KNOWLEDGE ORGANISER: Changes in Health and Medicine c.1340 to the present day (Component 2)

KQ1: What have been the main causes of illness and disease over time?

MEDIEVAL AND EARLY MODERN PERIODS : c.1300s-1700s

General causes of illness and disease in the medieval period

- Poor diet - bad harvest meant hunger; only 25 per cent of families could feed themselves; malnutrition was common.
- Living conditions - In towns, houses were crowded together, water was taken from streams contaminated with waste, floors were covered in straw which was the perfect breeding ground for rats, fleas and lice.
- Famine - the harshest famine in England was in 1315–17 when torrential rain ruined planting and harvesting.
- War - Wounds inflicted by sword or axe often became gangrenous; e.g. in the Wars of the Roses 1455-1485.

Problems in the medieval era

- Medieval people did not know the link between disease and germs.
- Towns were often filthy.

Plague

Towns were breeding grounds for infection and vermin so there were outbreaks of plague from 1348 to the Great Plague of London in 1665.

There were two types of plague

1. Bubonic plague was spread by fleas from black rats. Swellings called buboes appeared in the armpits and the groin, followed by fever, headache and boils all over the body; death occurred within a few days.
2. Pneumonic plague was spread by people breathing or coughing germs onto one another; the disease attacked the lungs, causing breathing problems and coughing up blood; death occurred quite quickly.

The Black Death entered Britain in July 1348. By the end of 1349 it had spread across England, Wales and Scotland. Up to 40 per cent of the UK population was killed by the disease. In 1665, around 100,000 people died of the plague in London. That was nearly 25 per cent of the population.

INDUSTRIAL PERIOD : c.1800s

The Industrial Revolution resulted in the spread of factories and the growth of industrial towns and cities such as Glasgow, Manchester, Birmingham and Sheffield. Factories needed housing to be built for workers.

Public health problems in industrial towns -

- Squalid living conditions meant that outbreaks of disease were common.
- Tenements were overcrowded, large families lived in cramped conditions.
- Sewage contaminated drinking water, which led to outbreaks of cholera and typhoid; people did not know infected water spread cholera germs.

People in this period thought it was miasma, terrible smells, that caused disease. This is why they were so worried about events like the Great Stink in London in 1858 when sewage made the River Thames smell during the summer heat.

Dr John Snow proved that cholera was a waterborne disease after his study of the Broad Street Pump in London in 1854.

Key words

Tenement - A large building divided into separate flats.

Cholera - An acute intestinal infection which causes severe diarrhoea and stomach cramps, caused by contaminated water or food.

Typhoid - A serious infectious disease that produces fever and diarrhoea, caused by dirty water or food.

KNOWLEDGE ORGANISER: Changes in Health and Medicine c.1340 to the present day (Component 2)

KQ1: What have been the main causes of illness and disease over time?

MODERN PERIOD : c.1900s-present day

The spread of bacterial and viral diseases in the 20th century

In the 20th century, bacterial and viral diseases continued to spread as there was increased travel between countries, migration and two world wars.

Case study 1: Spanish Flu, 1918–19 - In 1918, a pandemic spread around the world. Up to 40 million people died from this strain of bird flu. It infected 20% of the world's population. The end of the First World War helped transmit the disease as returning troops spread it to the civilian population. 7 million deaths were reported in Spain, so the disease was called Spanish Flu. It could kill a person in a day. Hospitals could not cope. It killed 280,000 people in the UK.

Case study 2 : Tuberculosis - spread by coughs or sneezes. It used to be known as consumption as sufferers gradually lost weight. It was associated with poor housing and unhealthy working conditions of the Industrial Revolution. 'Fresh air' was thought to be the cure. By the 1950s better sanitation and vaccination reduced cases significantly. Isolation hospitals were set up in the countryside *[WELSH EXAMPLE – Penley Hospital in the 1960s]* to help prevent the spread of the disease, but also to provide fresh air to help sufferers recover. The rise of drug-resistant strains in the 1980s, particularly amongst the homeless, means that the fight against TB continues.

Case study 3: The HIV/AIDS threat - In 1981, the first cases of AIDS were reported in the USA. The AIDS virus is spread through the blood or body fluids of infected people – via sexual contact or by sharing injection needles with an infected person. In AIDS a virus called HIV destroys the body's immune system. The victim does not die of AIDS but of other infections that their body can no longer fight. By 2000 an estimated 30 million people were infected with AIDS, the worst affected area was Africa. By 2000 over 8 million people had died because of AIDS.

21st century Lifestyle diseases

New kinds of diseases have also begun to affect people in the modern era.

- As people are living longer so they become more prone to get cancer – one in three people in the UK will be affected by it at some point in their lives.
- Lifestyle changes like increasing smoking of cigarettes and drinking of alcohol have also led to a growth in obesity, diabetes and certain kinds of cancers which did not affect people in earlier times.

Key words

Pandemic - A disease that spreads across a wide geographical area.

AIDS - Acquired Immune Deficiency Syndrome.

HIV – Human Immunodeficiency Virus.

KNOWLEDGE ORGANISER: Changes in Health and Medicine c.500 to the present day (Component 2)

KQ2: How effective were attempts to prevent illness and disease over time?

MEDIEVAL AND EARLY MODERN PERIODS : c.500s-1700s

Medieval attempts to limit the spread of the Black Death -

- Travellers were quarantined, infected families were boarded up in their homes.
- Believed scented flowers or buckets of dung helped avoid bad air (miasma).
- Some took potions believing they would kill off the plague.
- Doctors wore hoods, with a beak stuffed with herbs or sponges soaked in vinegar.
- Flagellants whipped themselves so that God would not punish them further.
- Others disinfected their house with herbs and burned the clothes of victims.

Alchemists tried to use alchemy to make metals turn into gold, and an 'elixir of life' to make a person immortal or forever youthful. In their experiments they laid the foundation for the development of chemistry as a scientific discipline.

Physicians trained at a university medical school in Italy or Paris and used a urine chart and 'zodiac man' charts. Very few knew much about preventing disease, because they did not know about the causes of disease.

Most people depended on the local **'wise woman'** or **soothsayer** who had built up knowledge of sickness and disease over several generations and each would have their own favourite methods. They would collect plants and herbs, special stones, anything that might help, and carry this about with them in a willow basket. They would make special charms to protect against evil. Mother Shipton became a famous 15th century soothsayer.

Key Words

Quarantine - Isolation of a person who may be carrying an infectious disease.

Miasma - The 'bad air' they believed carried disease.

Flagellant - A person who whips himself as part of a religious penance.

Alchemy - A type of chemistry in the medieval era that aimed to find a way to change ordinary metals into gold and a medicine to cure any disease.

Mysticism - The belief that there is a hidden meaning to life.

Elixir - A liquid with magical power that would prolong life indefinitely.

INDUSTRIAL PERIOD : c.1800s

18th century science involved detailed observation, helped by the microscope after 1590. Doctors learned from dissections and used microscopes. Medical books of the ancient writers were proved wrong or new discoveries.

Smallpox and inoculation - Smallpox had a high death rate and no cure. Inoculation involved spreading matter from a smallpox scab onto an open cut on a healthy person's skin, giving them a mild dose of the disease. Inoculation became popular but it was not completely safe.

Smallpox and vaccination – Dr Edward Jenner experimented to find out why milkmaids suffered from cowpox but never smallpox. In 1796 he injected James Phipps with the pus from the sores of a milkmaid with cowpox. Phipps developed cowpox but did not develop smallpox. Jenner had found a way of making people immune from a deadly infectious disease. He called this method vaccination (after the Latin word *vacca* - cow). His book on vaccination was published in 1798.

Many doctors objected to vaccination as they made a lot of money from inoculation. In 1852 smallpox vaccination was made compulsory for all children. Many parents objected. People still believed miasma caused smallpox – Pasteur did not come up with his vaccination theory until 1880 [see KQ4]

The discovery of antibodies and developments in the field of bacteriology - Robert Koch began to identify the bacteria that caused specific diseases starting with TB in 1882. This new science was called bacteriology. Koch and his team went on to find the germs for cholera, typhoid, diphtheria, pneumonia, tetanus and plague which enabled vaccinations to be created to prevent these killer diseases.

Koch realised antibodies could destroy bacteria and build immunity against the disease. Each antibody only worked one bacteria. If you could introduce a weakened form of the disease into the body when the deadly version of the disease attacked, the body would be able to resist. Koch won a Nobel Prize in 1905.

Key Words

Vaccination - Injecting a harmless form of a disease into a person to prevent them from getting that disease.

Bacteriology - The study of bacteria and how to deal with them.

Antibody - A natural defence mechanism of the body against germs.

KNOWLEDGE ORGANISER: Changes in Health and Medicine c.500 to the present day (Component 2)

KQ2: How effective were attempts to prevent illness and disease over time?

MODERN PERIOD : c.1900s-present day

In the 20th century, endemic diseases and childhood killers such as diphtheria (1940), polio (from 1955), whooping cough (1956) and measles (from 1963), have almost been eliminated through vaccination programmes.

The World Health Organization (WHO) says vaccines are available for 25 different preventable infections and has campaigns of immunisation operating across the globe. In 1979, WHO declared smallpox extinct.

By the 21st century vaccination fell as a growing reluctance to have children vaccination after the MMR (Measles, Mumps, Rubella) vaccine scandal in the 1990s when Dr Andrew Wakefield wrongly claimed the vaccine caused autism in children.

Around the world the Anti-Vax movement has spread over social media trying to persuade people that vaccination is wrong or too dangerous.

Government attempts to improve public health and welfare in the 21st century [KQ6 for more details]

In the 21st century, governments and agencies have put more and more effort into health education to persuade people to live healthier lifestyles eg. cutting down cancer rates, persuading people to stop smoking, reducing heart disease by encouraging people to get more exercise or reducing obesity and diabetes by encouraging people to at more healthily.

KNOWLEDGE ORGANISER: Changes in Health and Medicine c.500 to the present day (Component 2)

KQ3: How have attempts to treat illness and disease changed over time?

MEDIEVAL AND EARLY MODERN PERIODS : c.1300s-1700s

Herbal medicines - Herbs were used to treat everyday illnesses through herbal drink or ointment. Books like the *Leech Book of Bald*, a 10th century Anglo-Saxon physician provided remedies which worked e.g. lavender for headaches. The invention of the printing press meant books called herbals were published e.g. Turner's *A New Herbal* (1551)or Culpepper's *Complete Herbal* (1652)

Barber surgeons - Barber surgeons bled patients, extracted teeth, performed minor surgery, sold medicine and cut hair. They worked in shops, advertising their services by a red and white pole (white stood for bandages, red for blood). They had to work quickly, using a hot iron to seal wounds and stop bleeding.

Blood letting – People believed imbalances in the Four Humours caused illnesses. This could only be fixed by:

- Blood-letting, by making an incision in a person's vein and draining the blood (a process called 'venesection') or using leeches to suck out someone's blood.
- Purging, pumping herbs, honey and water into the bowels through the rectum.

Key Words

Herbals - Books listing the medical properties of plants.

Barber surgeons – Medieval doctors who performed surgery.

Four Humours - Belief that the body was made up of four body fluids and that people became ill when these humours were out of balance.

INDUSTRIAL PERIOD : c.1800s

Surgery was limited by pain, infection and bleeding. In the 19th century, two advances improved surgery.

1. Anaesthetics - James Simpson, Professor of Midwifery at Edinburgh University, experimented until he found chloroform could help relieve pain during childbirth. He wrote articles about his discovery.

   Surgeons did not know what dose to give patients and a patient died during an operation in 1848 from an overdose. Its use by Queen Victoria in 1857 as pain relief, during the birth of her eighth child, helped change public opinion. Chloroform provided effective pain relief for patients.

2. Antiseptics - Joseph Lister, Professor of Surgery at several universities, believed Pasteur's 'germ theory' and began experiments to prevent patients from dying from blood poisoning after an operation. Lister used carbolic acid to wash his hands and all his instruments before an operation, to soak bandages before applying them to wounds, to soak silk threads in it before tying up wounds. He reduced the infection rate from 46% to 15% in 3 years. He invented a spray machine in 1871 so that carbolic acid could be sprayed over a patient's wound during an operation.

   He published his findings in 1867. Lister's methods marked a turning point in surgery. The discovery of the bacteria that caused septicaemia (blood poisoning) in 1878 helped the acceptance of Lister's ideas.

Key Words

Anaesthetic - A substance or gas that produces unconsciousness before and during surgery.

Antiseptic - Chemicals used to destroy bacteria and prevent infection.

KNOWLEDGE ORGANISER: Changes in Health and Medicine c.500 to the present day (Component 2)

KQ3: How have attempts to treat illness and disease changed over time?

MODERN PERIOD : c.1900s-present day

Radiation in medicine - Marie Curie and her husband discovered radioactive elements like radium and polonium destroyed tissue, opening up a way of treating cancer. Her 1911 Nobel Prize was for discovering a means to measure radiation.

Antibiotics - In 1928, Alexander Fleming, Professor of Bacteriology at St Mary's, accidentally discovered penicillin, a mould killed bacteria. In 1929, Fleming published a report on penicillin.

Howard Florey and Ernst Chain, scientists at Oxford University, mass produced penicillin and by 1941 had enough to begin human trials. By 1944 there was enough penicillin to treat all Allied casualties. In 1945, penicillin became available for civilians. Fleming, Florey and Chain were awarded the Nobel Prize for Medicine for their research into the antibiotic 'wonder drug'.

By the 21st century some bacteria like MRSA have become antibiotic resistance, so that soon existing antibiotics will no longer work and will need to be replaced.

Transplant surgery - In December 1967, Christiaan Barnard performed the world's first human heart transplant on Louis Washkansky. He survived the operation but lived for only 18 days, dying of pneumonia. Barnard performed ten heart transplants between 1967 and 1973, but rejection of the transplanted organ remained a problem. Immunosuppressive drugs solved transplant rejection.

Modern advances - Cancer is treated by radiotherapy (attacking the cancer cells with X-rays); chemotherapy (using chemicals to attack the cancer); surgery (to remove the cancerous cells by operation).

Heart disease is treated by diet, exercise, drugs to steady the pulse, lower blood pressure or cholesterol levels, surgery to install a pacemaker to regulate the heart rate, by-pass surgery, the insertion of a stent to widen an artery.

Miniaturisation, fibre-optic cables and the use of computers have enabled surgeons to perform keyhole surgery, avoiding large incisions and speeds up the recovery process. Microsurgery enables surgeons to re-join nerves and small blood vessels, enabling limbs such as fingers and hands to be re-attached.

Alternative medicine - hydrotherapy, aromatherapy, hypnotherapy and acupuncture became popular. They were based on traditional treatments designed to work in harmony with the body, rather than using chemicals against illness. This seems to be a return to the kinds of medicine used in the medieval era.

KNOWLEDGE ORGANISER: Changes in Health and Medicine c.500 to the present day (Component 2)

KQ4: How much progress has been made in medical knowledge over time?

MEDIEVAL AND EARLY MODERN PERIODS : c.1300s-1700s

Medieval physicians used a variety of sources of information:

- Examining a patient's **urine**; samples were matched against a colour on a urine chart which led to a particular diagnosis.
- **Astrologers** consulted a book called the *Valemecum* or 'zodiac man' charts to work out which treatments could be used at that time.
- Bleeding, purging or forcing patients to vomit was based on the theory of the **Four Humours** was developed by Hippocrates and Galen in ancient times; four important liquids, called humours. which stayed in balance when a person remained healthy; treatment involved getting the humours back into balance.

The 16th century Renaissance in learning led to the invention of the printing press in Germany and new scientific inventions like the thermometer and microscope, both of which helped improve medical observation.

Andreas Vesalius, Professor of Anatomy at Padua University in Italy, dissected corpses to understand human anatomy. In 1543, he published *The Fabric of the Human Body*, with detailed anatomical drawings. His insistence on dissection of human, not animal, bodies introduced new scientific methods of investigation.

Ambroise Paré was an army surgeon. Wounds were cauterised with boiling oil after amputations, sealing the arteries with a red-hot iron. Paré discovered that wounds healed more quickly if covered with bandages and the ends of arteries were tied using silk ligatures. In 1575, Paré published *The Collected Works of Surgery* - research on amputations, setting fractures and the treatment of wounds.

William Harvey studied medicine in Cambridge before becoming a doctor and a lecturer in anatomy. Harvey believed in the importance of observation and experimentation. By dissecting live animals to study the movement of the muscles in the heart, he proved that blood flowed around the body, carried away from the heart in arteries and returned to the heart in veins. He proved that the heart acted as a pump. In 1628 he published his findings in his book, *Motion of the Heart*.

Key Words

Humours - Four liquids (phlegm, blood, black bile and yellow bile) in the body, that were related to the four seasons and to the four elements (air, fire, earth and water) and believed to cause illness when they became unbalanced.

Anatomy - The study of how the human skeleton fits together.

Dissection - Cutting open and examining the structure of a dead body.

Cauterise - A method of treating amputated limbs or wounds by burning them with a hot iron or oil to prevent infection, stop the bleeding and seal the wound.

Ligature - A thread tied around a vessel to constrict the flow of blood.

INDUSTRIAL PERIOD : c.1800s

19th century doctors believed in spontaneous generation – fumes (miasma) given off by decaying material caused disease to spread. Improvements in microscopes in the late 17th century had already led to the discovery of micro-organisms.

Louis Pasteur carried out scientific research at several French universities before being appointed Professor of Chemistry at the Sorbonne University in Paris in 1867. His most important research included:

- Pasteurisation – boiling the liquid killed harmful germs. It was soon used to stop milk turning sour, as well as beer, wine and vinegar going bad.
- Germ theory – microbes in the air caused decay; in 1861, Pasteur published his 'germ theory' based on his experiments.
- Vaccination theory – in 1879, Pasteur injected chickens with a weakened form of chicken cholera by accident and they became immune, discovering how vaccines work; he did the same for anthrax (1881) and rabies (1885).

Robert Koch was a German doctor who could link bacteria to a particular disease. By 1875, he had identified the bacteria that caused anthrax. In 1878 he did the same for septicaemia (blood poisoning) He stained bacteria so they could be seen under a microscope, and bred bacteria for study. He identified the TB and cholera bacteria. Koch was a pioneer of this new science of 'bacteriology'. The German government to set up the Institute of Infectious Diseases in Berlin in 1891. In 1905 he was awarded the Nobel Prize for his research.

Paul Ehrlich, student of Koch, developed Salvarsan 606 in 1910 as a treatment for syphilis. It was a 'magic bullet', designed drug to target a specific germ.

Key Words

Pasteurisation - The process of heating liquids to destroy harmful micro-organisms.

Chicken cholera - An acute infection of the bowels seen in chickens.

Anthrax - A highly infectious and often fatal disease affecting cattle and sheep.

Rabies - An acute infectious disease of the nervous system spread by the saliva of infected animals.

Tuberculosis (TB) - a serious infectious disease that affects the lungs.

KNOWLEDGE ORGANISER: Changes in Health and Medicine c.500 to the present day (Component 2)

KQ4: How much progress has been made in medical knowledge over time?

MODERN PERIOD : c.1900s-present day

X-rays - In 1895, Wilhelm Röntgen, Professor of Physics at the University of Würzburg in Germany, discovered X-rays. He realised they would pass through paper, wood, rubber and human flesh but not through bone or metal. Surgeons could see inside the patient without surgery. X-rays really became important during the First World War, enabling doctors to locate deeply lodged bullets and shrapnel inside the bodies of soldiers. Marie Curie developed mobile X-ray units which could be used nearer the front line, making diagnosis and treatment of injured soldiers quicker and easier.

Ultrasound and MRI scans - The second half of the 20th century saw the development of a new range of scanning techniques, which transformed doctors' abilities to see inside the body:

- Ultrasound scanning has developed since the 1950s using high frequency sound to produce 3D images of the inside of the body.
- First used in 1977, the magnetic resonance imaging (MRI) scanner uses a strong magnetic field to create pictures of features inside the body in a computer.

DNA and genetic research – Francis Crick and James Watson explained the structure of DNA in 1953. The Human Genome Project was set up to identify the role of each of the 100,000 genes in a human DNA molecule. It was completed in 2003 and provided the complete genetic blueprint of a human being. As a result of the work on DNA, scientists identified that the causes of some illnesses are genetic. Genetic screening and testing has been used for preventing disease. Work continues on gene therapy, using genes from healthy people to cure the sick.

Key Words

X-ray - A picture produced by exposing photographic film to X-radiation (made up of X-rays), a form of electromagnetic radiation; doctors use these images to see the bone structure of parts of the body.

DNA - Deoxyribonucleic acid, the molecule that genes are made of.

Genetics - Study of what genes are, how they work and how they are passed on.

Genome - Complete set of genes that an individual organism inherits.

KNOWLEDGE ORGANISER: Changes in Health and Medicine c.500 to the present day (Component 2)

KQ5: How has the care of patients improved over time?

MEDIEVAL AND EARLY MODERN PERIODS : c.1300s-1700s

Medieval patient care

1. Monasteries - the infirmary was a type of hospital ward for sick patients, separated from the rest of the monastery to stop infection spreading.
2. Hospitals were run by monks and nuns (named because they offered 'hospitality' - shelter to travellers, the poor and elderly to stay); there were no doctors within these hospitals; monks would pray for the souls of the patients while the nuns looked after the welfare of the patients with herbal remedies.

Voluntary charities in the 16th century - Henry VIII ordered the dissolution of the monasteries in the 1530s, most hospitals closed as well. Some were taken on by voluntary charities or town councils took over.

In London, 5 major hospitals were endowed with royal funds to care for the sick and poor e.g. St Bartholomew's Hospital serving the poor of the area of West Smithfield and St Mary Bethlehem which looked after the mentally ill.

Endowed hospitals in the 18th century – Population growth increased demand for hospitals. Wealthy industrialists paid for them e.g. Thomas Guy, a wealthy printer and bookseller who financed the establishment of Guys Hospital in 1724.

11 new hospitals were founded in London and a further 46 across the country in the growing industrial towns and cities, including Westminster Hospital in London, Addenbrooke's Hospital in Cambridge and the Royal Infirmary Hospitals in Edinburgh and Manchester. The Bluecoat Hospital in Chester opened in 1717.

INDUSTRIAL PERIOD : c.1800s

Hospitals became centres for treating illness with herbal remedies, performing simple surgery and dispensing medicine. Treatment was usually free.

The professionalisation of nursing - The quality of nursing in hospitals was generally poor as they lacked training or medical knowledge.

Florence Nightingale was a pioneer in the way she improved standards of patient care. Between 1854 and 1856, Britain fought Russia in the Crimean War; on hearing about the poor treatment of British soldiers in the military hospital at Scutari in the Crimea, she borrowed money from the government to travel there. She found patients suffering from cholera and typhoid, housed in filthy wards.

She cleaned the wards and patients were given a regular wash, clean clothes and a change of bedding. To prevent the spread of disease, patients were separated according to their illness. The death rate went from 42 in 100 to 2 in 100.

On her return to England in 1856, she began a campaign to reform army medical services; she called for purpose-built hospitals with trained nurses, clean floors, plenty of light and fresh air and better food. In 1859, Nightingale published *Notes on Nursing*. The Times newspaper's Florence Nightingale fund raised £50,000.

In 1860, Nightingale used this money to set up training schools for nurses at St Thomas's Hospital and at King's College Hospital in London; the training was based on her principles of patient care. New hospitals like the Royal Liverpool Infirmary were built to her 'pavilion' design from *Notes on Hospitals* (1863). By 1900, nursing had become recognised as a profession.

KNOWLEDGE ORGANISER: Changes in Health and Medicine c.500 to the present day (Component 2)

KQ5: How has the care of patients improved over time?

MODERN PERIOD : c.1900s-present day

Early 20th century reforms - Liberal governments of 1906–14 introduced welfare reforms designed to help people who fell into difficulty through sickness, old age or unemployment. The reforms included medical inspection of school pupils (1907), free school meals (1906), and old age pensions (1908). The National Insurance Act (1911) meant workers and employers making weekly contributions to give workers sickness benefit and free medical care from a doctor. It did not cover families (wives and children), the unemployed, the elderly.

The NHS - The Beveridge Report of 1942 identified 'disease' as one of the 'Five Evil Giants' and suggested that there should be a free national health service.

Bevan faced opposition to his National Health Service Act 1946 from (a) the authorities that ran hospitals and (b) the British Medical Association (BMA) who complained that doctors would make less money; he overcame this opposition.

From 28 July 1948, the NHS offered a range of services. The demand for health care under the new NHS went well beyond original predictions. In 1947, doctors issued 7 million prescriptions per month; by 1951 the figure was 19 million per month. By 1949, 8.5 million people had received free dental treatment.

Poorer people now had free access to medical treatment which previously they could not afford. The NHS has played an important part in prevention as well as cure; it has launched health campaigns to warn of the dangers of smoking, drinking alcohol and the lack of a healthy diet.

Services provided by the NHS - GP services, ambulances and Accident & Emergency Departments, hospital care (tests, treatment, operations), pharmacies, mental health services, social care (children, the disabled, the elderly), dentists, opticians.

Huge demand for prescriptions, glasses and dental treatment led to the introduction of charges in the 1950s. The NHS prolongs the lives of people, but older patients are more likely to need treatment. New scanning techniques and drugs have also increased the cost of running the NHS.

KNOWLEDGE ORGANISER: Changes in Health and Medicine c.500 to the present day (Component 2)

KQ6: How effective were attempts to improve public health and welfare over time?

MEDIEVAL AND EARLY MODERN PERIODS : c.500s-1700s

In medieval times, mortality rates were higher in the towns than in the countryside as people lived closer together, alongside their animals and their filth. Important improvements in public health in medieval times:

- Monasteries like Tintern Abbey followed strict rules of cleanliness.
- Towns began to build provided **public latrines** (toilets) often placed on bridges. By the 15th century, London had over a dozen.
- London produced about 50 tons of excrement per day, so **muck-rakers** were hired to clean the streets. They were paid much better than the average working man. There were also **gong farmers** who cleared out cesspits.
- Towns had bath houses, eg Southwark, in London, had 18 hot baths. Even smaller towns would have bathhouses, often connected to bakeries.
- Towns introduced **quarantine** laws to combat plague, boarding up houses of infected people. People with leprosy, likewise, were confined to lazar houses.
- Crusaders brought back **soap** from the Middle East to Europe.

There were several attempts to improve public health in the 16th century:

- Henry VII passed a law forbidding slaughterhouses within cities or towns.
- Henry VIII passed an Act of Parliament giving towns and cities the power to impose a tax in order to build sewers.

London was not a healthy place to live. There were outbreaks of the plague in 1563, 1575, 1584, 1589, 1603, 1636, 1647, and the biggest outbreak of all in 1665. After the Great Fire of London in 1666, an Act of Parliament was passed to limit fire destruction by making streets wider and by insisting houses were built of stone with tile or slate roofs.

INDUSTRIAL PERIOD : c.1800s

Local and central government were not interested in public health. Serious outbreaks of cholera in 1832 and 1849 forced the government to investigate living conditions in the rapidly expanding industrial towns.

Edwin Chadwick - In 1839 he was asked to lead a Royal Commission into living conditions for working people. In 1842, he published his Report on Sanitary Conditions. His report shocked people but the government was not ready to act.

The 1848 Public Health Act set up a Board of Health run by three commissioners to set up local boards of health in areas with high death rates. 182 towns had set up their own local health board by 1854. The cholera epidemic of 1848–49 increased interest in public health reform. It did not force local authorities to do something.

More improvements in public health:

- In 1859, Joseph Bazalgette began building London's new sewage system; this dumped the capital's sewage downstream, away from the city.
- Sanitary Act 1866 forced local authorities to construct sewers.
- Public Health Act of 1875 made it compulsory for local councils to lay sewers.
- Artisans' Dwellings Act of 1875 gave councils the power to clear slums.

KNOWLEDGE ORGANISER: Changes in Health and Medicine c.500 to the present day (Component 2)

KQ6: How effective were attempts to improve public health and welfare over time?

MODERN PERIOD : c.1900s-present day

[See KQ5 for welfare 1906-1914 welfare reforms]

Attempts were made during the 20th century to improve housing conditions:

- In 1918, the Prime Minister, David Lloyd George, promised to clear away slum housing and replace it with 'homes fit for heroes'.
- Housing Act of 1919 gave grants to local councils to build homes, so estates of council houses were built all over the country.
- Mass demolition of back-to-back housing began in the 1920s.
- Beveridge Report of 1942 identified 'squalor' as one of the 'Five Evil Giants' to be tackled by building 'more and better homes'.
- After WW2 there was a housing shortage so grants were given to build new homes and charge low rents; 1.25 million new homes were built by 1951.
- In the 1960s, many inner-city slums were replaced by high-rise blocks of flats.

Air Pollution - air quality in towns and cities was heavily polluted. London experienced frequent smog. In December 1952 the '**Great Smog**' fell over London, so thick it stopped trains, cars and public events. 4,000 people died of respiratory illness. The **Clean Air Act of 1956** encouraged the use of cleaner coal, electricity and gas for heating. It also tried to relocate power stations away from cities. This only temporarily solved the problem of air pollution as a huge increase in car ownership created a new source of pollution – exhaust fumes. In 2003 London introduced the **congestion charge** to persuade drivers not to go into central London and other towns and cities introduced "park and ride" schemes. In 2018 the United Nations warned that there were dangerous levels of air pollution in UK.

Local and national government health campaigns in the 21st century - Government realised it is better to spend money on prevention than having to spend money on curing diseases that could be prevented, e.g. if people stopped smoking this would save the NHS millions of pounds each year.

- 'Walking for health' is a fitness drive to encourage people to take more exercise, to walk 10,000 steps a day, at a moderate to fast pace. 'Be Active' is Birmingham City Council's scheme to provide free leisure services.
- Fruit and vegetables reduces your risk of heart disease and cancer – the 'Five A Day' and the Eatwell Guide tried to get people to eat a balanced diet.