

A GLOBAL AEROMEDICAL PERSPECTIVE ON THE NEW REALITY: AN INTERVIEW WITH ICAO'S ANSA JORDAAN

COVID-19 has brought the sanitary crisis to the forefront of the world of aviation, and with it, many aeromedical implications. **Steven Shorrock** interviewed **Ansa Jordaan**, Chief of ICAO's aeromedical section, to find out how ICAO is helping aviation to navigate the new reality.

Worldwide aviation has experienced the lowest traffic since the 1980s in some countries. Few in aviation have experienced such low demand, and the developments of the last year are new to us all. But some in aviation are experiencing higher workload than ever before. Ansa Jordaan, Chief of ICAO's Aviation Medicine Section is, not surprisingly, one of them. *"I work a minimum of twelve hours a day,"* said Ansa, *"and then some weekends. And people that work with me, they are all the same. More or less every morning, we have 7:00 AM meetings for CAPSCA [ICAO's programme concerning preventing the transmission of*

communicable disease in aviation], medical certification, or mental health. I have people in the US where it's 4:00 AM for them and they are there, every meeting. The commitment from the industry has been amazing." It's been like this for a year.

Ansa Jordaan started in the world of military aviation medicine in South Africa, responsible for everything from medical evacuations to reviews of medical records. From there she moved to the South African Civil Aviation Authority, where her duties included developing regulations and protocols for medical certification and operational

air ambulances. After a spell of consultancy work, she moved to South African Airways as Medical Director, overseeing medical certification, occupational health and safety, and providing advice to flight operations. HIV was a particular concern, and Ansa's first experience with a major pandemic. *"At that time, HIV was very relevant and very big in South Africa. We got a lot of exposure on the psychological side of things especially."*

The 2008 terrorist attacks in Mumbai triggered the strengthening of support for people in aviation in South Africa. Several South African Airways pilots and cabin crew were in and around a local restaurant when it was attacked. Some crew members were ultimately trapped in their hotel for 36 hours. Ansa led the development of South African Airways' employee assistance programme (EAP).

This and other experience in occupational health and medical evacuation took Ansa to ICAO, where she has worked since 2015. She now leads the CAPSCA programme and develops, promotes and monitors provisions in ICAO's regulatory documents concerning medical issues and the prevention and management of public health events.



ICAO Aeromedical Activities

When it comes to managing health risks triggered by communicable diseases, communication and coordination is critical. This is not only between States, but first internally within a State, specifically including the national department of public health, aviation authorities (particularly medical departments) and other relevant national authorities. Then there are airports, airlines and other aviation service operators, and the media. ICAO works at an international level, along with the World Health Organization (WHO), to develop such communication links. Regional networks of experts in various stakeholder organisations have opened another CAPSCA road toward global harmonisation in aviation.

Article 14 of the 1944 Convention on International Civil Aviation (the 'Chicago Convention') obliges Contracting States '*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*'. ICAO has a central role in helping these 193 countries to coordinate their national efforts to mitigate the spread of communicable diseases such as COVID-19 in the air transport sector, and to help them manage associated risks. Supported by experts like Ansa in the ICAO Secretariat, countries work through the UN aviation agency to develop and agree on international standards, recommendations and guidance materials, and capacity-building helps to put them into practice. Mental wellbeing along with alcohol and drug support programmes are the focus of current medical standards development.

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CAPSCA – Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation

Established in 2006, CAPSCA is a voluntary cross-sectorial, multi-organisational collaboration programme managed by the International Civil Aviation Organization (ICAO) with support from the World Health Organization (WHO). It brings together international, regional, national and local organisations to combine efforts to improve preparedness planning and response to public health events that affect the aviation sector. CAPSCA aims to ensure collaboration between the aviation and public health sectors, facilitating safe and economically viable air transport while contributing to public health protection. Currently, 156 ICAO Member States and five territories are Members of CAPSCA, and there is a range of partners, including UN agencies, international organisations, foundations and associations representing aviation.

Adapted from <https://www.icao.int/safety/CAPSCA/Pages/default.aspx>

CART – Council Aviation Recovery Task Force

The ICAO Council's Aviation Recovery Task Force (CART) is composed of government, industry, and international and regional organization representatives, and works to provide practical, aligned guidance for governments and industry operators in order to restart the international air transport sector and recover from the impacts of COVID-19 on a coordinated global basis. The CART's work on its 'Recovery Report' and the accompanying 'Take-Off' guidance for international aviation, has kept the health, safety, and security of the travelling public of paramount concern throughout. The CART has completed three phases, with Phase one providing key recommendations and 'Take-off' guidance on Public Health Risk Mitigation Measures, in addition to four operational modules relating to airports, aircraft, crew and cargo. Phase two prioritized new recommendations on testing and cross-border risk management, and Phase three targets specific issues related to a State's multilayer risk management strategy.

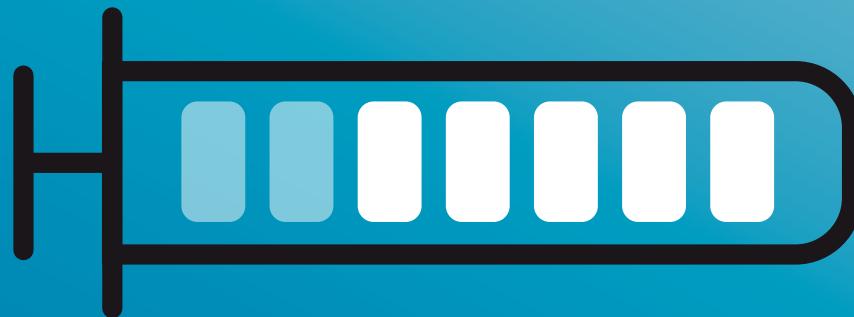
Adapted from <https://www.icao.int/covid/cart/Pages/CART-Take-off.aspx>

Public health corridor iPack

iPacks are intended to support States' COVID-19 implementation activities and support States in their aviation restart, recovery and resilience efforts. An iPack is intended to be a self-contained package composed of the relevant guidance material, standardized training, tools, subject matter expertise, and guidance for procurement. iPacks includes aspects related to public health-related measures, facilitation and aviation security, aviation safety (e.g., management of temporary regulatory alleviations), risk management, and air transport and economics. Five iPacks are currently available, with more planned for release.

Adapted from <https://www.icao.int/secretariat/TechnicalCooperation/Pages/iPACK.aspx>





Vaccination in progress

“We’re traveling to places that don’t have vaccines yet, and the quicker we vaccinate, the fewer mutations we’ll have, the fewer problems we’ll have”

From an aviation perspective, preparedness planning is key to managing disease outbreaks.

As an international industry, timely coordination and proportionate responses from national public health authorities and aviation stakeholders are essential. To ensure the most effective management of risk and public confidence, States should ideally have approaches that are proportionate to risk and broadly harmonised.

While the medical department of ICAO and national aviation regulatory authorities are primarily concerned with the medical fitness of licence holders (pilots and air traffic controllers), both are a critical link between public health and aviation. From an ICAO perspective, a number of initiatives are critical in this regard, and Ansa and her team are involved in many of them (see box text for further explanation).

Testing and Vaccination

Testing and vaccination are critical for the reopening of aviation. Meanwhile, flight crew and other aviation workers are exposed in a way that the general public are not. *“We’re traveling to places that don’t have vaccines yet,”* Ansa said, *“and the quicker we vaccinate, the fewer mutations we’ll have, the fewer problems we’ll have.”* The WHO

has provided recommendations to States on the priority of vaccination. Transportation workers are included in the recommendations of the Strategic Advisory Group of Experts on Immunization (SAGE) III group, as essential workers, but it’s up to the States to decide vaccination priorities.

Certification for testing and vaccination is a controversial topic in many countries, but a practical reality for international travel. And being an international business, harmonisation and interoperability are currently hot topics, along with accessibility, usability and security of testing certificates. *“How do we ensure the verification and trustworthiness of those certificates?”,* Ansa questioned. *“There have been a number of fraudulent test certificates, and we expect we will get the fraudulent vaccination certificates.”*

ICAO is putting together standards on how to prevent fraudulent actions and how to harmonise standards. This is not straightforward. *“With the vaccination, it’s more difficult because it’s under the WHO umbrella and not under the aviation umbrella. We foresee that it will play a big role for aviation. And we need to be ready.”*

There are currently several travel passes, including IATA’s Travel Pass, the World Economic Forum’s Common Pass and

the European Union’s Digital Green Pass. ICAO collaborates with the WHO, and a multidisciplinary working group comprising different specialists from all over the world, including other intergovernmental organisations. Evidence of vaccination must be currently in accordance with national legislation and national practices. Different stakeholders must be able to exchange and verify information, and passes must be interoperable with various platforms.

The situation is volatile, uncertain, complex and ambiguous, and while medical specialists can give the best advice based on evidence, in this case the evidence changes along with understanding of the pandemic. Then there are the politics and national interests. *“It’s a very dynamic situation with the variants and testing and the vaccines. So all of that is already difficult enough in terms of advice, but then you get the political side of it on vaccine priorities and availability.”*

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Medical Certification

Different States have been giving operators different extensions regarding the validity of licences and certificates, including medical certifications during the pandemic. I wondered if this is something that will be extended past the pandemic. And what is the rationale for differences compared to before, and between different States? Ansa explained that *"what we had initially was alleviations – extensions to medical certificates. We provided a quick reference guide to the States on how they can extend medical certificates. That's all based on a risk assessment process. There were certain certificates which we said do not extend, and there were others that could be extended. So, for example, right at the beginning, we said prioritise emergency and evacuation flights. It was also dependent on the capacity and availability of the medical examiners, because they were also helping with COVID prevention and treatment."*

In some States, medical examiners were not available, which might account for the differences between States. ICAO provided the guidance on risk assessment for extensions, but there was a sunset date which expired on March 31st. Ansa explained that *"we had the Council decision, and that system will be replaced by targeted alleviations. These are narrower in scope and more restrictive because, for us, it was a concern to keep on extending medical certificates."* With targeted alleviation, ICAO has a template that States can follow, with specific guidance on how to do aviation medical examinations, and an overall objective to get back to normal operations.

Face-to-face medical examinations are required for new applicants and licence holders that are considered to be of higher risk in terms of the medical restrictions. *"For the rest,"* Ansa noted, *"we're saying that you have to do a risk assessment to decide whether you can do alternative types of examinations. And for that we provide guidance. So we say look at which class it is. Look at each type of operation. Is it multi-pilot, single pilot? Look at the previous reports that he or she needed to submit. Is it a high risk or low-risk type of medical condition?"* ICAO offers advice on mitigation factors

for targeted medical examinations if there is not face-to-face access to an aviation medical examiner (AME). *"If you're required to have your eyes tested, or you need an ECG or lung function test, or if you've had an injury and you need a new report, then you can do that targeted examination, which could be done by someone who is not an aviation medical examiner."* The report would need to be sent to the AME for review and certification.

Telemedicine has become more common because of COVID-19, including in aviation. There are specific requirements if a person's condition has changed. The licence holder first needs to call their AME. Then the AME will decide if he or she can renew the licence based on that discussion, or arrange a one-to-one consultation.

This arrangement has been implemented in some states. While there are best practices, it is a risk-based approach based on the expertise of the AME. *"We're not going to let a high-risk person fly if we haven't done an examination or have just done a telephone call."*

The last option is health declarations in certain circumstances. In this case, there are specific requirements. ICAO encourages States to only allow this for low-risk situations. This also still needs to be sent to the AME and has to go to the state medical assessor in charge of aviation medical certification in the national State department.

While there are a variety of options and some may be retained, Ansa said that ICAO would like to see a return to face-to-face consultations as soon as possible.

Mental Health and Wellbeing

Mental health and wellbeing have come into sharp focus as the pandemic has progressed. Ansa noted that front-line aviation staff are subject to the same kinds of worries shared by most people – about loved ones, about exposure and getting sick, and about access to vaccinations. *"You don't know what's going on and you just see more people getting sick. I think it's the degree of uncertainty. That is the big problem from*

the studies." Then, there are additional stresses about protective measures that staff have to perform, such as disinfecting surfaces and wearing face coverings.

For flight crews, the stresses can mount up further still. *"In some cases, they have dedicated ground transport to their hotel, and when they get to the hotel, they may be locked in their room. They can't necessarily go out and exercise. Some are delivered meals in their rooms with no choice of what to eat. So there is the added stress of being subjected to quarantine with uncertain conditions. And sometimes it changes from take-off to landing. Unpredictability and isolation create problems."*

"With pilots flying less often and controllers controlling less often, self-confidence can take a hit, with the added fear of loss of license and livelihood"

With pilots flying less often and controllers controlling less often, self-confidence can take a hit, with the added fear of loss of license and livelihood. *"A lot of people have been furloughed or made redundant because the airline closed down or they couldn't continue paying staff anymore. This is an abnormal situation and to be anxious and to be fearful is a normal reaction."* ICAO issued an electronic bulletin to address all stakeholders in the industry to ask everybody to work together. Ansa acknowledged the importance of psychological safety: *"Pilots and controllers might not disclose medical information if they're afraid they're going to lose their licence, especially now because of the economy. That's been a major discussion that we've been having. It is essential that all aviation stakeholders provide as far as possible a safe psychosocial environment to aviation employees."*

Return to operations becomes the next issue. *"How do you engage everybody back into the working environment*



again? And how do you make sure that there's enough controllers and other aviation personnel to ensure safe and smooth operations? There are a lot of uncertainties that need to be addressed."

Organisational and Individual Interventions

Several interventions are possible at different levels, from States to individuals. I asked Ansa about what would be at the forefront of her mind for aviation authorities and organisations. Her suggestions all concerned supporting people. "We ask aviation authorities to engage with aviation personnel, to talk to them, reassure them, and provide resources. It's vital to help pilots, ATCOs, cabin crew, maintenance personnel and others to cope with the changes, perhaps through employee assistance programmes or peer support programmes. If people are furloughed or laid off, how can organisations continue providing support programmes to those people?"

For organisations and management, Ansa's thoughts continued along these lines. Ansa would advise an organisation's senior management to undergo training on how to deal with someone who is stressed or someone who is struggling to cope. "There's so much more stress involved because of everything that's happening. It's important not to be too demanding. Managers need to be aware of the signs – people making more mistakes, starting to isolate themselves, and so on. Often, issues arise from misunderstanding or miscommunication. If you're open and really listen, you can better support people. If you just go through the motions and do the box ticking, that's going to do more harm than good."

"For me, peer support is really the first line in defence because it's your colleagues. They know the circumstances from a work perspective, they understand the work and the demands"

From here, Ansa suggested that organisations make available tools and advice to support people. "Even if you don't have an EAP, you can still guide people towards how to keep healthy, and where to go for assistance, perhaps via newsletters, for instance."

Then there are interventions for individuals, peers and small groups. Again, Ansa had some useful suggestions. "One is social contact. That's the number one thing. Whatever problems people have, just reach out. People tend to isolate, and that just makes things worse. So we need to reach out to our colleagues, friends, or family. Remember that you're not alone. Don't feel isolated. Go and seek assistance."

For some in larger organisations especially, Ansa suggested reaching out to the peer support programmes. "For me, peer support is really the first line in defence because it's your colleagues. They know the circumstances from a work perspective, they understand the work and the demands. And they have been trained, and often have experienced very stressful life events themselves. If they feel that you need more assistance than they can give you, then they can refer you to the appropriate person."

A good relationship with an AME is also helpful. AMEs, she noted, have been trying to get a better position of trust with the pilot or the controller. "We're really trying to help you to continue working."

Then there is having a healthy lifestyle – a basic but easily overlooked factor. "This includes a proper diet, not drinking too much, enough sleep, and trying to manage stress. It's things like getting out in nature, doing a hobby – something that is nice for you, and that relaxes you." On that note, Ansa suggests mindfulness exercises: "I think we should promote that more." In 2018, ICAO published a book called *Fitness to Fly*, a preventive-medicine handbook intended to close the gap between pilots' medical requirements to fly and preventive measures that can help them fulfil those requirements.

The Future

I wondered what we might expect post-pandemic, from an aeromedical perspective. What kind of opportunities might emerge? Will aeromedical practices change, or will things return to how they were before? "Many things might, to a degree continue post-pandemic, but we will need to have very clear guidelines in terms of what you can allow in which situation." Ansa gave an example of the human intervention motivational study (HIMS) programme in the US. HIMS is an occupational substance abuse treatment program dedicated to helping all pilots return to the cockpits, with follow-ups to some patients by remote consultation. "This has been working very well, but I would not want to do that globally unless we have the training and resources that go with that. We don't have the same experience everywhere."

ICAO is creating a risk assessment framework that will take into account the various types of examinations and the various tools that are available. "Going forward, that might be part of our normal set of tools, but it will have to be clearly defined. We will learn from best practices and from what's being applied now."

Concerning mental health, ICAO is looking at the training of not only AMEs, but also pilots, and specialists that work with peer support groups, so that everybody is better aligned.

There have been other lessons for AMEs. What we might learn, Ansa remarked, is how to be less prescriptive, but more risk-based, taking into account a range of factors, and not just age, for example. "That is something that we have been discussing in aeromedical circles for a long time: how to do our risk assessment process in line with the type of operation, the type of medical condition, and the probability of becoming impaired while you're flying or while you're controlling. It's not just a normal medical examination that one has to do, but one that we can really differentiate between those things."

On communicable diseases, Ansa noted that the industry has to learn from experience. *"We have COVID now, and we had SARS and MERS, and Ebola in between. In future we're going to have something else. So it needs to be recognised and prepared for."* One problem may lie in a sort of complacency borne out of a desire to 'return to normal'. *"Everybody jumps around doing something, then when the outbreak is over, organisations often go back to doing just what needs to be done."* Public health departments, she noted, often experience cuts. Thankfully, Ansa noted the continuation of ICAO's CAPSCA programme for preventing the transmission of communicable disease in aviation, and involving more stakeholders. Some States have even provided more budget.

"My hope is that this prolonged pandemic raises awareness of the effect of communicable disease in aviation, how to be better prepared and how to build resilience for that", Ansa said. *"That's really one thing I hope will come out of this."* 



Dr Ansa Jordaan joined the International Civil Aviation Organization (ICAO) in October 2015 and is currently the Chief of the Aviation Medicine Section, responsible for aviation medical standards and the CAPSCA programme (preventing transmission of communicable disease by air). She graduated in 1989 as a medical doctor and has two post-graduate degrees (Aerospace Medicine and Occupational Health). In 1999, she established the Aviation Medicine department in the South African Civil Aviation Authority, after having worked in the South African Military Institute of Aviation Medicine. In 2003, she left the CAA and worked as an Independent Consultant in the aviation industry until 2007. She then joined South African Airways where she was the Medical Director until June 2011. After SAA she left the aviation industry to work at the Life Occupational Health Group, where she was the Project Director of Occupational Health for Transnet Freight Rail. In 2012 she returned to aviation and was the Medical Director of Occupational Health at International SOS. She is a member of the Aerospace Medicine Association (AsMA), the International Academy of Aviation and Space Medicine (IAASM), the Airlines Medical Directors Association (AMDA) and provides consultation services to the World Health Organisation (WHO).

Resources

ICAO (2018) *Fitness to fly: A medical guide for pilots*. Montreal: ICAO.
<https://www.unitingaviation.com/fitnessstofly/> (free preview)

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