Risk assessment template - Cross Government Risk Assessment 2018 (Emerging Infectious Diseases)

Tab 1 - Overview

1. Risk type *(select from the drop-down list below)*

Hazard-related risk

2. Risk title *(insert a short title that best describes the risk scenario e.g. volcanic eruption)*

Emerging Infectious Diseases

3. Risk owner *(select from the drop-down list below)*

Department of Health

4. Overall confidence assessment - likelihood/plausibility *(using your judgement and the uncertainty information you have provided elsewhere, please give an overall statement of confidence in your assessment of the likelihood/plausibility of the RWCS)*

Low

5. Overall confidence assessment - impacts *(using your judgement and the uncertainty information you have provided elsewhere, please give an overall statement of confidence in your assessment of the RWCS impacts).*

Moderate

6. Reasonable worst case scenario risk description *(provide an overview of the risk in a few paragraphs, briefly highlighting key impacts)*

Over the past 30 years, more than 30 new or newly recognised diseases have been identified. Most of these have been zoonoses, i.e. diseases that are naturally transmissible, directly or indirectly, from animals to humans. The reasonable worst case scenario (RWCS) is an outbreak of a high consequence infectious disease (HCID) which is airborne. An airborne disease is more likely to spread rapidly from person-to-person, and can make contact tracing more difficult compared to other diseases which have a different route of transmission. Other emerging infectious diseases which are spread through different routes of transmission are explored in the three variations below.

Specifically, the current RWCS is based on an outbreak of a respiratory infection in the United Kingdom (UK) which is similar to the outbreak of Middle East Respiratory Syndrome (MERS) seen in South Korea in the 2015. This has been chosen due to the current risk of this disease and the historical precedent of imported MERS cases leading to outbreaks. However, it should be noted that due to the nature of an emerging infectious disease there is some uncertainty as to whether a different emerging pathogen, including one which was airborne, would lead to an outbreak similar to the scenario described.

The RWCS is predicated on a novel or emerging infection (i.e. one that is either globally unknown or unknown/very rare in the UK) arising in another country and then arriving in the UK before it is identified. It is possible that a novel infection could arise in the UK first but this is less likely.

Based upon the experience of recent international outbreaks of MERS, the likely impact of such an outbreak originating outside the UK would be cases occurring amongst returning travellers and their families and close contacts, with potential spread to health care workers, and other patients within a hospital setting. The resulting cluster of individuals with a similar illness should lead to infection control within health care settings and other public health measures being instigated which can control the spread of the disease. For MERS, sustained human to human transmission outside of close contacts and health care workers has been limited so far (Arabi et al, 2017) and therefore there is currently a low risk of this disease presenting a wider threat to the UK. However, sustained human-to-human transmission in emerging airborne diseases is possible, which is why infection control procedures are critical to the mitigation of this risk.

The RWCS described above could lead to:

- increased demand on specialist intensive care and infectious diseases facilities;
- short term localised disruption to routine healthcare activities if outbreaks occur in hospital settings;
- possible disruption of several, or more, weeks to elective procedures;
- contacts of cases being placed under health surveillance; and
- public concern about travel, within and beyond the UK and possible international travel restriction advice.

As a novel or emerging pathogen it is unlikely that effective vaccines will be available and the effectiveness of existing antivirals/antibiotics will be unclear as will be optimal clinical management strategies.

7. Specific assumptions and strategic context *(list any key assumptions underpinning the assessment and any relevant information related to the strategic context)*

The specific assumptions underlying this scenario are that:

- the infection does not originate within the UK but spreads rapidly to UK (and globally) via air travel (specifically for this scenario, a traveller with MERS travelling from the Middle East); and
- that as an emerging infection, it would be difficult to recognise and detect rapidly.

Regarding the disease itself, the specific assumptions are that:

- there is the possibility of spread within a hospital (or other close) setting, prior to the infection being identified in the patient;
- there is a high case fatality rate - for MERS specifically it would be about 35%;
- there is no effective treatment other than symptomatic management; and
- the main control measure is the implementation of effective infection control in relation to identified cases.

This section is only applicable for threat-related risks.

Tab 4 – Human Welfare Impacts

15. Fatalities in the UK

15a. Total number of fatalities *(indicate the estimated number of deaths arising from this scenario)*

40-70

15b. Number of no-notice and excess fatalities *(where possible, indicate what percentage of the total number of deaths would be considered 'no-notice' - see guidance for definitions)*

3 no-notice deaths (i.e. in first two weeks) and a further 52 excess (using average from range above).

15c. Impact on fatality management processes *(select a level of impact from the list below - includes storage, coronial processes and burial/cremation of remains)*

Two – Local/regional fatality management processes under significant pressure

Explanatory notes (for example, to explain the likely impact on fatality management processes and other challenges)

See explanatory notes (19e) for further details on fatalities. For fatality management process, level two has been indicated as infection control precautions may be required if post-mortem examinations need to be undertaken. For variation 2, the outbreak of a disease such as Ebola, special handling would be required for all of the deceased due to the infectiousness of the body.

16. Casualties in the UK

16a. Number of physical casualties *(indicate the estimated number below)*

200

15b. Number of no-notice and excess casualties *(where possible, indicate what percentage of the total number of injuries/physical harm would be considered 'no-notice')*

200 excess

16b. Number of mental health casualties (indicate the estimated number below - use separate algorithm)

167

17. Fatalities and casualties abroad

17a(i). Number of fatalities abroad (British nationals) *(indicate the estimated number below)*

Unknown

17a(ii). Number of casualties abroad (British nationals) *(indicate the estimated number below)*

Unknown

17b(i). Number of fatalities and casualties abroad (non-British nationals) *(indicate the estimated number below)*

2102 casualties; 733 deaths (from 2012-2017)

18. Crisis Hub cases *(indicate the estimated number of cases above business as usual figures below)*

0

19. Evacuation and Shelter

19a(i). Evacuation in the UK *(indicate the estimated number of people who would need to be evacuated below)*

0

19a(ii). Evacuation in the UK *(indicate the estimated timeframe for the evacuation below)*

0

19b(i). Shelter in the UK - temporary accommodation *(indicate the estimated number of people requiring temporary accommodation for less than 2 months below)*

0

19b(ii). Shelter in the UK - temporary accommodation *(indicate the estimated duration temporary accommodation will be required for below - up to 2 months)*

0

19c. Shelter in the UK - alternative accommodation for more than 2 months *(indicate the estimated number of households likely to require alternative accommodation for more than 2 months - 1 household is roughly equivalent to 2.5 people)*

0

19d. British Nationals requiring evacuation abroad / repatriation *(indicate the estimated number of people below)*

Unknown

19e. Human welfare impacts - confidence assessment

Explanatory notes *(identify any particular sources or areas of uncertainty and how that may affect the assessment - see guidance for further information)*

Q15 and 16: The number of casualties is based on the MERS outbreak in South Korea. Given this number of casualties, the number of fatalities could range from 40-70. Approximately 40 people died in the MERS outbreak, but with a case fatality rate of 34.9% it is possible that up to 70 people could have died. Both figures could be higher or lower than this depending on how communicable the disease is, as well as how quickly the disease is recognised and prevented from spreading further using infection control measures.