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Editorial

Air travel and COVID-19 prevention: Fasten your seat belts, turbulence ahead

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It is widely accepted that the epidemiological curve of COVID-19 can only be flattened in a team action, taking into account all factors that could contribute to the spread of the virus. At the same time, individual sectors (e.g. entertainment and sporting industries, hospitality business, education, aviation) lobby, even take legal action, to be excluded from tough lockdown measures by showing that they do not contribute significantly to the spread of SARS-CoV-2. Therefore, balanced evidence-based decision-making becomes more and more fundamental to justify any restrictions of both private and professional life.

In this issue of TMAID, in their rapid narrative review, Michel Bielecki and colleagues summarise the current (as of October 2020) literature on COVID-19 prevention during and around air travel [1]. A little after that, about a (supersonic) flight's time back and forth from Europe to Australia later, Aisha Khatib et al. reported their findings on the same topic [2]; this illustrates the urgency of the matter as airlines struggle to remain operational and to re-build capacity, facing two categories of travellers: Those reluctant to fly for fear of a perceived increased risk of contracting the virus and a significant number of mostly business travellers, eager to rebuild a heavily compromised world economy. Early in the crisis, the World Health Organization (WHO) provided an interim guidance document on operational considerations for managing COVID-19 cases or outbreaks in aviation [3], and the International Civil Aviation Organization ICAO, a United Nations Specialized Agency, provided a first set of detailed guidelines for airports, aircraft, crew and cargo for navigation aids through the COVID-19 pandemic [4]. At the time of writing, WHO is convening a guideline development group to advise on infection prevention related to air travel.

SARS-CoV-2 spread across the globe as a stowaway on commercial aircraft well before the dimension of the problem was obvious and well-recognised [5]. Consequently, air-travel restrictions may curb its global spread to (from the virus' perspective) uncharted territories [6]. Yet, in relation to another respiratory virus, influenza, as Khatib and colleagues point out: " … that only extensive travel restrictions had any meaningful effect on reducing the magnitude of epidemics, and on their own, might delay the spread and peak of pandemics by a few weeks or months but *the evidence for containment of influenza within a defined geographical area was lacking*" [2]. On an individual level, in-flight transmission has been well-documented and without doubt contributes to the spread of COVID-19. However, as a COVID-19 pandemic era variant of the time-honoured *bon mot* that the most dangerous part of air travel is the way to the airport, the multiple occasions of virus transmission prior to boarding and after disembarking emerge as more critical regarding the scale and dimension of COVID-19 transmission amongst individuals. Whereas it has been shown before that, not surprisingly, airports could be formidable hubs for microbial passengers travelling in packs of zillions [7], it begs the question whether a traveller's presence in an airport terminal poses a significantly bigger risk to the individual or public health and society than being in a shopping mall?

In the MMWR of November 13, 2020, the CDC reports on the cessation of the screening of inbound international travellers to the USA, concluding that temperature and symptom screening at airports detected few COVID-19 cases at considerable cost, yielding one single identified case per 85,000 travellers screened. As potential reasons for the low yield, multiple factors including an overall low COVID-19 prevalence in travellers; the relatively long incubation period; and an illness presenting with a broad spectrum in terms of asymptomatic infections; afebrile cases, range of severity, and non-specific symptoms commonly shared with other 'flu-like' infections; as well as travellers who might be in denial of their symptoms or even take steps to lower the odds of their illness being detected [8].

Likewise, unpublished data on PCR screening of departing travellers from South Africa for the period March to November 2020 shows that less than 1% of intending travellers tested positive (6 of 833 screened passengers [0.72%]).

Bielicki et al. recognise failures in accounting appropriately for the 'human factor' in terms of behavioural aspects as well as the wealth of individual (regulators') and airlines' approaches (comparable to the plethora of individual countries', and even within-country regions'

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responses to similar scenarios of viral spread) as driving forces behind aviation-related growth of the pandemic.

Every crisis also comes with opportunities. Innovative tools are increasingly being used in aviation that will also be valuable in containing future pandemics such as photo-epidemiology to assess mask use, mobile applications for contact tracing [9], antiviral materials and coatings for the decontamination of inanimate surfaces [10].

A common denominator as a baseline to determine risk versus benefit has always been, and will always be, a major challenge in deciding on the in- or exclusion of an intervention in the heterogenic population that defines 'a traveller'. Trying to plot a way for safe airline travel in the vast expanse that is the SARS-CoV-2 pandemic, is no different. Given the complexity of the task, it is difficult, if not impossible to provide clear-cut, undisputable evidence for or against the effectivity, efficacy and effectiveness of many current interventions. All taken together; undeniably, with the often subjective interests of various stakeholders involved, we have to brace ourselves for some further delays prior to departure, frustration on the runway and in-flight turbulence on our way towards a 'new normal' in post-pandemic air travel.

Potential conflicts of interests

None of the authors has any conflict of interest to declare.

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