



EDX.MED4 Medicine in Britain, c1900-present: The NHS, Genetics and Modern Public Health

EDEXCEL 1HI0 · Calculators not allowed · about 65 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Write in full sentences for Questions 15, 16 and 17. You are advised to spend about 65 minutes on this pack.

- 1** Name the government report, published in 1942, that recommended a new welfare state including a National Health Service.

(Total for Question 1 is 1 mark)

- 2** State two of the 'five giants' identified in the Beveridge Report as problems facing postwar Britain.

(Total for Question 2 is 2 marks)

- 3** Name the government minister who oversaw the creation of the NHS, launched on 5 July 1948.

(Total for Question 3 is 1 mark)

- 4** Give one reason why some doctors initially opposed the creation of the NHS.

(Total for Question 4 is 2 marks)

- 5** State the basic principle on which the NHS was founded regarding how patients pay for treatment.

(Total for Question 5 is 1 mark)

6 Name the two scientists credited with discovering the double helix structure of DNA in 1953.

(Total for Question 6 is 2 marks)

7 Name the scientist at King's College London whose X-ray diffraction images, including 'Photo 51', were crucial evidence for the discovery of DNA's structure.

(Total for Question 7 is 1 mark)

8 Give one way in which understanding the structure of DNA, discovered in 1953, later helped doctors diagnose or treat disease.

(Total for Question 8 is 2 marks)

9 Name one modern scanning technology that allows doctors to see detailed images inside the body without surgery.

(Total for Question 9 is 1 mark)

10 Give one advantage of keyhole (minimally invasive) surgery over traditional open surgery.

(Total for Question 10 is 2 marks)

11 Name one lifestyle-related public health campaign run by the British government in the second half of the twentieth or early twenty-first century.

(Total for Question 11 is 1 mark)

- 12** State one reason why government-run immunisation (vaccination) programmes have been important to public health in modern Britain.

(Total for Question 12 is 2 marks)

- 13** Explain two ways in which the creation of the NHS in 1948 changed access to medical treatment in Britain.

(Total for Question 13 is 4 marks)

- 14** Describe two ways in which scientific understanding of genetics has developed since the discovery of DNA's structure in 1953.

(Total for Question 14 is 4 marks)

- 15** Explain why the government played an increasingly important role in the nation's health in Britain during the years c1900-present.

(Total for Question 15 is 8 marks)

- 16** Explain why the discovery of the structure of DNA in 1953 has had such a lasting impact on medicine.

(Total for Question 16 is 8 marks)

- 17** 'Individuals have been the main reason for improvements in public health in Britain in the years c1900-present.' How far do you agree with this statement? Explain your answer.

(Total for Question 17 is 16 marks)

Mark scheme · EDX.MED4 Medicine in Britain, c1900-present: The NHS, Genetics and Modern Public Health

Question 1

- **B1** the Beveridge Report
- **Answer: The Beveridge Report**

Question 2

- **B1** any one of: want, disease, ignorance, squalor, idleness
- **B1** a second, different one of the same list
- **Answer: Any two of: want, disease, ignorance, squalor, idleness.**

Question 3

- **B1** Aneurin Bevan
- **Answer: Aneurin Bevan**

Question 4

- **B1** many doctors, particularly through the British Medical Association, were concerned about losing their independence and income as self-employed private practitioners
- **B1** and becoming state employees, so Bevan had to negotiate concessions, such as allowing hospital consultants to continue some private practice, to gain their support
- **Answer: Doctors, through the BMA, feared losing independence/income as private practitioners; Bevan negotiated concessions such as allowing continued private practice.**

Question 5

- **B1** healthcare free at the point of use, funded through taxation/National Insurance, available to all regardless of ability to pay
- **Answer: Healthcare free at the point of use, funded through taxation.**

Question 6

- **B1** James Watson
- **B1** Francis Crick
- **Answer: James Watson and Francis Crick**

Question 7

- **B1** Rosalind Franklin
- **Answer: Rosalind Franklin**

Question 8

- **B1** it enabled genetic testing and screening to identify inherited conditions, or a person's risk of certain diseases
- **B1** it laid the foundation for the Human Genome Project, completed in 2003, which mapped human genes and helped identify genes linked to particular diseases
- **Answer: It enabled genetic testing/screening for inherited conditions, and underpinned the Human Genome Project (completed 2003), which mapped genes linked to disease.**

Question 9

- **B1** any of: CT scan, MRI scan, ultrasound scan
- **Answer: CT scan, MRI scan or ultrasound scan (any valid example)**

Question 10

- **B1** smaller incisions cause less damage to surrounding tissue and less pain for the patient
- **B1** and this lowers the risk of infection and gives a faster recovery time
- **Answer: Smaller incisions mean less tissue damage and pain, lower infection risk, and faster recovery.**

Question 11

- **B1** any valid example, e.g. anti-smoking campaigns/the 2007 smoking ban, healthy eating/obesity campaigns, or immunisation campaigns
- **Answer: E.g. anti-smoking campaigns and the 2007 smoking ban, or healthy eating campaigns.**

Question 12

- **B1** they protect individuals from serious infectious diseases, such as measles, polio or whooping cough
- **B1** and, by achieving high uptake across the population, help create 'herd immunity', which helps prevent diseases spreading widely, including to people who cannot be vaccinated
- **Answer: They protect individuals from serious infectious disease, and high uptake creates herd immunity that limits spread.**

Question 13

- **B2** treatment became free at the point of use rather than dependent on ability to pay, so poorer patients could access doctors, hospitals and medicines they might previously have gone without
- **B2** it brought previously separate and patchy provision, such as charity hospitals, private doctors and limited local authority clinics, together into one coordinated national system available to everyone
- **Answer: Treatment became free at the point of use regardless of income, and previously separate services were unified into one national system.**

Question 14

- **B2** the identification of DNA's double helix structure in 1953 explained how genetic information is stored and passed on from parents to children
- **B2** later developments, such as the Human Genome Project (completed in 2003), mapped the genes in human DNA and helped identify genes linked to particular inherited diseases, enabling genetic testing and screening
- **Answer: Watson and Crick's 1953 discovery explained how genetic information is passed on; the Human Genome Project (completed 2003) later mapped human genes, enabling genetic testing.**

Question 15

- **Level 1** (1-2): Identifies one or two general reasons for growing government involvement, with little or no supporting detail or explanation.
- **Level 2** (3-4): Identifies and begins to explain one reason, supported by accurate detail.
- **Level 3** (5-6): Explains two reasons for growing government involvement, each supported by accurate and relevant detail.
- **Level 4** (7-8): Explains two or more reasons in a well-developed, logically structured way, supported throughout by precise and accurate detail, showing how the reasons connect.
- **Indicative content:**
 - The Beveridge Report (1942) identified disease as one of five major problems facing the country and recommended a state-run health service, leading directly to the establishment of the NHS in 1948 under Aneurin Bevan, showing government taking direct responsibility for healthcare provision for the first time.
 - The two world wars showed the government the practical value of a healthy population, for example for military recruitment and wartime production, building political support for state investment in public health and welfare.
 - From the later twentieth century, the government ran national vaccination programmes and public health campaigns, for example against smoking or promoting healthy eating, recognising that preventing illness, not only treating it, needed coordinated national action rather than relying on individuals alone.
 - Legislation such as the 2007 ban on smoking in enclosed public places showed government willingness to regulate behaviour directly in the interests of public health, extending beyond simply funding treatment to shaping the population's lifestyle choices.

Question 16

- **Level 1** (1-2): Identifies one or two general reasons for DNA's lasting impact, with little or no supporting detail or explanation.
- **Level 2** (3-4): Identifies and begins to explain one reason, supported by accurate detail.
- **Level 3** (5-6): Explains two reasons for DNA's lasting impact, each supported by accurate and relevant detail.
- **Level 4** (7-8): Explains two or more reasons in a well-developed, logically structured way, supported throughout by precise and accurate detail, showing how the reasons connect.
- **Indicative content:**
 - Watson and Crick's 1953 discovery of the double helix, using X-ray diffraction evidence produced by Rosalind Franklin and Maurice Wilkins, explained for the first time how genetic information is stored and passed from one generation to the next.
 - This understanding made it possible, later in the twentieth century, to identify which specific genes are linked to particular inherited diseases, enabling genetic testing and screening for conditions that run in families.
 - It provided the scientific foundation for the Human Genome Project, completed in 2003, which mapped the entire sequence of human genes and has continued to inform the diagnosis, and in some cases treatment, of genetic conditions.
 - Unlike some earlier breakthroughs, its impact has grown steadily over many decades rather than producing an immediate treatment, showing how a single scientific discovery can continue to shape medicine long after it is first made.

Question 17

- **Level 1** (1-4): Shows limited relevant knowledge of public health developments in this period, and offers only a simple, unsupported opinion on the statement.
- **Level 2** (5-8): Shows some relevant knowledge and identifies relevant factors, but the argument is only partly supported and lacks a developed judgement on how far the statement is accurate.
- **Level 3** (9-12): Shows good relevant knowledge and explains a range of factors, reaching a supported judgement on how far the statement is accurate, with some links made between factors.
- **Level 4** (13-16): Shows precise, well-selected knowledge and explains a range of factors in a balanced way, reaching a fully supported and sustained judgement on how far the statement is accurate, with clear analytical links between factors and consistently accurate use of specialist historical terminology.
- **Indicative content:**
 - Supporting the statement: individuals such as William Beveridge, whose 1942 report proposed the NHS, and Aneurin Bevan, who created it in 1948 against significant opposition from the medical profession, were central to establishing modern state healthcare provision.
 - Supporting the statement: scientists such as Watson, Crick, Franklin and Wilkins made the individual breakthroughs that led to the discovery of DNA's structure in 1953, opening up modern genetic medicine.
 - Against the statement: government policy and legislation, rather than any one individual, sustained long-term public health improvement, for example national immunisation programmes and the 2007 smoking ban, which depended on coordinated state action rather than a single person's discovery.
 - Against the statement: wider social and economic change, such as rising living standards and better housing and diet across the twentieth century, also improved public health independently of specific medical breakthroughs or individual reformers.
 - Against the statement: technological development, such as scanning technology and genetic testing, built on the collective work of many scientists and engineers over decades, not the actions of one identifiable individual.
 - A balanced judgement might argue that individuals were often the visible trigger for a particular development, but that lasting, population-wide improvement in public health depended on government commitment, especially funding and legislation, sustaining and spreading their work.