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

Malaria - relocation
 Ethiopia / Tanzania
 China
 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

NHS

MEDCs primary





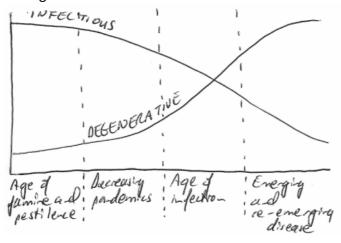
<u>Introduction</u>

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.

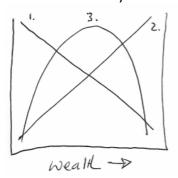
The Epidemial Model

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.

<u>Malaria</u>

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



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 spayed 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.

<u>Uganda</u>

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 has 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.

<u>UK</u>

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 were 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 is 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:

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



but this is fairly limited in scope.



Summary of marking levels awarded:

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



