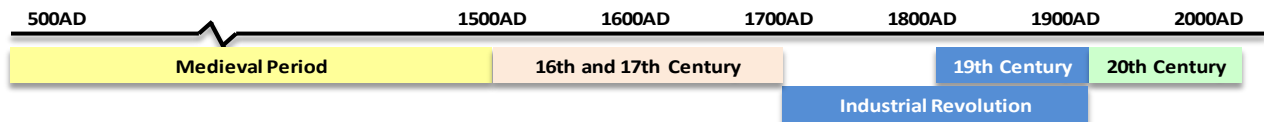


Knowledge Map: Prevention of Illness and Disease

Summary: This section of the medicine topic considers the prevention of illness and disease and whether they have changed over time. The time periods examined are the medieval period, the 18th and 19th centuries (Industrial Revolution), and the 20th century.



Medieval Period

Summary

The period is marked by a lack of medical knowledge which means causes of illness and disease are misunderstood. This means that any attempts to prevent illness and disease failed as they were never able to tackle what actually causes the illness or disease.

Key Knowledge

1	Influence of the Church	The influence of the Church on medieval life was extensive. It suggested that people became ill as a punishment from God and therefore, to prevent catching illnesses or diseases people should pray harder or punish themselves. Often this self-punishment was in the form of self-flagellate themselves.
2	Barber-Surgeons	Otherwise known as medieval doctors; they had little or no training. Would pull teeth, set broken bones, and carry out blood-letting. They could treat physical conditions but were ineffective at preventing illness or disease despite their claims they were.
3	Alchemy	Alchemists not only tried to turn base metals into gold but also were in search for the Elixir of Life - a potion they believed that could prolong life. They made a fortune selling these medicines.
4	Alternative Methods	There were a lot of alternative methods to the above preventions such as killing cats and dogs during times of disease, carrying herbs to ward off the bad smells that carried the disease, or drinking their own urine. All failed as they failed to address the causes of the disease.

16th and 17th Centuries (Early Modern Period)

Summary

This period is one that is very similar to the medieval period. Once again, a failure to understand the causes of illness and disease meant any attempts to prevent it were going to be ineffective.

Key Knowledge

5	Soothsayers	People went to local 'wise women' who tried to build up knowledge of sickness and disease. They used herbs and plants, special stones and special charms to prevent illnesses.
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18th and 19th Centuries (Industrial Revolution)

Summary

This period is one that is characterised by advances in the prevention of illness and diseases such as vaccinations and the discovery of the germ theory. This was due to the advances in science and a growing understanding of what caused disease, making the treatments more effective.

Key Knowledge

6	Science and Technological Advances	There were a number of scientific and technological advances during these centuries. Perhaps the most important were the microscope, stethoscope and kymograph. The microscope allowed scientists to look at organisms at a micro level which would have a profound effect on understanding what caused disease, and therefore, how to prevent it.
7	Edward Jenner and Smallpox Vaccination	Edward Jenner successfully discovered a vaccine for smallpox. He became aware that milkmaids who contracted cowpox never caught smallpox. Using this knowledge he infected a boy called James Phipps with cowpox, and then later smallpox and he showed no symptoms of it. It was the first vaccine but there was no understanding of why it worked.
8	John Snow and Cholera	John Snow discovered how to prevent cholera. After an outbreak of cholera in Broad Street, Snow was able to ascertain the source of the outbreak through observation, interviews and maps. He narrowed it down to a water pump and once the pump was dismantled, the cholera stopped. Again though, there was no understanding of what caused it.
9	Louis Pasteur and Germ Theory	Perhaps the most significant moment in medicine is Pasteur's discovery of the germ theory and that microorganisms caused decay and disease. Initially, his work was with wine and milk but would later be expanded to animal diseases. His germ theory would provide the basis for all future preventions.
10	Robert Koch and Vaccinations	Koch would take Pasteur's work and apply it to human diseases. He was responsible for the development of vaccinations for cholera and tuberculosis, amongst others. He would be awarded the Nobel Prize for medicine in 1905.

20th Century

Summary

This period is one that is characterised by a building on the success of the 18th and 19th centuries, especially with the development of vaccinations as the best form of prevention.

Key Knowledge

11	Development of Vaccinations	Vaccinations would become a staple of everyday life in the late-20th century. Essentially, they would become 'magic bullets' in preventing diseases. What has also made them hugely successful is that they are government backed and supported with some being compulsory. Vaccinations included: Polio in 1955, Measles in 1963, MMR (Mumps, Measles and Rubella) in 1988, and Hepatitis B in 1994. As a consequence, infant mortality rates have fallen dramatically. However, there is debate about whether a government has the right to impose vaccinations.
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Key Words and Definitions

Flagellant	A person who whips themselves for religious reasons
Elixir of Life	A magical and medicinal potion used to prolong life
Alchemy	Medieval attempts to turn base metals into gold
Soothsayer	A person who can supposedly see into the future
Microscope	A scientific instrument that allows viewing of small objects that are usually at micro level
Stethoscope	A scientific instrument used to listen to someone's heart rate and breathing
Kymograph	A scientific instrument for recording variations in pressure
Immune	Resistant to a particular infection, disease or toxin
Vaccine	A substance prepared from a disease that is used to provide immunity against one or more diseases
Germ	A microorganism, usually one that causes disease