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Health Economic Alternatives for Future Pandemic Travel

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Key Messages:

- While striving to reach herd immunity during an infectious pandemic, rapid and effective test results may be sufficient for travel instead of requiring only vaccinations, which have until now not fully covered many populations.
- Medical certification that a traveller has recovered from recent infection may serve as fitness for safe travel, especially from areas where diagnostic tests and vaccines may not yet be readily available or accessible.
- Certification of fitness to travel for special cases, such as allergic conditions, pregnancy, and medical emergencies, may be acceptable with the requisite personal protective equipment and assistance.

Global efforts to control the coronavirus disease (COVID-19) pandemic have had a major impact on the international travel industry. For the most part, fortunately, these efforts have evolved into solutions that now focus on balancing health and the economy.

Regional pandemic experts who have been directly involved in the development and implementation of COVID-19 policies within the Economic Research Institute for ASEAN and East Asia (ERIA) member countries were interviewed to share their opinions and experiences, particularly regarding travel. In this policy brief, medical experts from Indonesia, Japan, Malaysia, the Philippines, and Thailand reveal their national best practices based on their local evidence base.

Thereafter, alongside information from other ERIA members, including Cambodia, China, India, and Singapore through the ERIA Healthcare Unit's webinar series on 'Pandemic Best Policy Strategies: Balancing Health and Economy', recommendations for future pandemic best practices for travel are considered.

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Introduction

Balanced health economic policies can help the regional travel industry recover and reduce negative economic impacts during future pandemics

Although the coronavirus disease (COVID-19) pandemic has now become a secondary concern throughout the world, it remains a public health issue that can provide valuable lessons. The travel industry is only beginning to recover from the pandemic since some Asian nations enforced extensive restrictions in terms of limiting travel for long periods or mandating numerous requirements. This brief proposes policy recommendations to help mitigate the impacts from future crises.

In ERIA member countries, restrictive health policies during the pandemic significantly affected the economy, especially in tourism-dependent countries such as Thailand. Based on the relative success of other regions, balanced government health policies concerning travel could minimise the impact of a pandemic on the travel industry without significant detriment to health. Of course, the local customs, practices, and attitudes of each culture must always be considered. Therefore, below are possible general travel health policies for the Association of Southeast Asian Nations (ASEAN) and East Asia that could help mitigate the economic impact on travel during future pandemics.

Issues regarding masks will not be discussed in detail here. World Health Organization (WHO) studies have shown that masks help prevent the spread of COVID-19, and proper masking within Asian cultures has always

been a consideration to protect against the spread of infection, especially during travel. Masking should, however, be discussed within the context of diverse cultures. Frequent travelers are advised to use tissues to cover coughs and dispose of them as a simple individual infection control measure, especially in enclosed areas such as airline cabins.

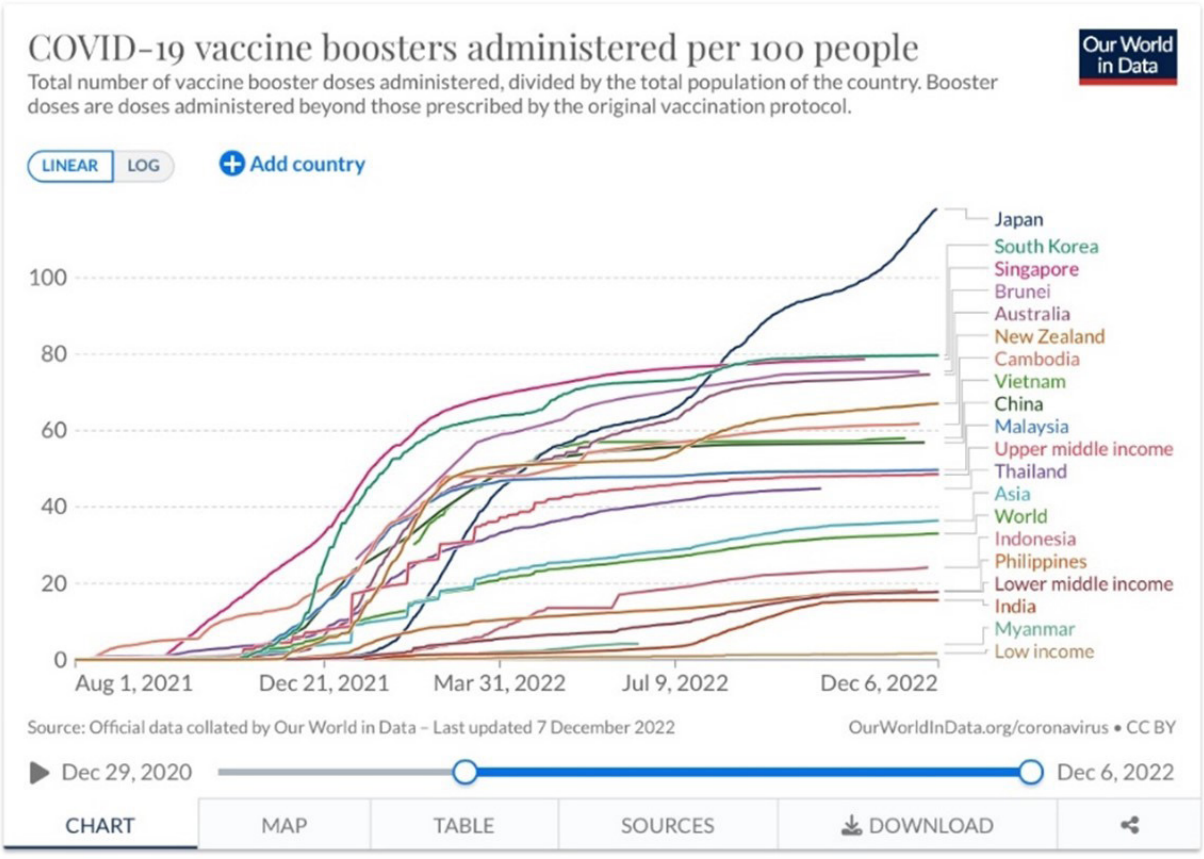
Reaching herd immunity

As of the fourth quarter of 2022, most ERIA member countries required three doses of WHO-approved COVID-19 vaccines (two doses and one booster), whether of one brand or a mixture of brands, to travel across international borders. Without a booster, COVID-19 tests were required – the polymerase chain reaction (PCR) nasopharyngeal swab, a saliva test, or a rapid antigen test.

The underlying health principle when these mandates were being developed was the target of mitigating the number of deaths/severe cases or possibly achieving herd immunity – the percentage of the population that needs to become immune for the disease rate to decline. The more contagious a disease, the higher the percentage needed. For COVID-19, initial estimates ranged from 70% to 85%, which should theoretically be achievable for most diseases through survivors of natural infection alongside the protection afforded by effective and safe preventive vaccines. However, because of the mutation rate of SARS-CoV-2 variants, and based on current medical knowledge that neither natural nor vaccine immunity are long-lasting, herd immunity should not remain the goal. Reinfection even after complete vaccinations has been recorded, explained as the waning effectivity of vaccines over certain periods (an average of 6 months).

Vaccine policies would therefore necessitate continuous short-term boosters. The percentage of the population boosted in each ERIA member country as of December 2022 is shown in Figure 1. Technically, that would equate to the percentage of the population available to travel freely without tests. For example, around 30% of the Chinese population would not be eligible to travel.

Figure 1. Percentage of the Population Boosted per 100 People in ERIA Member Countries, December 2022



Source: Compiled from ourworldindata.org/coronavirus (accessed 28 August 2023).

Based on these data, large numbers of the population in ERIA member countries were affected by stringent vaccination requirements for travel, which in some cases replaced the initial expensive diagnostic test. These were added to the already numerous prerequisites prior to COVID-19.

As part of the solution, rapid tests were developed and their costs eventually decreased, albeit gradually. Clearing passengers for travel through less costly but effective rapid tests would have been a more reasonable and justifiable measure to implement as soon as they became available. Moreover, continuing with such a policy without the need to shift to strict vaccination measures could have saved the travel industry from severe suffering. Furthermore, in cases where border measures were not implemented early, evidence from experts has revealed that once community transmission had started, the number of positive cases arising from international travel became negligible. Still, when variants are rampant and doubtful test results appear from certain countries, a host country can of course require additional tests upon arrival.

A promising policy for future novel pandemics would be to continue considering effective rapid test results to clear passengers for travel purposes while safe and effective vaccines are being developed, even under the inherent timeframe characteristic of pandemics. Moreover, in the case of post-infected survivors, some countries have accepted natural immunity as sufficient or contributory towards immune status. These have included Canada, Hungary, Iceland, Israel, and the United Kingdom.

Decision-makers must then resort to a health economics risk–benefit analysis, consider vaccine hesitancy, and offer alternatives for those who cannot be vaccinated. Overall, however, government leaders must be adaptive to the new evidence found during each pandemic and ensure that they raise awareness in their respective populations as to the reasons behind shifting policies.

A recommendation to consider simple, effective, safe, and less costly rapid diagnostic tests at such uncertain times during a pandemic's course could mitigate the impacts on travel from future pandemics.

Post-infection certificate

As mentioned earlier, alongside the findings from studies that found vaccine effectivity to decline after 3–6 months, which became the rationale for (continuous) boosting, academic data also support longer natural protection after surviving an infection. In fact, WHO studies revealed that post-COVID-19 infection immunity decreases much more slowly and can safeguard for up to 6–8 months. Yet, recent studies have also shown that boosting post-infection individuals with a vaccine can prolong the protection. Therefore, it would seem that the current knowledge and expert opinions support dual protection of immunity through both natural infections and vaccines.

Considering that recent natural infection can provide sufficient protection, recognition of relatively prolonged protection from natural immunity can be supported. Even without extensive studies, it has long been an accepted medical principle that natural protection can arise after infection. Although confirmation of an individual's immune status through detailed testing could provide the necessary scientific basis for such status, this type of testing can be expensive and time-consuming.

A recommendation to accept post-infection natural immunity for a designated period, akin to the support given to vaccines, could therefore be designed. Evidence of post-infection status could be considered, e.g. a medical certificate provided by a qualified physician. In this regard, the physician would likely order a diagnostic test to affirm a negative result. Such diagnostic test results would adhere to a harmonised international platform to ensure genuineness.

Certificate for special cases

Diagnostic test results are a form of medical evidence. Where they are not available, or are too costly, a medical certificate from a physician, whether infectious specialist or generalist, could suffice as proof of good health or proof of past infection.

Physicians who sign false medical certificates risk losing their medical licences; therefore, in general, a certificate signed by a licensed physician constitutes an official document authorising an individual's capacity to travel. Similar certificates are already issued for sports events, persons with disabilities, and the psychological need to travel with an emotional support animal.

Policy Recommendations

The following recommendations may be applied to future variants and pandemics as government decision-makers adapt to the peculiarities of each pandemic:

1. *Accept diagnostic test results as a travel health requirement, rather than relying solely on vaccinations*

While research and development prioritises efficient and effective rapid diagnostic tests during the early stages of an infectious pandemic, national governments should protect both the health of their citizens as well as their international travel industry by prioritising efficient and effective diagnostic test results as the requirement to travel as soon as they become available and throughout a pandemic. While striving to reach herd immunity during an infectious pandemic, rapid and effective test

results may be sufficient for travel instead of requiring vaccinations, which have until now not fully covered many entire populations.

2. *Support the acceptance of recent post-infection natural immunity as evidence of fitness for travel*

Ministries of Health could further help to balance economic concerns by recognising, recommending, and supporting the acceptance of recent post-infection natural immunity as sufficient protection for travel, with valid medical certification. Medical certification that a traveller has recovered from recent infection may serve as fitness for safe travel, especially from areas where diagnostic tests and vaccines may not yet be readily available or accessible.

3. *Support the acceptance of medical exemption certificates covering special cases*

Ministries of Health could formulate guidelines to accept legal medical certificates of fitness for travel in special cases, such as when diagnostic tests are not available or for valid medical reasons. Certification of fitness for travel for special cases, such as allergic conditions, pregnancy, and medical emergencies, may be acceptable with the requisite personal protective equipment and assistance.

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