International Civil Aviation Organization

Runway and Ground Safety Working Group

Fifth Meeting (RGS WG/5)
(Cairo, Egypt, 25-27 November 2018)

Agenda Item 3: **Implementation of Aerodrome Safety Priorities and Objectives in the MID Region**

CONDUCTING OF FULL-SCALE EXERCISE TO RESPOND
TO A PUBLIC HEALTH EVENT (PHEIC)

(Presented by Egypt)

SUMMARY
The aim of this paper is to introduce best practice methodology for conducting of Full-Scale Exercise at Borg El-Arab International Airport to respond to a public health event (PHEIC) and explore the Preventive Measurement for Management of Infectious Diseases at Airports.
Action by the meeting is in paragraph **7**.

REFERENCE

- Annex 6, Annex 9, Annex 11, Annex 14, and Annex 18;
- Doc 9137, Airport Services Manual, Part 7;
- Doc 9774, Manual on certification of Aerodromes;
- Doc 9859, Safety Management Manual;
- Doc 8948, Manual of Civil Aviation Medicine;
- Doc 9957, Facilitation Manual;
- Doc 4444, Air Traffic Management, PANS-ATM;
- Doc 9284, Technical Instructions for the Safe Transport of Dangerous Goods by Air;
- Joint ICAO/WHO/IATA/ACI guidance material on CAPSCA website; - WHO IHR (2005).

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1. **INTRODUCTION**

1.1   Airports play a major role in the spread of transmissible disease. What airport can do to keep their staff and passengers safe from dangerous diseases? Air travel is regarded as a particularly conductive environment for airborne diseases or illnesses transmitted by physical contact. High density airports visited by millions of passengers a day can accelerate the spread of infectious disease. Illnesses such as measles, TB and influenza transmitted by coughing, sneezing or contact with contaminated surfaces pose a particular threat. Airports are unique because there is mixing of people from around the world with different population immunity and endemic diseases. Due to globalization, growing populations and the increased accessibility and ubiquity of air travel, airports now need to have strong prevention mechanism in place and solid response plane in the event of pandemic.

1.2   After the acute impact on air travel from the Severe Acute Respiratory Syndrome (SARS), ICAO strengthened its support of Article 14, Prevention of Spread of Disease to the Convention on International Civil Aviation (Doc 7300). The emerging threat from pandemic influenza in 2005 further focused efforts in this area and the Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA) project was commenced by ICAO in Asia, in September 2006. In July 2007 changes to ICAO Annex 9 — Facilitation became applicable that required States, inter alia, to establish a national aviation plan in preparation for an outbreak of a communicable disease posing a public health risk. In November 2007 CAPSCA commenced in Africa, and in 2008 relevant proposals to amend Annex 14 — Aerodromes and the Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM, Doc 4444) became applicable.

1.3   The World Health Organization's International Health Regulations (2005) (WHO IHR) came into force in June 2007 and they include many references to airports and aircraft. The main challenge facing the aviation sector is to bring together the various organizations that need to be involved in preparedness planning in the aviation sector to ensure that the response to a serious public health risk is effective and proportionate to the risk.

2.   BACKGROUND

2.1   However, with respect to the prevention of the spread of communicable disease, Article 14 of the Chicago Convention on International Civil Aviation specifies the following concerning the prevention of spread of disease: "Each contracting State agrees to take effective measures to prevent the spread by means of air navigation of cholera, typhus (epidemic), smallpox, yellow fever, plague, and such other communicable diseases as the contracting States shall from time to time decide to designate….".

2.2   In addition, Assembly Resolution A35-12 declared that *"the protection of the health of passengers and crews on international flights is an integral element of safe air travel and that conditions should be in place to ensure its preservation in a timely and cost-effective manner."* The resolution identified a number of areas in which the Council was requested to take action, as described below: *"Review existing SARPs related to passenger and crew health and develop new SARPs where appropriate with due consideration of global health issues and recent developments in air transport operations. As a matter of priority to develop SARPs in the appropriate Annexes to the Convention in order to address contingency plans to prevent the spread of communicable diseases by air transport."*

2.3   ICAO accordingly developed Standards and Recommended Practices (SARPs) in Annexes that include:

a)   Annex 9 - 8.12 Contracting States shall comply with the pertinent provisions of the International Health Regulations (2005) of the World Health Organization.

b)   Annex 9 - 8.16 A Contracting State shall establish a national aviation plan in preparation for an outbreak of a communicable disease posing a public health risk or public health emergency of international concern.

c)   revision of the health part of aircraft general declaration (Annex 9, Appendix 1); and

d)   improved notification procedures to public health authorities of a suspected case of communicable disease on board an aircraft (Annex 9).

e) public health emergencies in Annex 11, Attachment C, "Material relating to Contingency Planning" with respect to air traffic services (ATS);

f) public health emergencies in Annex 14, Volume I, Chapter 9, as an example of items to be included in aerodrome contingency plans; Annex 14- 9.1.2 The aerodrome emergency plan shall provide for the coordination of the actions to be taken in an emergency occurring at an aerodrome or in its vicinity. Note 1.— Examples of emergencies are: aircraft emergencies, sabotage including bomb threats, unlawful seized aircraft, dangerous goods occurrences, building fires, natural disaster and public health emergencies. Note 2.— Examples of public health emergencies are increased risk of travelers or cargo spreading a serious communicable disease internationally through air transport and severe outbreak of communicable disease potentially affecting a large proportion of aerodrome staff.

g) PANS-ATM procedures for fight crew and air traffic controllers in the event of a suspected case of communicable disease on board an aircraft.

3.   DISCUSSION

3.1   Pandemic preparedness planning requires a cross-organizational effort, primarily involving the regulatory authorities and the public health authorities. It has been found that communication between different stakeholders is the most challenging aspect of developing a pandemic preparedness plan for the aviation sector.

3.2   It has been found that the chief medical officer of, MOHP representative, or aviation medicine adviser to, a regulatory authority may not, in many States, been much concerned with the subject of prevention of the spread of communicable disease, or the risk of contracting such disease by travelers on board aircraft. On the other hand, public health authorities have little knowledge of the aviation sector and need aviation medicine advice. It is therefore essential that national regulatory and public health authorities work together, with other stakeholders as necessary, to develop a pandemic preparedness plan for aviation that is integrated into the national preparedness plan. Such plans should be synergistic with regional and global initiatives.

4.   FIRST FULL-SCALE SIMULATION EXERCISE IN RESPONSE TO A PUBLIC HEALTH EMERGENCY EVENT IN EGYPT

4.1   The Ministry of Civil Aviation and the Ministry of Health and Population, in collaboration with WHO country office in Egypt and Regional Office conducted the first full-scale simulation exercise at Borg Al Arab international airport on 4 December 2017, in the presence of Alexandria governor and high-level officials. The Government of Egypt recognizes the importance of building essential International Health Regulations (IHR) core capacities to strengthen the public health system, at the forefront of which is strengthening critical IHR core capacity at points of entry.

4.2   Egypt's decision to conduct the simulation exercise was in response to WHO's global initiative to recognize simulation exercises as a key component in the validation of core capacities under the IHR monitoring and evaluation framework, which was noted by the Sixty-ninth World Health Assembly. The exercise scenario was adapted to the context of the responsive measures that would be needed in responding to arriving passengers suspected of having an infectious epidemic disease, or viral haemorrhagic fever. The exercise evaluated the standard operating procedures (SOPs) related to infection prevention and control, epidemiological investigation, international notification and proper case management.

4.3   More than 400 participants joined in the exercise representing various stakeholders, including: General Quarantine Administration, Egyptian Holding Company for Airports and Air Navigation, Egyptian Airports Company, Borg Al Arab ground services, EgyptAir, Alexandria fever hospital, Egyptian Ambulance Authority, Ministry of interior and others. At the end of the simulation, it was concluded that the exercise had been a success bolstered by the high level of commitment of national authorities towards emergency health preparedness at points of entry in Egypt. It was suggested that the exercise be expanded to include simulations at various points of entry and to include all relevant sectors in further exercises.

5.   PLANNING AND CONDUCTING OF A FULL SCALE EMERGENCY EXERCISE

5.1   In accordance to ECAR (Egyptian Civil Aviation Regulation) Part 139, EAC (Egyptian Advisory Circular) No. 139.24, Annex 14, Vol I, and WHO IHR 2005, Full-Scale Exercise at Borg El-Arab International Airport was conducted to respond to a public health event (PHEIC). BeA was commended for the conduct of a full-scale simulation exercise to respond to a public health event; and for sharing this experience with the meeting. The importance of performing exercises to validate emergency plans, by all stakeholders, identify gaps and make recommendations for further improvement was highlighted, and the airports were encouraged to conduct similar exercises, on regular basis.

5.2   The main objectives of the HEBA PHEIC Full-Scale Exercise; Improving the coordination response between the different sectors inside airports, Revealing resource gaps to supply and fill it, Clarify roles and responsibilities of all participants, including the chain of command and notification, Gain public recognition and trust for the emergency management process, and Test and evaluate equipment, plans and procedures including operational guidelines & standard operating procedures (SOPs).

5.3   An emergency exercise calls for the common efforts of many emergency agencies and involves hundreds of people. To be effective, responses must be quick and extremely well coordinated. The purpose of an emergency exercise is to ensure that what is written down will indeed work in real life. In other words, it should demonstrate whether or not the airport emergency plan would effectively work. It is in fact a rehearsal of a real aircraft accident. It is therefore, as with any rehearsal, to begin by reviewing the script. The first step, HEBA PHEIC committee has been reviewed the entire plan, especially those sections that may be outdated such as the list of telephone numbers, the list of salvage equipment, the emergency notification procedures, flow charts used to activate the plan, radio frequencies used by emergency agencies which also change very often. Thus, a communication test was conducted which verified the communications procedures needed to activate the plan. All participatory agencies activated their plan and found out if the procedures in place were adequate and if any phone numbers had changed.

5.4   The second step, HEBA PHEIC committee was held a tabletop exercise on participant level with all emergency agencies that are part of the plan for discussing and explaining the role of each participant in the simulation exercise which will be held on site. While going through the scenario of the tabletop exercise, each agency described how they would carry out their duties given the situation of the scenario. This is a good way to find out if amendments to the procedures laid out in the plan are required or not. The tabletop exercise helped all emergency agencies involved to remain current with the procedures they have established when responding to an airport emergency, it immediately identified any deficiencies noted during the exercise, and it helped everyone understand what were the roles and functions of the other agencies involved.

5.5   Once the plan has been reviewed thoroughly and a tabletop has been conducted, and once these elements were out of the way, it was time to develop a good scenario and circulate it among the Emergency Planning Committee Members. All the heads of the various emergency agencies has been able to comment on the proposed scenario and amended it accordingly. The selected scenario has been factual, i.e. type of aircraft (EGYPTAIR B737-800), time and location of the accident, type of accident, number of people and crew on board, etc.

5.6   The scenario was written in Arabic language then translated to English language by a committee of experts from MOHP, EACo & EGYPTAIR leading by an expert in the PoE quarantine jobs and he is also responsible for the emergency contingency plans at the Egyptian Quarantine Authority. The scenario was written using the WHO IHR 2005 emergency manual responding to PHEIC, ICAO emergency manual, CAPSCA, IATA medical manual, Airports Council International (ACI) manuals, and U.S. Centers for Disease Control and Prevention (CDC) as guide lines, it took 30 days to be finalized. The scenario was reviewed and approved by a committee of experts from Egyptian Quarantine Authority, Egyptian Airports Company, Egypt air Airlines, WHO Egypt and some foreigners experts under the supervision of the Egyptian first undersecretary of MOHP for the preventive sector. The preparations for an emergency exercise took place 120 days prior to the scheduled exercise according to ICAO guidance. The date and time of the exercise has been agreed upon by representatives of all emergency agencies. Once the scenario has been written and agreed upon, the arranging to have an adequate number of volunteers has been done. All key documents finalized and approved by partners; health quarantine team, the ambulance team, the biological hazard team, luggage disinfectant team, customs team and Borg El-Arab airport team.

5.7   The activities proceeded sequentially into the following steps:

   a)   Finalizing and obtaining approval from concerned stakeholders on the key reference documents needed to conduct the activity.

   b)   Key reference documents which are: the scenario of the simulation exercise, the scenario and dialogue for each participant (from different participating sectors), the list of functions which will be tested during the scenario, and the evaluation check list.

   c)   Coordination between all participating organizations and sites about time table for training the participants and the responsibilities of each site. Thus, main challenge was establish cross-organizational collaboration between CAAs, public health authorities, airports and airlines.

5.8   Pre-final exercise has been conducted with evaluators "Critique" team and with participation of WHO, CAA evaluation team after editing comments of the evaluation teams. On 4th December 2017, Day 0, Borg El-Arab International Airport Full-Scale Exercise with audit from the critique team (ECAA, MHO, WHO) was done. Local guests have been invited to observe the exercise and at the same time saw first hand the professionals that were available to save lives if the worst ever happens. The critique team has been reported their findings at an evaluation meeting, that held after the exercise has been conducted. What went wrong? What went well? What are the lessons to be learned? What amendments should be made to the plan. At this particular meeting, the heads of the various participatory agencies have been invited to comment on the exercise.

5.9   The exercise was initiated from Air Traffic Control and the first responding agency was the Aircraft Rescue and Fire Fighting Department. After that, the exercise unfolded as in a real situation whereby various emergency agencies responded to the accident scene within seconds and followed the procedures agreed upon in the HEBA PHEIC Full-Scale Exercise.

5.10   Egyptian airports have shown its commitment to aviation safety and security by undergoing all relevant ICAO SARPs and ECAA regulation.

6.   TRAINING IN PANDEMIC PREPAREDNESS PLANNING FOR AIRPORT MANAGERS

6.1   It is urgent to stress the importance of providing training to aviation personnel and other stakeholders in identification and management of passengers with potential communicable disease to better understand the aviation operating environment in order to develop a critical mass of experts to support the CAPSCA programme, for the implementation of ICAO provisions relating to public health events and emergencies and the WHO IHR requirements related to civil aviation, considering the following subjects:

a)   Pandemic and epidemic preparedness and response covering surveillance, emeregency preparedness and response, outbreak investigation, emerging/re-emerging diseases (including Ebola virus disease and MERS-CoV), IHR 2005 and public health emergencies of international concern and avian, pandemic and seasonal influenza.

b)   Sudden reduction of staff numbers, by perhaps one third, on average, for up to 10 weeks.

c)   Procedures for action in the event of an aircraft landing with a suspected case of communicable disease on board.

d)   Method of contacting the public prior to their journey to advice of any airport screening procedures.

e)   Method of advising passengers in the airport of any health risks.

f)   Establishment of communication path so that the airport is represented at any meeting where restriction of operation, or partial closure, is considered/recommended by the national Department of Health/World Health Organization in the event of outbreak of disease.

g)   Compliance with the ICAO Standard for States to have a preparedness plan for aviation ICAO Annexes.

h)   Compliance with International Health Regulations (2005) for ports of entry.

i)   Plan to return quickly to normal operations after the risk has reduced.

7.   ACTION BY THE MEETING

7.1   The meeting is invited to:

a)   note the information in this paper and provide comments;

b)   review the best practice methodology in para **5** and recommend measures to meet the agreed Preventive Measurement for Management of Infectious Diseases at Airports;

c) identify the challenges and difficulties faced in the implementation of preparing and conducting full-scale exercise to respond to a public health event (PHEIC);

d) urge ICAO-MID to consider the organization of a workshop on aviation medicine, and developed more relevant advisory circular/guidance material/effectiveness Tool-Kit;

e) stressed the importance of providing training in para 6 to aviation personnel and other stakeholders in identification and management of passengers with potential communicable disease to better understand the aviation operating environment;

f) invite States and airports to share practical examples and tools which support the implementation of preparing and conducting full-scale simulation exercise in response to a public health emergency event.

-END-