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Biosecurity emergency management in Ukrainian aviation

A system of mechanisms for managing biosecurity incidents in aviation adapted to Ukraine was proposed, the implementation of which will ensure a rapid sectoral response from all involved jurisdictions to effectively counteract and resolve the emergency.

Introduction

The aviation safety management system is an integral part of ensuring successful air transportation and preventing accidents. According to ICAO, biosecurity is part of this component. As practice shows, preparedness for non-standard situations that require an integrated approach for successful resolution, such as the COVID-19 pandemic, ensures rapid response, analysis, solution and further prevention of biosecurity emergencies. Therefore, we propose mechanisms for implementing a biosecurity emergency management system in Ukrainian aviation based on the experience of Australian biosecurity colleagues [1].

Adaptive biosafety measures

Ensuring an adequate level of biosecurity will allow for the successful restart of air travel in compliance with all the proper conditions after the war is won. For example, IATA offers a list of measures (Figure 1) that, if implemented, will prepare the aviation sector for various levels of biosecurity incidents. Among the actions indicated by the organization, we will identify the following [2]:

— passenger registration information should be collected electronically before the flight (for this purpose, Internet portals or, for example, a service in the Diia application can be created);

— it is necessary to minimize the contact between passengers and staff, for this purpose, physical distancing should be introduced and the flight should be organized in such a way that the passenger arrives, waits, leaves baggage and departs without contact with staff, and special contact zones will be created where proper sanitation and disinfection will be ensured;

— during the flight, it is necessary to physically distance passengers and provide staff with disinfectants, and protocols should be created to respond to cases of biosecurity suspicions and to warn the airport of arrival about the threat.

When considering measures to improve the state of biosecurity in Ukrainian aviation, it is impossible not to mention the conclusions we reached in our previous work [4] on the prospects for the development of biosecurity in Ukrainian aviation. Back then, we noted that the COVID-19 pandemic caused the decline of the industry and its revival (in 2021, the President of Ukraine announced a course to rebuild and build new airports and revive the aviation industry) requires significant financial costs, which require international investors, organizations and lenders.

Now, during the war, the situation is even more critical, so we propose the following as minimum measures that require less financial investment:

- conducting biosecurity training for airport and aircraft personnel;
- improving existing laws and protocols on biosecurity in aviation;
- implementing a system for the disposal of various types of waste at airports (meaning biological waste that poses a threat of infectious and other incidents).

With regard to the implementation of biosecurity protocols in aviation, one can refer to the ICAO recommendations and sample national documents. ICAO guidelines address the following components [5]:

- Preparatory phase.
- Operational suitability.
- Implementation of the Biosafety Protocol.
- Fostering user confidence.
- Measurement system.

Biosecurity emergency management improvement

According to Section XI "Coordination of actions in case of crisis situations" of the Law of Ukraine "On the State Aviation Safety Program of Civil Security" [3], each aviation entity in the event of an emergency must develop a plan for its activities separately from others, and also determine the heads of the operation, who have their own teams, assign them actions and are responsible for their implementation. At the same time, we propose to improve the existing mechanism by replacing this emergency management system with the system shown in Figure 2.

By the way, the study of the Law of Ukraine concluded that the issue of biosecurity is not sufficiently disclosed, while ICAO notes that biosecurity is a component of aviation security in general. Therefore, there is a need to further improve the legislative framework in this area.

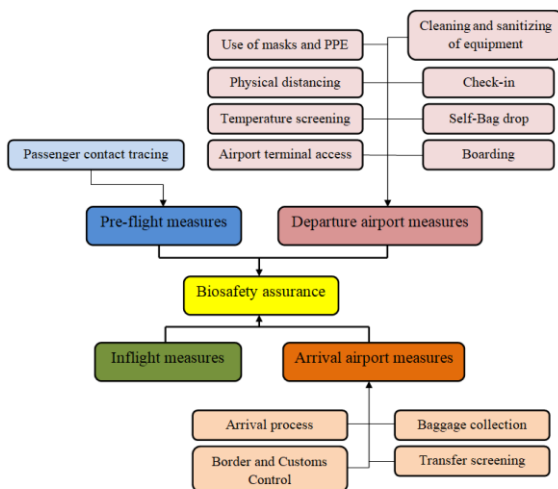


Figure 1. Measures of biosafety in aviation assurance in accordance with IATA

It is based on the biosafety emergency management system of our Australian colleagues [1] and its implementation, in our opinion, will simplify the distribution of responsibilities among the management through the introduction of a single operational Incident Manager, who, together with advisors, will assign roles to departments (Planning, Operations, Logistics, Finance and Public Information). In turn, the created departments will fulfill their tasks and report to the Incident Manager.

The diagram in Figure 2 shows the organization of leadership in complex incidents that require mobilization of all departments and resources. In less severe situations, the leadership is reduced to the Manager and a small number of people who will be responsible for the affairs of a particular department. At the same time, Planning and Operations are often sufficient to overcome a biosecurity incident. The optimization of this scheme is the result of characterizing the incident by the level of danger. For example, in the event of an infectious disease on an aircraft, the aircraft manager should assume the duties of the Incident manager and issue instructions to the staff to isolate the infected in a separate area, intensify sanitation, notify the airport of arrival and departure and, depending on the condition of the passengers, either request medical assistance or report the need for additional measures.

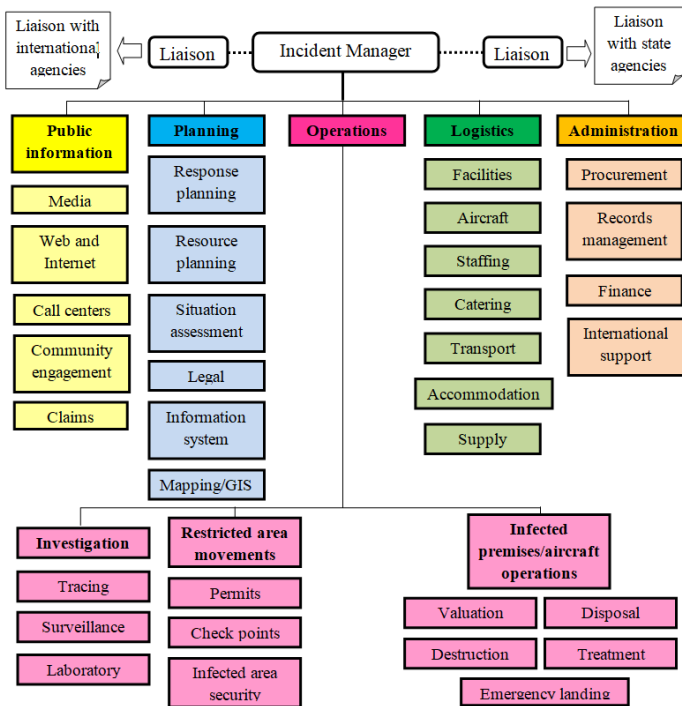


Figure 2. Emergency management organization during biosecurity incident in aviation

Conclusions

The implementation of the presented biosecurity incident management mechanism in combination with the previously mentioned adaptive biosecurity measures in Ukrainian aviation will, in our opinion, improve the state of comprehensive protection in aviation and ensure the stability of the epidemiological situation in the air transportation sector as one of the main sources of infectious diseases.

References

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