

Exam question

‘Alexander Fleming’s discovery of penicillin was the most significant turning point in the treatment of disease and illness in the period c1900-present day.’

How far do you agree with this statement?

Task

Complete the ‘Explanation’ column in your own words. Then number the factors to show which you feel was the most important and explain any links you can make between them.

Factor	Evidence	Explanation	Judge and link
<p>Role of science:</p> <p>Magic bullets</p> <p>Salvarsan 606, Prontosil, M&B 693</p>	<ul style="list-style-type: none"> Salvarsan 606 was developed by Paul Ehrlich and Sahachiro Hata to cure syphilis. Ehrlich tested 606 arsenic compounds in order to make the first ‘magic bullet’. Prontosil was developed by Gerhard Domagk to treat blood poisoning. It was used as a cure for puerperal fever in London - the death rate dropped from 20% to 4.7%. M&B 696 was developed by British scientists to treat pneumonia, a big killer in the twentieth century. It cured Churchill during WWII. 		
<p>Role of individuals:</p> <p>Antibiotics</p> <p>penicillin, streptomycin</p>	<ul style="list-style-type: none"> Penicillin was the first true antibiotic. It was developed by Fleming, Florey and Chain to fight infections. Fleming published his findings in 1929. Florey and Chain use this research in 1939 to make a useable treatment. 		

	<ul style="list-style-type: none"> • It was used to treat allied soldiers WWII which lessened infection death rates. Scientists were able to observe how penicillin attacked staphylococcus bacteria. This made it possible for scientists such as Sheehan to discover how to change penicillin so it could attack other types of bacteria. 		
<p>Role of technology:</p> <p>Mass production of pills made distribution of drugs easier</p>	<ul style="list-style-type: none"> • Mass made the drugs available in large amounts. • The development of capsules that could dissolve in the stomach to release drugs made treatment much easier e.g. aspirin. • Hypodermic needles meant that a treatment could be injected straight into the bloodstream e.g. insulin. • Insulin pump mean that young people suffering from diabetes are delivered insulin without the need for injections 		
<p>Role of the government</p>	<ul style="list-style-type: none"> • Eventually the British government funded Florey and Chain's work, which meant it was mass produced from 1942 onwards. • It funded the development of technology from the late 1940s onwards. • The government funding of the NHS and prescriptions means that these treatments are affordable to most people. 		