed.



- In the 1980s a new **virus**, **HIV**, spread among gay men in America, then across the world. It is spread by unprotected sex, by sharing a needle, or by a blood transfusion from someone with the virus.
- HIV** causes a condition called **AIDS**, in which the body's immune system fails, leading to death from simple infections. By 2014 40 million had died of AIDS.

21st century viruses

- New medicines can now control HIV. Blood transfusions are screened for it, and sex education encourages condom use. About 100,000 people live with HIV in the UK, both gay and heterosexual.
- Ebola virus** caused a deadly epidemic in West Africa (2013-16)
- The **Coronavirus pandemic** affected the world from 2019-



2. Prevention of illness and disease

Game Changer: understand how and why attempts to prevent illness and disease changed over time

[Medieval
medicine
video](#)



Key Words four humours theory

the incorrect idea that the body is made up of four substances: blood, phlegm, yellow bile, and black bile. To be healthy, they should be in balance.

Physicians doctors who were trained at the new universities e.g. in Italy or Paris
theory

an idea that is supposed to explain something.
miasma 'bad air' that people thought spread disease.

MEDIEVAL

1000-1450 AD (a.k.a. Middle Ages)

1 Preventing the Black Death

- The Church told people to pray for forgiveness for sins, hoping God would spare them the Black Death. **Flagellants** whipped themselves for forgiveness.
- Sweet-smelling herbs were carried to keep away **miasma**.
- Some people tried to flee the Black Death, but this spread the disease.
- Some measures helped: Edward III ordered the streets of London cleaned, people avoided those infected, sometimes painted a red cross on their houses..



2 Alchemists

- Wanted to turn base metals such as lead into gold. Although impossible, their experiments increased understanding of metals. Some scientists (e.g. Roger Bacon, 13th century) were alchemists.
- Alchemists tried to find a substance to make people live forever.

Soothsayers

- Local 'wise women' who people consulted when ill. Might prescribe plants, herbs or make charms to protect against evil.

Medieval doctors

- Most care NOT by doctors - **monks** gave medical care, **apothecaries** made herbal remedies, **barber-surgeons** cut hair, pulled teeth, set broken arms.
- Few doctors in England. **Physicians** trained in the ancient Greek doctor **Hippocrates'** theory of the **four humours**. Although wrong the **theory** was believed for more than a thousand years.

EARLY MODERN

1450 AD-1750, including Renaissance

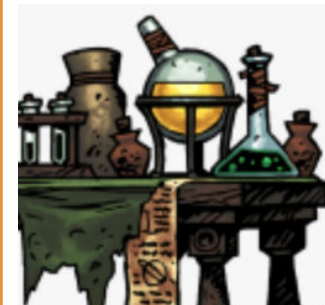
3 Little change from Medieval

- Great Plague (1665) thought to be spread by miasma. Plague doctors tried to protect themselves with clothing and a nose cone full of sweet-smelling herbs.



Alchemy

- Paracelsus (1493-1541) used alchemy for chemical and mineral medical treatments
 - Alchemists' discoveries helped scientists, such as William Harvey (17th century). Sir Isaac Newton (17th century, discovered gravity) was also an alchemist.



Soothsayers

- Continued to play a key role in local communities.



2. Prevention of illness and disease

Game Changer: understand how and why attempts to prevent illness and disease changed over time

[Jenner
& 18th
century
video](#)



Key Words

Enlightenment

period in the 18th century when people began looking for rational causes for things

scientific method

observation and experimentation are used to prove things

stethoscope

medical instrument for listening inside the body e.g. to heart or lungs

cholera

deadly water-borne disease

inoculation

introducing a disease into a person, allowing their immune system to build immunity

vaccination

introducing a harmless version of the disease into a person to give immunity.

immunity

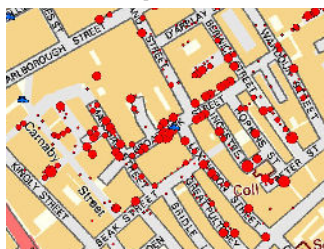
the body can resist a disease

MODERN

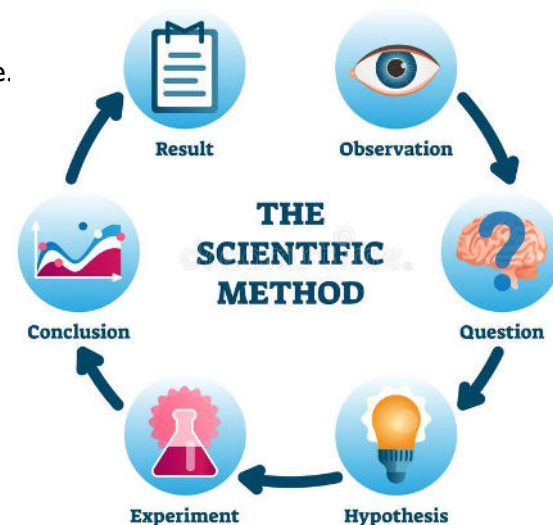
1750-present, includes the Industrial Revolution

4 Science used to prevent disease

- 18th century rich people tried to prevent disease with fresh air, diet and exercise.
- Four humours theory continued in the 18th century - regular bleeding was thought to balance the humours.
- 'Science' really began in the 18th century **Enlightenment**. Scientists used the **scientific method** to make great discoveries. More doctors **trained** in science at university. **Scientific papers** were published, telling doctors about new discoveries which gradually replaced the four humours.
- New scientific instruments** allowed investigation of patients (e.g. **stethoscope** invented 1816).



- John Snow** used the scientific method in the **1854 cholera epidemic**.
- He plotted cases on a map, finding a cluster around the Broad Street pump.
- Snow shut the pump, causing the number of cases to fall. This proved cholera is water-borne.



5 Edward Jenner and vaccination

- Basic **inoculation** against smallpox existed in Asia. In 1721 Lady Montagu brought it from Istanbul and inoculated her children. This was dangerous as it used live smallpox.
- In 1798 Edward Jenner invented **vaccination**. Jenner realised milkmaids who'd had cowpox didn't catch smallpox. Injecting people with harmless cowpox gave them **immunity** from smallpox.
- The government gave Jenner £30,000 reward.



2. Prevention of illness and disease

Game Changer: understand how and why attempts to prevent illness and disease changed over time



Key Words

eradicated

got rid of
infant mortality rate

number of children who die per 1000 of the population

germ theory
the idea that disease are caused by microscopic germs, including bacteria

microscopic

so small it can only be seen with a microscope

specific

a particular type

antibodies

substances produced by the body's immune system to fight disease

MODERN

1750-present, includes the Industrial Revolution

6 Spread of inoculation since 1800

- Government made the smallpox vaccine free for infants (1840), then compulsory (1852).
- An anti-vaccine league (1866) opposed compulsory vaccination. Some disliked government control, some said vaccines went against God's will..
- Smallpox was **eradicated** by 1920 in Britain, globally by 1977. After WW2 most common infectious diseases were controlled by new vaccines (e.g. polio vaccine introduced 1955, measles 1963, MMR (measles, mumps and rubella) 1988.
- Infant mortality rate fell from 170 per 1000 in 1900 to 4 per 1000 today.
- Today, vaccines help to control flu.
- Scientists developed the Coronavirus vaccine at record speed.

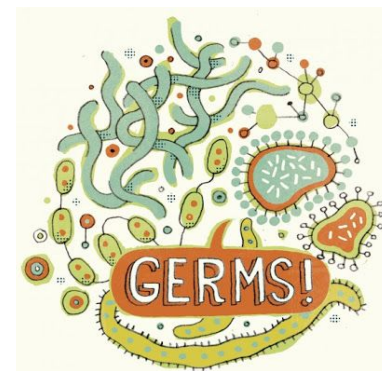


- Vaccines have saved hundreds of millions of lives but conspiracy theories and suspicion continue. In 1998 a doctor falsely claimed the MMR vaccine caused autism. Some parents didn't vaccinate their children, causing a national measles outbreak (2012-3).

- Antivaxxers' campaigned against the Coronavirus vaccine.

7 Developments in the field of bacteriology

- Louis Pasteur's **germ theory** (1861) proved bacteria cause disease.
- Robert Koch discovered that **specific** bacteria cause different diseases. Attempts to treat a disease could now focus on developing a drug to kill a specific bacteria.
- Koch also realised that **antibodies** work on specific bacteria, which explained why vaccination worked.



8 Discovery of antibiotics

- In 1928 Alexander Fleming discovered the first antibiotic: **penicillin**



LINK Find out more in 3.7
Attempts to Treat and Cure



3. Treatment and cures of illness and disease

Game Changer: understand how and why attempts to treat and cure illness and disease changed over time

[Simpson](#)

[&](#)

[Lister](#)

[video](#)



Key Words

zodiac chart

astrological chart

remedies

medicines or treatments

cupping

drawing the blood out from a small cut on the skin, usually the arm

four humours

four substances (blood, phlegm, yellow bile, and black bile) that people believed needed to be balanced for health.

anaesthetic

pain reliever

general

anaesthetics

make the patient lose

consciousness

local

anaesthetics

remove

sensation in part

of the body

MEDIEVAL

1000-1450 AD (a.k.a. Middle Ages)

1 Traditional treatments and remedies

- Included herbal medicines, bleeding, using urine to diagnose illness.
- **Zodiac charts used** to suggest treatments (based on the idea that all body parts link to an astrological sign).

Herbal medicines

- Widespread use of herbal **remedies**, often handed down through families or communities. Sometimes written down in books called 'herbals'. Might include prayers while collecting or taking the herbs. Some plants or substances used helped to cure infection.

2 Barber surgeons

- Did an apprenticeship with another barber surgeon, very little medical knowledge.
- The only medical professional most people could afford to see. Cut hair, set broken limbs, did bloodletting and simple surgery.

Use of leeches

- Bloodletting done using either **cupping** or by using **leeches**. These were believed to remove 'impure' blood from the body, leaving 'good blood', and helping to balance the **four humours**.



EARLY MODERN

1450 AD-1750, including Renaissance

3 Very little change from medieval



- Medieval methods continued
- New ingredients appeared during voyages and discoveries of the 15th- 17th centuries. Rhubarb from Asia was believed to be a powerful new drug. Tobacco from North America was used in herbal remedies.
- More scientific observation of disease but the breakthroughs in understanding that would result in new treatments hadn't yet happened.
- Alchemists used chemical and mineral treatments

Learn about
ALCHEMY
in 2.3 and
4.1

MODERN

1750-present

4 James Simpson and anaesthetics

- **Ether** or **laughing gas** (nitrous oxide) was an **anaesthetic** in the 19th century, but difficult to control the dose.
- In 1847 James Simpson used **chloroform** for women in childbirth. Queen Victoria used it in 1853, and was copied by many wealthy women.
- Both ethene and chloroform were inhaled as a **general anaesthetic**. From 1891 **cocaine** used as a **local anaesthetic**. Anaesthetics made surgery much more bearable but infection remained the big danger.



3. Treatment and cures of illness and disease

Game Changer: understand how and why attempts to treat and cure illness and disease changed over time

Key Words

antiseptic

a substance that stops infection by killing germs

aseptic

surgery

surgery that is free of infection

mortality

rate

death rate

sterilise

remove all bacteria

bacteria

microscopic organisms, can cause disease

penicillin

the first antibiotic

antibiotics

drugs used to treat bacterial infections

D-Day

day the Allies invaded mainland Europe by sea

MODERN

1750-present, includes the Industrial Revolution

5 Joseph Lister and antiseptics

- Joseph Lister was an English surgeon inspired by Pasteur's germ theory.
- Lister began operating in a room sterilised by **carbolic acid**. This was the first **antiseptic**. Lister soaked instruments, dressings, and wounds in carbolic acid. **Aseptic surgery** cut Lister's mortality rate from 46% to 15%. In 1871 he invented a machine to **spray** carbolic acid over the whole operating room, including the surgeons. He was known as the 'Father of Antiseptic Surgery'.
- In 1881 a steam steriliser was invented for medical instruments. More surgeons began to **sterilise** their equipment. At the start of the 20th century some began to operate in rubber gloves and clean clothes, but this took decades to become the standard practice it is today.



6 Marie Curie and radiation

- Marie Curie **discovered two radioactive elements** – radium and polonium – and won a Nobel Prize in 1903. These elements were later used to destroy cancer cells using radiotherapy.
- Curie discovered a way to **measure** radiation and won a second Nobel Prize in 1911. During WWI she developed **mobile X-ray units**.



7 Fleming, Florey and Chain and antibiotics

- In 1928 **Alexander Fleming** discovered that a mould he had accidentally grown on a petri dish could kill **bacteria**. The mould was called **penicillin**. Fleming had discovered **antibiotics**. It could now be possible to treat bacterial infections by killing the bacteria. Fleming published his findings but lacked the funding to develop his discovery.
- In 1937 scientists **Florey and Chain** read Fleming's work and built on it. The government funded them as it knew war was likely soon. They developed an effective drug, but could not produce enough to treat patients properly.



- The **USA** joined WW2 in 1941 and increased funding for penicillin research hugely. It wanted to stop soldiers' wounds from being infected when the Allies invaded Europe.
- By **D-Day** (June 1944) penicillin was being mass produced, saving thousands of soldiers.

3. Treatment and cures of illness and disease

Game Changer: understand how and why attempts to treat and cure illness and disease changed over time



Key Words

**antibiotic
resistance**

antibiotics stop
working on bacteria

**immunosuppress
ants**

stop the body's
immune system
from attacking the
donor organ

radiation therapy

radiation to kill
cancerous cells

chemotherapy

medicine to kill
cancerous cells

keyhole surgery

a camera and
surgical instruments

are put into the
body through a
small hole rather
than a large wound

microsurgery

surgery using a
microscope

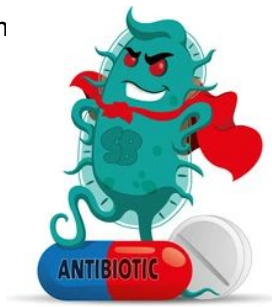


MODERN

1750-present, includes the Industrial Revolution

8 Antibiotics

- Since the Second World War many more antibiotics have developed, so most bacterial infections can be treated effectively. This has saved many millions of lives and **increased life expectancy**.
- A key modern concern is **antibiotic resistance**. Bacteria become resistant to antibiotics, usually because people don't take the full dose of antibiotics.



9 Barnard and transplant surgery

- As infection rates fell, and anaesthetic allowed more complex surgery on calm patients, surgeons tried new types of surgery. **Transplant surgery** replaces a non-functioning organ with a replacement from a donor's body.
- The first kidney transplant was 1952, the first heart pacemaker (an electrical 'timekeeper' for the heart) was implanted in 1961.
- Christian Barnard** did the first heart transplant in South Africa in 1967. His patient only lived for 18 days, but it showed that a heart transplant was possible. Hip replacements were first done in 1972.
- In the 1980s more effective **immunosuppressants** increased the success rate of transplants and the number carried out. These drugs stop the body's immune system from rejecting the transplant.



10 Modern advances in cancer treatment and surgery

- Modern cancer treatments use a combination of some or all of: **surgery** (to remove the tissue with cancer), **radiation therapy**, and **chemotherapy**. Treatment is more effective if the cancer is discovered early, so doctors investigate possible cancers as fast as possible, and even screen (check) some groups of people who they think might develop the disease.
- Modern surgery includes **keyhole surgery**, **microsurgery**, and surgery using robotic aids.



11 Alternative treatments

- Modern medicine is effective, but towards the end of the 20th century alternative treatments became popular with those who didn't want strong medicines.
- Homeopathy** is treatment using tiny amounts of substances without proven medical benefit.
- Acupuncture** is a traditional Chinese treatment that uses needles to target 'energy points' in the body,
- Aromatherapy** (treatment using scents), and **hypnotherapy** (hypnotism) are also used.



4. Advances in medical knowledge

Game Changer: understand how and why medical knowledge changed over time

[Vesalius](#)
[Pare](#)
[Harvey](#)
[video](#)



Key Words

base metals

cheap, common metals, like lead

enquiry

asking questions to find an answer

chemistry

the science of substances

astrology

belief that the stars and moon influence the body

cauterise

seal off the wound

ligatures

threads tied round a cut blood vessel to stop bleeding

anatomy

body structure

Hippocrates

ancient Greek physician (doctor)

Galen

Roman physician and surgeon

MEDIEVAL

1000-1450 AD (a.k.a. Middle Ages)

1 Alchemy

- Alchemists tried to turn **base metals** into gold. Some tried to find a substance to make people live forever.
- Many were monks or priests, so better educated than most people. Discoveries included hydrochloric acid, nitric acid, new elements antimony and arsenic. Their beliefs were mostly wrong, but their process of **enquiry** later became a science: **chemistry**.



Astrology

- Belief that movements of the stars and moon influenced the body.
- Doctors checked the moon's position before medical procedures, and collected herbal remedies when it was in the 'right' phase.



2 The four humours theory

Hippocrates (c 400BC) and **Galen** (c180AD) had believed in the four humours: blood, phlegm, yellow bile and black bile. They had to be balanced to prevent disease. Although wrong, medieval doctors accepted this as fact.

EARLY MODERN

4 1450 AD-1750, includes the Renaissance

- Renaissance doctors began to challenge **Galen's** work, but the theory of the four humours remained until the modern period. 17th century **microscopes** allowed discovery of cells and bacteria, but the link between bacteria and disease only came in the modern period (Pasteur's germ theory).

Vesalius

- Vesalius published 'The Fabric of the Human Body' (Italy, 1543) based on his dissections. For centuries the Church forbade human dissection, so doctors couldn't learn about **anatomy** and had to rely on **Galen's** texts.
- Vesalius' detailed illustrations of the body helped other surgeons. After he disproved Galen, doctors were more willing to question existing ideas.



4 Pare

Pare was a surgeon in the French army. In 1575 he published his new methods for other surgeons:

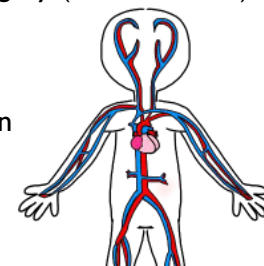
- a new mixture for helping wounds heal, which avoided the need to **cauterise** with hot oil.
- Ligatures** to stop bleeding during amputations and surgery (still used now).
- Artificial limbs for amputees.



Harvey

Harvey's 'On the Motion of the Heart' (1628) proved Galen wrong. Harvey's experiments showed:

- 1) blood circulates around the body
- 2) the heart is the pump
- 3) blood flows in a 'one-way' system. Valves in veins stop it flowing backwards.



4. Advances in medical knowledge

Game Changer: understand how and why medical knowledge changed over time

[Pasteur
& Koch
video](#)



Key Words

rabies
a fatal disease

syphilis
a sexually transmitted disease

x-rays
radiation which pass through different types of body tissue at different rates, producing images of the inside of the body.

shrapnel
fragments of metal that become lodged in the body because of an explosion

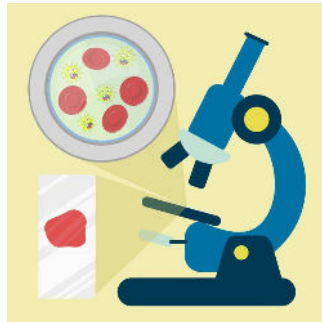
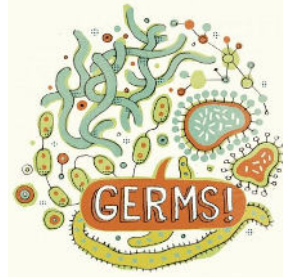
MODERN

1750-present, includes the Industrial Revolution

5 Germ theory

Pasteur and Koch

- Pasteur's '**germ theory**' (1861) showed germs caused disease.
- Pasteur proved vaccines could target a disease, and created a **rabies** vaccine (1880)



- **Koch** developed the science of bacteriology by working out which bacterial caused particular disease: tuberculosis (1882), cholera (1883-4), then diphtheria, typhoid, pneumonia, plague, tetanus, and whooping cough.

- Koch developed a method of **staining bacteria** so they could be seen under a microscope. He won a Nobel prize.
- **Ehrlich** was one of Koch's students. He developed **Salvarsan 606**, the first effective treatment for **syphilis**.
- This was the first modern medical drug treatment. It was a chemical '**magic bullet**' that could be directed at a specific bacteria without harming the rest of the body.

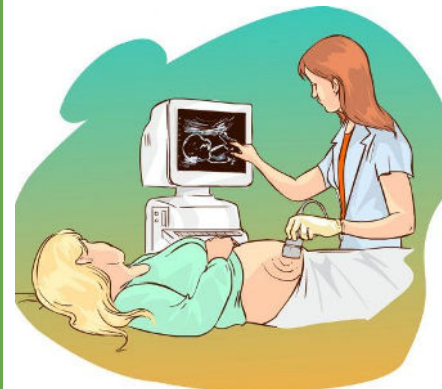


6 Development of scanning techniques - X rays

- **X-rays** were discovered in 1895 by Wilhelm Rontgen. They are most useful for looking at bones and teeth as hard structures show up well on an X-ray machine.
- During WWI **mobile X-ray machines** (developed by Marie Curie) were used near the front line to look for bullets or **shrapnel** in wounded soldiers.
- X-rays are one of the most commonly used scans in modern hospitals, and are cheap to perform. The radiation used is harmful in repeated doses, so medical staff have to avoid too much exposure.



Ultrasound



- Soft tissues (e.g. heart, intestine, breast) are very difficult to image using X-rays, but this was solved by the development of ultrasound during WW2. Ultrasound uses high frequency sound waves to produce an image of soft tissues.
- It is safe and cheap. By the 1970s it was routinely used in hospitals, including for monitoring unborn babies. Since the 1980s 3D ultrasounds have also been used.

4. Advances in medical knowledge

Game Changer: understand how and why medical knowledge changed over time



Key Words

radioactive tracer

radioactive substance that shows on a PET scan

genetic disease

inherited disease

screening

checking for a disease before the patient has symptoms
mutations
changes to the DNA

DNA

the 'genetic code' that carries all the information about each person.

Genetic engineering

changing the features of a living thing by altering its DNA

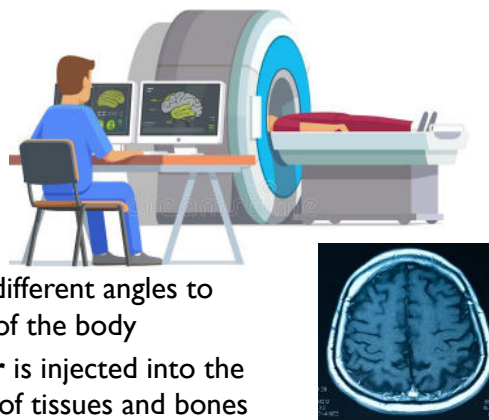
MODERN

1750-present, includes the Industrial Revolution

7 Development of scanning techniques - MRI scans

Since the 1980s more powerful and expensive scanning techniques have become common:

- MRI scans use magnets to make the hydrogen ions in the body vibrate, allowing very detailed images
- CT scans take many X-rays from different angles to build up a detailed cross-section of the body
- PET scans - a **radioactive tracer** is injected into the blood, allowing 3D colour images of tissues and bones



MRIs are probably the best scan as they give high resolution images and are completely safe, unlike CT scans, which have a risk from radiation.

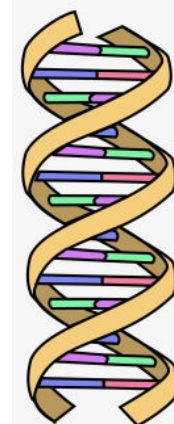
8 Discovery of DNA

- Discovered in 1953 by Crick, Watson, and Rosalind Franklin. These scientists investigated **DNA** from different angles, using their university laboratories and government funding to pay for the expensive machines needed to image DNA.
- They shared their findings with each other, which made the discovery of DNA possible.
- Franklin was excluded from the Nobel Prize given to Crick, Watson, and her senior partner, Wilkins.



9 Genetic research in the later 20th century

- The discovery of DNA allowed scientists to understand the causes of **genetic disease**.
- From 1990-2003 the Human Genome Project produced a complete 'map' of human DNA. Scientists studying inherited diseases are still building their understanding of this map.
- DNA allows genetic **screening**. For example, women with a family history of breast cancer can have a DNA test to see if they carry the breast cancer gene. If they do, they can have preventative treatment before the cancer develops e.g. surgical removal of the breasts (a mastectomy).
- Embryos or fetuses can be screened to see if they carry genetic abnormalities. If they do, mothers may choose not to proceed with the pregnancy.
- **Genetic engineering** can be used to change DNA. In this way, **mutations** that cause certain illnesses can be 'fixed'.



5. Developments in patient care

Game Changer: understand how and why patient care changed over time

Medieval
patient
care
video



Key Words

leper

someone with leprosy

leprosy

contagious and incurable disease. caused terrible sores and disabled limbs

pilgrims

people making religious journeys

Catholic

Christian church led by the Pope

Protestant

new type of Christian in the 16th century, not led by Pope, no monks or nuns

Reformation

the creation of new Protestant churches

dissolution

ending

endowment

a permanent gift to keep the hospital open

MEDIEVAL

1000-1450 AD (a.k.a. Middle Ages)

1 Church and monasteries

The Church ran hospitals,, not the government. They aimed to heal the soul and give 'hospitality' to those in need, but had few treatments.

- Monasteries each had a small hospital, or infirmary. 1100 hospitals were set up in the Medieval period. Staffed by monks and nuns., many only cared for a dozen patients.
- 10% cared for the **sick**, with basic nursing, but no treatment of disease.
- 30% were **leper** hospitals, on the edges of towns.. Lepers were feared and kept away from society. **Leprosy** was seen as a punishment from God..
- 50% were **almshouses** for poor and elderly.
- 10% hosted **travelers** and **pilgrims**.
- Sin was believed to cause sickness. Patients prayed and confessed their sins, hoping to be forgiven by God and allowed into heaven.
- Very few doctors e.g. St. Bartholomew's in London was founded in 1123 but didn't appoint a doctor until the 16th century
- Wealthy people left money to hospitals, fulfilling their Christian duty to give the poor charity.



EARLY MODERN

1450 AD-1750, includes the Renaissance

2 Church and monasteries to mid 16th century

- Continued as in the Medieval period, until 1530s. Then Henry VIII left the **Catholic** Church and started the Church of England, making England **Protestant**.
- The **Reformation** was very important for patient care. Henry VIII ordered the **dissolution** of the monasteries in the 1530s. Monasteries suddenly didn't exist.



3 Voluntary charities after the mid 16th century

- The Church's role in patient care now had to be filled by voluntary charities. They set up **endowed voluntary hospitals**.
- In London the authorities asked the monarch to pay an **endowment** to keep five hospitals running. They were given land, which was rented out to give an income - the first time government paid for medical care.
- The five London hospitals were called 'royal hospitals' as the monarch funded them. They were:



St. Bartholomew's served the poor

St. Mary Bethlehem, included **Bethlem Hospital** for the mentally ill

St. Thomas' Hospital for sick poor, and those with STDs

Christ's Hospital looked after the poor

Bridewell attached to a prison, cared for poor

- Outside London, some town or city councils took over hospitals. They had to find their **own** endowments to keep them running.

5. Developments in patient care

Game Changer: understand how and why patient care changed over time



Key Words

Enlightenment

period in the 18th century when people began looking for rational causes for things
philanthropists wealthy individuals who donate money to charity
professional highly trained

MODERN

1750-present, includes the Industrial Revolution

4 Scientific enquiry - 18th century

- During the **Enlightenment** doctors and scientists took a scientific approach to disease for the first time.
- More experiments were done, more scientific papers published.
- The **Royal Society** in London allowed the country's best scientists to discuss science. Medical societies also existed.



THE ROYAL SOCIETY

- 6 From 1800-1850 the number of hospitals doubled. There were more **specialist hospitals** e.g. Great Ormond Street Children's Hospital (1852). But nurses weren't trained. Wards were dirty, cramped and stuffy.

Florence Nightingale and the professionalisation of nursing - 19th century

Nightingale nursed British troops in the **Crimean War** from 1854-6. Wealthy family connections helped her win support and funding from the government, and *The Times* newspaper.

She **reduced infection rates** in the Crimea by ensuring:

- wards were clean, patients were washed regularly
 - patients were grouped by the same disease, and the distance between beds was increased
 - windows were kept open to keep the air clean.
- In 6 months the **death rate fell** from 42% to 2%.



Later, to make nursing more **professional** she:

- raised money to set up the **Nightingale School of Nursing** (1860) in St. Thomas' Hospital, London
- published **Notes on Nursing** (1859), guidance for nursing training. Nurses had to ensure strict standards of cleanliness and work as medical assistants to doctors. There weren't any trained nurses in Britain in 1850, but 68,000 by 1901.
- published **Notes on Hospitals** (1863), guidance for hospital design to allow fresh air, light, warmth and cleanliness. This was used by St. Thomas' Hospital in 1868 when it was rebuilt.



5 Endowed hospitals - late 18th century

- Industrialisation led to bigger towns, which needed more hospitals.
- Wealthy **philanthropists** built new hospitals e.g. **Thomas Guy** built **Guy's Hospital**, London (1724). Many made fortunes from the Industrial Revolution but felt a Christian duty to help the poor.
- New endowed or voluntary hospitals were also paid for by **local charities** or **town councils**. From 1700-1750 11 new hospitals were founded in London, 46 across the country.
- During the Enlightenment hospitals became places where doctors **TREATED** disease, rather than simply where the sick were cared for.



5. Developments in patient care

Game Changer: understand how and why patient care changed over time



Key Words

pension

regular money for old people

want

poverty

ignorance

lack of education

squalor

poor living conditions

idleness

unemployment

nationalised

taken over by the government

demand

need for the service

MODERN

1750-present, includes the Industrial Revolution

7 Early 20th century Liberal reforms

The Liberal governments of 1906-14 increased the role of the government in looking after people:

- **Education Act (1906)** provided free school meals, although these were not compulsory for local governments until 1914.
- **Old Age Pensions Act (1908)** helped old people by giving them a small **pension**.
- **National Insurance Act (1911)** gave insured workers free medical care and sick pay. But people who didn't work or weren't insured workers were not covered.



NATIONAL INSURANCE

9 NHS from 1948 - the welfare state

Labour started the NHS in 1948. It gave free care 'from the cradle to the grave'.

- Hospitals were **nationalised**. Many doctors opposed being controlled by the government, But the Minister of Health, **Aneurin Bevan**, won them over by paying them well and letting them keep some private patients.
- The NHS has always been very popular with the public. The Conservatives have pledged to support it since 1951.
- Conservatives and Labour changed its structure at various times, trying to make it work better.
- The NHS is very expensive, as the **demand** has always been greater than expected. New treatments, scans, and surgery all increased the cost. Prescription charges were introduced in 1951 but, otherwise, it is **free to all**.



8 The Beveridge Report 1944

- The Beveridge Report was a wartime government report into the best way to tackle the 'five giants' of **want**, disease, **ignorance**, **squalor**, and **idleness**.
- It said government needed to play a bigger role to improve people's lives, including providing healthcare for everybody, and extending national insurance to more people.
- The **Labour Party** promised to introduce the report's suggestions and won a huge victory in the **1945** election.

LABOUR



- Now our ageing population puts pressure on the NHS as old people tend to need more hospital care. Staff shortages also mean there aren't enough nurses and doctors.
- During the Coronavirus pandemic the government ordered several lockdowns to stop the NHS from being overwhelmed.



6. Public health and welfare

Game Changer: understand how and why public health and welfare changed over time

[Medieval
public
health
video](#)



Key Words

public health
the health of whole populations rather than individual people

epidemic
when a disease spreads to a large number of people.

laissez faire
the 18th and 19th century policy of avoiding government interference, instead leaving people alone, even if their living conditions were terrible

slums
areas of very poor housing

infant mortality
number of children who die per 1000 of the population

MEDIEVAL

1000-1450AD (a.k.a. Middle Ages)

1 Public health and hygiene

- Lack of building regulations, crowded housing so disease spread easily
- Waste was thrown into the streets, so water supplies became contaminated and disease spread
- 50% of the population died in the Black Death as they didn't understand how to stop its spread
- Government played little role. *Some* towns e.g. Coventry tried to clean up streets and had laws banning waste disposal into rivers



EARLY MODERN

1450AD-1750, includes the Renaissance

2 Public health - 16th and 17th centuries

- Most towns remained filthy.
- Plague **epidemics** broke out in London every 10-20 years. During the Great Plague of 1665 100,000 people were killed in London (10% of its population).
- Tudor laws forbade slaughterhouses in towns as they recognised that they might cause disease.
- A 1532 law (passed by Henry VIII) allowed towns and cities to change a tax to pay for sewers, but few did.
- Houses were built further apart after the Great Fire of London 1666, limiting the spread of fire, and disease.

Increased government *awareness* of link between filth and disease, but *action* still patchy and limited so little improvement in **public health**.



MODERN

1750-present, includes the Industrial Revolution

3 Impact of industrialisation on public health in the 19th century

Industrial revolution led to overcrowding. Public health got worse as diseases like cholera spread.



- Government believed in '**laissez faire**', so didn't interfere with living conditions – individuals were supposed to do this alone.
- Overcrowded **slums** in industrial towns meant that disease spread fast amongst the poor
- Infant mortality was very high. The average life expectancy for someone poor in Manchester or areas of London was just 17 years.

6. Public health and welfare

Game Changer: understand how and why public health and welfare changed over time

[Chadwick](#)
& [Snow](#)
[video](#)



Key Words

cholera

deadly water-borne disease

laissez faire

the 18th and 19th century policy of avoiding government interference, instead leaving people alone, even if their living conditions were terrible

vaccination

introducing a harmless version of the disease into a person to give immunity.

immunity

the body can resist a disease

MODERN

1750-present, includes the Industrial Revolution

4 BUT the government's attitude changed in the mid 19th century for a number of reasons:

Edwin Chadwick

- Campaigner who published his 'Report on the Sanitary Conditions of the Labouring Population' in 1842.



- He set up the Health of Towns Association in 1844, and his work led to the first Public Health Act (1848)
- Chadwick was a member of the '**Clean Party**', which pushed government to improve conditions in towns. It was opposed by the '**Dirty Party**' which disliked the cost of making improvements to public health, arguing taxes should be as low as possible.

5

Victorian improvements in public health

- The 1848 **cholera** outbreak killed 52,000, causing Parliament to pass the **1848 Public Health Act**. This let local councils improve conditions, but it was voluntary so many councils did little. If a town had a very high death rate, it could be forced to clean up the water supply and provide sewers. The Act suggested councils appoint medical officers, but there were only 50 by 1872.

PUBLIC HEALTH ACT, 1848.

- John Snow linked cholera to contaminated water in 1854. This proved government could improve public health by ensuring a clean water supply.
- **The Great Stink (1858)** in London was a terrible smell caused by human waste in the Thames baking in the hot summer. This led the government to create a sewage system for London.



PUBLIC HEALTH ACT, 1875,

- The **1875 Public Health Act** was more powerful than 1848. Local councils had to provide clean water, maintain sewers, monitor hygiene in slaughterhouses, and collect rubbish. This ended '**laissez faire**'.



- Smallpox vaccine made compulsory in 1852 (though not always enforced). **Vaccination use** in the 19th and 20th centuries led to a dramatic fall in infectious disease e.g. measles, mumps, polio.



6. Public health and welfare

Game Changer: understand how and why public health and welfare changed over time



Key Words

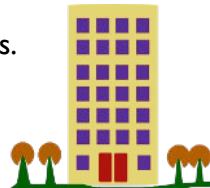
council houses
houses owned by local government and rented out cheaply to people
prioritised
made it one of their most important things to do
slums
areas of very poor housing
smog
a thick fog caused by pollution
sedentary lifestyle
not enough exercise
pandemic
an epidemic that spreads across the world

MODERN

1750-present, includes the Industrial Revolution

6 Efforts to improve housing and pollution in C20th

- 1/3 of Boer War (1899-1902) volunteers too unfit to join the Army. Government realised living conditions in towns were affecting health, threatening the military and Empire. Booth and Rowntree's work in London and York revealed poverty in cities. Booth mapped poverty in London.
- The **1919 Housing Act** promised 500,000 'Homes for Heroes' for soldiers returning from WWI. Less than half built, but government finally taking some responsibility for good housing.
- 1920s and 1930s - government built some council housing. 1 million **council houses** by 1939. But many more private houses built.
- After WW2 - Labour government **prioritised** council houses, built 1 million from 1945-51.
- 1950s and 1960s - **slums** cleared by local councils. New housing provided, often large tower blocks.
- Air pollution a problem in cities since the Industrial Revolution. 1952 'Killer **Smog**' in London led to an estimated 12,000 deaths. Government introduced the **Clean Air Acts 1956 and 1968**, encouraging people to switch from coal fires to cleaner gas or electricity. Further laws in 1990s.
- Many cities still have unsafe air pollution levels, causing an estimated 27,000 deaths every year.



7 Government attempts to improve public health and welfare

- 1906-14 Liberal government passed social reforms including national insurance and old age pensions, to help reduce poverty.
- NHS - free care from 1948, including vaccinations, so public health improved.



8 Public health campaigns, fitness drives, healthy eating

- Modern NHS public health campaigns e.g. five a day, quit smoking, exercise.
- BUT public health worsening because of lifestyle choices e.g. obesity crisis, smoking, alcohol, **sedentary lifestyle**.
- Local government services target needs of local people e.g. Portsmouth City Council Wellbeing Service - free help to stop smoking, drinking alcohol, eating badly and being inactive.
- 2020-21 Coronavirus pandemic made public health the government's top priority. National lockdowns, regional tiers of restrictions, social distancing, compulsory face masks in schools and shops, 'hands, face, space', mass testing, track and trace, vaccinations from 2021.

