Public Health Event Management in Air Transport

7th Meeting - CASPCA-MIDDLE EAST PROJECT

(CAPSCA-MID/07)

Cairo, Egypt

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World Health Organization

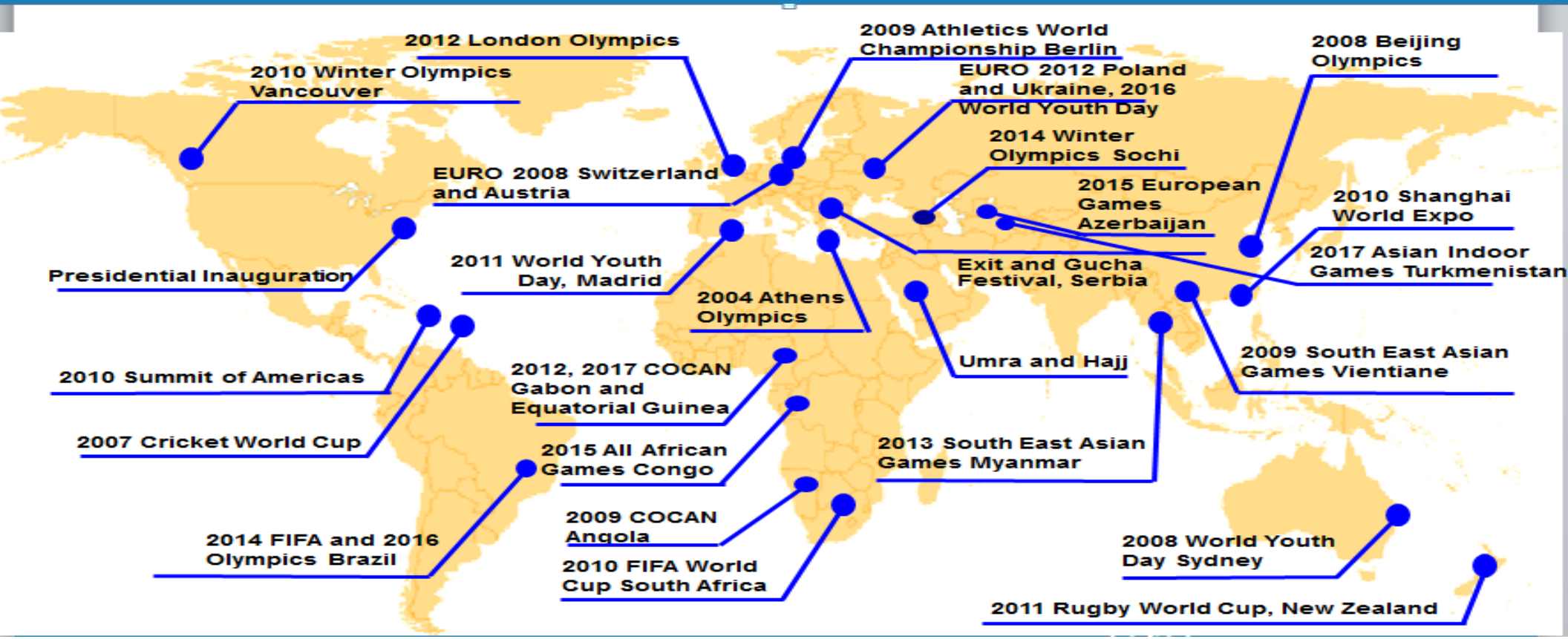
REGIONAL OFFICE FOR THE Eastern Mediterranean

Air Travel Magnitude

FACTS For Air Transport **Source:** ***Airports Council International, 2017 World Airport Traffic Report***

- Worldwide airport passenger numbers increased to 7.7 billion, expected to double by 2031 based on a projected growth rate of 4.9% per annum
- Emerging Markets Currently compose of 44% of Air Passenger Traffic, by 2040 will account for 60% of all passenger traffic
- Also increased number of passengers per flight and total capacity in new planes (over 800 passengers in new aircrafts), as well longer distance of travel.

Example of Major Mass Gathering Events and Geographical Breadth



World Health Organization

HEALTH EMERGENCIES programme

Health Security, Travel and Transport

- More and more people traveling faster to and from new and far destinations, in multiple means of transportation (trains, buses, ships, airplanes…) where public health standards may need improving (i.e. early detection, comprehensive and tested emergency plans, and vector control and sanitation at points of entry, facilities, public spaces and conveyances used by travellers…)

- Increased density of passengers on flights and cruises may increase the likelihood of disease transmission and potential transmission to more people during same journey.

- Health emergencies have an impact on the Business Continuity of international travel and transport(i.e. cancellation of flights to West Africa during Ebola crisis, tourists changing destination of their travel…)

IHR Provisions: Public Health Events at PoE

IHR article	Content
Art 5, 6, 8, 9.10, 13& Annex 1A, 2	Surveillance, verification, notification, response
Art.19, 20 & 21 & Annex 1B	PoE core capacity requirements communication and coordination, capacities at all times, capacity for responding to PHEIC
Annex4 Art.22, 24	Role of Competent authorities Conveyance operators
Art.23, 25, 27,28,30,31,42,43 & Annex 4	Public health measures Health measures on arrival and departure Ships and Aircraft in transit Affected conveyances Ships and aircraft at points of entry
Art. 37, 39 & Annex3, 8	Health Documents Maritime Declaration of Health, Ship Sanitation Certificates Health Part of The Aircraft General Declaration
Annex 5, 6	Specific Measures for Vector-borne Diseases

Surveillance and Response

Article 5: Surveillance

WHO shall collect information regarding events through its surveillance activities and assess their potential to cause international disease spread and possible interference with international traffic.

Article 9: Other reports

States Parties shall, as far as practicable, inform WHO within 24 hours of receipt of evidence of a public health risk identified outside their territory that may cause international disease spread, as manifested by exported or imported: (a) human cases; (b) vectors which carry infection or contamination; or (c) goods that are contaminated.

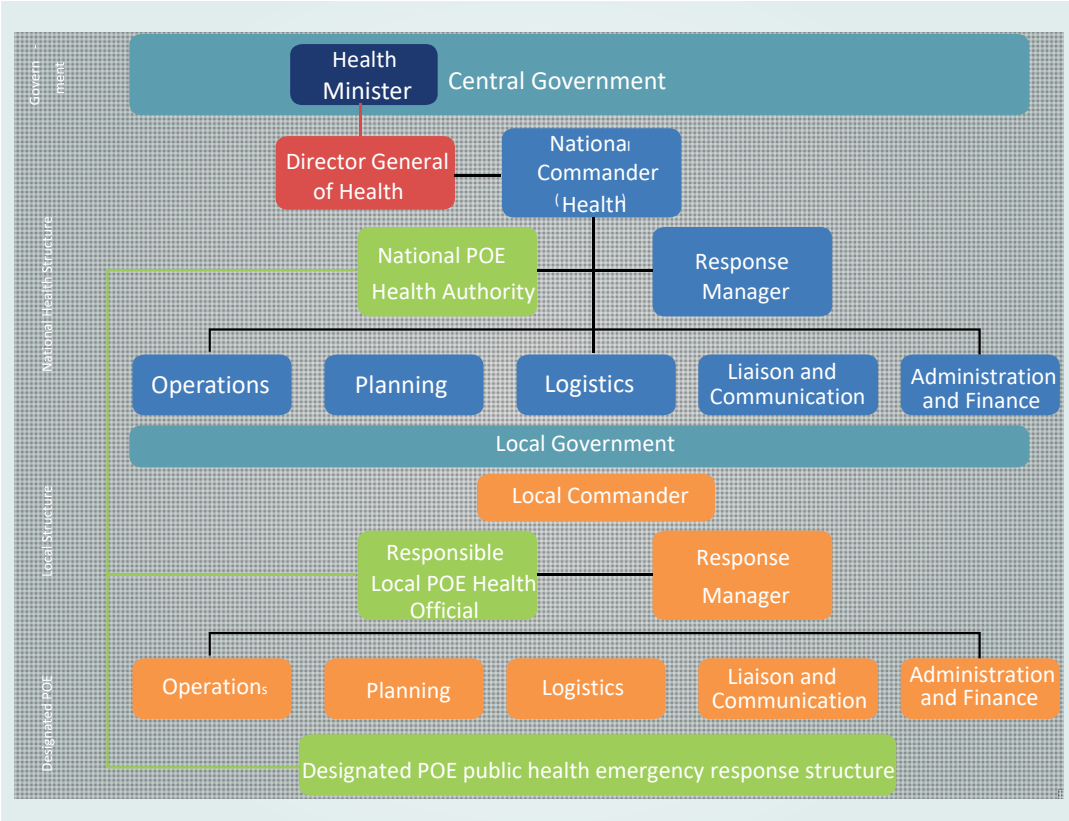
Article13: Public health response

Each State Party shall develop, strengthen and maintain, … the capacity to respond promptly and effectively to public health risks and public health emergencies of international concern as set out in Annex 1. …

Emergency Plans at PoE

- One of the core capacities requirements for designated PoE
- Related to other international agreements (e.g.ICAO)
- Coordinated multi-agency effort to develop/test the plan
- No one size fits all - each PoE to develop unique plan, nevertheless general structure may be common
- Commensurate health measures during emergency

Managing Public Health Events at PoE



Decision Instrument, Annex II

4 diseases that always have to be notified polio (wild type virus), smallpox, human influenza caused by a novel virus, SARS.

Diseases that always lead to the use of the algorithm: cholera, pneumonic plague, yellow fever, VHF (Ebola, Lassa, Marburg), WNF, meningitis, others

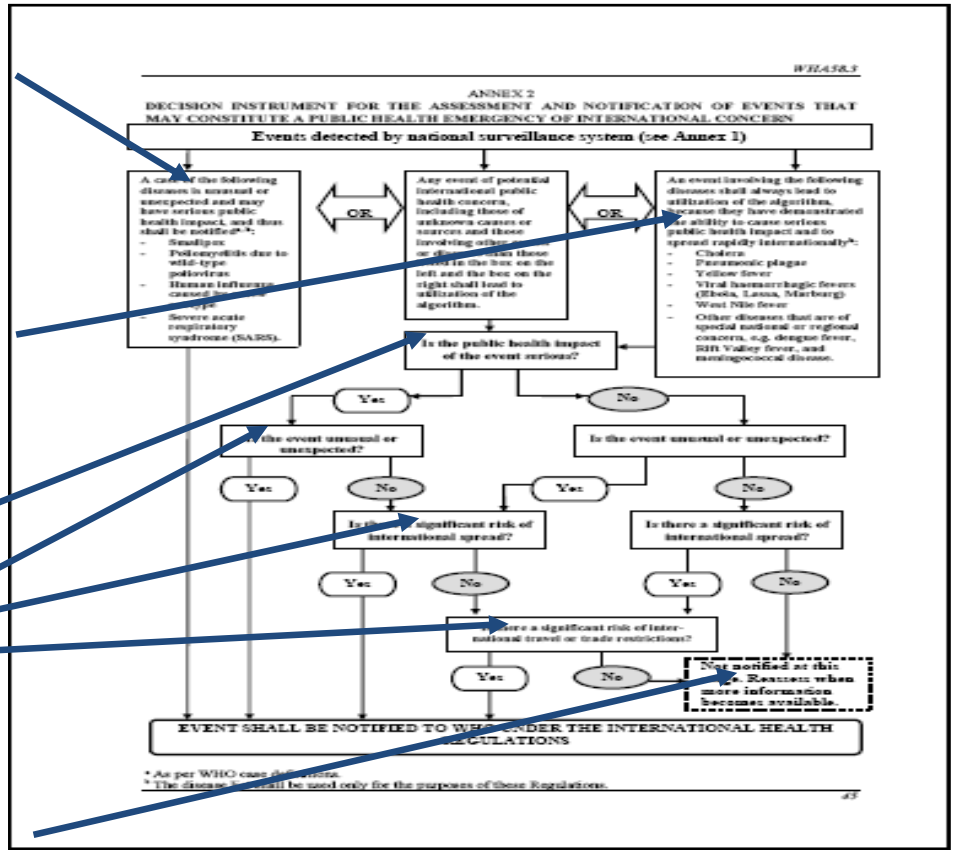
Q1: serious public health impact ?

Q2: unusual or unexpected?

Q3: risk of international spread?

***Q4: risk of travel or trade restrictions*?**

Insufficient information → Re-evaluate



Information Sharing System

NOTIFICATION

REPORTS

CONSULTATION

VERIFICATION

National IHR Focal Point

(1 per State Party)

WHO IHR Contact Point

(1 per WHO Region)

Event Information Site

Events related to International Travel & Trade

Inform WHO within 24h public health risks identified outside its territory **(Art.9)**:

Imported or exported

Human cases

Vectors which carry infection or contamination

Goods that are contaminated.

Affected Conveyances **(Art.27)**

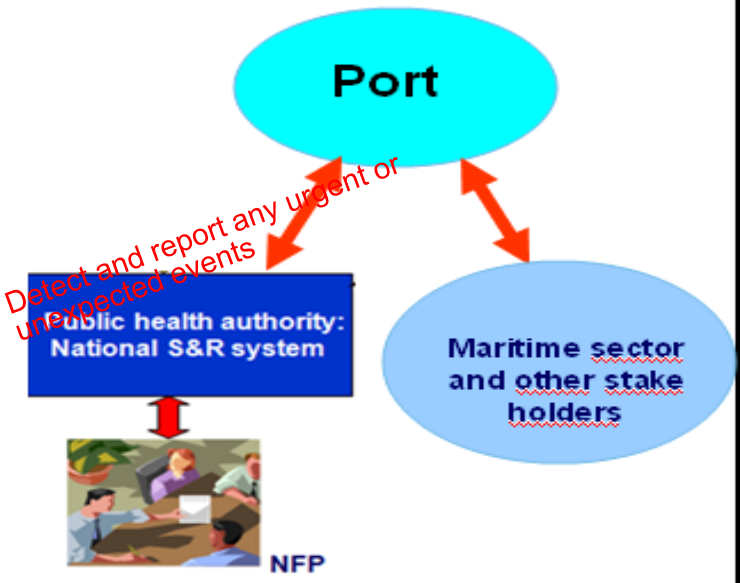
- Report to the IHR National Focal Point about additional health measures (Art 43), including isolation of the conveyances

- Inform competent authority of next known point of entry if not able to take required control measures and obtain satisfactory results

Communications for Events Detected On Board

Art 28

Officers in command of ships and pilots ,or their agents shall make known to the port or airport control, as early as possible before arrival at the port or airport of destination, any cases of illness indicative of disease of an infectious nature or evidence of a public health risk on board as soon as such illnesses or publis health risks are made known to the officer or pilot.



Annex 2 Scenario

- Today, your office was informed by the national atomic energy agency of a recent event involving a radioactive source detected by border control in an overland shipment of 5000 tons of scrap metal imported from country X. A gamma dose rate measurement performed 2m away from the containers, containing the scrap metal, measured an exposure rate of 200 mSv/h (please note that an average natural background radiation measures about 0.3 micro-Sv/hr). It is unclear at this point whether other similar cargo with scrap metal has been imported from this country. In addition, one of the truck drivers is reported to be suffering from nausea and vomiting and has been hospitalized.

Would you notify….?

1. Is the public health impact of the event serious?
2. Is the event unusual or unexpected?
3. Is there a significant risk of international spread?
4. Is there a significant risk of international travel or trade restrictions?

Expert Panel Says…..

1. Is the public health impact of the event serious? **…YES**
2. Is the event unusual or unexpected? **…YES**
3. Is there a significant risk of international spread? **…YES**
4. Is there a significant risk of international travel or trade restrictions? **…YES**

For this scenario, describing the exposure to gamma radiation emitted from imported scrap metal, there was a high level of agreement among the expert panel members on the individual decision instrument criteria and on the notifiability of the event. Notification may give WHO the opportunity to offer assistance to affected countries, determine what has happened and stop the further unsafe transportation of such materials.

The public health impact of this event is potentially serious and the event is certainly unusual and unexpected with the risk for trade restrictions. The impact of radioactivity on public health is usually delayed by many years. However, in this scenario the radiation dose is so high that it may cause acute radiation sickness in the exposed. Although the scenario only provides information about one possible victim so far, there is a great potential that more people may have been exposed or that other areas were contaminated by the hazardous materials. The expert panel therefore judged that the “seriousness” criterion of the decision instrument was met. Given the high radiation levels, the event was considered to be unusual as such by the expert panel. Moreover, the exact source of the radiation is unknown. For the last two criteria of the decision instrument, the expert panel deemed the risk of both international spread and restrictions on similar imports to be significant because the scenario involved the transportation of radioactive material from another country. However, the expert panel commented that it might be difficult to decide whether this particular criterion was fulfilled because relevant details regarding the adoption of measures that may limit trade or travel are lacking in this scenario. In the context of a similar event in the “real world”, perceived lack of information should lead to attempts to obtain that information, to regular reassessment of the evolving event, and to consultation with WHO if in doubt.

Annex 2 Scenario

- During the last six months, 1800 cases of chikungunya virus infection have been reported from a sentinel network in your island country, including 224 cases during the previous week. Chikungunya is generally a self-limiting febrile viral disease that is transmitted to humans by infected mosquitoes, and deaths are only rarely encountered. It has been endemic in the country for 12 years. While there had been a consistent decrease of chikungunya in the last three years, weather conditions facilitated the proliferation of the disease vectors and led to a moderate rise in the reported incidence. Neighboring island countries are also experiencing a similar trend in the reported incidence. Recent investigations showed that larval indices remained at high level in all areas monitored. The MoH is therefore sending a team to assess the existing vector control measures underway. Additional control activities are being put in place, including a public health education campaign to sensitize the population about protective measures, and the reinforcement of epidemiological and vector surveillance. The small country (population 1,360,000) is very dependent on international tourism.

Would you notify….?

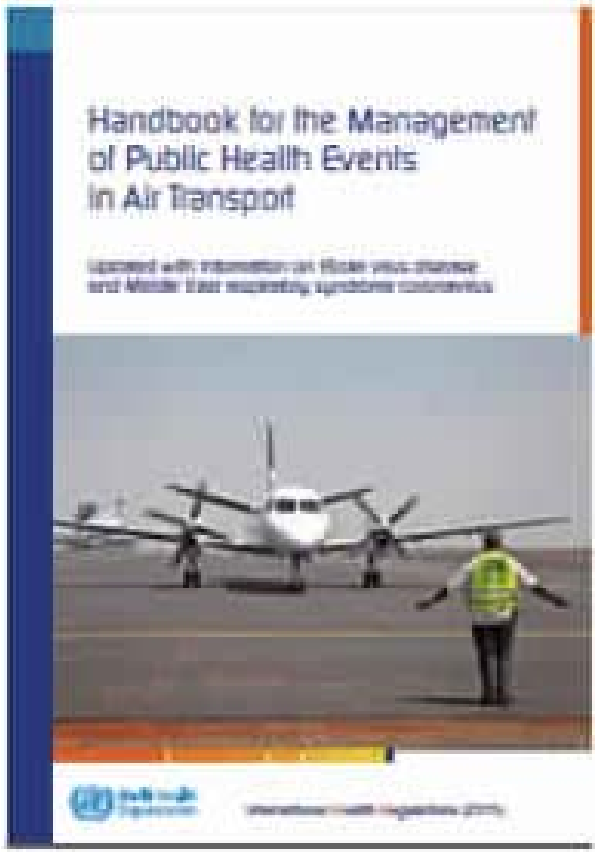
1. Is the public health impact of the event serious?
2. Is the event unusual or unexpected?
3. Is there a significant risk of international spread?
4. Is there a significant risk of international travel or trade restrictions?

Expert Panel Says…..

1. Is the public health impact of the event serious? **…NO**
2. Is the event unusual or unexpected? **…NO**
3. Is there a significant risk of international spread? **…NO**
4. Is there a significant risk of international travel or trade restrictions? **…YES**

This event was assessed by the expert panel not to require notification. The expert panel members considered for this scenario that three of the four criteria of the decision instrument were not fulfilled, and that this was therefore not a notifiable event. However, national authorities may decide to consult with WHO (under Article 8) and reassess the event in the coming days.
The moderate rise in the incidence of chikungunya fever in an endemic country and its neighbouring countries would in general not be regarded as having a serious public health impact. In addition, alert and control mechanisms are in place in the described country and the disease itself is not very serious. However, the situation may change, and a reassessment is necessary following the receipt of new information concerning the epidemiological situation and the status of the existing vector control measures. Given the endemicity of chikungunya, the expert panel did not consider this event to be unusual or unexpected. Although the reversal of the trend of the previous three years is of some concern, changes in incidence from year to year, based on weather conditions, are expected in endemic countries, and disease severity does not seem to have changed. The expert panel considered that there was little risk of international spread. While individual cases may occur in tourists, international disease spread is unlikely as it requires the presence of competent vectors. The expert panel deemed the risk of travel restrictions to be significant because the event occurs in a tourist destination

Handbook for the Management of Public Health Events in Air Transport

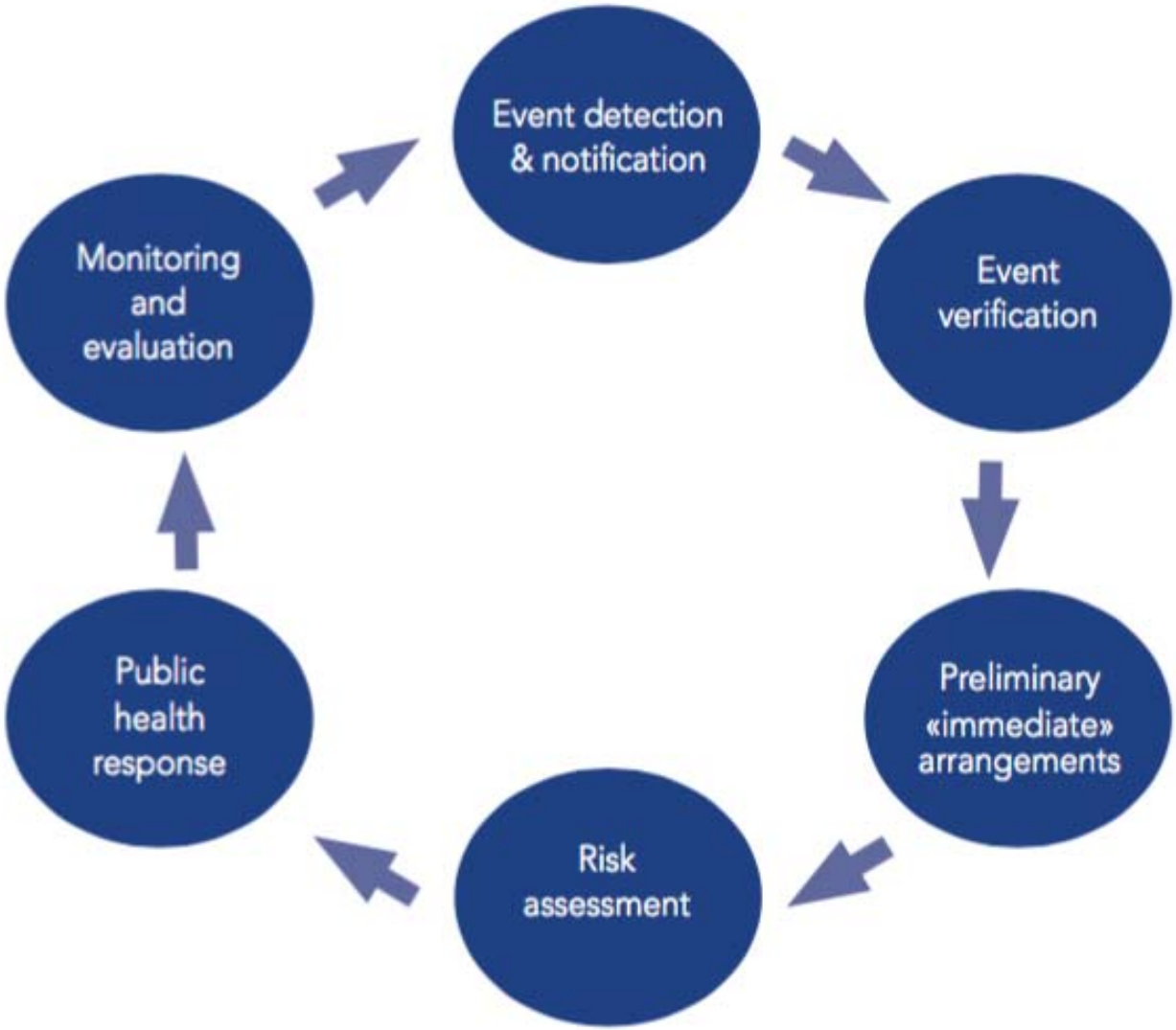


- Assist competent authorities with public health event management in the aviation sector using a multi-sector approach public health issues related to traveller health during air travel
- Support in the development of the public health component of the aerodrome emergency plan.
- Assist competent authorities at airports with the job of conducting risk assessments in the context of IHR
- Assist authorities in establishing national or site-specific operational plans and standard operating procedures (SOPs) to manage public health events during air transport.

Handbook for the Management of Public Health Events in Air Transport

- Targets personnel responsible for event management at airports - *port health, public health, medical, veterinary, environmental, customs and immigration, occupational health (OH) services, airport management, air traffic control provisions*, *emergency responders, and aircraft operators*
- .
- This advice may also be useful to IHR national focal point (NFP) personnel.

- Medical care and treatment are beyond the scope of this document.


Event detection & notification
Event verification
Preliminary «immediate» arrangements
Risk assessment
Public health response
Monitoring and evaluation

Public Health Event Management in Air Transport

- Enhance the capabilities of competent authorities in accordance with provisions under Annex 1B of the IHR
- Objectives:
  - Contribute to harmonizing of the management of public health events in air transport and;
  - Improve the quality and consistency of public health event management in air transport
- Combined pre-reading course and a face-to-face course

Background to Case Study #4

Country Clayton is endemic for Plague. In the past six months, it has experienced increased incidence of both pneumonic and bubonic Plague, resulting in deaths.

Scenario 4 - Phase 1

A local football team from Country Davidson has attended a tournament in Country Clayton. The tournament included men's football teams from neighbouring countries, both continental and oceanic. The team is returning to Country Davidson on a commercial flight.

Passenger 1 – 24 year old male who has no medical history. The passenger has complained to teammates of a febrile illness, with symptoms similar to influenza (fever and chills, body aches and weakness). Staff at the airline counter noted the passenger appeared ill upon check-in. They alerted airline staff to follow up prior to boarding.

History – Phase 1	Male, 24 years, no medical history
Country of Origin	Country Clayton
Airport of Origin	Alpha International Airport
Flight #	Flight 635
Seat #	15D
Intermediary Airports	Not known
Airport and Country at Destination	Beta Airport, Country Davidson
In transit bus at airport	Team contracted tour bus during tournament
Type of Exposure?	Football team arrived 2 hours prior to take-off. Team is currently waiting in departure lounge with 60 other passengers waiting to board flight 635.
Current Status of Persons Exposed	No one else sick in departure lounge.

Background to Case Study #4

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History – Phase 1	Male, 24 years, no medical history
Country of Origin	Country Clayton
Airport of Origin	Alpha International Airport
Flight #	Flight 635
Seat #	15D
Intermediary Airports	Not known
Airport and Country at Destination	Beta Airport, Country Davidson
In transit bus at airport	Team contracted tour bus during tournament
Type of Exposure?	Football team arrived 2 hours prior to take-off. Team is currently waiting in departure lounge with 60 other passengers waiting to board flight 635.
Current Status of Persons Exposed	No one else sick in departure lounge.

Question

1. What should happen at this stage? Who has the authority and expertise at these stages i.e. Port Health Officer, Immigration, Customs, Pilot, etc.?
2. When you have a public health event what are the steps you should follow?
3. Who should you communicate with?
4. What information do you need?
5. How will you determine what actions to take, i. e. Public health measures?

PHASE 2

- Medical Responder/Port Health is able to determine that the passenger started to feel ill the previous evening, following the closing tournament banquet. He has shared accommodation with a teammate during his stay and has spent most of his time with the team. His condition is not improving.
- The manager and members of the team are concerned but eager to return home. The person responsible for the team equipment noted that the football stadium had signs of rodent infestation in the area where their football equipment was stored.

Questions

- What should happen at this point? Who has the authority and expertise at these stages i.e. Port Health Officer, Immigration, Customs, Pilot, etc.?
- When you have a public health event what are the steps you should follow?
- Who should you communicate with?
- What information do you need to make a risk assessment?
- How will you determine what actions to take, i. e. Public health measures?
- Will PPE be required? What PPE?
- Has PPE training occurred?

- Any guesses what we might be dealing with?

Phase 3

- Port Health has retrieved the team equipment bags from the aircraft. An inspection of the bags found evidence of recent rodent infestation.

Questions

- What should happen at this point?
- Who has the authority and expertise at these stages i.e. Port Health Officer, Immigration, Customs, Pilot, etc.?
- When you have a public health event what are the steps you should follow?
- Who should you communicate with?
- What information do you need?
- How will you determine what actions to take, i. e. Public health measures?
- What additional challenges do you foresee?
- What communications products need to be prepared in advance?
- What advance preparations would have assisted in this event?
- What outside specialists may be required to assist with this event?
- What guidance documents are available to facilitate a response? Are protocol documents up-to-date?
- Who will close contacts report to? How often? What is the process if the contacts do not report as required?
- Has the airport activated its public health response plan?

PHASE 4

- The ill passenger is now in the designated hospital, in isolation, with special precautions. Their condition is not improving. Eventually, a diagnosis is confirmed the ill passenger has pneumatic plague

Questions

- What should happen at this stage?
- Who has the authority and/expertise in this stage? (i.e. Port Health Officer, Immigration, Customs, Pilot, etc)