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WORKING PAPER

ASSEMBLY — 40TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 26: Other high-level policy issues to be considered by the Executive Committee
14: Facilitation Programmes

REPORT ON AIRCRAFT DISINSECTION AND VECTOR CONTROL MEASURES

(Presented by the Council of ICAO)

EXECUTIVE SUMMARY

The 39th Session of the Assembly recognized the need for ICAO to work with the World Health Organization (WHO) to develop guidance on preventing the spread of disease caused by mosquito and other vectors through international aviation.

Resolution A39-28 directed the Council to engage with the World Health Organization to develop:
a) performance-based criteria to evaluate disinsection methods, both chemical and non-chemical;
b) recommendations regarding non-chemical disinsection methods; and
c) guidance on the components of a scientifically based risk assessment model for Contracting States to determine which vector control measures to use in aviation.

Resolution A39-28 further urged Contracting States to require pest management control programmes around airports and related facilities; and to encourage airports reporting to the ICAO Airport Vector Control Registry.

This working paper reports progress on work with the WHO and the implementation of Resolution A39-28.

Action: The Assembly is invited to:
a) note the work undertaken since the 39th Assembly;
b) acknowledge the cooperative efforts of ICAO and WHO in mitigating the risk of aviation-related spread of disease-bearing vectors and the spread of communicable disease by means of air navigation in general;
c) adopt the proposed updated resolution in the attachment to this paper to supersede Assembly Resolution A39-28;
d) urge Contracting States to become members of the Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA) programme; and
e) urge Contracting States to support ICAO and WHO in implementing relevant Assembly resolutions by considering the recommendations included in ICAO, WHO and CAPSCA publications and guidance material.

Strategic Objectives:	This working paper relates to the Safety and Security and Facilitation Strategic Objectives.
Financial implications:	The activities referred to in this paper will be undertaken subject to the resources available in the 2020-2022 Regular Programme Budget and/or from extra budgetary contributions.
References:	Annex 9 — *Facilitation* Doc 10075, *Assembly Resolutions in Force (as of 6 October 2016)* Doc 9957*, The Facilitation Manual* *WHO Handbook on Vector Surveillance and Control at Ports, Airports, and Ground Crossings* *WHO Handbook for the Management of Public Health Events in Air Transport*

1. BACKGROUND

1.1 International concern over the spread of Zika during the outbreak in 2016 has increased the requirements from States to provide proof of disinsection for aircraft during the outbreak. Disinsection is defined in Annex 9 — *Facilitation* as "the procedure whereby health measures are taken to control or kill insects present in aircraft, baggage, cargo, containers, goods and mail." Disinsection, using chemical or non-chemical means recommended by the World Health Organization (WHO), is permitted under Annex 9 which stipulates in Standard 2.25, "[w]hen disinsection is required a Contracting State shall authorize or accept only those methods, whether chemical or non-chemical, and/or insecticides, which are recommended by the World Health Organization and are considered efficacious by the Contracting State."

1.2 At the 39th Assembly, the United States presented A39-WP/84, describing the need for ICAO to work with the WHO to develop guidance on preventing the spread of disease caused by mosquito and other vectors through international aviation.

1.3 The Assembly adopted Assembly Resolution A39-28, superseding Resolution A37-14, and requested a progress report on implementation of the resolution during the 40th Session of the Assembly.

2. DISCUSSION

2.1 Diseases such as Zika, Malaria, Yellow Fever and others can be transmitted through vectors (defined by WHO as insects or other animals which can transport an infectious agent that constitutes a public health risk) at airports or on aircraft. The risk of transmission can be increased through direct human-to-human contact or the interaction between an infected human and a suitable vector in the area of arrival.

2.2 The fear of the international spread of the Zika virus in 2016 through air travel (mainly through infected humans, but also the presence of vectors at airports or on aircraft) has resulted in increased requirements for chemical aircraft disinsection by some States under Annex 9 — *Facilitation*. States experienced logistical, practical and financial challenges to implement additional disinsection requirements. This also raised questions in terms of justification of decisions made by States, methods and efficacy of aircraft disinsection, and regarding health and safety implications.

2.3 In addition, chemical disinsection causes health concerns for travellers and flight crew; and it might have adverse effects on aircraft, instruments and avionics should it be applied incorrectly or not in compliance with WHO and aircraft manufacturer requirements. As required by Annex 9 Standards 2.26 and 2.30, respectively, "Contracting States shall ensure that their procedures for disinsection are not injurious to the health of passengers and crew and cause the minimum of discomfort to them" and that "any insecticide or any other substance used for disinsection does not have a deleterious effect on the structure of the aircraft or its operating equipment." In addition, Standard 2.23 indicates that "Contracting States shall limit any routine requirement for disinsection while passengers are on board."

2.4 The *Facilitation Manual* (Doc 9957) describes the practices that can be used for aircraft disinsection, whether by residual treatment, by space spraying with or without passengers present, or by combinations of both. The disinsection methods presently used by airlines may be done by spraying before or during the flight using aerosols and residual treatment.

2.5 The 39th Session of the Assembly adopted Resolution A39-28 identifying the need for ICAO to work with WHO to develop risk assessment models, performance criteria and guidance material for both chemical and non-chemical aircraft disinsection. Furthermore, A39-20: *Consolidated statement of continuing ICAO policies related to facilitation*, in Appendix C on national and international action and cooperation on facilitation matters, recognized that the threat of worldwide transmission of communicable diseases by means of air transport has increased in past years and urged the development of cooperative arrangements for the prevention of the spread of communicable diseases and other threats to national interests.

2.6 ICAO and WHO consulted actively with other industry stakeholders by means of workshops to review methods, performance criteria, risk assessment models and guidance material for both chemical and non-chemical means of disinsection. The workshop "Methods and operating procedures for aircraft disinsection" was conducted in Geneva from 3 to 4 July 2018. Participants identified several challenges and made recommendations for further research, development and implementation[1].

2.7 A second workshop followed to develop a risk map and potential solutions regarding the international spread of vectors and vector-borne disease through international aviation. The workshop "Methodology for risk mapping of the international spread of vector-borne diseases via air travel" was conducted in Geneva from 5 to 6 July 2018[2].

2.8 ICAO and WHO are also focusing on the use of computer technology for vector mapping, disease surveillance, global disease mapping, disease tracking, data analysis, risk assessment models and risk communication. This technology played a major role in providing information for the implementation of mitigating measures during the SARS, Ebola and Zika outbreaks.

2.9 ICAO has developed a Vector Control Register in accordance with the *WHO Handbook on Vector Surveillance and Control at Ports, Airports, and Ground Crossings* which can be found on the ICAO public website (http://www.icao.int/crr/Pages/Airport-Vector-Control-Register.aspx).

2.10 ICAO also developed an Infectious Disease App which can also be found on the ICAO public website (http://quips.anbdata.com/project/dev/5c1c21b205c09f70bfe60eeeeb46316af89506e9.html). The

[1] The report is available at https://apps.who.int/iris/handle/10665/279702.
[2] The report is available at https://apps.who.int/iris/handle/10665/311025.

App publishes flight information to assist States with decision-making when considering implementation of measures to prevent transmission of disease during outbreaks.

2.11 Furthermore, ICAO has developed a draft "Risk Assessment and Decision-making Tool" for use by States during disease outbreaks. This tool was presented to WHO and industry stakeholders at WHO workshops, meetings with private partners and during CAPSCA (Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation) meetings. It was agreed that this tool be used as a basis for further development of a "Real-time Risk Assessment Tool" for use in the aviation sector during future disease outbreaks.

2.12 States are kept informed and updated of developments regarding disinsection, risk assessment and other public health issues through the global and regional CAPSCA meetings which were held in Egypt (October 2018) and Bangkok (November 2018). At the CAPSCA EURO meeting (Helsinki, 10 to 12 April 2019) a full day was dedicated to airport and aircraft disinsection. More regional meetings were held or are planned for the African and American regions during 2019.

2.13 To build capacity and shared resources, ICAO provided facilitators to WHO, funded by CAPSCA, to assist with regional training of trainers on public health events management in air transport in accordance with the *WHO Handbook for the Management of Public Health Events in Air Transport* (available at https://apps.who.int/iris/handle/10665/204628): Ghana in November 2017, China in April 2018, Zimbabwe in October 2018 and South Africa in February 2019.

2.14 In addition, ICAO Global Aviation Training (GAT) produced an on-line course, developed by the Joint Aviation Authorities Training Organisation (JAATO) with the assistance of CAPSCA and WHO subject matter experts, in order to develop a critical mass of experts to support CAPSCA. At the time of writing this working paper the course was under validation by external participants from all the ICAO regions.

2.15 A pan-European pandemic simulation exercise involving various stakeholders (States, airports, airlines and public health authorities) was held in Brussels in February 2019. Similar exercises are planned for the other four ICAO regions: Asia-Pacific, Africa, Americas, Europe and Middle East.

2.16 In December 2018, the WHO organized a High-level Conference on Preparedness for Public Health Emergencies to facilitate collaboration between United Nations (UN) agencies, ministers of Health of States, international organizations, urban leaders, public health officials; and civil and private sector leaders in dealing with challenges and opportunities posed by public health emergencies in urban areas. The conference resulted in a "Lyon Conference statement on Preparedness for Public Health Emergencies" with an appeal to ICAO, WHO and the World Tourism Organization (UNWTO) to explore joint initiatives for collaboration at the interface between public health, international air transport and world tourism. In this Statement leaders pledged to improve information sharing between organizations and across sectors and amplify collaboration between international public health, animal health, environment, transport and tourism sectors. The final report of the conference can be found at https://www.who.int/docs/default-source/documents/who-emergencies-in-urban-areas-web.pdf?sfvrsn=d4857c2d_2.

2.17 In terms of future activities, ongoing work focuses on: non-chemical airport and aircraft disinsection; a possible global CAPSCA and Aviation Medicine Symposium in Montréal in 2020/2021; formulating a more structured, collaborative working relationship between ICAO and WHO in relation to CAPSCA and public health; and possible future amendments to relevant ICAO Annexes and guidance material.

2.18 The report of the High-level Conference on Preparedness for Public Health Emergencies and consultation with various aviation and medical stakeholders has highlighted the importance of coordination at international and national levels, including through CAPSCA and between both new and existing facilitation mechanisms (whether national facilitation committees or airport facilitation committees) to mitigate the spread of communicable disease by means of air transport.

2.19 It is imperative to heighten the awareness and involvement of ICAO Member States in CAPSCA and in the work required to keep up to date the relevant Annex Standards and Recommended Practices as well as other current or future related ICAO programmes including, but not limited to, facilitation, biosecurity, dangerous goods and use of unmanned aircraft in supporting public health activities.

3. CONCLUSION

Diseases such as Zika, Malaria, Yellow Fever and others can be transmitted through vectors at airports or on aircraft. The risk of transmission can be increased through direct human-to-human contact or the interaction between an infected human and a suitable vector in the area of arrival. Work at ICAO and WHO, with active consultation with other industry stakeholders, is underway on various fronts to mitigate against these risks.

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APPENDIX

**DRAFT RESOLUTION FOR ADOPTION
BY THE 40TH SESSION OF THE ASSEMBLY**

A40/xx: Mitigation of the spread of disease through, inter alia, aircraft disinsection and vector control methods, and the importance of CAPSCA (Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation) for implementation

Whereas Article 14 of the International Convention on Civil Aviation requires Member States to take effective measures to prevent the spread of communicable diseases by means of air navigation;

Whereas Annex 9 — *Facilitation* contains provisions on communicable disease outbreak national aviation plans, aircraft disinsection, implementation of international health regulations and facilities required for implementation of public health measures, and *The Facilitation Manual* (Doc 9957) provides guidance on aircraft disinsection, public health measures and facilitation programmes;

Whereas the most recent outbreaks of vector-borne diseases have resulted in Contracting States imposing chemical disinsection requirements;

Whereas the World Health Organization has not issued recommendations regarding non-chemical disinsection methods;

Whereas there is strong evidence that chemicals are becoming increasingly ineffective in combatting vector-borne diseases as insect resistance to chemicals increases;

Whereas the lack of World Health Organization-recommended non-chemical disinsection methods leads to Contracting States continuing to require only chemical disinsection methods;

Whereas despite past Assemblies having encouraged development of performance-based criteria for disinsection requirements, in collaboration with the World Health Organization, insufficient progress has been made in this regard;

Whereas there is an increased risk in the global transmission of communicable diseases;

Whereas a need for cross-sector information sharing and collaboration in the prevention and management of public health emergencies has been identified at various international meetings and conferences;

The Assembly:

1. *Directs* that the Council continue to engage with the World Health Organization to develop:

    a) performance-based criteria to evaluate all disinsection methods, including non-chemical means of disinsection;

b) recommendations regarding non-chemical disinsection methods; and

c) guidance on the components of a scientifically-based risk assessment model for Contracting States to use in determining whether to employ vector control measures that include but are not limited to aircraft disinsection;

2. *Urges* Contracting States to:

a) become members of The Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA) programme;

b) become involved in the CAPSCA Programme and any other related programmes that ICAO might introduce in future;

c) support ICAO and WHO in implementing this Assembly Resolution by considering the recommendations included in ICAO, WHO and CAPSCA publications and guidance material;

~~2.~~ d) require pest management control programmes around airports and related facilities, which would mitigate the need to impose aircraft disinsection requirements;

~~3.~~ e) encourage airport reporting to the ICAO Airport Vector Control Registry and to keep the information current;

~~4.~~3. *Requests* the Council to report on the implementation of this resolution at the next Assembly; and

~~5.~~4. *Declares* that this resolution supersedes Resolution ~~A37-14~~A39-28.

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