Management of public health emergencies in aviation

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ABSTRACT: Aviation can contribute to the rapid dissemination of disease – almost any city can be reached by an infected individual within 24 hours. Furthermore, passenger numbers are significantly reduced by public health emergencies, restricting income to national economies as well as to airlines and associated businesses. During SARS in 2003, passengers through Hong Kong fell by 80%. During the H1N1 outbreak in 2009, international passengers to Mexico initially fell by over 40%.

To mitigate the major impact of public health emergencies on the aviation sector, emergency preparedness is essential. This, in turn, demands communication and collaboration between many stakeholders. Developing appropriate networks often requires traditional business, cultural and personal barriers to be overcome: public health authorities must work with civil aviation authorities, airlines, airport operators, air traffic control, customs and immigration and others. To help communicate risk concepts the media needs to be involved.

In 2006 the International Civil Aviation Organization established the Cooperative Arrangement for the Prevention of Spread of Communicable Disease through Air Travel (ICAO, 2012) to develop harmonized, multi-sector guidance to States, International Organizations and commercial enterprises involved in aviation. This facilitates effective management of public health emergencies and potential emergencies in the aviation sector. It works closely with several other UN agencies, especially the World Health Organization, and with trade associations such as the International Air Transport Association and Airports Council International. CAPSCA improves the response to public health threats by assisting States, airports and airlines to improve preparedness. It organizes regional training events and conducts assistance visits to individual States and international airports. During the Fukushima nuclear accident, the CAPSCA network formed the basis for a working group including seven UN agencies and two international organizations. Three news releases helped reduce anxiety and maintain transport links to and from Japan. The CAPSCA model may be useful for improving multi-sector preparedness plans in other sectors.

Keywords: aviation, health, emergency, preparedness, transport

1. INTRODUCTION

Article 14 of the Convention on International Civil Aviation (ICAO, 2006), signed by 191 contracting States, concerns the prevention of spread of disease by air travel. The International Civil Aviation Organization is the United Nations specialized agency responsible for the implementation of the Convention by setting standards and providing guidance for aviation safety, including public health emergency planning, as well as security and environmental protection.

1.1 Communication and Collaboration

In 2005, when concern was increasing due to the threat from H5N1, ICAO recognised that in order to fulfil its obligations under the Convention concerning prevention of spread of disease, it needed to involve several other stakeholders. The World Health Organization (WHO) was an essential partner as were two trade associations, the International Air Transport Association (IATA) and Airports Council International (ACI) representing aircraft and airport operators respectively. The United States Centers for Disease Control and Prevention was also an important player. ICAO sought to facilitate communication and collaboration between all five organizations.

2. COOPERATIVE ARRANGEMENT FOR THE PREVENTION OF SPREAD OF COMMUNICABLE DISEASE THROUGH AIR TRAVEL (CAPSCA)

Utilizing grant aid from the United Nations (UN) Central Fund for Influenza Action (CFIA) and from States in the Asia Pacific region, ICAO commenced the CAPSCA project in 2006. Its goals were to help protect the health of the public, air travellers and aviation workers, and to provide assistance to States/Territories in developing multi-sector preparedness plans. Guidelines were produced to encourage States to implement articles of relevance to aviation from the WHO International Health Regulations (2005). Concurrently, guidance was developed that directly addressed the needs of international aircraft and airport operators, which were posted on the websites of IATA and ACI. The guidelines were harmonized by all five organizations so that a consistent approach was applied throughout the aviation sector. All guidelines were made available free-of-charge on public websites.

2.1 Developing a global programme

CAPSCA needed to develop into a global programme in order to address the global risks posed by air travel – an event in one region may be promulgated by aviation to affect the health and well being of populations in any other. This was clearly demonstrated by the H1N1 pandemic. Fortunately, three further grants from the CFIA enabled CAPSCA to expand from the Asia Pacific region to Africa, the Americas, Europe and finally to the Middle East. A global CAPSCA programme was established in 2011.

2.2 Providing Assistance to States

The CAPSCA project in each region provides regional training seminars and workshops for both aviation and public health personnel, bringing together different skill sets found in aviation and public health personnel. Very often such professionals have not previously communicated. In addition, assistance visits to individual States (at minimal cost to the State) are provided by a small team of two or three trained individuals, during which an international airport is visited and a gap analysis undertaken. Local training is given and a confidential report is provided, which can be used as a basis for improved preparedness planning. The assistance team ideally comprises experts from both public health and aviation sectors.

3. LESSONS LEARNED

Based on the experience obtained during regional CAPSCA meetings and national/local assistance visits, it has been found that public health officers often do not fully consider the special aspects of aviation when developing preparedness plans. Likewise, aviation personnel may give insufficient attention to public health emergency planning since they concentrate primarily on prevention of aircraft accidents. Public health emergency planning in aviation can therefore fall between two stools. The interface between the two sectors is the most challenging e.g. identification of a case of communicable disease at the airport or on board; communication by the pilot with the public health authority at destination; management of the arrival of an aircraft carrying a suspected case; transport of biological samples for analysis; communication and management of health risks to travellers and to aviation workers.

3.1 Political will and strong management support – at a high level – is required

Successful horizontal collaboration, across different sectors and even between different stakeholders in the same sector requires political will and strong management support, at the highest levels. Experience has shown that such support is often lacking.

3.2 Both public and private organizations need to collaborate

The trade associations representing international aircraft and airport operators have provided valuable operational experience and expertise when developing preparedness plans.

3.3 Preparedness plans require testing

Having developed a preparedness plan, it needs to be tested. A public health emergency simulation should be as realistic as possible but table top exercises are effective and relatively inexpensive to organise. However, in many States they are not undertaken often enough.

4. FUTURE OF CAPSCA

The CAPSCA programme provides a platform, unique in aviation, to help meet the challenges of multi-sector preparedness planning. To date, approximately 70 States have joined the programme and 36 international airports have received assistance visits. To encourage the aviation sector to work with the public health sector to consider preparedness planning for public health emergencies and potential emergencies as part of it routine work, changes have been made to several ICAO Standards and Recommended Practices (SARPs), contained in the 18 Annexes to the Convention on International Civil Aviation. These SARPs are audited periodically by ICAO as part of its (mandatory) Safety Oversight Audit Programme and a summary of results are published on the ICAO public website. This has found to be an effective method of improving compliance with ICAO SARPs and from 2013 the audit protocol will include questions on public health emergency planning. In addition, CAPSCA has begun to address longer term responses to public health emergencies by developing guidelines for business continuity planning.

4.1 Extension to public health emergencies other than communicable disease

During the Fukushima nuclear power plant accident in 2011, the networks already developed by CAPSCA were very useful in providing the basis for an ad hoc transport task force, including seven UN agencies and two trade associations, to deal with issues involving aviation. Questions such as the risks associated with flying through a radioactive plume; carriage of contaminated travellers and cargo; screening for radioactivity of aircraft, passengers and goods from Japan on departure and arrival were addressed. Three news releases helped to reassure travellers of the action being taken to minimise risks, and to promote continued travel to and from Japan. The IHR (2005) includes references to non-communicable public health risks and future CAPSCA work will address these to a greater extent than previously.

4.2 Funding

Funding for CAPSCA thus far has been provided primarily by the UN Central Fund for Influenza Action. This funding opportunity ends in December 2012 and additional funding for CAPSCA is not yet secured. Resources from ICAO's regular programme are not likely to cover funding of travel and subsistence of experts. To meet the annual costs (about US $300,000) other sources of income are therefore currently being sought.

5. ADDED VALUE TO THE ONE HEALTH APPROACH

The CAPSCA programme adds value to the One Health Approach as follows:

- Reduced impact of public health emergencies on populations:
    - Reduced spread of disease
    - Delayed spread of disease
    - Peak effects of disease reduced
    - Mitigation of economic effects
    - Timely return to normal operations
    - Proportional response encouraged – 'knee jerk' reactions minimised
    - Improved management of risk perception – for air passengers and aviation personnel
- Improved multi-sector communication and collaboration, primarily between the aviation and public health sectors.
- Harmonization of approach across different sectors resulting in increased efficiency.
- Synergistic development of standards and guidance, utilising resources from different sources, both public and private.
- Facilitation of global, regional, national and local harmonization of preparedness plans.

6. CONCLUSIONS

1 Aviation is important in public health emergency planning because it can spread disease quickly yet can also help mitigate its effects.
2 Aviation is affected early during a public health emergency or potential emergency and national economies can be severely impacted by a reduction of aviation traffic. Adequate planning reduces the initial economic impact and facilitates recovery after the event.
3 Public health emergency planning in the aviation sector has received insufficient attention in the past.
4 Development and implementation of an effective preparedness plan requires multi-sector communication and collaboration and, often, a change in the culture and management methods of both public and private organizations. This takes time to develop.
5 The most important changes to be made when developing effective national and local preparedness plans are relatively inexpensive to apply, but require political will and the support of high level management.
6 Periodic testing of preparedness plans is an essential part of the planning process.

7. REFERENCES

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