CAIE Geography Pre-U

3B: Health Issues

Essential Notes

Definitions

- **Epidemic:** A widespread occurrence of an infectious disease in a community at a particular time.
- **Pandemic:** A disease which is prevalent over a whole country or worldwide.
- **Endemic:** A disease or condition which is regularly found among particular people or in a certain area.
- **Contagious:** A disease which is spread from one organism to another, mainly from direct contact.
- **Infectious:** A disease or disease-causing organism which is transmitted by people, organisms or through the environment.
- **Viral:** A disease which is caused by or related to a virus.
- **Bacterial:** A disease which is caused by or related to bacteria.
- **Parasite:** An organism which lives in or on another organism and causes harm.
- **Death/mortality rate:** The number of deaths per 1000 people in a population.
- **Infant mortality rate:** The total number of deaths of children under 1 year of age per 1000 live births.
- **Life expectancy:** The average number of years that a person can be expected to live.
- **Attack rate:** The number of cases of a disease diagnosed in an area divided by the total population during a period of an epidemic.

Explanation and causes of spatial variation

Patterns of diffusion
- **Expansion:** Where the infection spreads out in all directions from the point of origin.
- **Contagious:** An infection spread by direct contact. So the disease spreads from the point of origin to multiple people or places nearby.
- **Hierarchical:** Where the infection spreads down through a particular system.
- **Relocation:** Where the infection spreads into a new area and dies out in the previous location.

The work of early epidemiologists
Cholera is an infectious, **water-borne** disease from bacteria. It causes **severe dehydration, diarrhoea, vomiting, the blood becomes thick and so cannot reach vital organs**. Cholera is spread by drinking water or eating food which has been **contaminated by faeces of an infected person**.

In 1854, Soho in London was struck by a huge cholera outbreak which killed around **600 people**. At the time it was thought that Cholera was caused by bad air. During the outbreak, **John Snow created a map of Soho and plotted on it the cases of cholera**. He also asked everyone who contracted cholera where they got their water from. It turned out they all came from one particular water pump. He then went to this water pump and broke the handle off. Soon after, the outbreak came to an end.
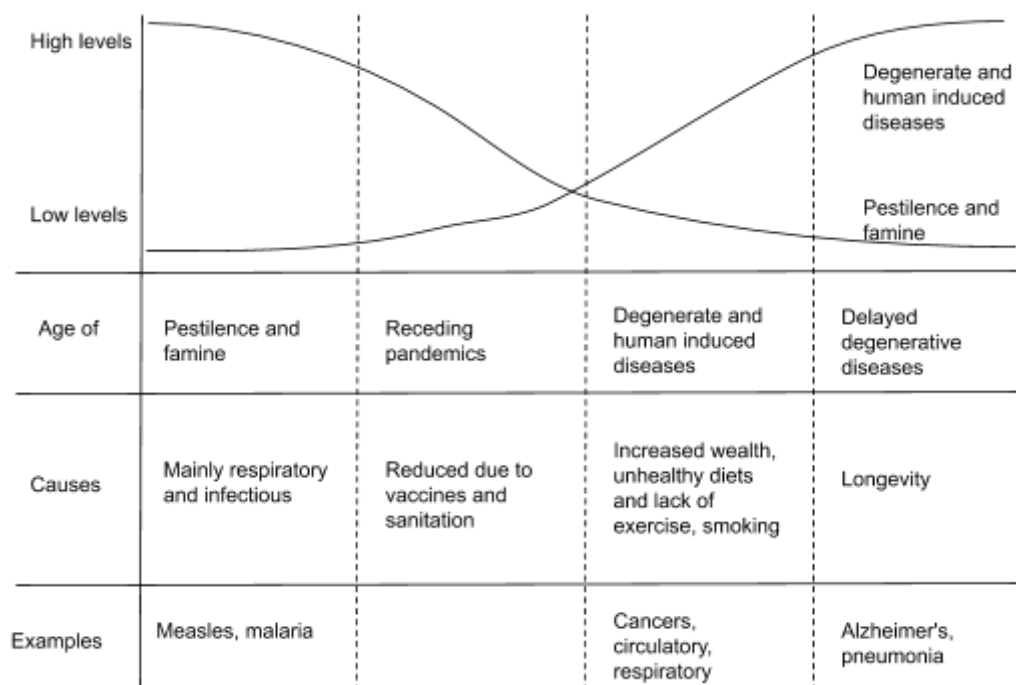
The spread of emergent diseases

- **HIV/Aids:** Is a viral infection that is passed through the exchange of bodily fluids. It affects both people in HICs and LICs but is more prominent in LICs. There is no cure but there are drugs to extend the life of people with the disease. To decrease the spread of HIV/Aids **education and screening** is needed.
- **SARS:** Severe acute respiratory syndrome is a **viral disease** which is transmitted by touch and close contact. The **fatality rate is around 15%**. **Isolation** of people with SARS and **screening** of everyone flying from the affected area is necessary to stop it from spreading.
- **Ebola:** A **viral infection** that leads to lots of internal and external bleeding.
- **Pandemic Influenza:** Usually occurs when a new virus emerges due to mutations that are able to infect people easily and spread from person to person in an effective way.

Factors influencing health, welfare, mortality and the spread of disease

There are different factors which influence health, welfare, mortality and the spread of disease:

- **Demographic:** If there are a higher number of old aged people in an area then there will be a higher number of **degenerative diseases** such as Alzheimer's and strokes. Several countries who are experiencing ageing populations are trying to combat this by encouraging births.
- **Environmental:** Air pollution, inadequate clean water, chemicals, radiation, community noise, occupational risks, agricultural practices and climate change can all affect the health of the population.
- **Economic:** Less money to spend on health care and education. Less able to buy healthy foods and ways to exercise. **TNCs** also mainly operate in NICs and LICs where they can exploit the local population and have inhumane or dangerous conditions. Pharma TNCs are more likely to develop drugs which benefit those in HICs because this is where they can make money rather than developing drugs which can combat diseases which mainly affects LICs. If someone has better employment then they will be able to make more money and so will have access to better food, housing etc.

High levels			Degenerate and human induced diseases
Low levels			Pestilence and famine
Age of	Pestilence and famine	Receding pandemics	Degenerate and human induced diseases / Delayed degenerative diseases
Causes	Mainly respiratory and infectious	Reduced due to vaccines and sanitation	Increased wealth, unhealthy diets and lack of exercise, smoking / Longevity
Examples	Measles, malaria		Cancers, circulatory, respiratory / Alzheimer's, pneumonia

- **Socio-cultural:** Higher population density will lead to an increased spread of infectious diseases. Some cultures generally have healthier foods, diets and lifestyles. Certain **lifestyle choices** are also more prevalent in certain cultures for example binge drinking or smoking.

Geographical causes of variation in health

- **Industry: Silicosis**, **Asbestosis** and **Industrial accidents**.
- **Influence of TNCs:** TNCs can **exploit weak legislation** of governments in LICs and NICs leading to exploitation of workers.
- **Effects of variation in affluence:** The amount of money that people have has a massive impact on the types of food people eat. **Overnutrition** can lead to obesity which can cause diseases such as cancer, heart disease and strokes. **Coronary heart disease** is caused by smoking, high cholesterol, high blood pressure or diabetes. **Malnutrition** can cause anorexia, osteoporosis and deficiency diseases. Many poorer people in HICs can have enough calories but do not get enough nutrients through the foods they contain and so can still suffer from malnutrition-related diseases. **Binge drinking** is more common in lower income people and the unemployed whereas those with more money tend to drink little and often.
- **Water-borne diseases:** The incidence of **cholera** can be increased by overcrowding and poor sanitation. It can come from unclean water, unclean food or eating food that has been handled by a contaminated person. **Typhoid** is a bacterial infection that is highly contagious. It is most common in parts of the world that have poor sanitation and limited access to clean drinking water. **Malaria** is a disease transmitted by mosquitoes. Mosquitoes breed in stagnant water and are very common in tropical areas. **Dysentery** is an infection caused by contaminated water and causes inflammation of the intestines. It can cause diarrhoea and if the person isn't adequately hydrated it can lead to death.
- **Spread of diseases as a result of increased migration:** Increase travel and lead to increased spread of diseases, especially as many people migrating from certain countries can often be due to disease.

Consequences and impacts

Population structure
Famine can cause the **migration** of the working-aged people out of the country. There is also likely to be **decreased fertility** during the famine, but often there is a baby boom afterwards which creates a generation gap.

Diseases and illnesses can also have an effect on the population structure. Diseases such as HIV and Aids mainly affects young men and so will **decrease the number of young men in the population**. Diseases such as HIV/Aids often mean that people don't live longer than 40 and so a **youthful population** is created.

Socio-economic status
Socio-economic status may be decreased due to the **poor health of the population**. Poor health often leads to **low productivity** (e.g. lower crop yields) due to sick days or and an inability to

expend much energy resulting in workers' productivity being low. This, in turn, will lead to an inability to buy food or medication and so will lead to further famine, disease and illness.

Family structure
The **main income producer could die or be sick** meaning that the family will receive less income. In addition to this another family member may be required to become a carer, decreasing the household income further. Children might have to work instead of going to school which will have long term effects on them as they may not get the education required to get skilled jobs later in life. Also, children could become orphans and be left to care for themselves.

Migration patterns
Disease may increase the amount of migration within a country, from rural to urban areas, or encourage international migration, mainly between neighbouring countries. This migration causes a decrease in the working population in the places or countries people have moved away from. This can negatively affect the economy of those places. In addition to this stress may be put on the recipient place or country if there is not sufficient infrastructure in place to support the influx of migrants.

Economies
Lower productivity especially in rural areas. There will also be a decrease in the food yields so less can be sold internationally. Some countries will also have to borrow money from other countries in order to help improve the health care and living conditions but will lead to **debt** in the future and so will not help the country in the future. Diseases will lead to persistent and widespread effects on the economy.

Management and mitigation

Increasing the number of doctors, nurses and hospitals
This is especially important in rural areas where otherwise the access to medical care could be too far away to reach.

Greater awareness of the importance of a good diet
Many diseases can be related to diet. Increasing awareness of a good diet and helping people implement it is crucial to alleviate the strain on health services and to improve general health and decrease the risk of disease.

Extending access to clean water
By reducing open defecation rates, building wells, pipelines and providing household purification systems will lead to a decrease in the levels of water-borne diseases.

The use of vaccines to eradicate diseases
Vaccines can be used to prevent the spread of infectious diseases as well as decreasing the numbers or eradicating diseases.

Other preventative measures

The **distribution of condoms** massively reduces the spread of sexually transmitted diseases and also helps to decrease birth rates which could lead to better standards of living. **Mosquito nets** can also be distributed to at-risk malaria areas to reduce the chance of people getting bitten by mosquitoes. Decreasing malaria cases can also be helped by draining swamps.

The role of the World Health Organisation

The WHO is a body of the UN which is responsible for directing and coordinating health responses. They are working towards universal health coverage and helping to put in **preventative measures** for non-communicable diseases. They also work to promote health through addressing **environmental risks, social determinants of health, gender, equality and human rights**. They also work in emergencies through monitoring, preparedness and coordinating responses.

The role of governments

Most governments in HICs deliver **healthcare** and welfare provision through **protective legislation** through national or regional schemes. They can also introduce **vaccine schemes, family planning, lifestyle education, awareness projects and campaigns**.

The role of non-governmental organisations

Non-governmental organisations work mainly in LICs to improve access to health care as well as tackling to roots of ill health such as access to clean water, chronic poverty, famine and malnutrition and exploitation of workers. Examples of NGOs are:

- Bill and Melinda Gates foundation
- Medicins Sans Frontiers
- WaterAid