

Editorial

COVID-19 vaccine passport for safe resumption of travel

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Through discipline comes freedom.

Aristotle, ancient Greek philosopher (384–322 B.C.).

Coronavirus disease 2019 (COVID-19) pandemic has significantly affected the lives of billions of people with considerable health, societal and economic consequences globally. The spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) continues despite the implementation of effective restrictive public health measures, including strict travel restrictions.¹

Tourism is one of the world's major economic sectors accounting for 7% of global trade in 2019. Overall, tourism is the third largest export sector of the global economy. For some countries, this represents over 20% of their Gross Domestic Product.² Tourism is one of the sectors mostly affected by the COVID-19 pandemic, impacting economies, livelihoods, public services and opportunities worldwide.² In the context of the COVID-19 pandemic, an unprecedented 73% drop was recorded in international tourism in 2020, while demand for international travel remained low at the beginning of 2021. International tourist arrivals plunged by 87% in January 2021 (Supplementary Figure 1), amid new outbreaks and tighter travel restrictions following a decline of 85% in the last quarter of 2020. In February 2021, 32% of destinations worldwide implemented complete border closure and another 34% partial closure.³ According to United Nations World Tourism Organization, this would represent a loss of 260 million international arrivals compared to pre-pandemic levels.³ Two scenarios considering a possible rebound in international travel for the second half of 2021 have been outlined; a rebound in July with a 66% increase and a rebound in September leading to a 22% increase in international arrivals. In this case, arrivals would still be 55 and 67% below the levels of 2019, respectively.

These scenarios are based on many factors, most notably a major lifting of travel restrictions, the successful COVID-19 vaccination programmes and the introduction of harmonized protocols including the Digital Green Certificate planned by the European Commission.^{3,4}

The deployment of COVID-19 vaccines offers a hope for the alleviation of the immense health, societal and economic tolls of the COVID-19 pandemic. Real-life data confirmed that licensed COVID-19 vaccines are safe and highly effective in providing protection against symptomatic and severe COVID-19 and also against laboratory-confirmed SARS-CoV-2 infection and transmission.⁵ There is also evidence indicating that vaccinated individuals, when infected, may be less likely to transmit SARS-CoV-2.⁵ However, the duration of protection in such individuals, as well as possible protection against emerging SARS-CoV-2 variants remain uncertain.⁵

In light of the deployment of COVID-19 vaccines worldwide, there are ongoing discussions on the exemptions or relaxations of travel restrictions for fully vaccinated travellers. Some countries around the world, now rolling out COVID-19 vaccines, have already taken measures to exempt fully vaccinated individuals from some of the requirements that are usually applied to the general population by implementing 'vaccine passports' for the purpose of travel as well. This opens a critical window to promote the safe resumption of international travel.⁵

Vaccine passports are referred to a proof of vaccination against COVID-19 and are linked to the identity of the holder.⁶ Vaccine passports differ from 'immunity passports' which are referred to evidence of past infection with laboratory confirmation (Supplementary Table 1).⁷ Immunity passports are currently not recommended by either European Center for Disease Control and Prevention or the World Health Organization (WHO) due to

Table 1. Vaccine passports: Areas of implementation and challenges^{6,9}

Areas of implementation	Challenges
<ul style="list-style-type: none"> • International travel • Returning to work (e.g. healthcare workers, teachers, crew members on conveyances, workers at ports of entry) • Education (e. g. academic institutions) • Attending athletic events • Attending mass gatherings 	<p>Scientific challenges</p> <ul style="list-style-type: none"> • duration of protection • protection against emerging SARS-CoV-2 variants • efficacy on decreasing virus transmission • timing of booster doses • protection against asymptomatic infection • lack of data on vaccine efficacy for specific groups* <p>Ethical challenges</p> <ul style="list-style-type: none"> • equity issues (e.g. limited access to vaccines and potential discriminations) • restriction of movement for unvaccinated people • access to technology (e.g. exclusion of people without smart phones for digital vaccine passport) <p>Legal challenges</p> <ul style="list-style-type: none"> • protection of privacy • validity and verification of documentation • forgery

*children and pregnant women

uncertainties including duration of immunity and the possibility of virus shedding by immune people, while there are also issues regarding re-infection and susceptibility to new viral strains.⁷ The purpose of vaccine passport is to be used in the context of COVID-19 pandemic, to facilitate international commercial trade and travel or for other reasons without compromising personal safety and public health (Table 1). Therefore, international bodies have explored potential standards and vaccine passport solutions, with an initial focus on international travel.⁶

Vaccination certificates are not new. International Certificate of Vaccination or Prophylaxis (ICV), a different type of proof of vaccination, already exists under international health regulations (IHR). The International Certificate of Inoculation and Vaccination was established first by the International Sanitary Convention for Aerial Navigation in 1933 in The Hague. This was replaced and completed by the Fourth World Health Assembly which adopted the International Sanitary Regulations in 1951. In 1969, the IHR adopted by the Health Assembly, which initially covered six 'quarantinable diseases', was amended in 1973 and 1981, to reduce the number of covered diseases from six to three (yellow fever, plague and cholera) and to mark the global eradication of small pox. By 1980, ICV remained only for yellow fever. In the revised IHR in 2005, the model of ICV or prophylaxis replaced the ICV or revaccination against yellow fever.⁸ ICV is aiming at protecting people travelling to areas endemic for infectious diseases different than those at their country of origin and reducing the risk of their introduction into non-endemic areas. The WHO, currently, endorses internationally recognized certificates with proof of yellow fever vaccination for entry into certain countries, proof of meningococcal vaccination for Hajj pilgrims and proof of poliomyelitis vaccination in certain circumstances; WHO issues every 3 months temporary recommendations allowing certain affected

countries to require proof of polio vaccination for international travellers.⁸

Although the primary purpose of the vaccine passport is to protect the health of individuals and their contacts, currently, the WHO's position is that national authorities and conveyance operators should not introduce requirements of proof of COVID-19 vaccination for international travel. The outcome of its implementation may potentially lead to challenges which should be considered before the introduction of such requirements by States Parties for outgoing or incoming international travellers, pursuant to provisions of the IHR (2005), including scientific issues in relation to vaccine characteristics (Table 1).⁹ In addition, limited access to COVID-19 vaccines worldwide, particularly in low-income countries, may raise ethical issues by introducing a requirement of vaccination as a condition for travel; this can potentially affect equitable global access to a restricted vaccine supply and the benefits of vaccination for societies and overall global health.⁶ Legal challenges should be also considered. States Parties who have agreed to the provisions of the IHR are expected to comply with the terms of their agreement regarding the introduction of a requirement for proof of vaccination for international travellers. In addition, vaccines must be approved by WHO and be of suitable quality and available worldwide.⁹ Technological issues should be considered such as guidance for the use of digital technologies for vaccination documentation providing the ability to uniquely identify individuals and their validation of vaccination status (Table 1).⁹ Some barriers may be also raised including vaccination refusal and hesitancy by individuals, vaccination of unreachable or undocumented migrants, forgery and fraud.¹⁰ The use of these documents can also affect the perception of 'acceptable risk' i.e. essential travel vs discretionary travel where systems might accept greater risk in the former case.

With the rollout of COVID-19 vaccines, discussions of vaccine passports have been intensified. The USA, UK and the European Union are currently considering their feasibility; Australia, Denmark and Sweden have committed to implementation; Israel, which leads the world in vaccination rate, is already issuing 'green passes' to vaccinated residents.¹¹

Now more than ever, tourism needs strong political support and joined-up action. Harmonized travel and health rules are essential to restore confidence and restart tourism which will contribute to economic growth globally. Considering the current circumstances, immediate policies are needed to offer reasonable ways for balancing protection of public health with a partially return to pre-pandemic era normality. Governments can start by establishing standards and guidelines for reliable proof of vaccination which can be adopted by the travel sector and take the lead on vaccination-related travel policy. Vaccine passports which aim at facilitating people to travel are to be used primarily, as a standardized and interoperable form of proof of vaccination for travellers with verifiable credentials, and with the reservation to ongoing scientific, ethical, legal and societal discussions. This should be based on appropriate technologies through international cooperation, open interoperability standards and harmonization across complex systems in order to support access to secure data or exchange. Currently WHO is working on a digital vaccination certificate in collaboration with partners to establish a governance framework and specifications for its implementation at both national and international levels.⁹ Such WHO-approved ICV type would be the 'gold standard' followed by the national and industry-associated options as alternatives; however the development of multiple documents by state entities and different industries might be a big challenge to deal with.

In view of certain barriers that may be raised, alternatives and exemptions may need to be considered. COVID-19 is an emerging disease. The challenges in relation to vaccine passports are also new in detail, however not unfamiliar in kind. Vaccine passports, in some form, are likely to be widely implemented for a certain period of time, as a temporary recommendation, during the pandemic. This outcome seems inevitable; however if the way of use of such vaccine passports is carefully navigated, it can contribute greatly to a safe opening of travel.

Supplementary data

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Conflict of Interest

There is no conflict of interest to declare.

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