

KEY WORDS

Hereditary diseases: Hereditary diseases are caused by genetic factors. This means that they can be passed on from parents to their children. Examples include Cystic Fibrosis and Huntingdon's disease.

DNA: Short for Deoxyribonucleic acid. DNA carries genetic information from one living thing to another. DNA information determines characteristics like hair and eye colour.

Genome: The complete set of DNA containing all the information needed to build a particular organism. In humans, this is more than three billion DNA pairs.

Mastectomy: Surgery during which a person has one or both of their breasts removed.

MRSA: A strain of drug resistant bacteria that is particularly resistant to antibiotics.

NHS: The Nation Health Service, set up in 1948, meant everybody had free health care for the first time. The development of democracy and WWII put pressure on the government to create it.

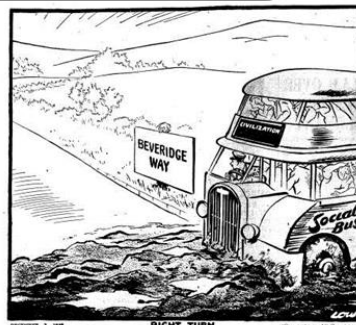
Anaesthetic: Drugs given to produce unconsciousness or limit pain before and during surgery.

Dialysis: A blood purifying treatment for people suffering from kidney failure.

Factors Question (16 marks + 4 SPaG)

Factors: War, Communication, Individual Genius, Religion, Government, Chance, Science and Technology

- 1) Has science been the main factor in the development of penicillin?
- 2) Has war been the main factor leading to the improvements in surgery?
- 3) Have governments been the main factor in the development of public health?



Source A: A cartoon published in the Evening standard December 1949. It's called "The Right Turn".

Source Usefulness Question (8 marks)

- 1) How useful is Source A to a historian studying the Beveridge Report and the NHS?

Source Type

Author

Date

Purpose



Modern medicine: 20th Century

KEY INDIVIDUALS

Bevan: Aneurin Bevan was the Minister of Health who was responsible for setting up the NHS in 1948.

Beveridge: Sir William Beveridge was the civil servant who published The Beveridge Report in 1942. It recommended setting up a National Health Service, free to everyone and paid for through taxes. Over 600,000 copies were sold – people queued outside shops to buy a copy!

Crick and Watson: James Watson (an American biologist) and Francis Crick (an English physicist) discovered the structure of DNA in 1953. This was crucial in allowing scientists to identify the different causes of hereditary disease. Later, in 1990, James Watson led the Human Genome Project.

Fleming: Alexander Fleming was a British doctor who, in 1928, accidentally identified penicillin. He did not publish his findings, but was awarded the Nobel Prize in Medicine in 1945 for this discovery.

Florey and Chain: Howard Florey and Ernst Chain were the first scientists to extract penicillin and prove that it was effective at fighting infection in the human body. The first human patient was given penicillin in 1941; a policeman who had been scratched by a thorn and developed septicaemia.

Landsteiner: In 1901, Karl Landsteiner discovered blood groups, which meant that successful blood transfusions were possible for the first time. When they'd attempted this before, blood had simply clotted.

Lloyd George: David Lloyd George was the Prime Minister who carried out the social reforms in the 1900's.

Mendel: Gregor Mendel was a German scientist who theorised that genes come in pairs, with one being inherited from each parent. This was known as the fundamental laws of inheritance, and although he could not prove his theory because microscopes were not powerful enough, he was crucial in paving the way for Crick and Watson.

Comparison Question (8 marks)

- 1) Compare the work of Edward Jenner with the work of Florey and Chain. In what ways was their work similar?
- 2) Compare Pasteur and Fleming. In what ways are they similar?

Significance Question (8 marks)

- 1) Explain the significance of Liberal social reforms for the prevention of disease.
- 2) Explain the significance of Crick and Watson's discovery of DNA?

Key Events Timeline

KEY:

Surgery

Public Health

Disease

Factors



War



Religion



Chance



Communication



Government



Science and Technology



Individual Genius

Gregor Mendel (1900)

Theorised that genes come in pairs, but could not prove his laws correct because microscopes were not yet powerful enough.



Plastic Surgery WW1

The British surgeon, Harold Gillies learnt to graft skin for plastic surgery.



The 1st Magic Bullets (1909)

Paul Erlich found Salvarsan 606



(1980)

The WHO (World Health Organisation) declares smallpox eradicated.



Florey and Chain (1940's)

During World War Two, Florey and Chain learned how to mass-produce the penicillin they had discovered - the first antibiotic.



Franklin and Wilkins (1951)

Scientists working in 1951 who knew that characteristics are passed from parents to children, however technology to X-ray photograph DNA only became possible in 1953.



1st Test Tube Baby (1978)

Louise Brown was the first 'Test Tube' baby to be born.



Treatment of breast cancer (2000)

Using research from the Human Genome project, scientists were able to identify a gene in some women who are extremely likely to develop breast cancer (BRCA1 gene).



1900

1920

1940

1960

1980

2000

1910

1930

1950

1970

1990

2010

The Liberal Reforms

The Boer War (1889) and Roundtree's poverty line made people aware of the poor's living conditions and health. So the Liberal government tried to create laws to help.
1906 - Local authorities were given the right to provide free school meals for poor children
1907 - The School Medical Service gave free health checks
1908 - The government introduced pensions for old people
1911 - The National Insurance Act provided free medical treatment for workers, and benefit money for those out of work



The NHS (1948)

The Labour Health Minister Aneurin Bevan set up the National Health Service – free doctors and hospitals, paid for out of taxes because of the Beveridge report in **1942**.



Alexander Fleming (1928)

Discovered penicillin.



The 2nd Magic Bullets (1932)

Domaght Gerhard found Prontosil



Plastic Surgery (WW2)

The British surgeon, Archibald McIndoe, did the first plastic surgery on the faces of disfigured airmen.



Crick and Watson (1953)

Scientists who saw X-ray photos taken by Franklin and Wilkins and from this, built their model of DNA. They were the first to realise that DNA was the shape of a double helix.



The Human Genome Project (1990)

Originally led by James Watson, this was a project to map the human genome. Eighteen scientists worked for a decade to map the first draft.



Tobacco advertising banned (**2005**)

Smoking Ban in Public places (**2007**)

No smoking in cars with children (**2015**)

Sugar Tax – Higher tax for sugary fizzy drinks (**2018**)

