SOUTH AFRICAN CIVIL AVIATION AUTHORITY

AVIATION PANDEMIC PREPAREDNESS PLAN
DR.LESEGO BOGATSU:SM AVIATION MEDICAL DEPARTMENT

DATE:18 March 2021

IN PARTNERSHIP WITH:

ICAO

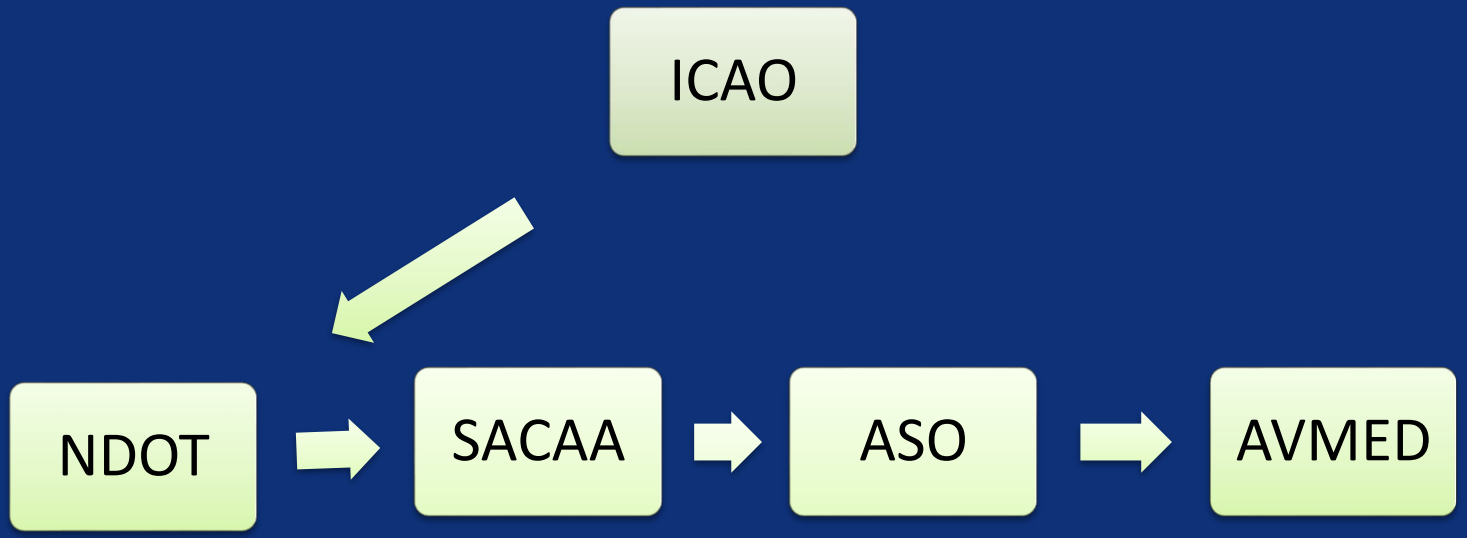
World Health Organization

transport
Department:
Transport
REPUBLIC OF SOUTH AFRICA

health
Department:
Health
REPUBLIC OF SOUTH AFRICA

ICAO/WHO COLLABOARATIVE ARRANGEMENT FOR THE PREVENTION OF PUBLIC HEALTH EVENTS IN CIVIL AVIATION (CAPSCA)

SOUTH AFRICAN CIVIL AVIATION AUTHORITY


ICAO
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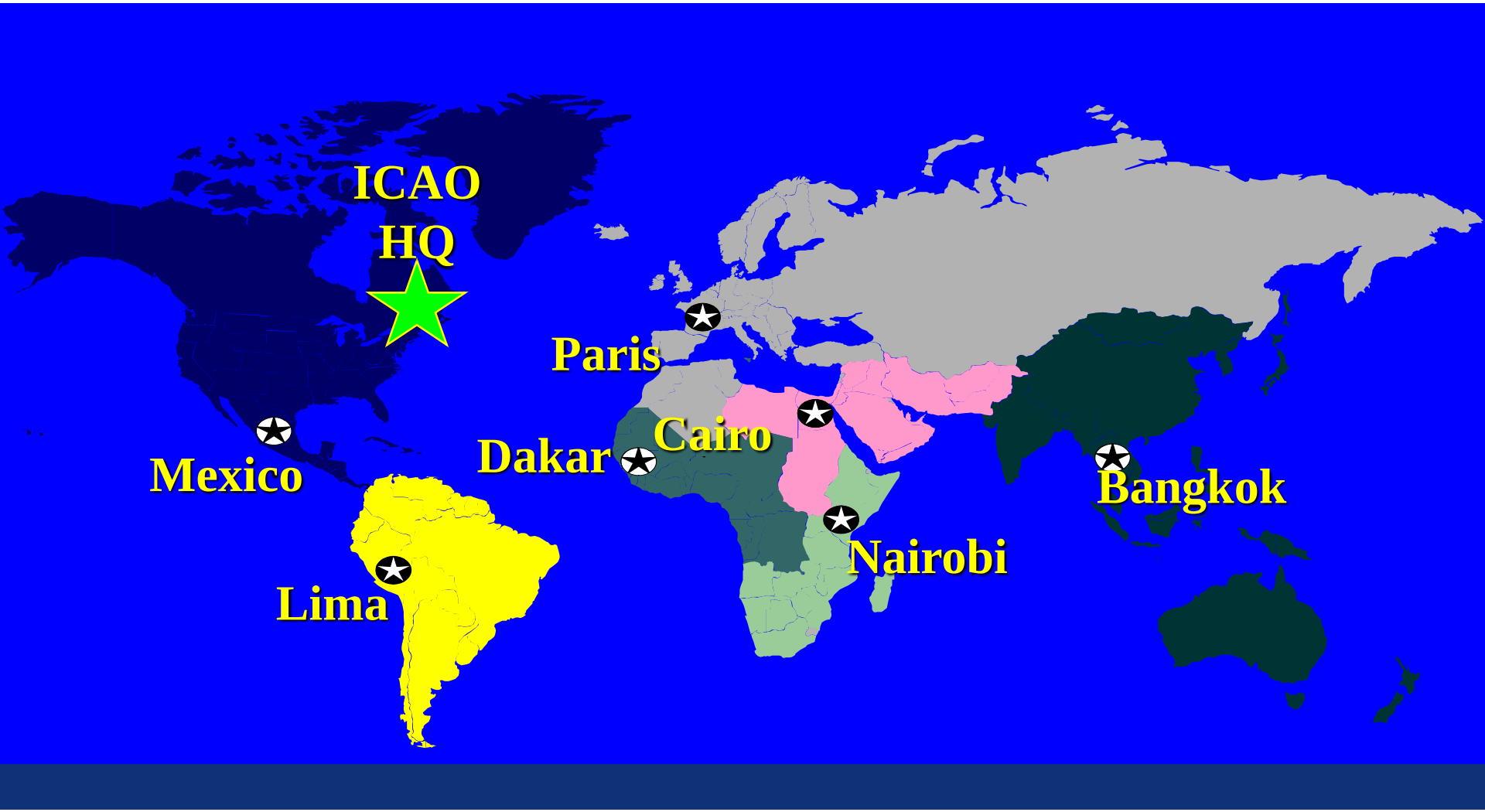
ICAO HQ and Regional Offices



World Health Organization
REGIONAL OFFICE FOR Africa

SPA Sociedade Portuguesa de Anestesiologia

SBA Sociedade Brasileira de Anestesiologia

WFSA

HEALTH EMERGENCIES programme

USOAP CMA: 8-Audit Areas

Aviation: A Pivotal Sector

More than 6 million passengers daily

With Long Range Flights

Able to be at the opposite end of the world in less than 24 hours

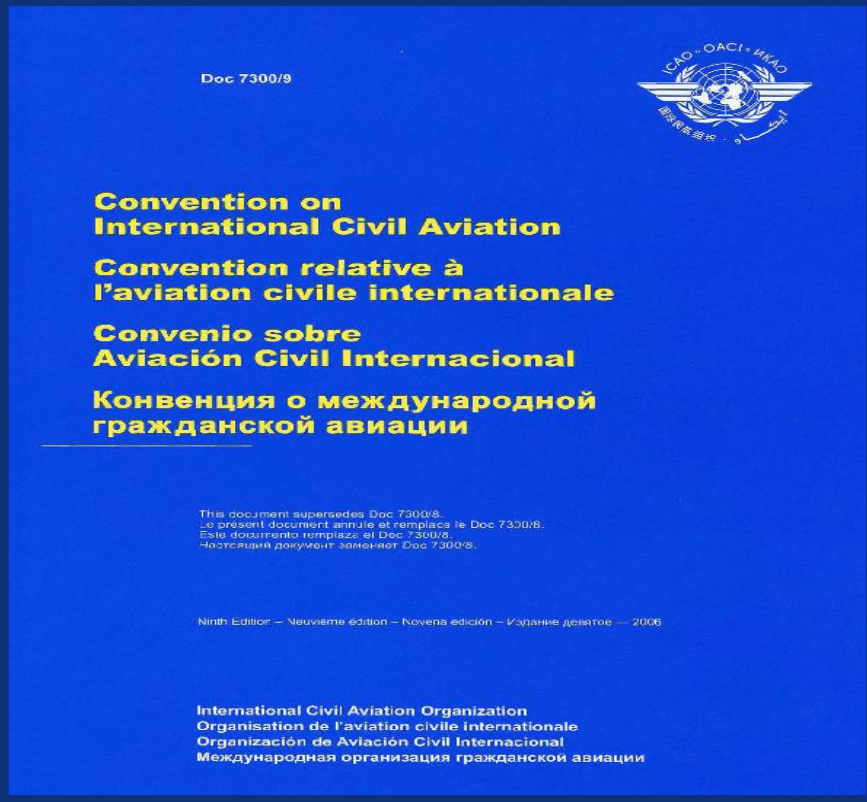
Passenger/s with communicable or other disease can carry it to the opposite end of the world in less than 24 hours

Aviation Sector's response to the threat of a possible pandemic/public health has to be timely, robust, coordinated(nationally & Internationally) and harmonized-CONTANGEON

Basis for Action - health

Article 14, International Convention on Civil Aviation:

'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….



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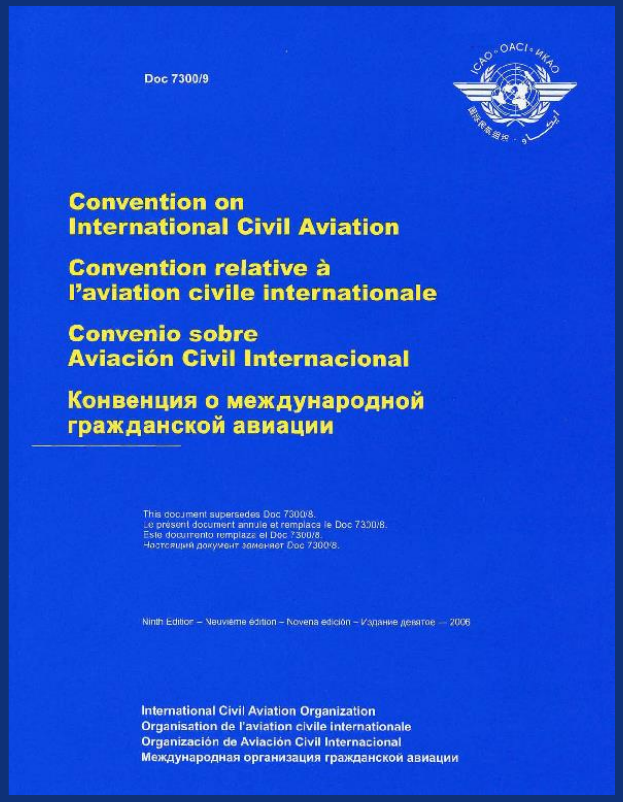
Basis for Action - health

Article 14, International Convention on Civil Aviation:

….and to that end contracting States will keep in close consultation with the agencies concerned with international regulations relating to sanitary measures applicable to aircraft (IHR)



Plans and Procedures for Public Health Emergencies in the Aviation Sector

- **International Health Regulations (IHR) published by WHO**
- **ICAO An. 6, 9, 11, 14,18 & Docs 4444 (PANS-ATM), 9284 (DG) & 18**

•National Public Health Emergency Contingency Plan (PHA)

•National Aviation Regulations with standards related to public health (CAA)

•National Aviation Plan for a Public Health Emergency (CAA)

•Airport (PoE) Public Health Emergency Contingency Plan – PHECP (PHA, CAA & Airport)

Aerodrome Emergency Plan and Aerodrome Manual including public health emergencies

Air Traffic Services (ATS) contingency plan including public health emergencies

ATS Procedures for PIC notification of suspected public health risk on board an aircraft

Aircraft Operators Procedures for mgmt of suspected public health risk on board an aircraft

Business Continuity Management Plans and Procedures for Airports, Airlines & ANSPs

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HEALTH EMERGENCIES programme

ICAO WHO-CAPSCA

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WFSA

HEALTH EMERGENCIES programme

Core capacity requirements at all times (routine)

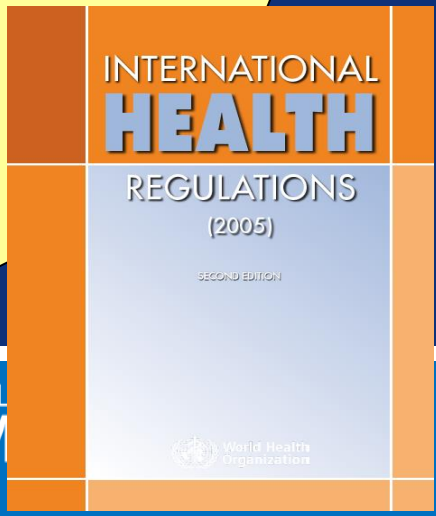
(a) Assessment and Medical care, staff & equipment

(b) Equipment & personnel for transport

(e) Trained staff and programme for vector control

(c) Trained personnel for inspection of conveyances

(d) ensure save environment: water, food, waste, wash rooms & other potential risk areas - inspection programmes



CAPSCA

1. CAPSCA – Asia Pacific

2. CAPSCA – Africa

3. CAPSCA - Americas

4. CAPSCA – Middle East

5. Europe

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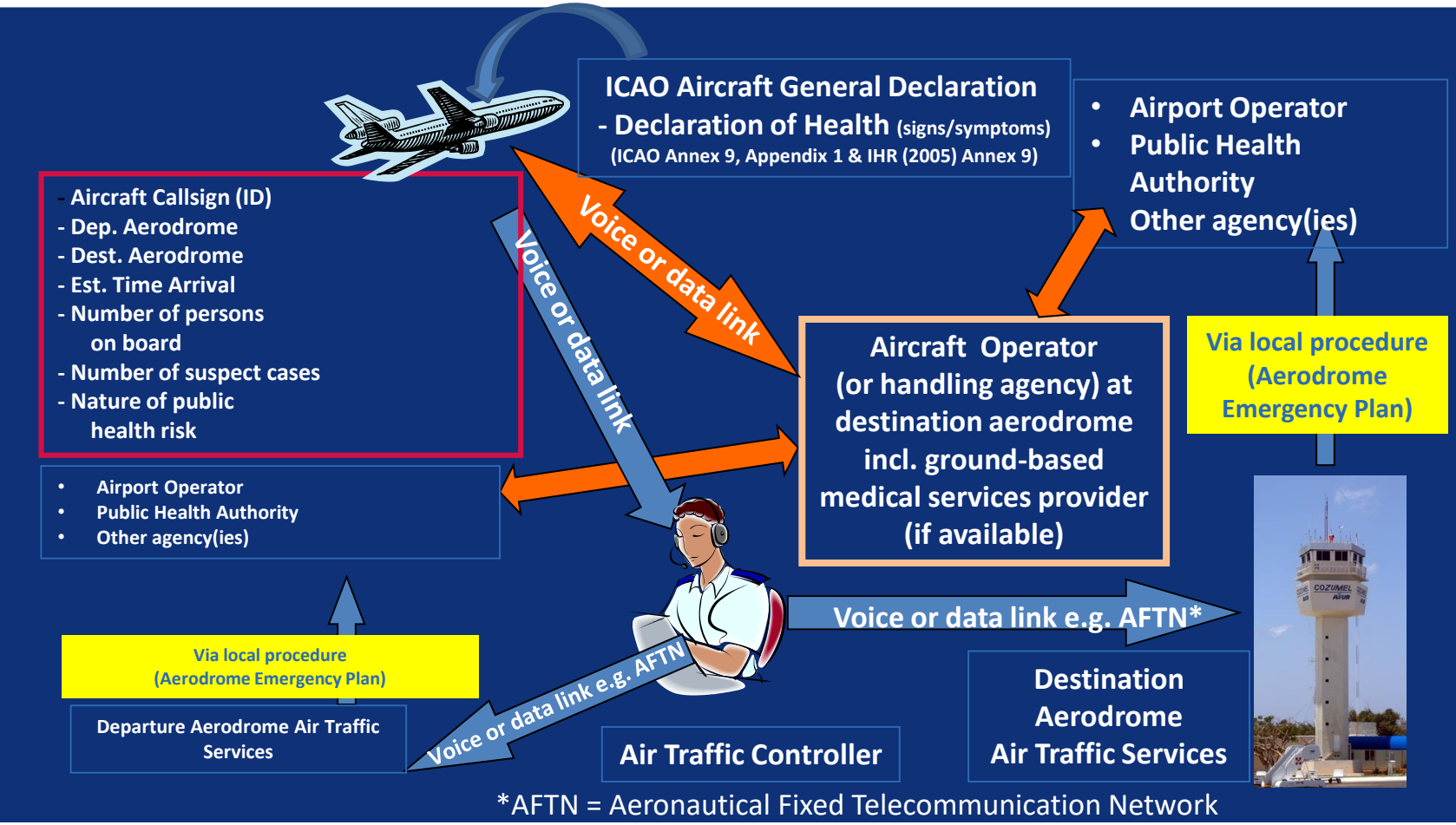
ROLE OF THE CIVIL AVIATION AUTHORITY-ANNEX 11 PANS ATM



*AFTN = Aeronautical Fixed Telecommunication Network

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MULTI-STAKEHOLDER APPROACH

CAPSCA-AIM

Populations

- ❑ Mitigate the risk from pandemic-Nigeria Experience with Patric Swayer

Travelers (passengers and crew)

- ❑ Reduce risk of spread on board aircraft

Commerce

- ❑ Mitigate the financial impact from an outbreak or pandemic, business continuity models.

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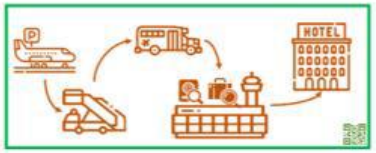
ICAO PUBLIC HEALTH CORRIDOR

SOUTH AFRICAN CIVIL AVIATION AUTHORITY

ICAO

PUBLIC HEALTH CORRIDORS (PHC)

	CLEAN CREW	CLEAN AIRCRAFT	CLEAN AIRPORT FACILITIES	CLEAN PASSENGER	CLEAN CARGO
PUBLIC HEALTH CORRIDOR COVID-19 FREE					
GUIDANCE MATERIAL* 	IFALPA IATA	ICAO EASA IATA ACI AIRPORTS COUNCIL INTERNATIONAL	ACI AIRPORTS COUNCIL INTERNATIONAL IATA ICAO	IATA MOVE	IATA UPU UNIVERSAL POSTAL UNION TIACA
FORMS (STATUS CARD) 		ICAO	ACI AIRPORTS COUNCIL INTERNATIONAL	IATA	TIACA IATA
CERTIFICATION	IATA IOSA	IATA IOSA	IATA ISAGO		

UK CAA – PHC TRAIL PAX & CARGO

*GM: Developed by CART DG2 and coordinated with ANC

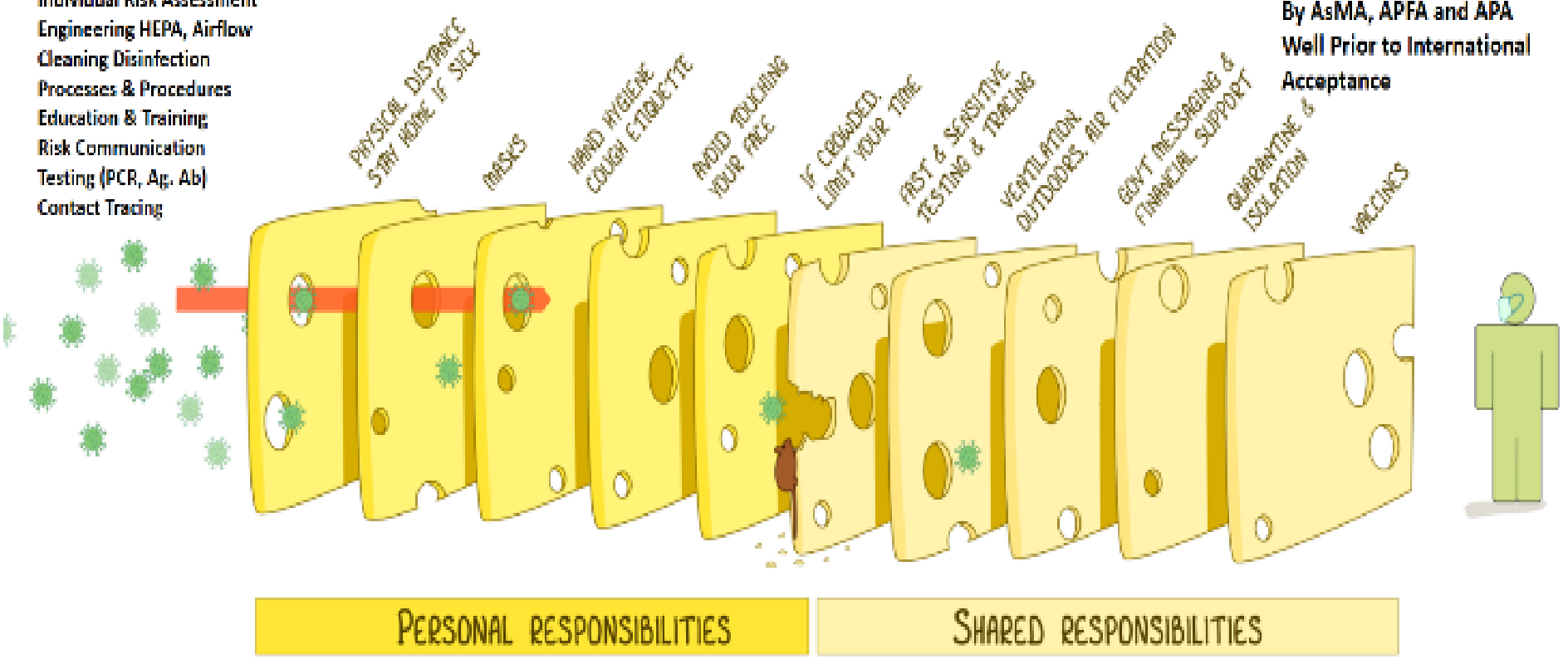
CIVIL AVIATION AUTHORITY

RECOGNISING THAT NO SINGLE INTERVENTION IS PERFECT AT PREVENTING SPREAD

Additional Layers (Risk Mitigation):

- Individual Risk Assessment
- Engineering HEPA, Airflow
- Cleaning Disinfection
- Processes & Procedures
- Education & Training
- Risk Communication
- Testing (PCR, Ag, Ab)
- Contact Tracing

ComAir Masks Championed By AsMA, APFA and APA Well Prior to International Acceptance



EACH INTERVENTION (LAYER) HAS IMPERFECTIONS (HOLES).
MULTIPLE LAYERS IMPROVE SUCCESS.

Ian M. Mackay VirologyDownUnder.com with thanks to Jody Lanard, Katherine Arden and the UoQld, based on Swiss Cheese Model of Accident Causation, by James T. Reason, 1990 Version 3.0 Update 24Oct20. Douglas A. Wiegmann and Scott A. Shappell applied to Aviation Mishaps. ICAO CAPSCA Discussion, ALL EID!

ICAO MULTILAYED APPROACH –WEARING OF MASKS

SOUTH AFRICAN
CIVIL AVIATION AUTHORITY

ICAO /SA MULTILAYER .MEASUERS:WEARING OF MASK IN PUBLIC

COGTA Regulations issued on **17 September 2020** in terms section 27(2) of the Disaster Management Act, 2002:

- "Mandatory protocols when in a public place
- 67. **A person**-(a)must, when in a public place, wear a face mask, except when undertaking vigorous exercise; and
- (b)**may not** be allowed to be in a public place, use **any form of public transport**, or enter a public building, place or premises, if that person is **not wearing a face mask**.

ENFORCEMENT CIVIL AVIATION ACT

Civil Aviation Act, 2009 (Act No. 13 OF 2009),Sec **133**

A person who—

(j) **wilfully** performs **any other act** which jeopardises or **may jeopardise**—

(ii) the **safety** of an airport, heliport, aircraft in service or **of persons** or property at such **airport**, heliport or of such **aircraft**,

- is guilty of an offence and liable on conviction to a fine or to imprisonment.

ENFORCEMENT CIVIL AVIATION ACT

Civil Aviation Act, 2009 (Act No. 13 OF 2009)

- Sec **135** A person who on board any aircraft—
- (c) behaves in a violent manner towards any person including a crewmember which is likely to **endanger the safety** or security of the aircraft or of **any person** on board such aircraft
- is guilty of an offence

ENFORCEMENT CIVIL AVIATION ACT

Civil Aviation Regulations, 2011

185.01.1(1) Any person who commits an offence, or contravenes these Regulations, may be subjected to **administrative** or **criminal action** in terms of this Part.

Civil Aviation Act, 2009 (Act No. 13 of 2009)

"authorised person" means—

Members of the **SAPS**

Persons **appointed** by Airport management (Approved by the Minister)

Members of the **SANDF**

Persons **designated** by the Director of Civil Aviation

Persons **appointed** the Minister

HOW TO SELECT, WEAR, AND CLEAN YOUR MASK

DO choose masks that:

Have two or more layers of washable, breathable fabric

Completely cover your nose and mouth

Fit snugly against the sides of your face and don't have gaps

DO NOT choose masks that:

Are made of fabric that makes it hard to breathe, for example, vinyl

Have exhalation valves or vents, which allow virus particles to escape

Are intended for healthcare workers, including N95 respirators or other occupational settings

Gaiters & Face Shields

Wear a gaiter with two layers, or fold it to make two layers

CAUTION: Evaluation is ongoing but effectiveness is unknown at this time

Special Situations: Glasses

If you wear glasses, find a mask that fits closely over your nose or one that has a nose wire to limit fogging

Special Situations: Children

If you are able, find a mask that is made for children

If you can't find a mask made for children, check to be sure the mask fits snugly over the nose and mouth and under the chin

Do NOT put on children younger than 2 years old or the age specified by your national public health authority

Based on Source: *https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html*

ICAO

SOUTH AFRICAN CIVIL AVIATION AUTHORITY

Masks

- Directive Minister indicate that children under 5 exempted from wearing a mask, differ country to country
- Passengers with underlying conditions (example Autism) can be exempted-present a medical practitioner letter
- Single layer mask or bandana are not recommended as there is minimal to no protection offered and a two-layer mask / facial covering
- Must ensure that both mouth and nose are covered & well fitted snugly over the nose and under the chin without exhalation valves
- Medical face masks must be prioritized for use as personal protective equipment by healthcare workers :
- **Symptomatic persons suspected of being infected with COVID-19.**
- **Persons who are 60 years or older**
- **People with underlying chronic diseases such as heart disease, diabetes, chronic lung disease, cancer or a suppressed immune system.**
- **Special attention needs to be given to the management of unruly or disruptive passengers**
- ***Face shields: Provide barrier protection to the facial area and related mucous membranes (eyes, nose, lips) and are considered an alternative to goggles and face shields are not meant to function as primary respiratory protection and should be used concurrently with a medical mask***

FACE COVERINGS AND MEDICAL MASKS

COVERING/MASK	Efficiency at filtering Large Droplets	Efficiency at filtering Aerosols	Use in Aviation
 *N95 Mask*	99.9%	95%	Not routinely recommended. For use in healthcare and other occupational settings.
 *Surgical Mask*	98.5%	89.5%	Recommended
 *Two-layer Cotton Mask*	99.5%	82%	Recommended if 2 or more layers
 *Tea Towel or Dishcloth*	98%	72.5%	Not Recommended
 *100% Cotton T-shirt*	97%	51%	Not Recommended
 *Silk or Lace*	56%	54%	Not Recommended
 *Scarf or Bandana*	44%	49%	Not Recommended
 *Mask with Built-in Valve or Vent*	90%	90%	Not allowed due to risk of transmitting the virus

Based on Source: *Democritus University of Thrace; Duke University; Journal of Hospital Infection; Public Health England; University of Chicago; University of Illinois at Urbana-Champaign*

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ICAO MULTILAYED APPROACH-EDUCATION

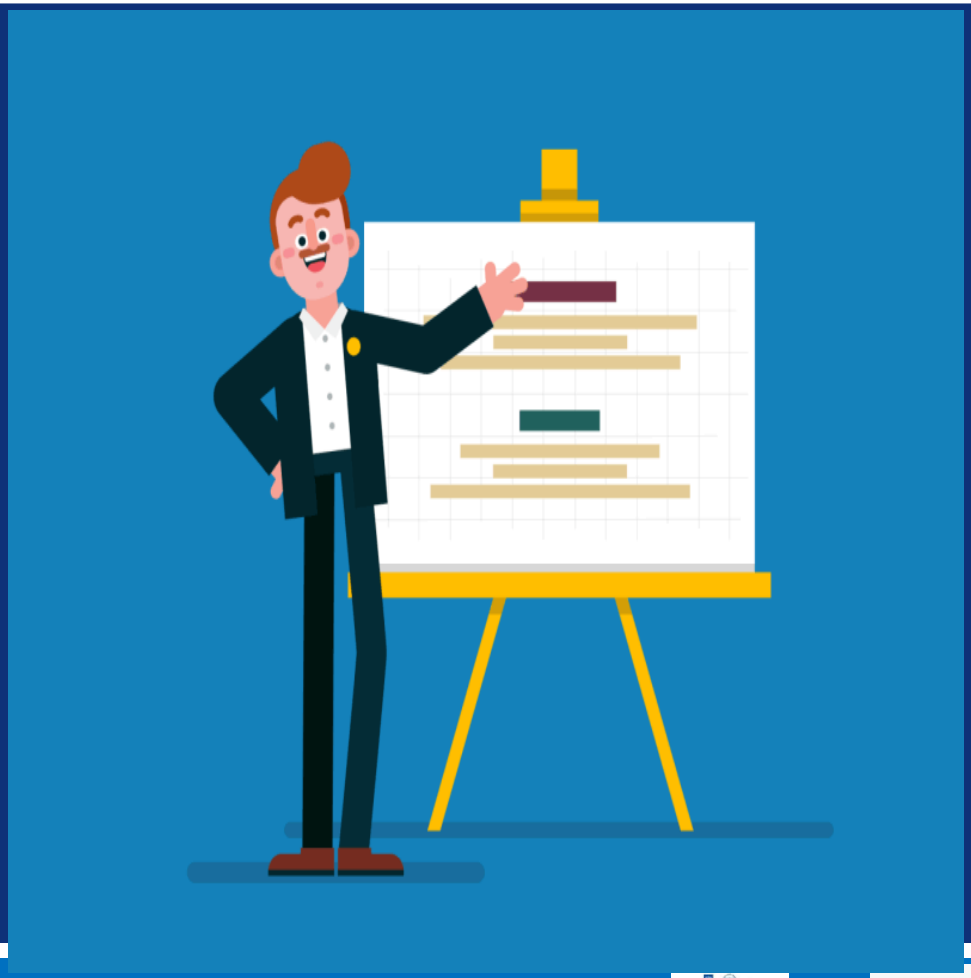
SOUTH AFRICAN
CIVIL AVIATION AUTHORITY

PASSENGER EDUCATION & INFORMATION SHARING

- Awareness Workshops
- Social Media
- Radio
- TV & Print
- Public Health Measures-Screening , Testing,Enforcement of wearing Mask & others
- CAA,DOH & AVIATION INDUSTRY
- Enforcement

ICAO MULTILAYED:SCREENING

SCREENING:



The **presumptive** identification of **unrecognized disease** in an **apparently healthy**, asymptomatic population by means of tests, examinations or other procedures that can be applied **rapidly and easily** to the target population

https://www.who.int/cancer/prevention/diagnosis-screening/screening/en/

WHO ENTRY & EXIT SCREENING REQUIREMENTS

It is essential to implement public health measures (entry and exit screening) at airports within the context of the IHR.

States must base their determination on the application of Public Health Measures (screening on) :

- Scientific principles
- Shall not be restrictive in terms of international travel
- Not invasive or intrusive (thermal scanners)

WHO ENTRY, EXIT & ENTRY REQUIREMENTS

- Currently no standardised procedures for health screening at airports
- States make individual regional decisions
- Member states are legally obligated to follow the IHR
- No formal penalty for failure to implement exit or entrance screening

SCREENING FOR COVID-19

- Airport authority, in consultation with the Health Authority, where necessary, must ensure that entry and exit screening is in place in line with WHO guidelines
- In line with PHO recommendations, arriving and departing passengers should have thei body temperatures tested
- Procedure to manage potential cases detected on screening
- Appropriate Isolation/Quarantine Facilities should be available at airport

SCREENING FOR COVID 19

- Airports personnel should be trained on ways to identify symptoms and signs of suspected cases of COVID-19.

- Primary screening includes:
  - Visual Screening;
  - Brief History-Taking
  - Temperature Measurement
  - Perusal of Health Declaration Forms

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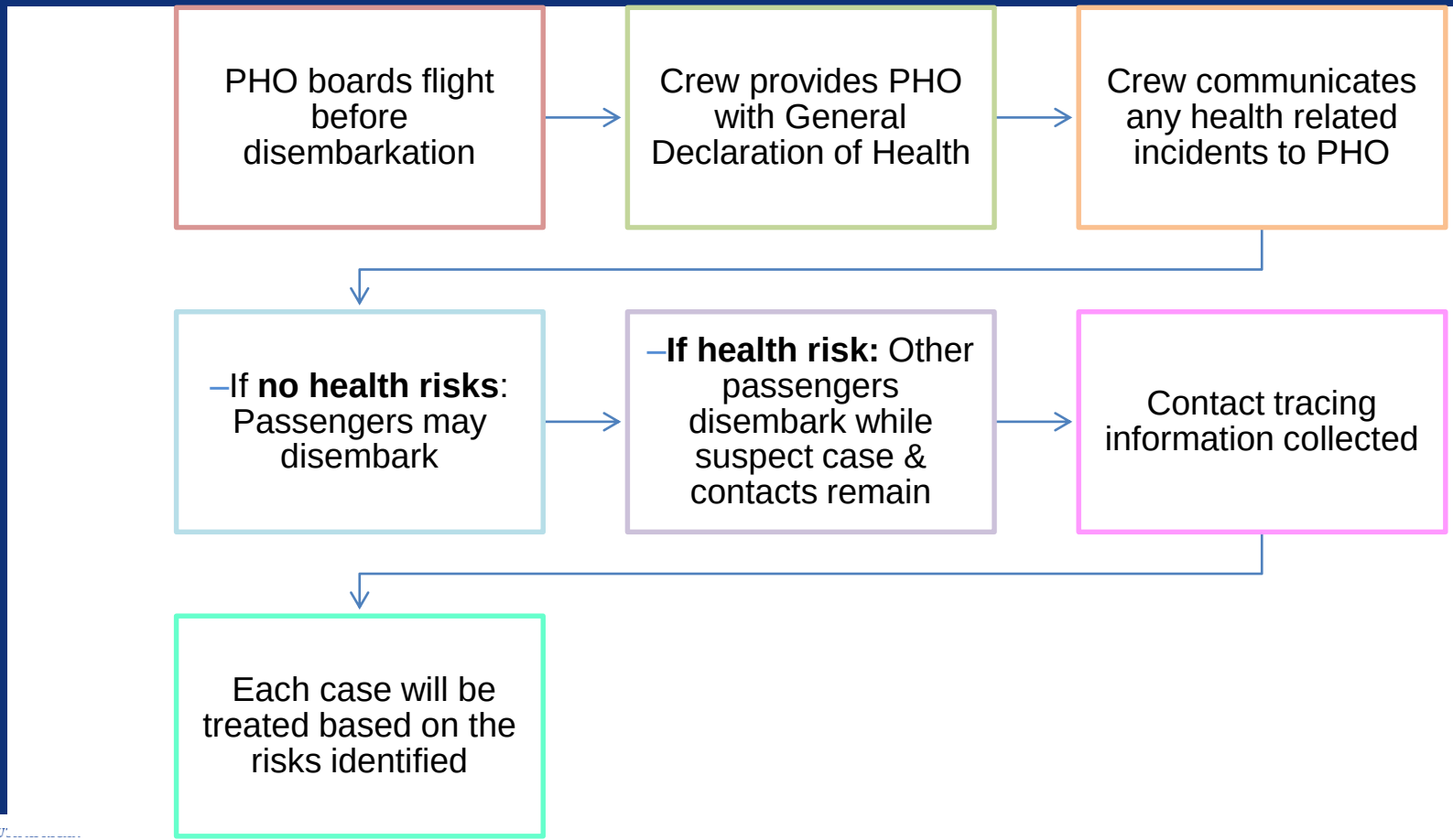
SCREENING AT OR TAMBO

Port health screening on all international flights and added measures in response to the recently declared PHEIC, the 2019 novel coronavirus



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LIMITATION OF SCREENING MEASURES

- None is 100% specific & sensitive
- Passengers can take Panadol
- Passengers may not tell the truth
- Passengers may not be symptomatic
- Equipment needs calibration
- Multi-Layered Screening by –Airport/Airline Staff
- Scope of Practice-Primary vs Secondary Screening
- Skin vs Core Temperature

Passive Screening –Passenger Agents

- Even though passenger agents have no medical expertise
- Not expected to make medical diagnosis, they can help to prevent in-flight medical emergencies by simply looking, listening and asking simple questions.
- Observed & hear suspicious info suggestive
- You should call your supervisor
- If your supervisor shares your concern and if medical support is available (own medical department or outside designated physician or medical ground provider)
- Medical support is not immediately available, you should deny boarding and ask the traveler to obtain medical clearance

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ICAO MULTILAYED:SOCIAL DISTANING AIRPORTS

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FACTORS THAT AFFECT PROBABILITY OF DISEASE TRANSMISSION AT AIRPORTS-RISK ASSESMENT

Possible routes of infection

- Before boarding the aircraft
- En-route to the airport by public transport
- In line at the check-in counter
- Waiting in the gate area
- Access to the aircraft via “jet ways” or transport to the aircraft by bus
- Other crowded and confined spaces

SOCIAL DISTANCING AIRPORTS

between persons in the terminal building

SOCIAL DISTANCING AIRPORTS

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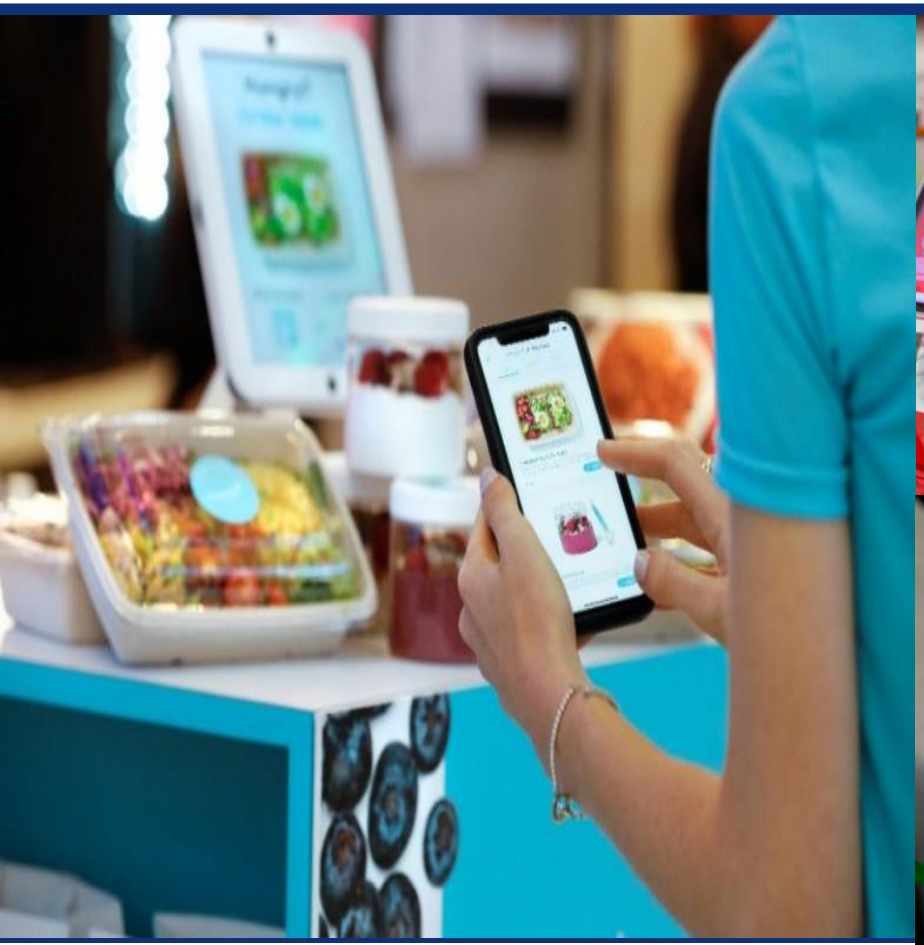
SOCIAL DISTANCING AIRPORTS



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CHALLENGES OF SOCIAL DISTANCING

- Aircraft Booked –Closer
- Overcrowding at airports
- Consultation with industry taking place

ICAO MULTILAYED:INFECTION CONTROL MEASURES

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INFECTION CONTROL

- Hand sanitiser should be made available before and after passenger touchpoints and at strategic locations
- Ensure that facilities are available for handwashing.
- increased frequency of cleaning and disinfection activities, including commonly touched surfaces
- Hazardous waste bins for disposal of tissues and Personal Protective Equipment (PPE)
- management of air-conditioning systems and natural ventilation control in public places such as terminals is

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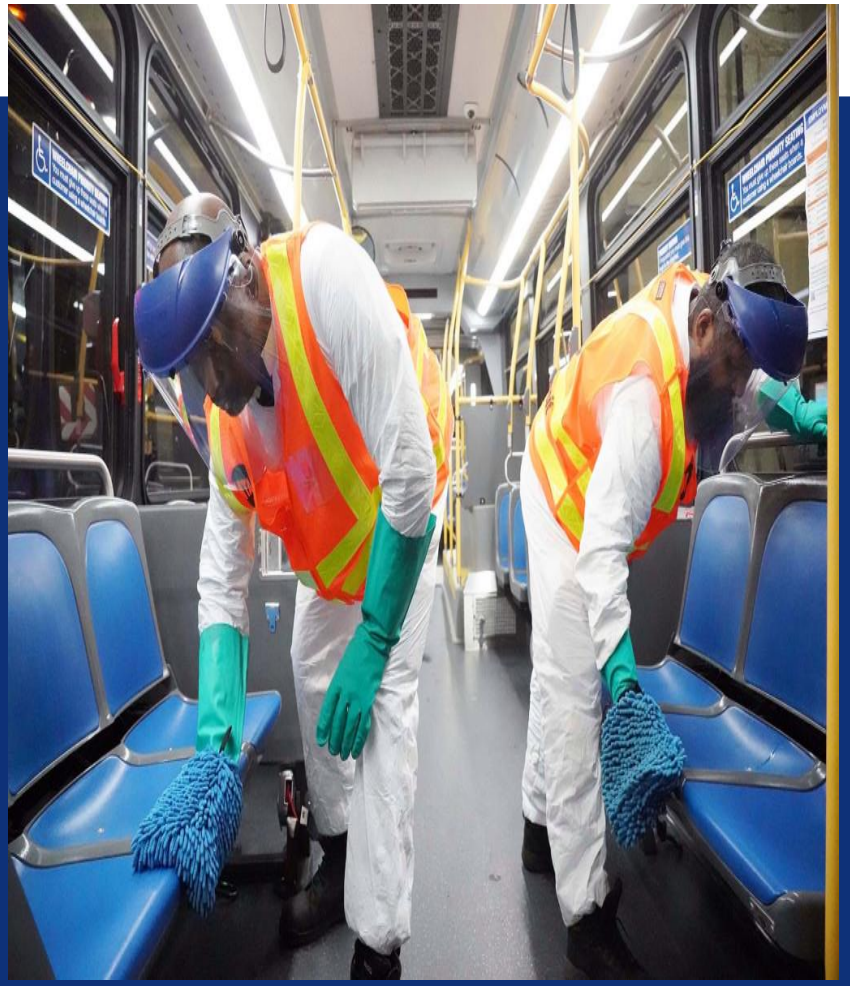
FACILITIES



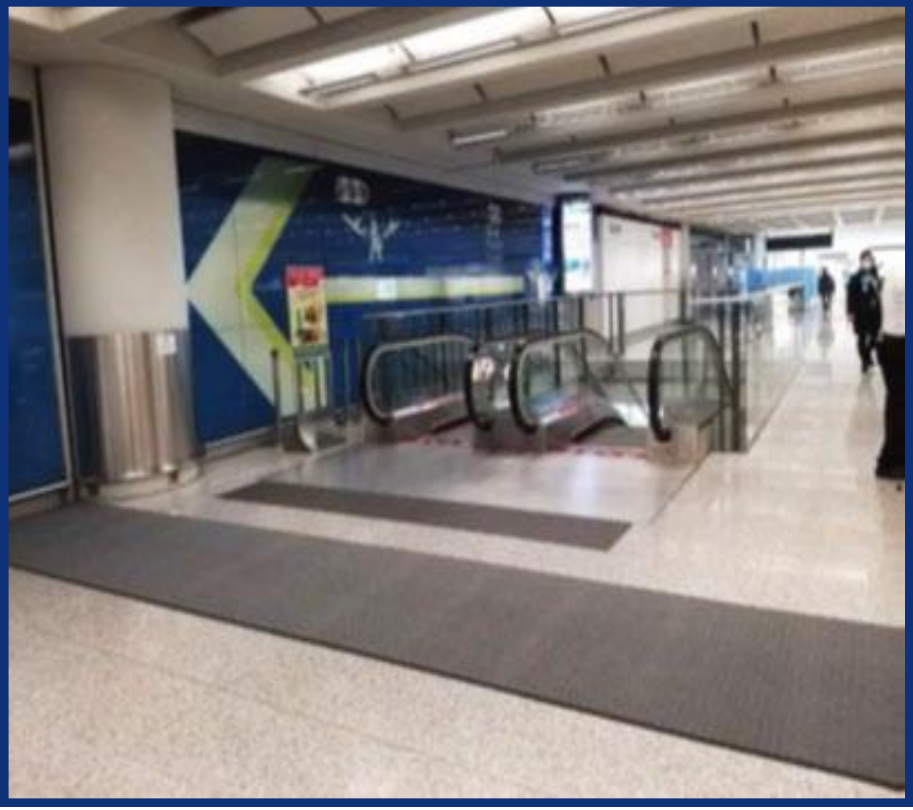
- analyse gate utilisation and ensure most efficient use of gating, enabling sections to be closed to reduce maintenance and resources
- buses used for embarkation and disembarkation of passengers utilise a maximum of 70% of the allowable load and are disinfected after off-loading
- ensure that critical rest rooms and facilities are identified to enable cleaning and maintenance resources to be scheduled accordingly
- Restrict access to optional or high-risk items such as massage chairs, water fountains, children play areas or multipurpose spaces.
- Only travellers in airport buildings

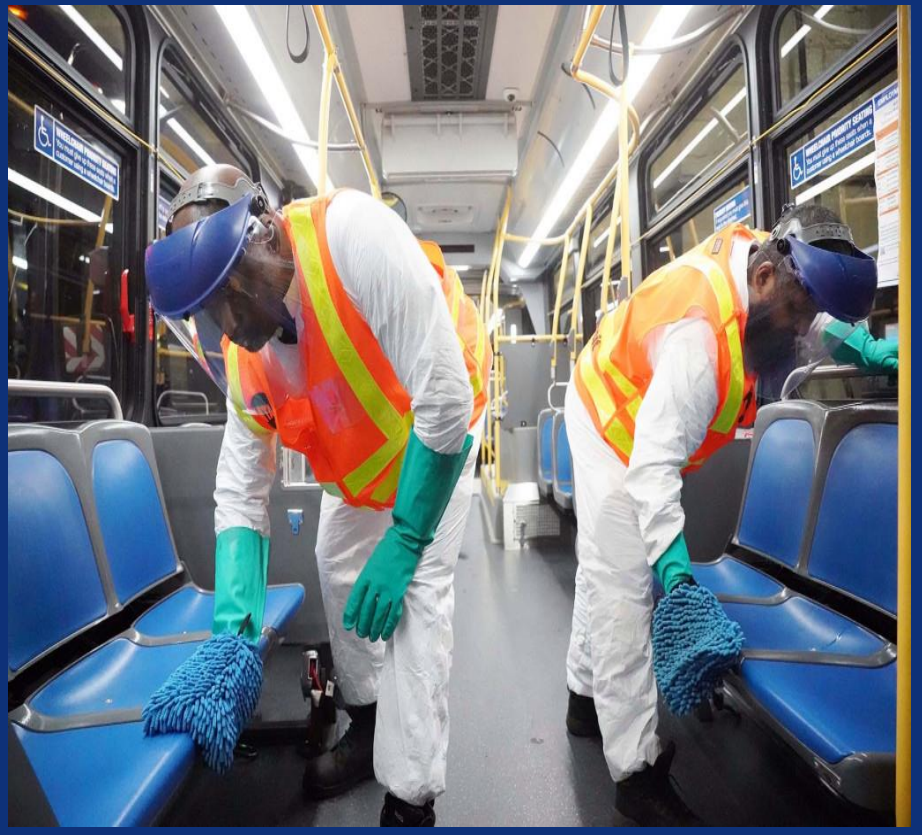
INFECTION CONTROL MEASUERS

CIVIL AVIATION AUTHORITY

INFECTION CONTROL MEASURES

Disinfection Touched Surfaces





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ICAO MULTILAYED:ON-BOARD MEASURES

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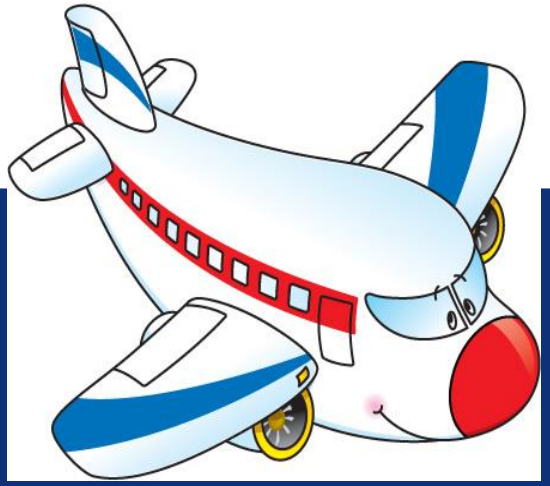
AIRLINE CONSIDERATIONS IN PREPERATION FOR OPERATIONS



- Routes operated
- Risk Assessment (low, medium, high risk)
- Health Authority restrictions at point of departure and destination
- Crew health/Quarantine restrictions at point of arrival
- Hotel availability, meals, Crew transport arrangements
- Safety of inflight services
- Health authority requirements of PPE for Crew, availability and associated procedures for its use and disposal.

IATA RISK ASSESMENT CRITERIA

Risk assessment of Routes

- **Operators may need to consider classifying each route for the level of risk of exposure to Covid-19**
- **In order to determine whether additional mitigations are required in relation to services, policies or procedures**
- **The risk levels will change frequently according to the rate of local transmission**

Example Risk Scoring Criteria

1) Local transmission

a) 0 > 50 Score = **1**

b) 51 > 100 Score = **2**

c) > 100 Score = **3**

2) Booked passenger load (%)

a) 0 > 4 Score = **1**

b) > 4 Score = **2**

Example Risk Scoring Criteria

Length of the Flight

a) 0 > 60% Score = **1**

b) 61 > 80% Score = **2**

c) > 80% Score = **3**

Risk Score

- Low Risk =3-4
- Medium Risk=5-6
- High Risk =7-8

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HEALTH EMERGENCIES programme

- Effectiveness of exposure
- Proximity to index case
- Infection-specific features
- Virulence (severity of illness)
- Aircraft Configuration
- Public Health Interventions-Exit Screening in the Affected Area

Auburn researchers say harmful bacteria can survive for a week inside airliner cabins

Disease-causing bacteria can linger on surfaces in commercial airplane cabins for up to a week, according to an Auburn University study presented this week at the annual meeting of the American Society for Microbiology.

Kiril Vaglenov, a graduate student in Auburn's Department of Biological Sciences, conducted a two-year study—funded through the Federal Aviation Administration's Airliner Cabin Environmental Research Center—to determine how long E. coli O157:H7 and methicillin-resistant Staphylococcus aureus, or MRSA, would survive on commonly touched surfaces under typical airplane conditions. A major airline carrier supplied researchers with material from armrests, plastic tray tables, seat-pocket cloth, window shades and metal toilet buttons.

"Our data show that both of these bacteria can survive for days on these surfaces, particularly the porous material such as armrests and seat-pockets," said Vaglenov. "Air travelers should be aware of the risk of catching or spreading a disease to other passengers and practice good personal hygiene."

Share This Story

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Related Links

» College of Sciences and Mathematics
» American Society for Microbiology

Current News

Auburn's Aquaponics 101 workshop will give teachers new way to bring science into the classroom
5/30/2014

Auburn University opens unique, world-class plasma physics research laboratory today
5/29/2014

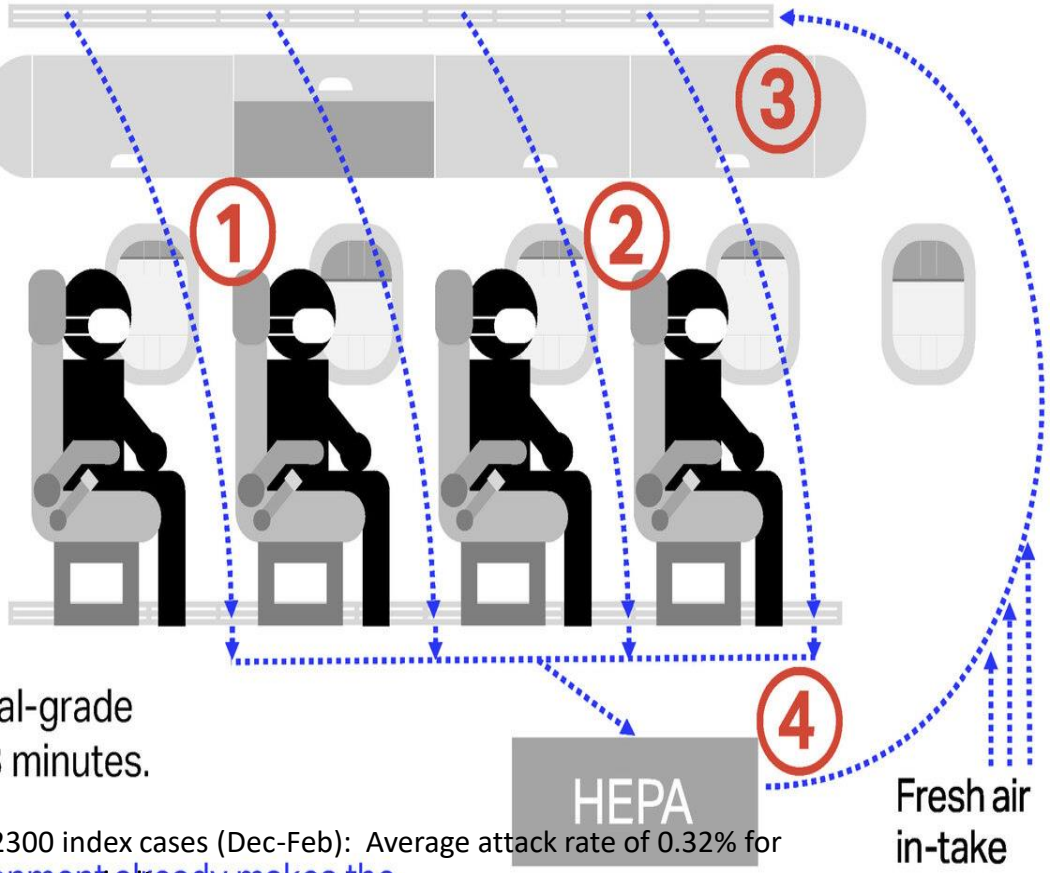
Factors **lowering the risk of COVID-19 transmission** onboard aircraft

1. Seats and passengers face forward meaning limited face-to-face interactions.

2. Seat backs act as a solid barrier.

3. Research to date suggests airflow exchange rates and direction are less conducive to droplet spread than other indoor environments, or modes of transport.

4. Modern jet airliners deliver high air flow and replacement rates, combined with hospital-grade HEPA filters. Cabin air is exchanged every 2-3 minutes.

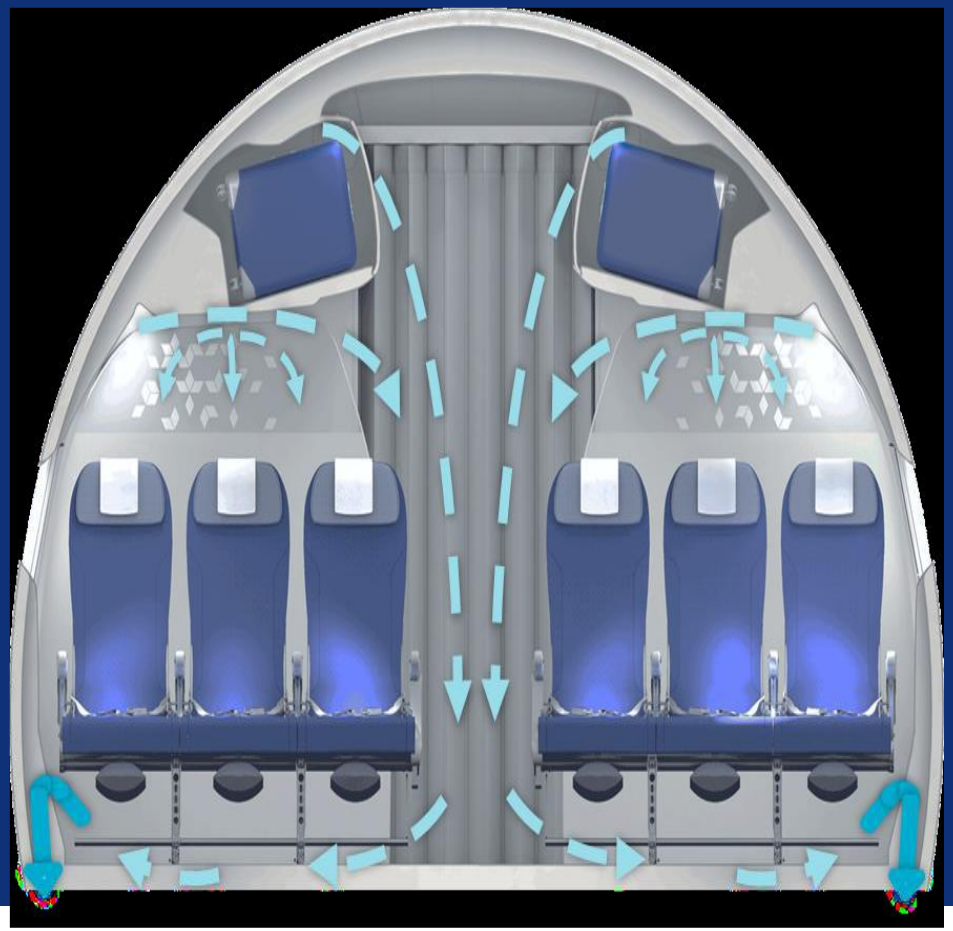


Comparison: high speed trains in China, looking at over 2300 index cases (Dec-Feb): Average attack rate of 0.32% for close contacts (within 3 rows), with greater risk from closer proximity.

Unlike other modes of transport the cabin environment already makes the transmission of viruses difficult and we have seen little evidence of onboard transmission.

IATA

- Cabin air is fully renewed every 2-3 min
- Constant injection of fresh air Hospital-grade filters
- Hospital-grade filters remove > 99.9 % of particles Optimised
- Optimised top-to-bottom flows limit air mixing between rows
- Back of the seats acting as additional barriers



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ICAO/SA MULTILAYER INFECTION MEASUERS AVIATION

CIVIL AVIATION AUTHORITY

INFECTION CONTROL MEASURES

CABIN ENVIRONMENT MANAGEMENT

- CC social distancing 1 -2 meters).
- Limited contact with passengers' & belongings, as far as practicable
- CC designated to sections of the aircraft
- Minimise all non-essential (Pre-packaged food services & bottled water)
- CC manage lines during entry & exit into the aircraft
- Last three rows of seats reserved
- On-board management procedure of suspected case

SOCIAL DISTANCING & INFECTION CONTROL

- Social distancing is a challenge as most aircrafts are full
- Passengers are required to wear a face mask throughout the journey
- Air operators are to carry out frequent disinfection (sanitising) of the aircraft
- Compliance with Dangerous Goods requirements
- Training of cabin crew and other personnel on infection control measures

SAFETY DEMONSTRATION

Safety Demonstration

- Manual safety demonstration equipment should be sanitized before and after each use.
- It is recommended that procedures be reviewed to ensure that cabin crew are not required to place demonstration equipment such as oxygen masks and life vest mouthpieces to their mouth and nose.
- Video Demonstrations
- When demonstrating the use of oxygen masks, passengers should be reminded that protective facial masks if worn, should be removed

SOUTH AFRICAN
CIVIL AVIATION AUTHORITY

UNIVERSAL PRECAUTION KIT

- Dry powder that can convert small liquid spill into a granulated gel
- Germicidal disinfectant for surface cleaning
- Skin wipes
- Face or eye mask (separate or combined);
- Gloves (disposable)
- Impermeable full-length long-sleeved gown that fastens at the back
- Large absorbent towel;
- Pick-up scoop with scraper;
- Bio-hazard disposal waste bag; and instructions
- Non-Mercury Thermometer

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AUTHORITY

FIRST AID KITS/ UNIVERSAL PRECAUTION KITS

First-aid and universal precaution kits should be distributed as evenly as practicable throughout the passenger cabins. They **should be readily accessible to cabin crew members.**

First Aid Kits	Universal precaution kit	Medical kit
• 0 –100 = 1 • 101 – 200 = 2 • 201 – 300 = 3 • 301 – 400 = 4 • 401 – 500 = 5 • More than 500 = 6	• 1 – 100 = 1 •101 – 200 = 2 • Additional kit(s) should be made available at times of increased public health risk	• Equipment • Medication

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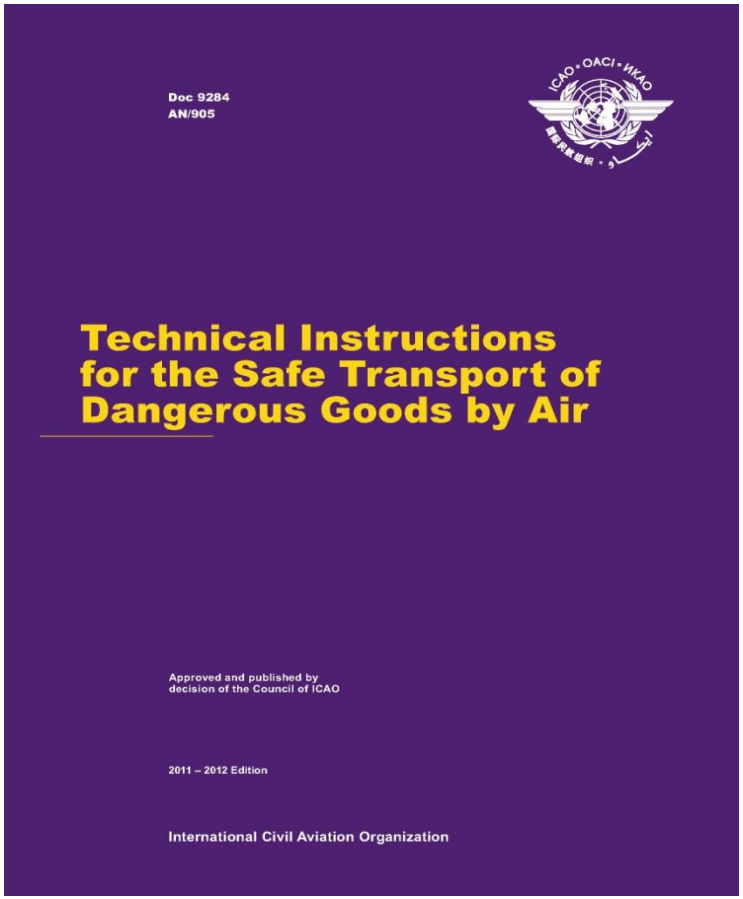
BOARDING AND DISEMBARKATION

Boarding	Disembarkation
- Cabin crew positions during boarding may need to be altered - Board smaller groups of passengers in order to increase space between them while they store carry-on baggage and take their seats. - Airlines who do not have pre-assigned seating should ensure cabin crew monitor passengers' seat choices during boarding. - So that passengers are spread throughout the cabin as necessary - If Passenger load and any weight/balance limitations allow, passengers may be encouraged to move to empty seats to increase physical distance between them.	- During disembarkation, cabin crew may be required to limit the number of passengers standing to retrieve personal belongings - Manage the number of passengers disembarking simultaneously - This will ensure physical distancing is possible while on steps/airbridges.

SANITIZERS & DANGEROUS GOODS REQUIREMENTS (IATA)

Airlines wishing to add alcohol-based hand sanitizer to the items carried in galleys or installed in lavatories:

- Request authorization from their civil aviation authority in line with Part 1.2.2.1 a) of the ICAO Technical Instructions
- Quantity of hand sanitizer in each container
- Number of containers to be carried on the aircraft
- Steps taken to ensure that the hand sanitizer is kept away from sources of heat or ignition
- Procedure for crew about placement of hand sanitizers, such as away from heat sources /inflight entertainment system and others



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CREW

Precautions for Crew During Layover High Risk Areas	Crew infected with Covid-19
- Crew Transportation arrangements which separate crew members from public. - Avoidance of public transport - Avoidance of public places and confinement to hotel room (isolation) - Wearing of masks between airport and hotel and when leaving hotel rooms - Consumption of room service	- Crew with symptoms or positive must be relieved from duties - Additional health restrictions may apply for repatriation of cabin crew members who become infected while on Duty including quarantine and/or reporting infection - Cabin crew recovered from Covid-19- may experience a loss of smell and/or taste (anosmia) - Ability to identify unusual smells within the cabin such as leakage of dangerous goods/chemicals and overheating/burning

CREW

CREW COVID-19 STATUS CARD

Information required for State health officials to be confident that crew members have taken reasonable precautions to ensure they are COVID-19 virus free.

1. **Have you been in contact* with a person with probable or confirmed COVID-19 during the 2 days before or 14 days after that person had the onset of symptoms?**

   WHO definition of contact
   1. Face-to-face contact within 1 meter and for more than 15 minutes;
   2. Direct physical contact with a probable or confirmed case;
   3. Direct care for a patient with probable or confirmed COVID-19 disease without using proper personal protective equipment; or
   4. Other situations as indicated by local risk assessments.

   Yes ☐ No ☐

2. **Have you had any of the following symptoms during the past 14 days:**

Fever	Yes ☐ No ☐
Coughing	Yes ☐ No ☐
Breathing difficulties	Yes ☐ No ☐

3. **Temperature at duty start:** Date: _____ Time: _____

   Temperature in degrees C° ☐ / F° ☐ : _____
   Airport ICAO code : _____
   Recording method : Mouth ☐ Forehead ☐ Ear ☐

4. **Have you had a COVID-19 test?**

   Yes ☐ No ☐

   If yes,
   Date of test (dd/mm/yyyy) : _____
   Type of test : Viral RNA ☐ Antibody ☐
   Result of Viral RNA test : Negative ☐ Positive ☐
   Result of Antibody test : Negative ☐ Positive IgM ☐ Positive IgG ☐
   Please attach report if available

5. **Comments**

6. **Crew member Identification**
   Name:
   Nationality and Passport No:
   Signature:

Crew Responsibilities

- General hygiene/cleanliness
- Report to superiors when:
  - not feeling well
  - Close contacts with COVID
  - tested positive for COVID
- Seek medical advice – symptomatic
- Self isolate
- Medical clearance and control of chronic conditions

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Studies on Transmission of COVID-19 on board

- The absence of large numbers of confirmed and published in-flight transmissions of SARS-CoV-2 is encouraging
- But is not definitive evidence that fliers are safe
- Airbus, Boeing & Other Manufactures have conducted Studies that indicate that the risk is loa

ICAO MULTILAYED:DISINFECTION OF THE AIRCRAFT

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ICAO CART – DISINFECTION

- Provide a safe, sanitary operating environment for crew and ground staff
- Frequency of cleaning of the flight deck should account for the separation of the flight deck from the passenger compartment as well as for the frequency of crew transitions.
- The flight deck should be cleaned and disinfected at an appropriate frequency to accommodate safe operations for the crew.

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IATA – DISINFECTION OF FLIGHT DECK

armrests, table and seat controls

- Seatbelt buckles & flight controls (control column etc.)
- Sidewalls lining and associated controls (nose wheel steering tiller, display controls, electronic flight bag etc
- Instrument panel and associated controls (gear lever etc.)
- glareshield and associated controls (autopilot, warning/caution buttons etc
- Overhead panel including grips and handles

ICAO CART – DISINFECTION

- Do not allow the liquid to pool or drip into the equipment.
- IPA is flammable, so precautions should be taken around potential sources of ignition.
- Because the frequency of disinfection has significantly increased due to COVID-19
- There is no data on the long-term effects associated with this frequent application, long term effects should be monitored by the operator.
- If damage is observed, contact the OEM for guidance on alternate disinfectants

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DISINFECTION - GALLEYS

- Clean ovens
- coffee makers
- waste compactors
- containers and trolley storage
- collapsible trolleys
- Drain and disinfect sinks, including taps and drain plug

SOUTH AFRICAN CIVIL AVIATION AUTHORITY

ICAO CART – DISINFECTION

- Airframe manufacturers recommend the use of a 70% aqueous solution of Isopropyl Alcohol (IPA) As a disinfectant for the flight deck touch surfaces

- The OEM's instructions should be referred to ensure that the proper application, ventilation and personal protection equipment is used.

- Appropriate health organizations should be referred to for instruction on application to be effective against viruses

- Do not spray IPA in the flight deck, pre-moistened wipes or single use wetted cloth and use limited bottle sizes on board to minimize the risk of spilling the IPA solution

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DISINFECTION - LAVATORY

- Mirrors using authorized glass cleaners
- Functional and re-filled with liquid soap
- Hand basin, handles and steel filings
- door lock, knobs/lever, grip and door grilles and coat hook
- Clean flushing mechanism
- Disposable gowns should be worn while cleaning the cabin and lavatories

CIVIL AVIATION AUTHORITY

DISINFECTION - PASSENGER SEATING AREA

- Arm rests, TV screens and passenger control units
- Disinfect magazine racks
- Waste in seat pockets, then clean and disinfect
- Cabin window, window shade, dimmable window controls
- Floors/carpets before cleaning
- Headcovers and pillow covers from seats

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PCR ON BOARD & CABIN CREW PROTECTION

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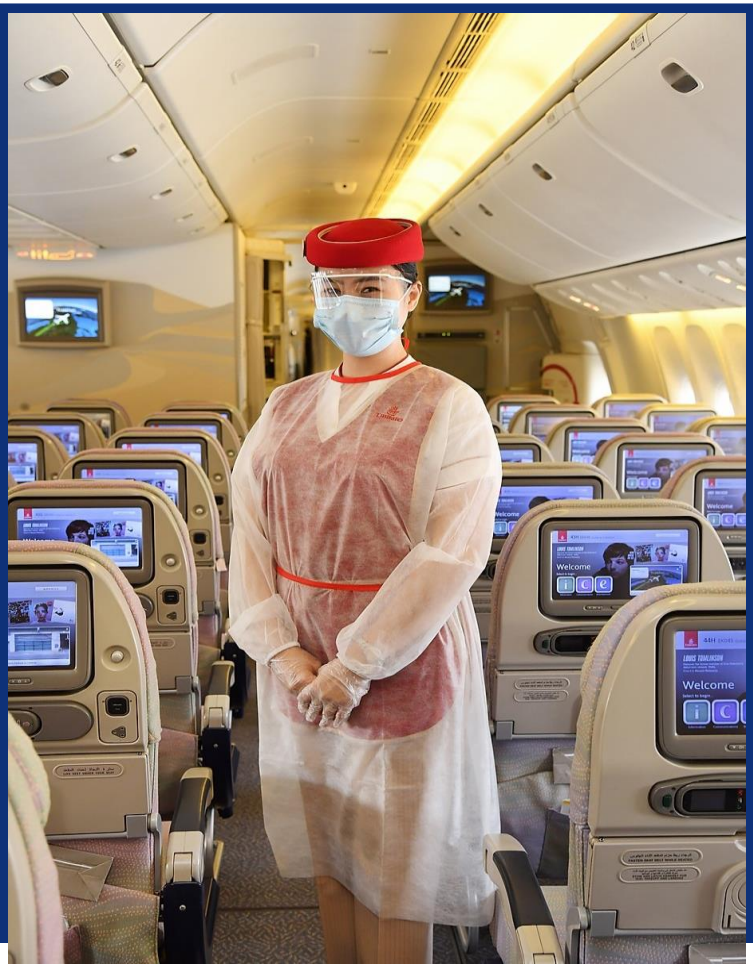
CIVIL AVIATION AUTHORITY

CARDIO PULMONARY RESUSCITATION ON BOARD & CABIN CREW PROTECTION

- Aerosol-generating procedures, or the production of viral particles into the air
- Chest compression immediately following defibrillation
- Chest compression alone does not cause much aerolization
- Face Shields-Mucus Membranes-Services Provided



CIVIL AVIATION AUTHORITY

PSYCHOLOGICAL SUPPORT AVIATION PERSONNEL –PEER SUPPORT ICAO BULLETIN

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CIVIL AVIATION AUTHORITY

- 297 Crew Reported
- Measures in place to return to duty
- Loss of loved ones
- Loss of Jobs-SAA & SA Express others
- Operators –put measures in place to minimize contact- briefing
- Affording crew in contact to isolate
- May impact aviation safety – Accidents/Incidents

ICAO MULTILAYED:ATC ENVIRONMENT

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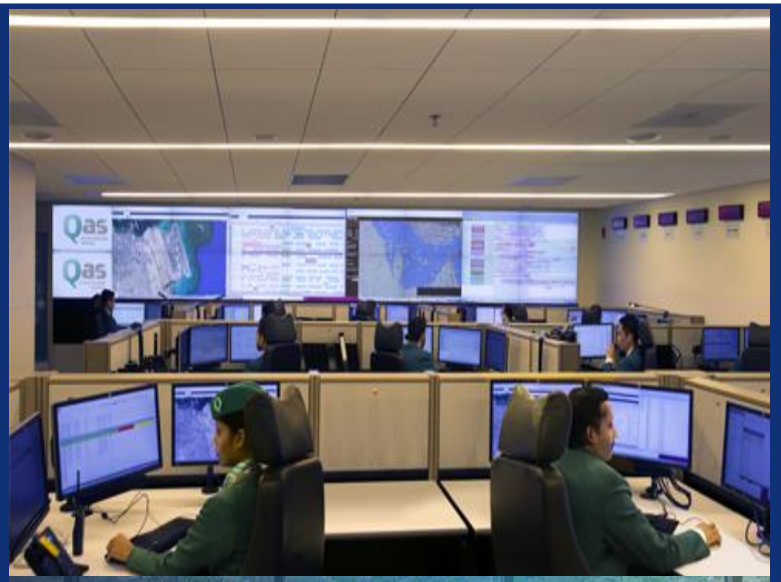
FACTORS THAT AFFECT PROBABILITY OF DISEASE TRANSMISSION IN THE ATC EVIRONMENT

Possible Routes of Infection

- Fact/Challenge – most ATC control towers and control rooms are configured in such a way that operational positions are in close proximity.
- Tower is confined –Social Distancing Challenge
- Radar Hall-Consoles close to each other
- Is training possible given a close proximity & Instructor
- What is feasible? – (facility management; labour representative
- Reduced traffic volumes
- adjusted shift schedules (empty work stations



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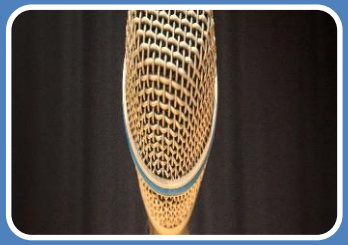

Shared headsets/microphones are a risk for virus exposure and is not advised

Clean headsets before and after each use

In some cases additional measures such as keyboard covers can make shared workstations easier to clean.

World Health Organization
REGIONAL OFFICE FOR Africa

IMO
ORGANISATION MARITIME INTERNATIONALE

CAPSCA

IOM
UN MIGRATION

ICAO

HEALTH EMERGENCIES programme

ON THE JOB TRAINING FOR ATCOS RISK ASSEMENT

- Traffic levels are low now – but will pick up and - will need more ATCO to handle the increasing demand.
- When the traffic levels pick up, --- there will be a challenge with obtaining the recommended social distancing.
- Engage facility managers, labour partners to determine what is achievable an whether measures can be put in place to ensure continuity of OJT.
- Operators have to consider specific circumstances for your operational situation

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ICAO MULTILAYED:REPATRITION OF HUMAN REMAINS

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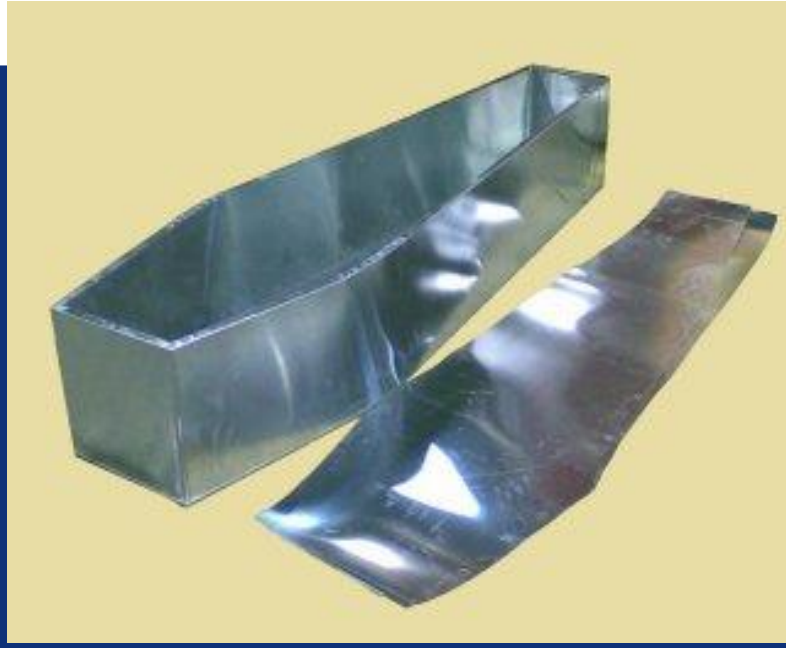
Category A

- An infectious substance which if transported and exposure occurs
- Is capable of causing permanent disability, life-threatening or fatal disease in otherwise healthy humans or animals.
- *Infectious substances meeting these criteria which cause disease in humans or both in humans and animals shall be assigned to United Nations number UN 2814*
- Indicative examples of substances that meet these criteria are given in the table in Annex 2.

REPRATRIATION OF BODIES

ingrained in all societies, cultures and religions

- This respect should not be compromised when a person dies from an infectious disease.
- It can be difficult to balance respect for the deceased person.
- With the health and safety of those who come into contact with them



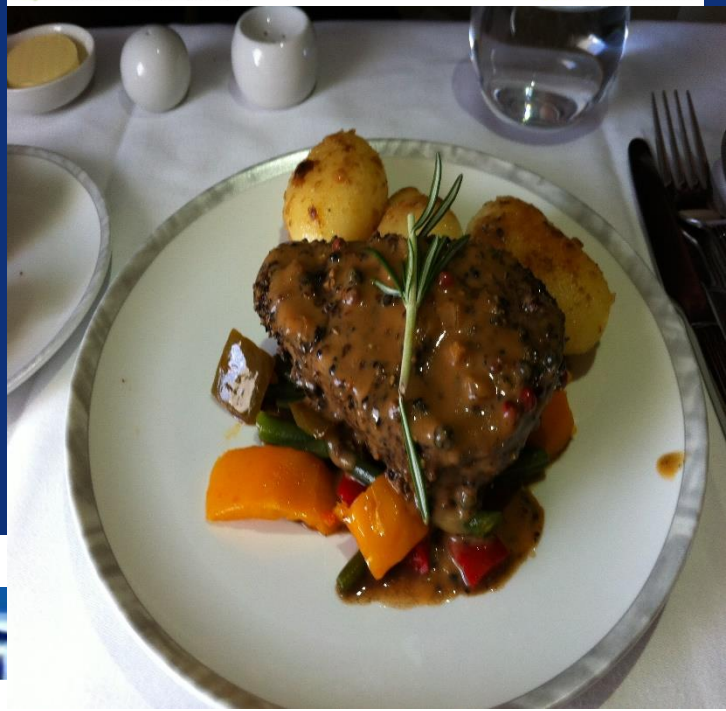
Human Remains Procedure-IATA Procedure

- Human Remains (HUM), except cremated, must be packed in a hermetically sealed (air sealed, water resistant, on porous) inner containment
- Which may be constructed of a flexible material or may be a rigid coffin of lead or zinc.
- The inner containment must then be packed inside a wooden or metal coffin.
- The wooden or metal coffin must be protected from damage by an outer packing
- Covered by canvas (cloth used to make tents/sail oil painting) or tarpaulin so that the nature of its contents is not apparent.

REPRATRIATION OF BODIES

Carriage of human remains in coffins on passenger and cargo aircraft are subject to the following conditions:

- Non-cremated HUM shall not be loaded in close proximity to foodstuffs (EAT)
- The pilot-in-command should be informed
- Stowage position on individual aircraft type shall be subject to company's policy.



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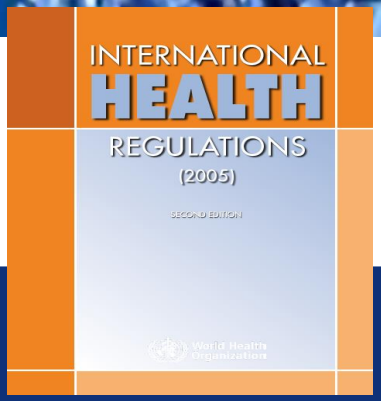
WHO REPRATRIATION OF BODIES



- WHO –Several References on the safe handling dead bodies following a Disaster
- WHO –Position is that the risk of transmission from a person dying from infectious disease is considered to be unlikely
- It is important that any movement of bodies should be coherent with International Health Regulations (IHR)
- State Parties –Regulations on the transport of a person who has died on infectious disease before carrying the remains
- Information should be sought on whether the destination country has specific requirements

COMMON QUESTIONS FROM INDUSTRY

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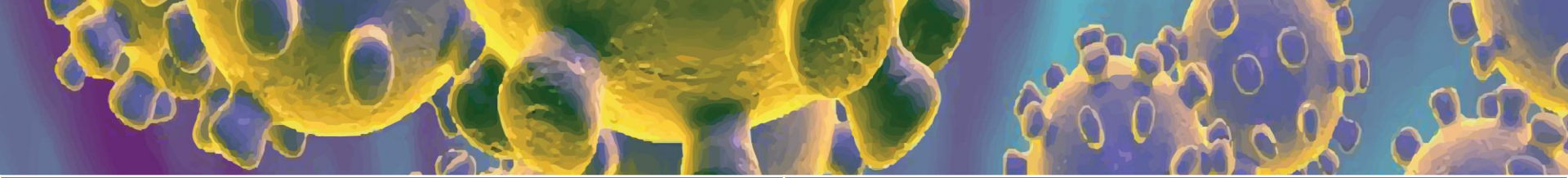
CIVIL AVIATION AUTHORITY



TYPE OF MATERIAL/SURFACE	INFECTIVITY PERIOD
PAPER	3HRS
Wood	Up to 2 days
Cloth	Up to 2 days
Glass	4 days
Bank notes	$$$4 days
outer layer of a surgical mask	7 days
Plastic	4days
Metal (copper, copper nickel and brass)	Shorter than steel 2days
Stainless steel and Zinc	3 days

SARS-CoV-2 mode of Transmission

- **Droplets** are classically described as larger entities (>5 µm) that rapidly drop to the ground by force of gravity, typically within 2M of the source person.

Coronavirus

- **Control**

Gloves, surgical masks, +/- gowns, masks, visors (to prevent mucous membrane splashes ,contamination of clothing)

- **Aerosols** are sma particles (≤5 µm) that rapidly evaporate in the air, leaving behind droplet nuclei that are small enough and light enough to remain suspended in the air for hour
- **Control**

Gloves, N95 masks, +/- gowns, masks, visors (to prevent mucous membrane splashes, contamination of clothing)

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Pre-Packed Meals & Alcohol

- Hot meals will only be served on flights longer than nine hours.
- Delta Airlines isn't serving alcohol on domestic flights or within the Americas.
- But beer, wine and spirits can be found on all other international flights.
- The UK's flag carrier, British Airways, is suspending its alcohol service in short-haul economy only
- Where customers will instead be offered complimentary refreshments along with a bottle of water.
- Special meals, including children's meals, are temporarily unavailable.
- Over on American Airlines, the airline is limiting food and drink service in the main cabin according to flight length and destination.
- Access to alcohol, however, is the preserve of long-haul international flights and the folks in First Class
- Hong Kong's flag-carrier Cathay Pacific will still have drinks available throughout the flight.
- But the pre-meal bar and pre-poured drinks are temporarily suspended

NEW LEGISLATION TO CLAMP DOWN ON UNRULY AIRPLANE PASSENGERS FROM 2020

- International guidance -have cut down on food and beverage service to limit contact between passengers and cabin crew

- Forbes-Airline will not be serving the majority of passengers

- EasyJet and KLM in Europe, Delta Air Lines and American Airlines in the United States, and Asia's Virgin Australia, are suspending all or part of their alcoholic drinks service in response to Covid-19.

- With face masks already mandatory on pretty much all flights around the world, and new legislation introduced in January 2020 to curb anti-social behavior on flights

- Many airlines are limiting drink options to water only as face masks must be kept on other than when passengers are eating and drinking.

- It's a way of ensuring passengers are lingering over their refreshments for no longer than necessary

Buses

- Social Distancing on airports buses
- Initial 70% allowed passengers in line with DOT Guidelines
- 100% recent amendment
- Bus configurations are not the same, risk assessment required

CIVIL AVIATION AUTHORITY

Buses

- Social Distancing on airports buses
- Initial 70% allowed passengers in line with DOT Guidelines
- 100% recent amendment
- Bus configurations are not the same, risk assessment required

CIVIL AVIATION AUTHORITY

Disinfection of the Aircraft during Turn -Around Times

- Turn around times have to be considered
- Risk Assessment of the route have to be considered
- Other issues

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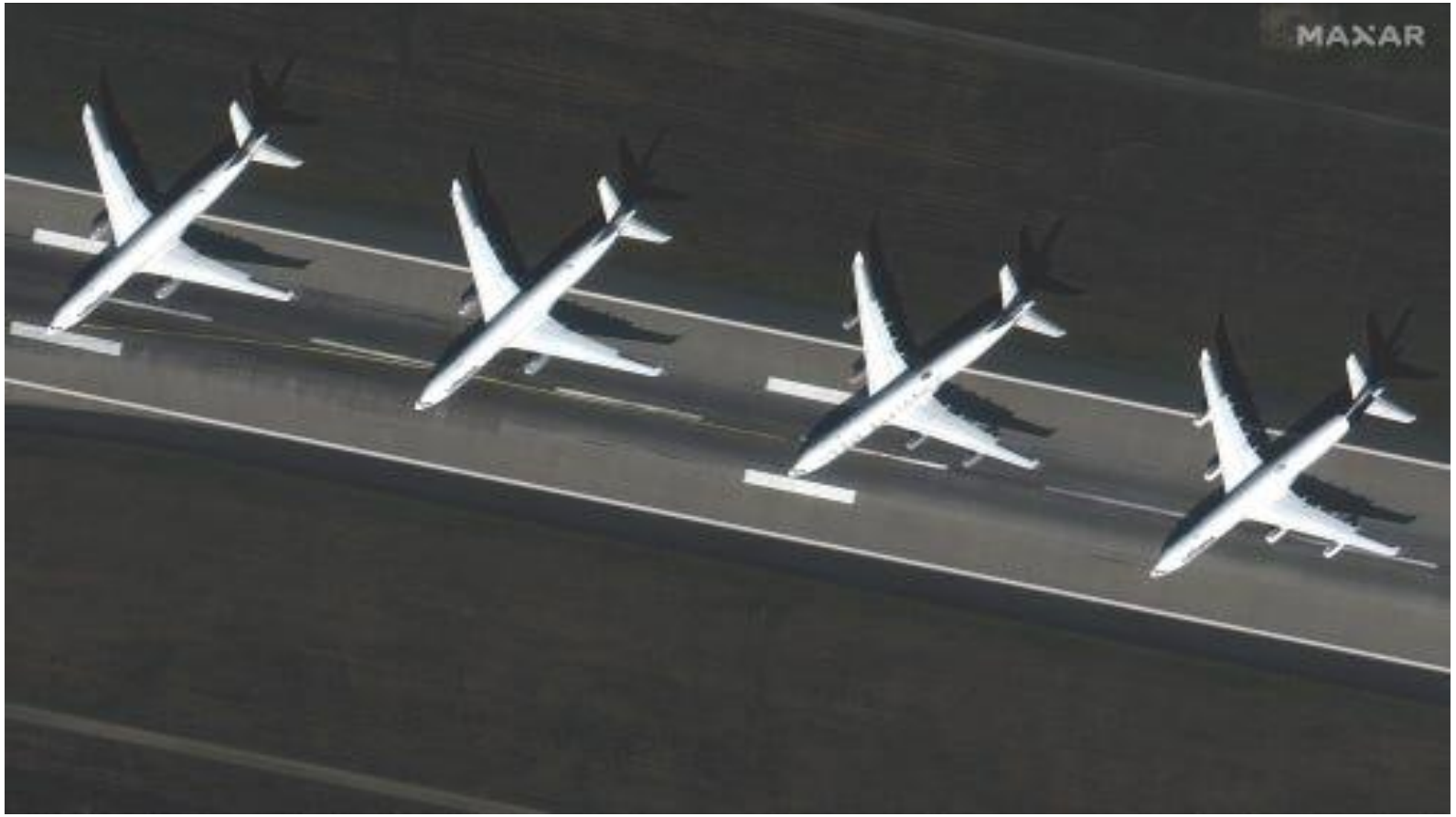
	2016/17	2017/18	2018/19	2019/20	2020/21	Month to month increase/decrease 2019/20 to 2020/21
Apr	1 733 914	1 938 442	1 902 690	1 938 540	12 567	-99,35%
May	1 640 888	1 756 866	1 766 837	1 740 168	6 639	-99,62%
Jun	1 580 668	1 653 681	1 744 895	1 858 691	54 481	-97,07%
Jul	1 760 533	1 872 582	1 840 902	1 860 686	123 167	-93,38%
Aug	1 761 593	1 855 586	1 919 666	1 972 690	209 803	-89,36%
Sept	1 787 415	1 866 517	1 898 663	1 924 409	346 238	-82,01%
Oct	1 903 831	1 959 247	1 952 092	1 937 208		
Nov	1 809 705	1 881 582	1 932 500	1 945 855		
Dec	1 996 414	2 038 036	2 093 400	2 173 220		
Jan	1 716 791	1 784 064	1 796 596	1 893 700		
Feb	1 669 391	1 696 464	1 732 918	1 815 147		
Mar	1 932 152	1 976 749	2 088 377	1 216 864		
Total	**21 293 295**	**22 279 816**	**22 669 536**	**22 277 178**	**752 895**	
Average	1 774 441	1 856 651	1 889 128	1 856 432	125 483	
% growth	4,26%	4,63%	1,75%	-1,73%	-93,33%	

PARKED AIRCRAFTS LOCKDOWN



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Measure	IATA	ICAO CART	Comment
Temperature Screening	Yes	Yes	Insensitive – reassuring. ?deterrent
Symptom Screening	Yes	Yes	Ineffective (eg EK380 DXB-HKG 26 cases)
Enhanced cleaning/disinfection	Yes	Yes	
Crew layover measures	Yes	Yes	
Passenger contact tracing	Yes	Yes	
Airport measures – distancing, contactless steps, sanitizing, etc	Yes	Yes	
Physical distancing on board	No	No	Unsustainable and probably unjustified
Face coverings (source control)	Yes	TBA	Reduce forward droplet displacement 90%
Quarantine	No if…	-	Effective but 83% would not travel
Antibody testing/immunity pass	No	No	
COVID-19 testing	Yes	TBA	Likely to be crucial to progress

Challenges Raised by Industry

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CRITERIA FOR RELEASING COVID-19 PATIENTS FROM ISOLATION AND TESTING-WHO

Initial Recommendation (Jan 2020)

- Clinically recovered
- Two -ve RT-PCR results from samples taken 24 hours apart.

Updated 27 may

- For symptomatic patients: 10 days after symptom onset, plus at least 3 additional days without symptoms (including no fever and respiratory symptoms)
- For asymptomatic cases: 10 days after positive test for SARS-CoV-2
- Countries may chose to include retesting if deemed necessary on risk assessment or adequate capacity

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CRITERIA FOR RELEASING COVID-19 PATIENTS FROM ISOLATION AND TESTING-WHO

- Intense community transmission, and limited resources and personnel with severe strain on health systems

- Long periods of isolation for individuals with prolonged viral RNA detection after resolution of symptoms, affecting well-being, society ,and access to healthcare

  - *Studies have shown that detection of RNA material could continue for a while in the absence of virus shedding*
  - Most infected persons not shedding virus after 9 days, especially the asymptomatic and mild cases

  - Severe cases may shed virus for longer but usually are no longer shedding by the time their symptoms clear.

  - Insufficient testing capacity to comply with initial discharge criteria in many parts of the world.

Challenge Aviation

- *Crew & Passenger does not have Neg-Results they will not be allowed boarding depending State-Exemption Individual*
- *Dependent on the transit/destination country*
- *Mutations-Re-infection*
- *Estimated 297 Crew-Positive Covid-19 Confirmed Results*

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TESTING

- Airlines that allows passengers to board an aircraft without a PCR Test
- Operators allow passengers with a Positive PCR on the aircraft to board
- Passengers presenting Fake Results
- Airlines indicating capacity & costs challenges with regards to other States
- Defeats the purpose the ICAO-Global Approach –Public Health Corridor

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COVID -19 TESTING COMPLIANCE BY OPERATORS

- Airlines/Charter that allows passengers to board an aircraft without a PCR Test Prior Boarding Despite Regulations/Notams/IATA Publications/Others – Some Reasons -Costs
- Antigen Test-Panbio COVID-19 Ag Rapid –Abbot-Cost on arrival – exceptional
- Operators allow passengers with a Positive PCR on the aircraft to board
- Domestic Passenger –Positive-Covid-19 –Non-Disclosure
- Passengers presenting Non-Authentic Covid-19 Results
- Airline Staff left with the responsibility to check Covid-19 results- ?Standardization
- Airlines indicating capacity & costs challenges with regards to other States being able to accommodate needs/turn around times
- Risk –Expose Passengers/Crew/Airport Staff-Legal Implications Implications ,SA already resourced strained because of Covid-19

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CREW EXEMPTED FROM TESTING

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CIVIL AVIATION AUTHORITY

CREW Testing

Precautions for Crew During Layover High Risk Areas	Crew infected with Covid-19
- Crew Transportation arrangements which separate crew members from public. - Avoidance of public transport - Avoidance of public places and confinement to hotel room (isolation) - Wearing of masks between airport and hotel and when leaving hotel rooms - Consumption of room service	- Crew with symptoms or positive must be relieved from duties - Additional health restrictions may apply for repatriation of cabin crew members who become infected while on Duty including quarantine and/or reporting infection - Cabin crew recovered from Covid-19- may experience a loss of smell and/or taste (anosmia) - Ability to identify unusual smells within the cabin such as leakage of dangerous goods/chemicals and overheating/burning

Vaccination in Aviation

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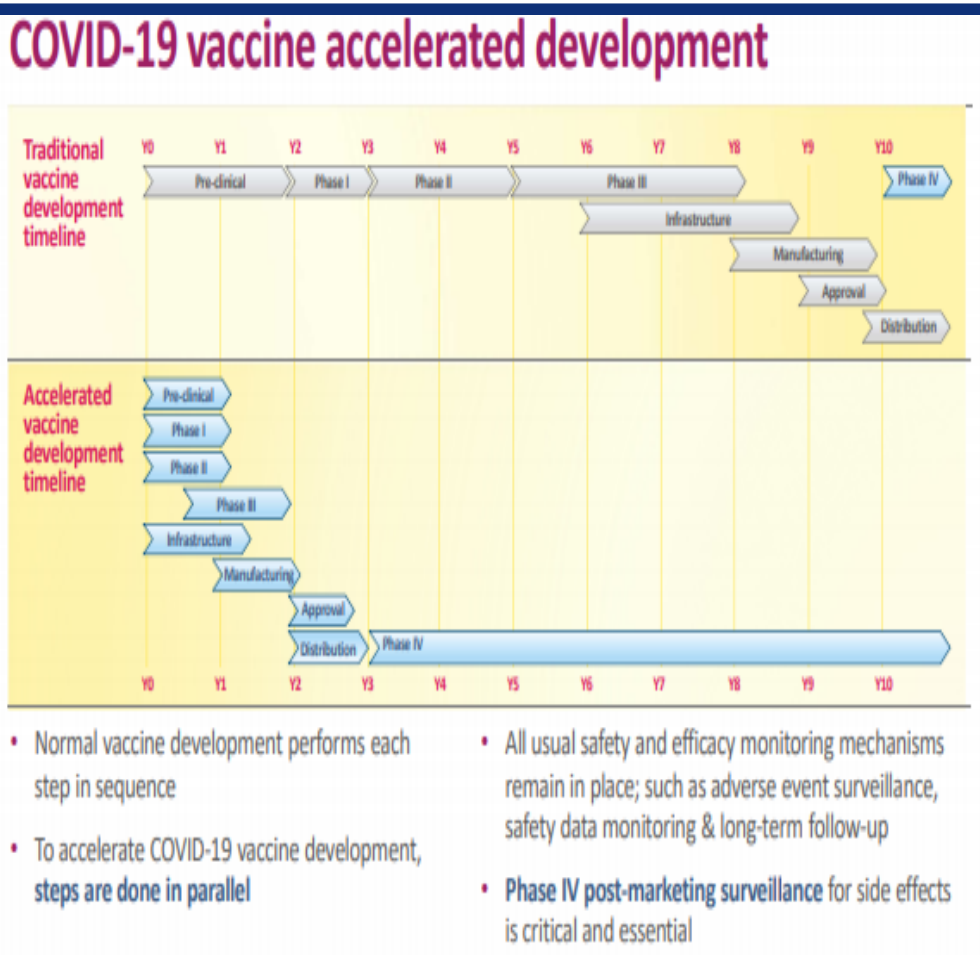
ACCELERATED DEVELOPMENT OF COVID VACCINE & SIDE EFFECTS CONCERNS



- **Side** effects do occur, but mild & most last for a week
- Mild-sorearm,headache,chills,ferer, tiredness, dizziness ,weakness
- They are not the disease itself, but the body's response to the vaccine.
- Severe allergic reactions to the Pfizer/BioNTech vaccine can happen but are very rare –death, bells palsy & others
- Advice if you're of childbearing age, pregnant or breastfeeding, more evidence is needed
- Aviation Personnel-Long Term Symptoms in mild disease
- Conspiracies surrounding vaccines

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Prioritisation of Aviation Personnel

- Consider advice from WHO (SAGE Phase IIII) & From practical flight operations perspective, flight schedules should be considered
- Call for Aviation Personnel by some Unions-Essential Staff
- Priority Group in Aviation Risk-CC,Pilots & Others –given limited resources

RETURN DUTY AVIATION PERSONNEL

- **ICAO –Working on a Protocol Vaccine Aviation Personel**
- UK advise no flying 12 hours after vaccination if no symptoms.
- Europe initially their grounding period post vaccination was 48
- Emirates & Singapore ,other countries
- Return to flying in other States-Solo vs Multicrew Operations-Solo Flying being longer

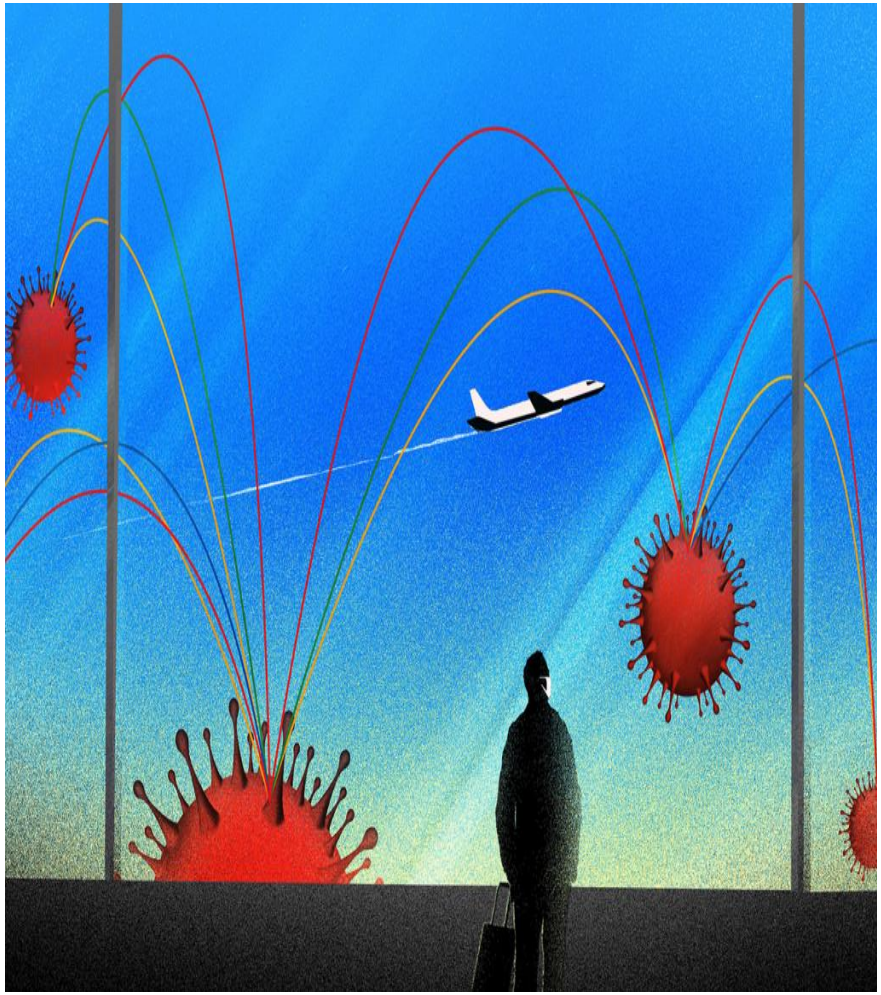
SOUTH AFRICAN CIVIL AVIATION AUTHORITY

Prioritisation of Aviation Personnel

- **Consideration for maintaining essential services e.g. emergency services, transport of vaccines, etc. (prioritisation based on stratification-Call**
- **Not having flight crew vaccinated might impact safety due to reduced availability of crew, destination State may require certificate**
- **Vaccination should not be mandatory be mandatory for crew but should be encouraged.**
- **Risk Assessment Side Effects applicable to aviation personnel**
- **Approved Nation Regulator (SAHPRA)**
- **Subject to discussion by AME's and pilots-depending on the State**

CONCLUSION

SACAA – COVID 19



Pre-Lockdown

- Extensive Training Contact;
- Ramp Inspections
- Simulation Exercises

Post Lockdown

- Inspections of Repatriation and Evacuation Flight;
- Training Guidelines
- Virtual Workshops
- Ammendment of Airline /Airports/ATC Procedures COVID 19 for approval by the CAA
- MSP = Audits of the Airports/Airlines
- Inspections
- Simulation Exercises Test Procedures

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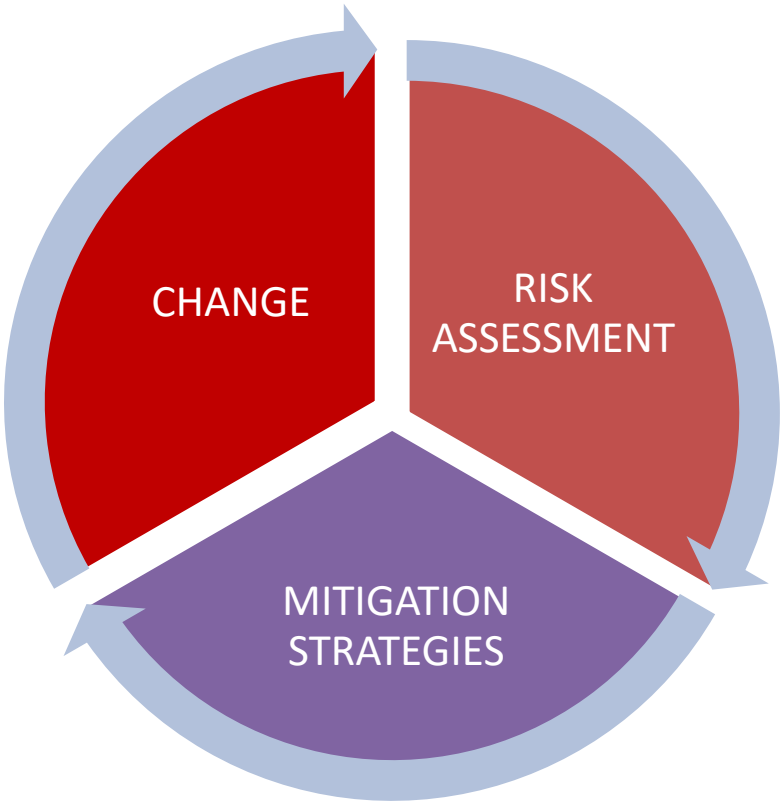
CHANGE IS INEVITABLE

- The situation changes frequently & **regulations** will **change** accordingly and **vary** according to the **routes** being operated and the **prevalence** of the outbreak in each country.

- Risk assessment should be continuous to ensure appropriate mitigation strategies



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THANK YOU

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