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POVERTY AND HEALTH – THE IMPACT OF INEQUALITY

Looking at global patterns of health and poverty, there would seem to be a correlation between the two variables. As poverty increases, the health of a nation declines. Figure 2 shows the Human Development Index (HDI), representing socio-economic level, and infant mortality rate (IMR), indicating health level, for selected countries. Generally, the higher the HDI, the lower the IMR (see Figure 1 for definitions). However, poverty is a complex concept. Our idea as to what constitutes poverty changes over time and differs between nations. Poverty can be measured in absolute and also in relative terms.

There are many causes of poverty, some of which are summarised in Figure 3. When a family is in poverty, the main focus is on getting enough food, water and shelter to survive. There is often nothing left in monetary terms to cope with the cost of medical needs. Figure 4 shows how some factors linked to poverty can then impact on health levels in a population. Poverty means a lack of choice. A mother may be aware that the water she is taking back to her family to drink is from a contaminated source, but she may not have the money to purchase clean water, even it was available in her area. Poverty usually means a poorer diet and one that lacks the protein for healthy growth. This can impact on the ability to carry out physical work, such as farming, and may result in lower levels of food production for the family. The poor in developing nations suffer from diseases linked to poor hygiene, a poor diet and contaminated water supplies, such as cholera, malaria and diarrhoea. Poverty can mean that girls, especially those with little or no education, are drawn into the sex industry with its associated sexually transmitted diseases. Due to low levels of vaccination, poor people in many developing areas commonly suffer from potentially fatal childhood illnesses such as measles and diphtheria. Poor diets can lead to the diseases of malnutrition such as kwashiorkor and marasmus. Without some investment in preventative medicine, such diseases can create a negative cycle of poverty.

Figure 2: HDI and IMR for selected countries (data from CIA and UN)

HDI Grouping	Country	HDI	IMR
VERY HIGH	NORWAY	0.943	3.5
	USA	0.910	5.98
	JAPAN	0.901	2.21
	HONG KONG	0.898	2.9
	UNITED KINGDOM	0.863	4.56
HIGH	CUBA	0.783	4.83
	RUSSIA	0.755	9.88
	COLOMBIA	0.71	15.92
MEDIUM	CHINA	0.687	15.62
	INDIA	0.547	46.07
LOW	BANGLADESH	0.5	48.99
	KENYA	0.5	44
	PAKISTAN	0.5	58
	HAITI	0.45	52.44
	ZIMBABWE	0.376	28.23
	ETHIOPIA	0.363	75.29
	DEMOCRATIC REPUBLIC OF CONGO	0.286	76.63

Figure 1: Definitions

Poverty The World Bank defines this as 'pronounced deprivation in wellbeing'.

Absolute poverty This is measured across several countries and is usually income-related, e.g. living on less than $2 per day.

Relative poverty This is assessed against a standard of the society within which an individual lives. In the UK it is usually the percentage of population living on less than 60% of the average income.

Human Development Index (HDI) An aggregate value of life expectancy, literacy, level of education and standard of living. 1 represents the highest level of HDI and 0 the lowest.

Infant mortality rate (IMR) The number of deaths per 1000 live births.

Health The World Health Organisation defines this as 'a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity'.

Even in wealthier nations, there is still a link between poverty and health. The health problems caused by unclean water and poor sanitation have largely been solved, but other diseases such as heart disease and cancers persist, and incidences of these are higher in areas of deprivation. In poor areas in developed nations, problems linked to living in poorly built, damp and under-heated housing also cause respiratory diseases.

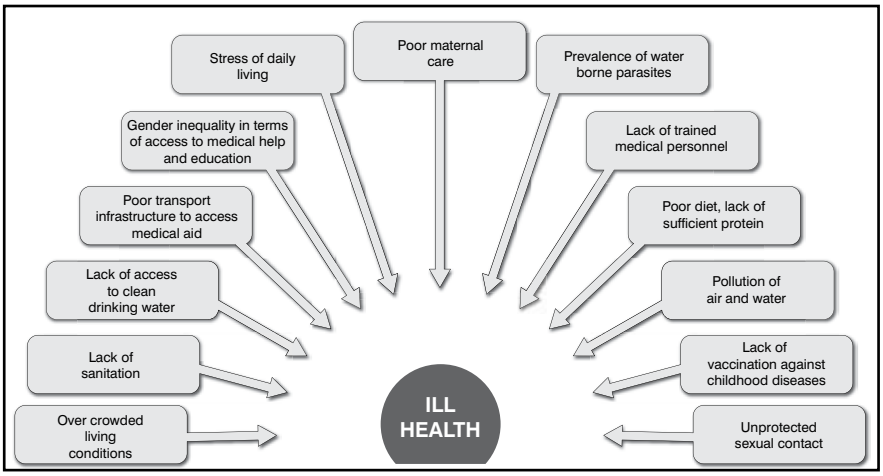
Developing nations

In developing nations, poverty in a family is often linked to ill health, leading to a downward spiral in terms of quality of life for all members. Without work, they cannot afford medicine or medical care. Their health may continue to deteriorate, but the poor often delay treatment until the illness reaches a critical point. It is then that a family's meagre savings are used to pay for medicine, or a loan is taken out. By delaying, a higher level of intervention may be needed and the costs of medicines are likely to be higher. Difficult decisions have to be made when there is very

Figure 3: Summary of causes of poverty

ENVIRONMENTAL	ECONOMIC	SOCIAL AND POLITICAL
• Lack of access to clean water, land and resources. • Having to live at edge of climatic limits. • Soil erosion. • Desertification. • Deforestation. • Natural hazards. • Drought. • Climate change.	• Biofuels being grown instead of food crops. • Inequitable land tenure. • Unequal trade relations. • Impact of the World Trade Organisation and liberalisation of trade. • Decline in the post-industrial cities of the developed world.	• War. • Colonialism – past and present. • Increasing population pressure on resources. • Lack of access to contraception. • Poor access to education. • Inadequate nutrition. • Poor access to health care. • Lack of democratic government.

Figure 4: Summary of causes of ill health linked to poverty



little income. If an elderly person becomes sick, the family may not be willing to go into debt to pay for modern medicine: however, they might if a child is seriously ill.

Of the over 1 billion living on less than $1 a day, 70% are women. If they are the sole parent and cannot work, this can lead to further malnutrition for their children, who may also be removed from school in order to try and earn some money for the family. Women tend to suffer more ill health, especially from preventable illnesses. This is partially due to the dangers of pregnancy and childbirth, and also due to their position within their society – their health is often not a priority.

Case study – Pakistan and maternal health

In poor rural areas of Pakistan, the majority of girls marry young and may have several pregnancies whilst in their teens. A lack of care in pregnancy (linked to a lack of medical facilities and low educational levels of the young mothers) and during birth can lead to obstructed labour, when the baby cannot be delivered. A Caesarean operation is then needed, but many villages are miles away from any hospital, the transport infrastructure is poor and many families cannot afford such care. Delay in accessing medical help means the baby usually dies, and because of the prolonged labour, holes (known as fistulas) occur between the birth canal and the bladder and/or the rectum of the mother. This results in her becoming permanently incontinent and then often she is abandoned by her family. 150,000 women suffer from fistulas in Pakistan, caused by an obstructed birth. Annually 6,000 new cases occur, but only 800 women receive corrective surgery. Women in developed nations rarely suffer from fistulas, but worldwide over 3.5 million women experience the condition, which is 100% preventable. Pakistan has a high occurrence because of a lack of trained medical personnel, low levels of education amongst rural women, giving birth when too young, poor general health, and because women's health is not considered a high priority in some sections of society.

Case study – Kenya: the need to tackle the causes of poor health

Kenya has a high level of foreign debt and therefore cannot invest in healthcare as much as it needs to. Due to financial limitations, it relies on curative medicine, rather than getting to grips with underlying problems and focusing on preventative measures. In the long term, preventative measures such as education about disease transmission work out cheaper, as there is less need for drugs and hospitalisation in the future. HIV/AIDS is a major problem in Kenya, especially among the poor. There are 1.5 million HIV/AIDS sufferers in the country – 7.4% of the adult population. As a result there are over 1.2 million AIDS orphans who are being brought up by grandparents or have been abandoned. Without intervention, the cycle of poverty and HIV/AIDS infection will continue. Poor people cannot afford the retroviral drugs that can extend life, and many do not have access to medical facilities in rural areas, so the death rates for the poor are high.

Case study – China: regional disparities

Since the liberalisation of agriculture and industry in the late 1970s, China's economy has grown at an extremely fast rate. However, its wealth is not evenly distributed, with most being found in the eastern regions. Many of the western, rural and mountainous regions continue to suffer from poverty and associated poor health levels. Though decreasing, maternal mortality rates are 64 per 100,000 in rural areas, compared to 20 per 100,000 in urban and eastern regions. This pattern of health being roughly three times worse in rural areas is also found in infant mortality rates and under-five mortality rates. Life expectancy is also lower in the poorer, rural areas of China. Many rural areas are isolated and have poor transport infrastructure. There are fewer hospitals and trained staff, and this combined with poor educational attainment, results in lower health levels. Living conditions tend to be more primitive and there is often poor sanitation, and contaminated water supplies. The rate of vaccine-

Figure 5: Some of Glasgow's issues

- Areas suffering multiple deprivation have lowest life expectancies.
- 50,000 children living in poverty in the city.
- In poor areas of Glasgow, 40% of adults smoke.
- 30% of all deaths at all ages are linked to smoking.
- 50% of all smokers die prematurely.
- 20% of primary school children are obese in Glasgow. (Linked to diabetes, heart disease, cancers and arthritis.)
- Cirrhosis of the liver is linked to alcohol abuse. Scotland has the highest number of deaths in Western Europe due to this illness, and Glasgow has the highest rates in Scotland.
- Glasgow is largely post-industrial and shares similar problems with cities such as Liverpool and Newcastle, but at a higher level.
- Glasgow's has 30% more premature deaths than Liverpool or Manchester.
- Known as the 'Sick Man of Europe'.

preventable diseases, such as measles, is up to six times higher in the poorer western regions than in the wealthier and more urban eastern region. Decentralisation of funding has meant that local governments are responsible for much of the healthcare but the areas with highest numbers in poverty, invariably have the least money to try and improve health levels.

In China's cities the problem for the urban poor is that the government has chosen to follow the American system of using health insurance. Most hospitals and clinics are privately run. However, the poorest workers do not have jobs where the health insurance is paid for by their employer, nor do they have the spare money to pay for medical treatment directly. Due to the high cost of treatment, many still resort to traditional Chinese medicine, which is generally much cheaper. Unless relatives rally round to come up with money, it is difficult for a poor person who is seriously ill to access the necessary drugs or modern medical care.

Developed nations

Even within developed nations, there are differences in health levels linked to income. If you are aged 65 in the UK and live in Kensington and Chelsea (a wealthy district of London), you can expect to live on average for a further 23.7 years. However, if you live in Glasgow, you can only expect another 15.2 years – nearly nine years' difference. Generally, better health is linked with the more wealthy areas of the UK. The post-industrial cities of the UK such as Glasgow, Newcastle, Liverpool and Manchester all show lower levels of health than towns such as Bath or Harrogate. The cities that were at the forefront of the industrial revolution have lost most of their industries and have higher unemployment levels than the national average. In some areas of these cities there is evidence of multiple deprivation, which links to high incidences of some health problems. Nationally, the average life expectancy at birth in the UK is now 76.6 for a man and 81 years for a woman, but the comparable figures for Glasgow are 69.9 and 76.7. Even when Glasgow is compared to other post-industrial cities that have similar economic and social problems, it consistently shows evidence of poorer health. This has come to be known as the 'Glasgow Effect'.

Case study – Glasgow's gap in health

Figure 5 lists some of Glasgow's problems which are linked to the Glasgow Effect. The gap in health levels between the wealthiest and poorest areas of the city is wider than socio-economic differences would suggest. The main health problems for men in Glasgow are having longstanding illnesses, psychological problems, chronic liver disease (related to binge and excessive drinking), impacts of drug taking and excess deaths from all forms of cancer. For women the main problems are psychological and poor diet. Within the population, the group with the most health problems are men aged between 45 and 64 who have no qualifications. Thus, they are almost exclusively from the lower socio-economic classes and living in poverty. The female group with the lowest health levels are pensioners from the lower socio-economic classes.

Over the last 30 years Glasgow's IMR has reduced, as have levels of smoking, but this reduction has also occurred in other parts of the UK, and in relative terms Glasgow's health levels continue to be worse than in other UK locations. Living on benefits and having less money means that you are less likely to be able to afford good quality fresh fruit and vegetables and to have a balanced, healthy diet. Fuel poverty is likely to be a problem, and it may not be possible to keep the home warm enough to prevent moulds and damp. These factors can lead to respiratory problems. There are also high numbers of single parent households where income is low, as many survive only on benefits. Glasgow has areas of multiple deprivation and this seems to impact on health levels. However, unlike in many developing countries and some developed ones too, everyone in the UK has access to medical care via the NHS to deal with illnesses as they occur.

Today in Glasgow, a female child born in a wealthy area of the city can expect to live to 84. However, in the poorest areas of the city her life expectancy will be only 70 years, and yet these two children may only live a mile apart. Figure 6 compares data from two contrasting areas of Glasgow: one an outer suburb and the other, a part of the inner city. Springburn is an area of multiple deprivation with low life expectancy when compared to the UK average. Poverty as shown by the high levels of joblessness, overcrowding, low levels of access to a car and low educational attainment will mean that it is likely that the child growing up here will have fewer chances in life unless there is some intervention. Only just over a quarter of mothers are still breastfeeding at six weeks. This means that the majority of babies are not benefiting from the natural immunity to disease acquired via their mother's milk. With almost half of the adults around them smoking, they are more likely to suffer from asthma and other respiratory problems. A quarter of the houses are overcrowded, and with low incomes it is likely they will not be well-heated. All this may impact on their educational achievement and if they fail to gain any qualifications then they are likely to have an unskilled job, if any at all, and the cycle of poverty and poor health continues.

Figure 6: Comparing two contrasting areas of Glasgow

	Springburn – inner city area in north Glasgow	Lenzie – suburb north east of central Glasgow
Life expectancy – male	66.7	84.3
Life expectancy- female	75.4	85.4
Average house price	£78,591	£227,883
% households overcrowded	24.8	3
% income-deprived	28	7
% workless	30.2	4.8
% no access to a car	68.6	7.6
% pupils with 5+ GCSE (equivalent) grade C +	37.2	93.2
% mothers breastfeeding at 6/8 weeks	28	71
Alcohol-related conditions requiring hospitalisation per 100,000	1635	358
% estimated smokers 16+	43	12.8
Rate per 100,000 coronary heart disease in those under 75	122	16.5

In contrast, in Lenzie, a child can expect 17 more years of life and will spend its childhood in a less crowded household where joblessness is rare. They are much more likely to have been breastfed and to have a healthier diet; are less likely to smoke or to have a drink problem, so their health is going to have a better base; are also seven times less likely to suffer from coronary heart disease before they are 75. They will achieve well at school and then are likely to move on to higher education and thence to the professions, and hopefully a positive cycle will be established.

In Glasgow these deep divisions are worrying. Although they occur in many cities and seem to be largely due to high income inequality, it does not completely explain the Glasgow Effect. More research is being carried out as to why the health differences are so stark.

Conclusion

The low level of health experienced by those in poverty around the world, both in developed and developing nations, is a brake to human development. Good health is needed for economic and social development, which then leads to higher productivity. In industrialised nations, although there has been high investment in health systems, there is still inequality in health levels, linked to income. Uneven access to healthcare and the growing income inequality need to be addressed if improvements in health levels are to continue. Developing nations need to have greater investment in healthcare in order that all sectors of the population can benefit from, and further contribute to, development.

Healthcare needs be at the centre of a country's policy, rather than an add-on after economic improvement has occurred. In developing nations a focus on improving the conditions and incidences of disease that disproportionately affect the poor would lead to nations being more resilient to change, and more productive. The number of people in poverty, in both absolute and relative terms, needs to be drastically reduced if we are to have a secure and healthy world future. Pandemics often begin in poor, overcrowded areas with limited sanitation, and it is to everyone's advantage if all sectors of humanity have the access to and knowledge of healthcare in order to live as healthy lives as possible.

Websites for further research
http://www.heraldscotland.com/news/home-news/could-this-study-at-last-tell-us-why-glasgow-is-the-sick-man-of-europe.16982346: article from the Scottish Herald on Glasgow as the sick man of Europe.
http://www.hiddencities.org/: UN Habitat report on Hidden Cities, looking at the link between poverty and health in the cities of the world.

Focus Questions

1. Draw a scattergraph using the data in Figure 2. Identify and explain any patterns shown and try to account for any anomalies.

2. Using examples you have studied, discuss the possible links between poverty and levels of health.

3. With reference to areas within a city you have studied, suggest reasons for differences in levels of ill health.