Medicine topic 4b knowledge organiser: How did prevention and treatment of illness and disease improve in the modern period? (1900-present)

Lesson 5: Treatment change and continuity

Key words for this lesson:

MRSA: A bacteria that is resistant to antibiotics

Homeopathy: Using natural substances

Chemist: Place you can buy medicine

In 1900, 25% of deaths were caused by infectious diseases but this had fallen to less than 1% by 1990. By 1900 people still took herbal remedies or patent medicines such as Beechams and were still treated at home as doctors were expensive.

Core knowledge: New diseases and lifestyle factors mean people still get severe illnesses. Drug resistant bacteria like MRSA has evolved, which means it is still difficult to treat illness.

In 1919 the British government introduced the ministry of health to determine health across the country and in 1948 the NHS was introduced to help treat the sick. Penicillin and magic bullets were new ways to treat illness.

Lesson 7: The development of penicillin

Key words for this lesson:

Chance: Luck

Petri dish: A dish that makes it easier to see matter under a microscope

Catalyst: Speeds things up

Core knowledge: Alexander Fleming was a British doctor who noticed something unusual in 1928. A dirty petri dish had developed some mould which appeared to have killed off the harmful staphylococcus bacteria growing in the dish. Fleming tested the mould and identified it as penicillin. Unfortunately, Fleming did not believe that penicillin could work to kill bacteria in living people. His experiments showed that it became ineffective when mixed with blood in test tubes. Fleming wrote up his findings but did not pursue funding to perform further tests. In 1940, Florey and Chain tested penicillin on infected mice but it was very difficult to produce penicillin in large enough quantities for a human trial. However, the scientists set about growing as much penicillin as possible using milk churns, bed pans and even a bath. In 1941, Florey and Chain used penicillin to treat a local policeman who had developed blood poisoning. He began to recover but then they ran out and he died. They needed to be able to mass produce penicillin. The British government initially couldn't fund it bur when the US government saw the benefits they funded 21 pharmaceutical companies to begin mass producing it. By D-Day, in June 1944, there was enough penicillin available to treat casualties.

Lesson 6: How did the government act to prevent illness after 1900?

Key words for this lesson:

Compulsory: You have to do it

Laissez Faire: Leave it be/ don't interfere

Rapid: Quick

Core knowledge: The government have use the media and introduced campaigns like change4life and stoptober, they have passed the clean air act to deal with the problem of smog and worked to monitor the Ebola epidemic in West Africa. Charities like the British Heart Foundation have also helped. The government has helped with campaigns for compulsory vaccinations against polio and diphtheria.

Lesson 8: The fight to end lung cancer

Key words for this lesson:

Transplant: Taking an organ from one person and putting it in another.

Tumour: Abnormal cell growth

Bronchoscope: A camera that can look at the lungs

Core knowledge: Patients are given a CT scan. A dye allows the lungs to show up more clearly on the screen. If the scan shows a cancer, then doctors will either: Give a PET-CT scan if the cancer does not look advanced or they will be given a bronchoscopy using an endoscope called a bronchoscope. This is passed into the lungs to get samples for testing. Doctors can then decide what type of cancer the patient has and how far advanced it is, this determines the treatment.

If lung cancer is diagnosed quickly enough it can be treated by removing the tumour, lung or having a transplant. Doctors can also give radiotherapy which to shrink tumours and chemotherapy to shrink a tumour before surgery or prevent it reoccurring. It often leaves the patient with unpleasant side effects. If surgery is not possible, then chemotherapy may be used to slow down the symptoms of cancer. Studying genetics has meant that doctors can see which mutations of gene may respond to different treatments. Giving people treatment that suits their type of cancer is called **pharmacogenomics.**