



EXECUTIVE SUMMARY

The Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (**CAPSCA**) is a voluntary, cross-sectorial, multi-organizational collaboration programme managed by the International Civil Aviation Organization (**ICAO**) in partnership with the World Health Organization (**WHO**).

Established in 2006, it brings together international, regional, national and local organizations to combine efforts to improve preparedness planning and response to public health events that affect the aviation sector, such as communicable diseases (pandemic influenza, Zika, Ebola, Coronavirus); chemical events (nuclear power-plant accidents); bioterrorism; volcanic ash; water and food safety; hygiene and waste management; drones in humanitarian operations; and assistance provided during natural or man-made disasters.

The most recent communicable diseases outbreak (COVID-19) have demonstrated the pivotal role of aviation in the spread of communicable disease; and its subsequent impact on the economy e.g. travel restrictions impacting on trade and tourism. The COVID-19 outbreak to date has had significant impact on global human health and a severe economic impact on the aviation sector, resulting in flight cancellations, travel and trade restrictions as well causing further economic losses in several other sectors.

Mitigating the health and economic impacts of COVID-19 can only be achieved by adopting a multi-sectorial, multi-organizational approach. Such an approach requires multidisciplinary resources (public health and aviation experts, first responders, customs and immigration officers, security officers, airport and aircraft personnel) as well as substantial investment to support:

1. Programme implementation;
2. Capacity-building initiatives; and
3. The development of training, tools, manuals and other guidance material.

In an effort to mitigate the impact of COVID-19 in the aviation sector, ICAO has developed a project plan in alignment with the global CAPSCA programme by identifying several activities which need to be implemented over a three year period. The required funds for these activities are estimated at USD 3.5 million.

This document provides a brief overview of the CAPSCA programme, the global health impact of COVID-19, the economic impact of COVID-19 on civil aviation, the ICAO CAPSCA strategy for COVID-19, the proposed implementation plan and the risks should the project plan not be implemented.





INTRODUCTION TO CAPSCA

Transporting 10 million passengers and USD 18 billion worth of goods every day, global connectivity is a powerful dynamic for human and economic development. By mid-2030s about 200,000 flights per day are expected all over the world.

The growth of international traffic of passengers and goods has increased the risk of the spread of infectious diseases, therefore, protection of global health becomes even higher priority not only to airlines and airports in terms of the passengers, pilots and other personnel, but also to governments concerning their health, safety and security oversight responsibilities under the Chicago Convention and the International Health Regulations (IHR).

Infectious diseases such as influenza, malaria, dengue, Zika, coronavirus and more, are reported in over 100 countries, and up to 60% of the world's population is at risk of infection. Numerous examples illustrate this situation including the SARS epidemic in 2003, the H1N1 influenza pandemic in 2008-2009, the emergence of the MERS-coronavirus in 2013, the Ebola crisis in 2014-2015, the emergence and international spread of a new neuro-pathogenic strain of Zika virus and more recently, the Ebola and COVID-19 disease outbreaks, both of which were declared Public Health Emergencies of International Concern (PHEIC) by the Director General of the World Health Organization (WHO).

Apart from loss of lives, outbreaks of infectious disease are estimated to cost the world \$60 billion each year. Economists estimate that, in coming decades, pandemics will cause average annual economic losses of 0.7% of global GDP – a threat similar in scale to that estimated for climate change.

The lack of preparedness and the need for a coordinated global response (multi-sectorial, multi-organizational approach) were identified as the biggest challenges of the international community regarding the management of a public health events in aviation.

Purpose and objectives of CAPSCA

The purpose of CAPSCA is to address these challenges by ensuring collaboration between the aviation and public health sectors; facilitating safe and economically viable air transport while contributing to public health protection.





The objectives of CAPSCA with specific reference to COVID-19 are:

1. **Health protection** of air travellers, aviation personnel and the general public by implementation of aviation-specific programmes to manage COVID-19 (ICAO duty of care);
2. Support States/Territories with implementing **national aviation preparedness and emergency response plans** for COVID-19 by developing core capabilities;
3. **Training of public health and aviation assessors** to assess State readiness to manage public health events in aviation through stakeholder engagement and evaluation of policies, processes and procedures.
4. **Conducting Technical Assistance visits** to States/ Territories to determining gap analysis in State's preparedness and response plans; providing recommendations for improvement to States and Territories
5. **Ensure safe and economically viable air transport**, with minimal effect on international travel and trade (Chicago Convention);
6. **Facilitating multi-sector collaboration and cooperation** (civil aviation authorities, public health authorities, airports, air traffic services, airlines and other aircraft operators, customs and immigration services, security services, etc.) which provides a mechanism for harmonization of approaches as well as pooling and sharing expertise, resources and best practices;
7. Assist States/Territories with the **implementation of ICAO Standards and Regulations (SARPs) and WHO International Health Regulations (IHR)**;

CAPSCA Member States

ICAO currently has 193 Member States, of which 129 (67%) are members of CAPSCA. CAPSCA member states are distributed globally and supported by the ICAO regional offices in Africa (Kenya and Senegal), Asia/ Pacific (Thailand), Europe and North Atlantic (France), Middle East (Egypt), North America, Central America and Caribbean (Mexico) and South America (Peru).

Member States are listed on the CAPSCA website (www.capsa.org).

CAPSCA members benefit from membership in various ways, including:

- Access to a dedicated network of experts both from the aviation and public health sectors
- Availability of guidance material on the implementation of the ICAO Standards and Recommended Practices (SARPs) and WHO International Health Regulations (IHR) applicable to public health within the aviation sector
- A comprehensive repository of information from both aviation stakeholders (airports, ATC/ANSPs, CAAs, Airlines, Ground handling Providers, International Organizations etc.) and public health stakeholders
- Contributing to amendment of policies, processes and procedures by identifying implementation challenges and participating in finding practical solutions.





- Liaising with neighbouring or other States as well as other relevant international Organizations (WHO, CDC, IATA, ACI etc.) to coordinate responses to problems raised by the network; or during outbreaks.
- Requesting or participating in Technical Assistance visits to assess preparedness and response plans and build the necessary capacities in civil aviation during a public health emergency event
- Access to senior expert advice to support States during crisis management situations (e.g. Ebola in Africa)
- Participate in training events and courses aimed at managing public health events in aviation (some provided free, some on a cost recovery basis and others at a fee)
- Participating and supporting table top and full scale exercises together with other International Organizations, States, industry etc.
- Participating in annual dedicated Regional and Global meetings in cooperation with WHO and other International Organizations.

CAPSCA Partners

In order to achieve the CAPSCA objectives, ICAO partners with several UN agencies and international organizations to build capacity, mitigate and manage the effects of public health events on civil aviation. CAPSCA partners include:

1. World Health Organization (WHO)
2. World Tourism Organization (UNWTO)
3. United Nations Development Programme (UNDP)
4. World Food Programme (WFP)
5. International Organization for Migration (IOM)
6. United Nations Office for the Coordination of Humanitarian Affairs (OCHA)
7. World Organisation for Animal Health (OIE)
8. International Atomic Energy Agency (IAEA)
9. Food and Agriculture Organization of the United Nations (FAO)
10. Centers for Disease Control and Prevention (CDC)
11. Airports Council International (ACI)
12. International Air Transport Association (IATA)
13. International Federation of Air Line Pilots' Associations (IFALPA)
14. International Business Aviation Council (IBAC)
15. Flight Safety Foundation Mediterranean





Apart from the benefits applicable to CAPSCA members, CAPSCA partners can additionally benefit from:

1. Participating in the discussions for updating and developing standards, recommendations and guidance material, when appropriate.
2. Receiving official CAPSCA progress reports.
3. Being part of an alliance that meets both the partner's philanthropic and marketing needs and extend CAPSCA's abilities to address the pressing needs of international public health in aviation.
4. Exclusive visibility and networking opportunities at workshops, events, training activities, technical assistance visits and on the guidance material developed by CAPSCA.
5. Be part of the public directory of CAPSCA partners.

HEALTH IMPACT OF COVID-19 - CONFIRMED CASES

In terms of human cost, according to statistics of the World Health Organization (WHO) by 9 March 2020 the COVID-19 outbreak has infected 109,578 persons globally (74% in China), caused 3,123 deaths, and affected 105 countries. The global risk is at a very high level.

Globally

109 578 confirmed (3994 new)
3809 deaths (225 new)

China

80 904 confirmed (45 new)
3123 deaths (23 new)

Outside of China

28 674 confirmed (3949 new)
686 deaths (202 new)
104 countries/territories/
areas (3 new)

WHO RISK ASSESSMENT

China	Very High
Regional Level	Very High
Global Level	Very High

- As reported by WHO as of 9 March 2020, the most affected countries with confirmed cases outside China, are the Republic of Korea (7,382 cases), Italy (7,375 cases) Iran (6,566 cases), France (1,116 cases), Germany (1,112 cases), Spain (999 cases) and Japan (488 cases).
- At the moment, the regions with less confirmed cases are Africa and the Russian Federation.
- Containment and management for COVID-19 globally remain the top priority for all countries, as the global risk level is very high and the costs significant. "In the end, prevention is not only better than cure; it's cheaper". - Dr Tedros Adhanom Ghebreyesus Director-General of the World Health Organization.





ECONOMIC IMPACT OF COVID-19 ON CIVIL AVIATION

ICAO monitors the extent of the economic impacts of COVID-19 on civil aviation on a regular basis. The analysis is structured around a “mild” and “severe” scenario and focuses on countries significantly affected by the COVID-19 outbreak – China including Hong Kong SAR and Macao SAR, South Korea, Mongolia and Iran. Affected countries are added to the analysis regularly.

What can be seen from the analysis of data available in the first quarter of 2020, is a significant reduction in seat capacity in all countries, which triggers a related decrease in passengers travelling by air and substantial loss in airline revenues. As of 3 March 2020, over 130 airlines have cancelled or significantly reduced operation from and to mainland China. As of the latest report, China, including Hong Kong SAR and Macao SAR, is seeing a 41-42% decrease of seat capacity entailing between 23.9 million and 27.5 million less passengers and a loss for airlines between 5.8 and 6.7 billion USD. Domestic traffic in China has been impacted by a similar trend with an overall reduction of 40% in seat offering, 66.6 to 76.3 million less passengers and a potential loss in airline revenue between 6.8 and 7.8 billion USD.

The ICAO report also correlates the above-mentioned impacts with other affected markets, such as tourism. In 2019, Chinese tourists represented 9% of all tourists worldwide. This ratio is expected to drop significantly and will impact in particular countries where Chinese tourism contributes to an important part of the GDP – by share of GDP the top five countries are New Zealand, Australia, Singapore, Iceland and Japan. The estimated loss of revenues from Chinese tourists in the USA are between 371.52 million and 428.15 million, which represents a drop of more than 75% compared to originally forecasted numbers.

Other markets to be affected by the impacts of COVID-19 on civil aviation will be the IT and electronics sector, where China represents 27% of the world added value (US has a 20% share) or foreign direct investments (7% of global FDIs), which can be expected to impact other parts of the supply chain as well.

In terms of financial forecast for the airlines, the International Air Transport Association (IATA) predicts that the airline industry would lose \$29.3 billion of revenue due to the recent COVID-19 outbreak; \$27.8 of that loss would be associated with airlines located in the Asia Pacific region. The domestic China market alone would account for \$12.8 billion of losses. Airlines outside the Asia Pacific region are predicted to bear \$1.5 billion of the total loss of revenue. Globally, the demand for air travel is expected to decrease by 4.7%.





ICAO CAPSCA STRATEGY FOR COVID-19

The ICAO CAPSCA strategy and associated activities for managing COVID-19 are:

1. Ensure ease of access and user-friendly ICAO regulatory framework applicable to public health events
 - a. State letters, electronic bulletins, press releases.
 - b. Update Facilitation and Aviation Medicine web sites.
 - c. Member State survey regarding compliance and implementation difficulties.
 - d. Review of SARPs, manuals and CAPSCA guidelines.
 - e. Review of USOAP and USAP questions.
2. Enhanced coordination, collaboration, information sharing and operational support
 - a. Joint statements with key stakeholders
 - b. Improve the CAPSCA website (hosting and maintenance costs) and develop online tools for training, data-sharing, lessons-learned; and a repository for restrictions and measures adopted by States.
 - c. Develop a dedicated social media platform, prepare and deliver webinars on specific issues to improve risk communication and counter misinformation.
 - d. Recruit an additional subject matter expert in aviation medicine/ public health to develop the content of new courses, workshops, manuals and guidance material on public health event management in aviation.
 - e. Recruit one technical editor and one graphic designer to produce the guidance material.
 - f. Translate training and guidance material into the other five official languages, for global distribution.
3. Capacity building
 - a. Provide CAPSCA on-line training to key ICAO personnel as well as CAPSCA regional leadership and advisors (free of charge).
 - b. Promote CAPSCA on-line training to all States and partners at reduced cost
 - c. Source funding to provide technical assistance and conduct technical assistance visits to high-risk, high-vulnerability and low-income States (capacity-building initiatives for CAA, Airlines and Airports) and the development of the National Aviation Plan for Public Health Emergency; at no cost to the State.
 - d. Communicate the benefits of assistance visits to other States and international airports to improve their preparedness and to response to public health threats.
 - e. Continue with regional and global CAPSCA meetings, which includes training seminars and airport/ airlines visit.
 - f. Organize aviation medicine/ public health global symposiums (Next symposium taking place in 2021).



4. Development and research activities

- a. Stakeholder mapping process to identify other stakeholders not yet involved in CAPSCA
- b. Liaise with newly identified and non-active stakeholders to develop new working relationships.
- c. Conduct/ support research activities on disinfection and disinsection of aircraft to identify new procedures, methods, best practices and develop global standards and recommendations. Disinsection of aircraft is a necessary measure to help prevent the spread of vector-borne diseases.

IMPLEMENTATION PLAN

Please see the implementation plan in Annex A. Note that a further detailed project and monitoring plan will be compiled which will include beneficiaries, outcomes and key indicators.

MAJOR RISKS AND MITIGATION MEASURES

The major risk that CAPSCA faces is the lack of human and financial resources. If the resources for the complete implementation of the CAPSCA strategy are not obtained, the efforts for the mitigation of global health impact and the socio-economic disruptions caused by the COVID-19 outbreak, may not be sufficient nor effective. Subsequent consequences will have a significantly detrimental impact in various sectors and industries, including severe economical loss.

Even when the health impact of an outbreak is relatively limited, its economic consequences can quickly become magnified.

The more significant consequences will be:

- Collective fear, social distancing or closed schools (already happening in affected countries such as Italy and Japan), enterprises, commercial establishments, transportation, and public services—all of which disrupt economic and other socially valuable activity;
- Interrupted supplies and logistics leading to shortages of food, essential goods and personal protective equipment (there is already a global shortage of masks which might have a significant impact on the spread of the disease);
- The potential collapse of national public health systems due to overcapacity issues and population displacement (current evidence suggest that even sophisticated health systems in developed countries are facing challenges to provide testing and care);
- High direct and indirect medical spending (public and private), an increased health burden and possible increased mortality rate;



- Disrupted productivity/business continuity;
- Reduced levels of consumption affecting national, regional and international economies;
- Significant loss of revenue in the recreation, travel and tourism sectors;
- The decline in private and foreign investor's confidence;
- Financing gaps, worsening the vulnerable situation of low-income countries which are likely to suffer disproportionately, as they may have less robust health care systems and lower financial reserves to protect against financial catastrophe;
- Decreased trade worldwide, trade imbalances, exchange rate movements, and changes in market interest rates;
- The global economic slowdown will be more severe than previously estimated;
- Decreased GDPs globally.

The current COVID-19 has severe impact on a global health and socio-economic level; and it is essential to recognize that this is only one of a number of concurrent outbreaks occurring globally. As an example it should be noted that the Democratic Republic of Congo (DRC) is currently managing Ebola, Measles and Cholera outbreaks; although to date no cases of COVID-19 has been reported in the DRC. If COVID-19 is transmitted to the DRC, it will have an added burden to deal with.

It is not possible to predict when the next major epidemic will happen, which pathogen will cause it, where that epidemic will originate, or what the consequences will be, but outbreaks and epidemics are certain to occur and they are occurring more often, and spreading faster and further than ever, in many different regions of the world imposing significant costs on human life, and the global economy.

To mitigate these risks, it is essential for CAPSCA to enhance its activities with ICAO Member States and existing CAPSCA partners; seek strategic and sustained partnerships with new partners in the private and public sector (e.g. corporations, councils, research organization, foundations, NGO's, possible donors, etc.); and plan sponsorships opportunities with health and aviation industry stakeholders at its regional meetings and global events. This would result in obtaining sustainable solutions, mutually beneficial to ICAO member states, CAPSCA, and its partners; and addressing both short-term and long-term objectives, including making available human and financial resources for implementing the CAPSCA strategy and activities for managing COVID-19.

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Annex A: ICAO CAPSCA strategy and associated activities for managing COVID-19

Annex B: Priority list of low-income states for CAPSCA assistance

Annex C: CAPSCA membership 06/03/2020