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Air travel in the time of COVID-19

The COVID-19 pandemic is changing the way we think about travelling. Most countries in the world have adopted some measure of lockdown or restriction to movement to reduce transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and ease the burden of admissions in struggling health systems. These measures have raised questions about the safety of travelling for work and leisure, and current recommendations discourage unnecessary travel. Although the risk of contracting an infectious disease when travelling has always existed, the COVID-19 pandemic has made travellers more aware of this possibility.

However, with the relaxing of lockdown measures in some countries in light of reductions in the number of COVID-19 cases and the holiday season in the northern hemisphere, many people are facing the dilemma of choosing to travel after months of restrictions or to remain at home for fear of being confined in an aeroplane for hours with other people. Considerations include where it is safe to go, what is the risk of travelling, and what new measures are in place to reduce the risk of COVID-19 for those who decide to travel.

Many countries have introduced border closures to prevent the arrival of infected travellers from countries where there is continuing community transmission of SARS-CoV-2 in order to protect progress made in the control of the pandemic. Global surveillance of the dynamics of the COVID-19 pandemic is a key element to inform governments around border closures, which is a decision with heavy implications for the economy, especially for countries that rely on tourism as a source of income. In many cases, instead of full border closure, quarantine is required for any traveller coming from countries where COVID-19 is rife. These measures are dynamically applied depending on changes in the epidemiological situation: an extreme example was quarantine for passengers on a flight from Nice to Oslo because they landed 1 min after Norway had declared France a high-risk country. Some countries are instead introducing travel bubbles, also known as coronavirus corridors, which allow the opening of borders with specific countries they deem safe while maintaining more rigid restrictions for the rest of the world.

Beyond what countries decide, individuals still need to balance benefits and risks of the decision to

travel, and with most cruise ships not operating at the moment, the focus for international travellers is on flying. The very idea of being in close proximity to strangers with an unknown infection status for hours is understandably a concern, although cases of SARS-CoV-2 transmission on aeroplanes have been very few so far. After the emergence of COVID-19, airlines and airports introduced new rules and measures to minimise the chances of infection with SARS-CoV-2: wearing masks in airports and on aeroplanes, expanded cleaning of public spaces to reduce the presence of the virus on inanimate surfaces, physical distancing (at least 2 m), and hand sanitising. Some airlines have reduced the number of passengers allowed on a flight to guarantee more distance between travellers or they have cancelled food and drink sales during the flights. Despite concerns about the spread of SARS-CoV-2 through air ventilation, aeroplanes benefit from air-conditioning systems with far more sophisticated and effective filters than those generally found on the ground. The high efficiency particulate air filters used on aeroplanes have been found to remove almost all particles of the typical size of coronavirus.

What does the future hold for travellers? The availability of a COVID-19 vaccine will be instrumental in reinstating confidence in travellers. However, it is expected that many airlines will cut services such as meals, drinks, and free magazines, not so much for economic reasons but as a way to limit so-called touchpoints, which are opportunities for SARS-CoV-2 transmission via close physical proximity between flyers and crew. Rapid testing for COVID-19 for both crew members and passengers could become a regular feature. Enhanced cleanliness and sanitisation will become the norm. Use of masks or other protective equipment will become more common. Touchless technology will reduce human interaction and facilitate payments and processes linked to travelling.

Following the terrorist attacks of Sept 11, 2001, travellers adapted to enhanced security controls in airports and strict rules regarding their luggage. The COVID-19 pandemic may similarly redefine what is normal for travellers, with a potentially positive outcome of reducing the risk of transmission of many other infections besides COVID-19. ■ *The Lancet Infectious Diseases*



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