COVID-19 in Asia Pacific:

Border Control and Path to Reopening

Event Report

NUS National University of Singapore

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INTRODUCTION

On 21 Oct 2020, healthcare policy and medical experts from across Asia Pacific came together for a virtual forum to discuss the current state of border control policies in the region. While closing borders remains one the most effective strategies to reduce international transmission of COVID-19, travel restrictions have resulted in serious socioeconomic impacts to most countries, so policymakers are keen to explore emerging opportunities and practical considerations for reopening.

The event, which was hosted by the Saw Swee Hock School of Public Health at the National University of Singapore (with support from Roche Diagnostics Asia Pacific), included presentations and panel discussion with leading government and healthcare officials in Asia Pacific. The speakers, in order of appearance during the programme, were as follows:

- **Prof Teo Yik Ying** (moderator) — Dean, Saw Swee Hock School of Public Health, National University of Singapore
- **His Excellency Fabrice Filliez** — Swiss Ambassador to Singapore
- **Dr Ashley Bloomfield** — Director-General of Health and Chief Executive, Ministry of Health, New Zealand
- **Dr Anies Baswedan** — Governor of Jakarta, Indonesia
- **Dr Vernon Lee** — Director of Communicable Diseases, Ministry of Health, Singapore
- **Dr Youngmee Jee** — Special Representative for Health Diplomacy, Korea Foundation
- **Dr Manisha Shridhar** — Regional Advisor, World Health Organization (WHO), Southeast Asia Regional Office
- **Prof David Lye** — President, Society of Infectious Disease (Singapore); Executive Committee Member, Asia Pacific Society of Clinical Microbiology and Infection (APSCMI)

EXECUTIVE SUMMARY

This report will highlight some of the key learnings from these discussions, which centred on three broad takeaways:

1. **Diagnostic testing remains central to the management of borders.** PCR testing is the most frequently used in border control management, but some countries are working to evaluate the utility of rapid antigen tests as a faster and lower-cost alternative.

2. **Gradual easing of restrictions is possible through careful risk management.** Green lanes and safe travel zones can allow visitors to circumvent lengthy post-arrival quarantines and other requirements that deter travel, but many precautions are necessary.

3. **Global collaboration is essential to drive greater reopening.** Multilateral organisations are currently developing frameworks to support the easing of restrictions, including common standards and validation systems for test results and vaccine records.

Note: this event was held under Chatham House Rules, so no speaker will be quoted directly in this report. Moreover, the facts and ideas described herein reflect our interpretation of the discussion and should not be directly attributed to any specific speaker. Finally, this is a rapidly evolving situation, so further research and verification is recommended for any readers that seek to make policy or personal decisions based on the content of this report.

DIAGNOSTIC TESTING REMAINS CENTRAL TO THE MANAGEMENT OF BORDERS

In the absence of approved vaccines and/or broadly effective therapeutics, diagnostic testing plays a crucial role in border control. There are currently three types of tests available for COVID-19 testing: real-time polymerase chain reaction (RT-PCR) tests, rapid antigen diagnostic tests (RADT), and serology tests. Each modality has its own unique use cases and advantages.

1. Real-time Polymerase Chain Reaction Testing (RT-PCR)

For active infections, RT-PCR (often referred to as simply PCR) has the highest accuracy and is most frequently used for border control decisions, such as quarantine discharge. However, it also tends to be more costly, labour-intensive, and time-consuming than other modalities. Even in ideal conditions, results typically take hours, sometimes days, so if implemented at the border, this approach can add significant wait time for immigration procedures. Moreover, PCR testing requires a skilled health workforce and supplies that are not available at scale in all Asia Pacific countries.

2. Rapid Antigen Diagnostic Testing (RADT)

The RADT is cheaper and faster than RT-PCR, and implementable as a point-of-care (POC) test. As such, it enables travellers to get their results sooner, usually within minutes rather than hours or days. It is suitable for use at the point of departure and arrival, as well as in combination with PCR tests to optimise detection. Given its cost profile, RADT also has utility in resource-poor settings. Its use, however, is limited by having lower sensitivity than PCR, so more work may be needed to determine operational sensitivity and specificity in border control contexts.

3. Serology Testing

Serology testing is not typical for diagnosing active infection. Its primary use is as part of the criteria to determine recovery or stage of illness, as well as for contact tracing or seroprevalence studies. For this reason, it has limited utility for border control management, particularly with respect to immigration and quarantine procedures.

4. Other Testing Considerations

For any test, many commercial kits are available but the quality is varied. Testing kits from reputable companies are generally more reliable than in-house assays and emerging manufacturers. In addition, the quality of specimen collection and logistics may influence the results significantly, so there is close attention paid to sampling procedures. Since PCR tests typically require

nasopharyngeal swabs, and serology tests are based on blood or plasma samples, both are typically collected by trained personnel. Self-collection of RADT specimens is possible under some circumstances, but supervision may be required to ensure that results are reliable.

Other testing modalities that use saliva or even breath-based sampling procedures hold promise to streamline testing procedures further, but are not sufficiently validated for use in most situations, including for border control. It is important to note, however, that the technology and scientific evidence surrounding COVID-19 testing is evolving quickly. The same is true for the national and international guidelines that impact test selection and implementation in different contexts.

GRADUAL EASING OF RESTRICTIONS IS POSSIBLE THROUGH CAREFUL RISK MANAGEMENT

As policymakers attempt to reopen borders, many are seeking solutions to balance current health emergency while restoring the business environment. This means weighing the socioeconomic damage against the risk of importation, the latest evidence around testing and containment strategies, and public perceptions about the COVID-19 situation.

For inbound travel, most countries maintain rigid immigration protocols, particularly for travellers from high-risk regions. Given the risk of COVID-19 transmission during transit, a negative pre-departure and on-arrival PCR test does not guarantee the absence of infection, and so many governments require a 14-day quarantine and repeated testing for all inbound travellers. Many also imposed limits on aircraft capacity and strengthened monitoring of seaports. In addition to international borders, large countries also have policies and face major challenges to manage their internal borders.

In New Zealand, for example, the standard protocol for air passengers includes a 14-day quarantine and PCR testing on day 3 and day 12 after arrival. For maritime arrivals, passengers and crew must have been at sea for at least 14 days and obtain a negative PCR test before shore leave is granted. In addition to testing travellers, New Zealand also performs routine surveillance testing of those working in and around the borders, such as staff in isolation and quarantine facilities.

Such regimes are highly restrictive and deter travel, particularly for short-term visitors. In recent months, some countries developed or considered special travel arrangements, such as green lanes and safe travel zones, which ease restrictions and allow greater movement for essential travel, business travel, and tourism.

New Zealand

New Zealand is developing safe travel zones to enable quarantine-free travel with neighbouring countries like Australia. Such zones may include requirements that visitors reside for a 14-day period in the approved country prior to departure and take separate flights from other non-exempted travellers, and that their countries of residence satisfy minimum levels of no community transmission. In addition, it has already created special isolation facilities for visiting athletic teams, including rugby and cricket, so that international sporting competitions can continue during the lockdowns.

Singapore

Singapore has opened unilaterally to countries with low community transmission rates, requiring inbound travellers only to take an on-arrival PCR test and isolate until a negative result has been obtained. It is also exploring the potential use of RADT testing as part of border control procedures. More recently, Singapore and Hong Kong have been working on a bilateral “travel bubble” agreement, but postponed these plans due to changing risk factors.

South Korea

In May 2020, South Korea also updated it border control protocols, including special exemptions for pre-approved business, press, academic activities, and funerals. This included fast-track arrangements for business travel between South Korea and nineteen provinces in China, with the requirement that inbound travellers undergo 14-day monitoring and a negative PCR test 72 hours before the departure date, as well as a negative PCR test upon arrival. If such conditions are met, the quarantine period can be shortened to 1-2 days—a benefit that was expanded to the United Arab Emirates, Indonesia, Singapore, and Japan in subsequent months.

Indonesia

Indonesia is an archipelago with over 6,000 inhabited islands, requiring tight coordination between cities, provinces, islands, and regions. At first, major cities like Jakarta focused on social restrictions, but after bolstering local healthcare institutions and testing capacity, freedom of movement was increased. Domestic flights are now widely available, but require testing prior to check in by PCR or RADT. Some major tourist destinations like Bali, however, are likely to remain closed to foreign tourists until 2021.

Additional Risk Reduction Measures

Further strengthening of border control measures is possible by pairing diagnostic testing and quarantine protocols with robust contact tracing systems. These systems enable close monitoring of travellers and keep potential interaction with the public at a minimum. In some countries, such as

South Korea, travellers are required to install digital tracking and tracing applications on their smartphones during the immigration process. With the increased use of digital applications for contact tracing, data privacy could be an issue, particularly in countries where there are no existing data protection frameworks.

Other standard measures—such as social distancing and mandatory mask wearing—can also mitigate risk of community transmission of COVID-19 from incoming travellers. After infections spiked due to a super-spreader event related to a local religious group in South Korea, for example, health authorities introduced further measures to restrict or limit large-scale gatherings, including social distancing grading levels based on the number of daily cases and special restrictions for group sizes based on those levels.

GLOBAL COLLABORATION IS ESSENTIAL TO DRIVE GREATER REOPENING

Given the complex, global nature of the COVID-19 pandemic, a collective and multidisciplinary approach is necessary to manage the reopening process. Many governments and non-governmental organisations are working to develop a common framework for risk assessment and transparent criteria for border management. Clear communication, global cooperation, and secure information sharing are essential elements for success.

Various multilateral initiatives are emerging to coordinate these efforts. In the early days of the pandemic, the World Health Organization (WHO) worked with the World Customs Organisation (WCO) and various national pharmaceutical associations to ensure continued movement of essential pharmaceutical products across borders despite travel restrictions and closures. Some governments have also issued subsidises to freight and logistics firms to keep local and international trade lanes flowing.

The Access to COVID-19 Tools (ACT) Accelerator—an initiative of the WHO, the European Commission and France—aims to provide a global framework for information sharing and equitable access to COVID-19 tests, treatment, and vaccines. The WHO also recently partnered with the Estonian government to jointly develop a digital infrastructure for pandemic management, including vaccination certificates.

CommonPass, an initiative of the Commons Project and the World Economic Forum, is another organisation that is developing digital infrastructure for certification of vaccination records and lab results. Private commercial firms are also making moves in this area. Although no precedent

currently exists for digital vaccine or test certificates, the “yellow card” system for yellow fever provides one example of how an international vaccine certification system can work.

Emerging vaccine certification frameworks must take into account the many uncertainties that remain in the vaccine development process. Despite recent progress, all of the most promising candidates are still undergoing scientific and regulatory evaluation. Even if they prove to be safe and effective, manufacturing and distribution constraints may hinder efforts to roll out vaccines at scale.

While multilateral cooperation and shared standards are essential for reopening of borders, no one-size-fits-all solution exists for all countries. Given the major differences in healthcare systems capacity, sociocultural composition, economic needs, and many other factors, international frameworks and best practices must be adapted to local needs. Nevertheless, collective action presents the greatest opportunity for speedy resolution of thorny challenges in border control management and a smooth path to reopening.

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