

Unit 4 Exemplar Report
Pollution and Human Health at risk

Note: These exemplar reports are based on the work of candidates under examination conditions, during the January 2010 examination series. The reports were originally hand written but have been typed up, with diagrams redrawn. Errors, including QWC errors, have in most cases been kept. The aim of these exemplar reports is to highlight good practice and areas of potential improvement. The marking levels and examiners comments given are indicative and should be used as a basis for discussion in the classroom, rather than indicating a specific grade.

Pre-release research focus:

OPTION 5: Pollution and Human Health at risk

- **Explore** a range of human health risks and the varying degrees to which they have been controlled.
- **Research** types of health risk strategies at a range of scales and locations.

Report Title:

Evaluate the success of a range of management strategies in reducing health risks.

Plan:

Intro: Health risks
Environmental model

1. Malaria - relocation
Ethiopia / Tanzania
China

2. Swine flu - contagious / relocation
UK/ America
China

3. Aids - hierarchical
Uganda - ABC
UK/ USA - education

4. Obesity - lifestyle
UK change for life

5. Cancer - tertiary care
Barefoot doctors / Dr w/o borders

6. Pollution
sustained - asbestos / cancer rates
incidental - bhopal / chernobyl

Evaluation
Horizontal / vertical ?
LEDCs tertiary
MEDCs primary
NHS

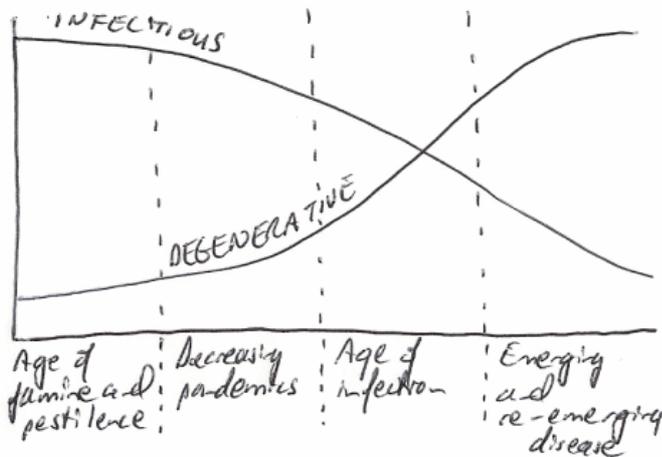
Introduction

Health risks are factors that may affect our physical and mental wellbeing and therefore ability to live. They can occur due to environmental factors. The World Health Organisation predicts that soon up to 20% of all deaths may be attributed to environmental change, genetics or infections.

Management of these risks falls into a variety of classifications; primary such as a general practitioner; secondary e.g. referrals to hospital, or tertiary e.g. specialist treatment. They may also be described as either vertical – targeting solely the disease, or horizontal which examines the broader perspective of the disease and any other factor that may play a role in risk.

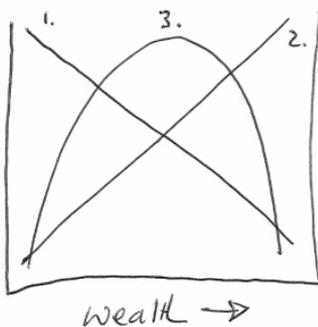
The Epidemial Model

The epidemial model shows at what stage a country fits into in order to work out the best route of management.



The Environmental Risk Model

1. Local – individual sanitation
2. Global e.g. climate change
3. Community



This model examines how the environment can influence risks upon health.

Malaria

Malaria is a vector borne disease prevalent in LEDCs and rural areas where sanitation is poor and there is little wealth. It is a relocation disease meaning it may spread as a result of migration, as it is spread through mosquito bites.

Ethiopia and Tanzania

A Pearson Company

Ethiopia has a 70% risk of the population catching malaria and it is a very big killer due to the dirty living conditions and lack of affluence. The country relies heavily on Non-Governmental Organisations for aid strategies. These have been put into place whereby insecticide-treated nets have been fitted in homes, DDT has been sprayed, and reservoirs have been drained to destroy the breeding grounds of the mosquitoes. In Tanzania mobile phone companies have given out mobile phones, where a specific number can be rung should someone become infected.

These strategies have become somewhat effective, however the insects are becoming immune to the DDT and other insecticides and sometimes the mosquito nets are not installed properly, so aid workers in Tanzania have to visit homes frequently to check which is very time consuming.

China

Whilst like most MEDCs, malaria has been completely eradicated from major cities, it is still very common in rural areas. Having adopted a similar approach to Ethiopia and Tanzania, pesticides are sprayed directly into homes and ITNs installed; however again the insects are becoming resistant where these methods are so widely used. With little education being given to the population this management strategy is not going to be very sustainable.

Swine Flu

Swine flu is a recently emerging virus that since April 2009 has officially killed 6000 people (Times Online). It is a relocation disease that can also be contagious, spreading easily from person to person. 10 in every 1000 people infected die from swine flu every year.

UK

The UK was very quick off the mark and the National Health Service fast introduced a national advertising campaign to advise people of the symptoms and what to do if they suspected they had contracted swine flu. Leaflets were sent to every home in the country and a hotline was set up for self-diagnosis to prevent the GP surgeries and hospitals from becoming over-run. Later on a vaccination was introduced to priority groups such as the under fives and women who were pregnant. The educational approach to Swine Flu coupled with the government's fast response meant that there was little spread of the disease and people were able to identify symptoms fast and had rapid access to a vaccine if it was needed. As the vaccine is a new development it cannot be evaluated at this time.

China

China took a different approach and tried to stop the spread of Swine Flu at its borders. Passengers from air flights were quarantined for up to one week and entire hotels were placed under quarantine. Whilst initially this strategy worked, China had to accept that they could not stop the spread of Swine Flu indefinitely, and that they wasted a lot of resources with little impact. They are now advising people to stay home if they suspect symptoms and are offering vaccines.

HIV/ Aids

In the last 30 years HIV has killed 20 million people with a further 30 million being infected today. There is currently no cure or vaccine for this disease (spread by hierarchical diffusion as it first began to spread through big cities) so efforts must instead focus on prevention.

Uganda

Uganda has adopted the ABC approach – Abstinence, Be Faithful and use a Condom. This is now nationally recognised as 99% of the Ugandan population are now able to state at least 2 of the 3 approaches. The age at which people lose their virginity has now increased and a lot more are aware of the need to use condoms to reduce the risk of infection. However, there will have been some

religious opposition to the policy and there are a large number of people who do not believe in fidelity or in the use of condoms. This has undermined the effectiveness of the policy.

UK and USA

MEDCs are able to educate people a lot more effectively due to the wide range of access to doctors surgeries, the internet, television campaigns etc. The introduction of the C-Card in the UK and sexual health education at an early age at school means that people are very aware of the risks of catching HIV and also have the ability to prevent it e.g. free condoms through the NHS. These methods have proved to be very successful. Having a free national health service means these strategies are very accessible and are sustainable – unlike in the USA where 50 million people do not have access to healthcare (Sicko, by Michael Moore).

Obesity

Obesity occurs as a result of increased affluence; for example in the USA 50% of all under 5's are obese as opposed to the 50% of all children in Kenya who are malnourished.

UK

Change for Life is a campaign targeted at getting people to eat healthier, exercise more and therefore live longer. Since its launch by a nationwide televised appeal, 400,000 families have joined the scheme to try and reduce obesity in children which is currently 25% of all UK children. It is run by the NHS and allows families free access to dietary advice, monetary rewards for healthy eating and can fund local exercise facilities. It is widely used across the UK and is likely to be very successful.

Sustained pollution

China's rapid economic growth has led to widespread environmental problems with some areas being dubbed 'cancer villages' with a 50% increase in chance of contracting cancer. 300 million people drink water polluted with chemicals such as benzene, often with pollution levels 5x the national safe standards. It is estimated that 30,000 children die each year from drinking polluted water. Local and National governments have put clean water strategies in place but with so many factories and sites to regulate and a continued push for economic progress, improvements are slow.

Barefoot doctors

In rural China where primary care is hard to access, local farmers were given basic training and provisions to supply people with basic medical care. This strategy was hailed by the WHO as 'revolutionary' and was extremely successful as the people trusted the opinions of local residents and so a lot of lives were saved by this basic medical training. This strategy however has to be disbanded due to lack of money.

National Health Service

The NHS gives everyone in the UK free access to healthcare with one doctor per every 250 people. The main focus is placed on primary healthcare (and therefore horizontal healthcare) and prevention is placed above cure (with national education schemes set up e.g. sex education). There is a postcode lottery however which may determine the quality of secondary and tertiary care that is received should it be needed. There are advertising campaigns set up for stopping smoking and free help packs given to anyone that wants them. The key success point of the NHS is that it does not matter where you live or how affluent you are – you have equal rights to healthcare.

The same cannot be said in the USA. 15% of the population do not have access to basic healthcare simply because they cannot afford it. With President Obama pushing for a healthcare reform that is unlikely to happen due to lack of investment – it is only a matter of time before something must be done to America's healthcare system before many people needlessly die.



Conclusion

In conclusion, horizontal management for example barefoot doctors and GP surgeries, are much more effective management strategies than vertical strategies. This is because they will examine a whole range of factors that have an influence on a disease, and also can identify underlying health issues, that may lead to prevention of the disease rather than just a cure. Not doing this is unsustainable because the lack of education will lead to a re-emergence of the disease which can therefore be a needless waste of resources. Any strategy involving widespread education about a health issue, such as a focus on prevention, is likely to be very successful such as the ABC for Aids in Uganda and the Swine Flu education and information service in the UK. This is because education is the key to progress and without it countries will set themselves back.

If only vertical care is used then countries will only be targeting one problem, as opposed to horizontal efforts which tie together many factors, which is highly inefficient and will not reduce the risk of contracting a health problem. It would just cure it and then the danger is that another health issue emerges which could have been prevented.



Examiner comments:

Overall comments	How this could be improved
<p>Comments on plan <i>The plan sets out a reasonable structure, although it tends to be an extended list of examples / case studies. Some time is spent on the introduction and the important of evaluation. Numbered sections are implied by the plan, although the report does not follow this through.</i></p>	<p><i>More time could have been spent planning the structure of the introduction, given the importance of this for the report as a whole. Some aspects of the plan are not covered in the body of the report, perhaps the candidate could have focussed on fewer case studies / example, but applied these more fully.</i></p>
<p>Comments on introduction, defining and focusing on the question <i>Some reference to the title, and some definitions. There is an attempt to provide some structure by examining different management strategies. Some reference to concepts but a little incomplete.</i></p>	<p><i>Reference to case studies and examples would help set out the direction and scope of the report; the models could have been incorporated more fully into the introduction by linking them to case study choice.</i></p>
<p>Comments on researching and methodology <i>Case studies are chosen from a range of locations and levels of development; the range of health risks referred to is good and the choices are contemporary and factual detail / accuracy is generally good. There is limited indication of methodology. Some concepts / theories are included although these could be more fully integrated.</i></p>	<p><i>As shown by the introduction, case studies are many and varied. Perhaps the candidate could have reduced the range, and increased the depth. This may have allowed a more integrated and comparative approach. In addition, the candidate should have commented on case study choice, and choice of sources as indication of methods needs to be more fully developed.</i></p>
<p>Comments on analysis, application and understanding <i>The focus of the analysis is related to the question and a range of management approaches are discussed, although there is some repetition of ideas. In general there is a sound appreciation of health risks and how management can reduce these; some sections e.g. on pollution, are less well related to the question.</i></p>	<p><i>Diagrams are used in the introduction, but these lack integration and are only referred to once; the candidate should have referred back to these within the main analysis – use of Figure numbers would have aided this. The candidate might have considered the sequence of health risks referred to and considered ways of linking these into more of a sequenced argument.</i></p>
<p>Comments on conclusion and evaluation <i>There is some recall of the content used in the analysis although not in full; in general the conclusion is clearly stated and makes reference back to the question; within the body of the report there is some ongoing evaluation and consideration of how successful strategies have been.</i></p>	<p><i>Reference back to the concepts introduced in the introduction would be a useful addition, as would more through recall of the main content.</i></p>
<p>Comments on quality of written communication and sourcing <i>Overall, the structure used is sound and logical i.e. sectioned by health risk and then by location. Overall standards of spelling are sound, although there are errors. Terminology is used with accuracy for the most part. Diagrams are used but not fully incorporated into the report; there is some direct reference to source material but this is fairly limited in scope.</i></p>	<p><i>Section numbering might have aided organisation, especially when referring back to sections within the conclusion. The candidate does need to improve referencing and sourcing as this is an undeveloped area, and the sources referred to lack dates / authors in some cases.</i></p>



Summary of marking levels awarded:

D Introducing defining and focusing on the question (10)	R Researching and methodology (15)	A Analysis, application and understanding (20)	C Conclusions and evaluation (15)	Q Quality of written communication and sourcing (10)
L3 6-8 marks	L3 8-11 marks	L4 17-20 marks	L3 8-11 marks	L3 6-8 marks

