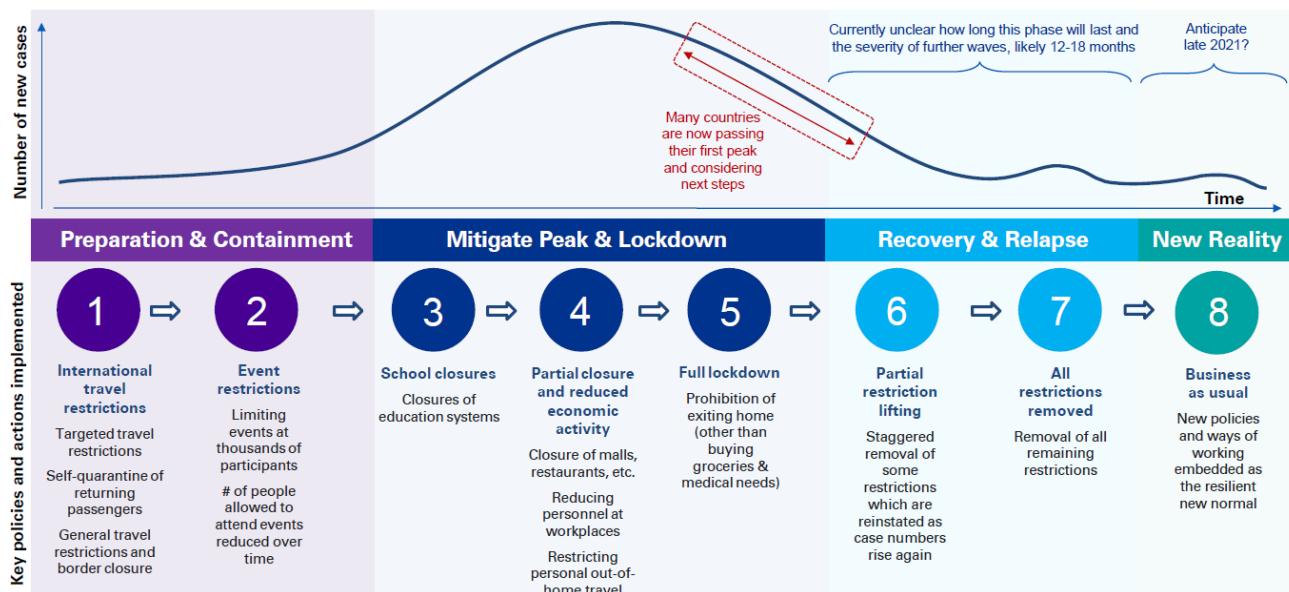


# COVID-19 vaccine: a holistic perspective

## Overlooked considerations for Asia-Pacific leaders

As of this article's writing, there are nearly 30 million COVID-19 cases worldwide (20% of which are in the Asia-Pacific region) and more than 150 prospective vaccines under development. Much has been said about the economic implications of the global pandemic, and hence all eyes are on these vaccines as a critical tool for national re-opening. Clinical and social reforms have already been undertaken (read more about our top 10 health system resiliency strategies [here](#)), and emergency procurement procedures for medical supplies have been activated. So we're ready to go, right? Not quite.



Without politicizing the COVID-19 vaccine in particular, there are already challenges in the Asia-Pacific as it pertains to equitable immunization program distribution as well as access indicators such as pharmacy authorization.

As we have seen with other aspects of health systems in the region (e.g. legacy under-appreciation for e-health), the lack of infrastructure investment has been exposed by the pandemic.

"Planning for the immunization campaign should start immediately, and further investing is needed into the

infrastructure to ensure health systems are ready," said Dr. Catherine Duggan, CEO of the International Pharmaceutical Federation (FIP), which has issued a call-to-action for governments to rapidly support key channels such as pharmacies.

And while the Asia-Pacific as a whole has fared well in relative global terms, the "great re-opening" could fall short of expectations without proper foresight and planning. The purpose of this article, therefore, is to advocate for complete population pathway considerations by Asia-Pacific leaders over the coming weeks and months.

# The lingering issues are in large part non-technical and addressable

It's no secret that health systems in the Asia-Pacific are chronically under-funded. We released a report in March 2020 about the sustainability of healthcare in Southeast Asia looking at, for example, not only the journey to the UN SDG for Universal Health Coverage (UHC) by 2030 but also beyond including specific mention of vaccines. Southeast Asia has a population of nearly 700 million people, yet spends on average <5% of its GDP on healthcare (half of the OECD target) and not surprisingly falls 10 years short on average life expectancy (a whole decade!) as compared to the developed world. Healthcare, as has been shown during the pandemic, is not a cost center but rather a make-or-break factor for successfully exiting the "middle-income trap".

Vaccination Rates (%)				
Type of Vaccines (Related to PPH & Boosters)	IPV1	DTP3	Hib3	HepB3
Indonesia	76	85	85	85
Thailand	97	97	-	97
Vietnam	73	89	89	89
Singapore	98	96	96	96
Malaysia	99	98	99	97
Philippines	41	65	65	65
Japan	98	98	98	99
Republic of Korea	98	98	98	98
India	82	91	91	91
Australia	98	95	95	95
New Zealand	94	92	91	92

This is not an article calling on more investment in healthcare in the Asia-Pacific (there are plenty of such papers already available). Rather it is to point out that the already-modest budgets are more strained than ever. This explains the precarious choices made during the pandemic by country leaders between safety (i.e. shutdown) and re-starting the economies. Perhaps a better indicator of where we are heading with the COVID-19 vaccine, however, is the existing immunization rates (see above).

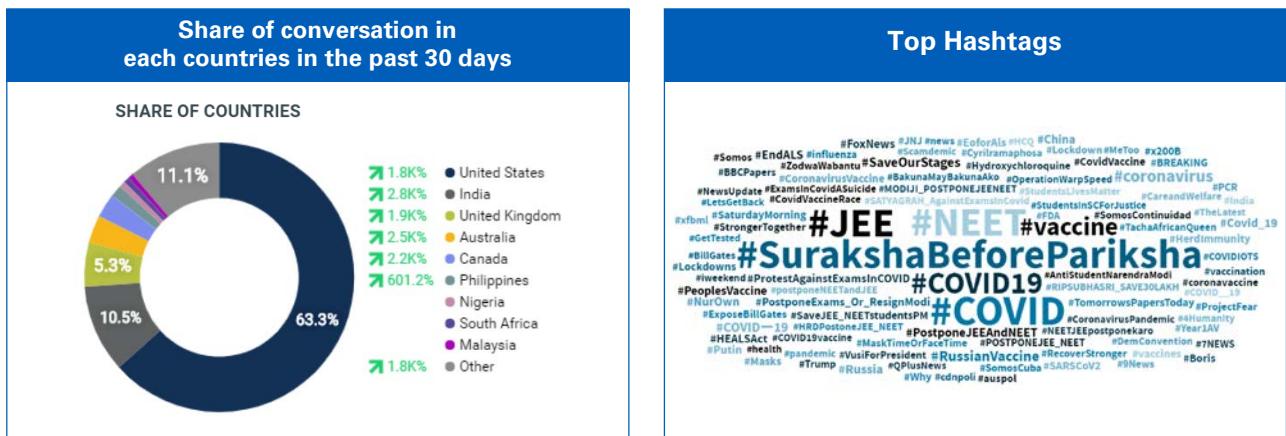
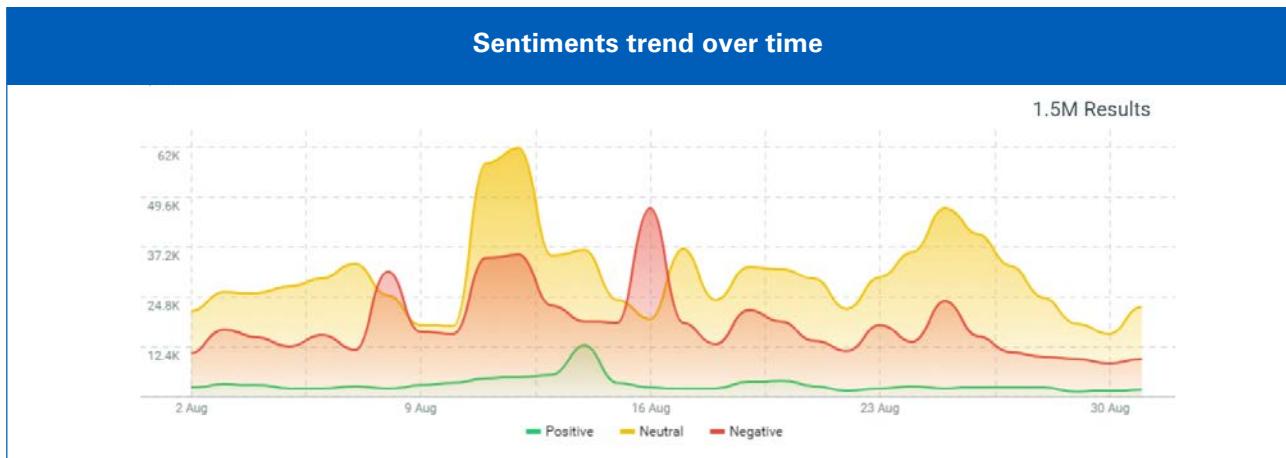
	Vaccine administration by pharmacists
Indonesia	In progress
Thailand	No
Vietnam	No
Singapore	In progress
Malaysia	No
Philippines	Yes
Japan	No
Republic of Korea	No
India	No
Australia	Yes
New Zealand	Yes

Vaccines are among the greatest public health interventions of all time – capable of saving 2-3 million lives annually, with the potential to avert another 20 million premature deaths in LMICs (an economic opportunity cost of \$350 billion). Yet, as shown, the Asia-Pacific region already fails to meet the WHO herd immunity targets. So even when a COVID-19 vaccine is ready, there is limited precedent to build confidence in its equitable distribution.

To compound the above issue, let's look at pharmacy authorization as an indicator of access. Whereas in most parts of the world pharmacy authorization of vaccines is considered standard of care, the current situation in the Asia-Pacific seems bleaker. Health reforms, such as UHC, have positively reshaped decentralization of care, including community-based models. Yet vaccines receive an old-guard level of restriction.

"COVID-19 requires a multi-faceted approach comprising of public education, training of healthcare professionals, and holistic logistics including appropriate vaccine administration venues so as to maintain social distancing," said Dr. Duggan. FIP are providing updates, guidance, events, training packages, and evidence evaluations to support such planning efforts.

The last issue we raise here for Asia-Pacific leaders' consideration in light of the COVID-19 vaccine is population sentiment. COVID-19 aside, vaccines have already been a hot-button discussion item amongst societal circles, testing the limits of scientific acceptance. If we are once-and-for-all moving into a world of patient-centric health systems enabled by telecare and other such consumer-friendly tools, why are we not also considering the power of patient voice in potential resistance to inoculation? The social media conversations are already happening, many of which are not overly-positive and perhaps even negative.



## The missing puzzle pieces

What's important for Asia-Pacific leaders, and the principle argument of this article, is more holistic thinking about subsidizing pandemic impact through the use of a COVID-19 vaccine. Legacy barriers such as health system funding require attention, though we realize they may not be a feasible quick-win options given other priorities and counter arguments at play.

One thing is for sure – all Asia-Pacific leaders must make time to understand the vaccine patient pathways amid respective cultural and sub-geographic tendencies. According to Aparna Mittal, Founder & CEO of [PatientsEngage](#) (a regional patient and caregiver community digital support platform), the conversations and queries have already started. What are the expected efficacies as well as side effects? Will administration be mandatory and door-to-door like the polio vaccine, or optional and at a healthcare facility like the influenza vaccine? Will the vaccine be reimbursed through insurance? What will the consequences be for declining to receive the vaccine? Can I take the vaccine along with existing chronic disease management? What if I'm a previous transplant recipient or taking immuno-suppressants?

"If the COVID-19 vaccine were here today, people are likely to go for it. But one year from now?" said Mittal. "Patient groups are reflecting on the clinical, social, and economic

considerations. Education needs to happen at all levels, as vaccines are not typically required for people to work, only for schooling and travel." Mittal suggested more effort be put into the communications, including on social media and in localized contexts, about the requirements and guidelines for distribution.

Another tactic that may appear even more obvious, yet from our conversations is being entirely overlooked in many countries – procurement planning inclusive of the full array of equipment required to administer the vaccine. As compared to prior, more established vaccine programs in which the doses arrive in pre-filled syringes, the rush for COVID-19 vaccine development, purchasing agreements, and rapid manufacturing arrangements will likely see many regions receiving only the multi-dose vials. If you don't believe us, read [this article on the same](#) from the European Union. The UK's Vaccines Manufacturing and Innovation Centre (VMIC) has shortened construction timelines by half in order to be ready, yet are already facing issues with medical glass bottlenecks as well as putting the large-scale cold chain infrastructure in place. Such a wide target population group for the vaccine puts unprecedented pressure on supply chains. Joined-up procurement for stock of syringes, alcohol swabs, tourniquets, and sharps containers should be immediately undertaken. Especially as the influenza season is upon us, leading to even greater demand of such supplies.

"Becton Dickinson is ramping up production to deliver high-quality solutions to various Government and Non-Government Organizations (NGOs) in support of large-volume vaccination campaigns. We have also recognized that our routine, non-vaccine related products cannot be ignored and we must ensure non-COVID related demand is met at the highest quality levels," said Paul Holt, VP of Medication Delivery Systems, Becton Dickinson Central & South Asia and Japan. "We encourage Government and NGO partners to establish vaccine requirements, so that industry can react to meet demand for vaccine needles and syringes as early as possible."

A final point and missing puzzle piece – before the pandemic, "digital revolution" was all the rage and humanity had become sidetracked by talk of automation, robots, and AI. The ongoing pandemic has re-centered us into the most human-heavy discussion of our generation. We can't emphasize enough how Asia-Pacific leaders must consider not only education of society on this journey (as covered above), but moreover our heroic healthcare practitioner community. The world is already short 15+ million healthcare workers, a portion of whom are not regularly inoculated themselves. Proper training and allied support programs for the safe, effective administration of the COVID-19 vaccine, a human-centric task, could well be the straw that will break many countries' backs.

"Government leaders are encouraged to expand workforce eligibility in order to meet vaccine administration demands," said Dr. Duggan. "For example, pharmacists are often the most frequently accessed healthcare professionals in primary care settings and thus well-placed to administer the COVID-19 vaccine." FIP's vision is to see a world where everyone benefits from safe, effective, quality, affordable medicines and health technologies through such pharmaceutical care services.

## Rational decision making - here's what we need to discuss urgently

We hope this article clarifies several near-term, very actionable points to be addressed as leaders in the Asia-Pacific seek to simultaneously balance health, social, and economic strategies in light of the forthcoming COVID-19 vaccine. Certainly the pandemic has been one of the single most influential events in our population's history, the reaction to which will define the future course of humanity.

We therefore recommend three actions to ensure discussions continue at the right pace:

**1** **Simply put** – greater collaboration across the ecosystem. This includes the ongoing public-private partnerships as well as across drug + device manufacturers, large + start-up companies, and payer + NGO entities.

**2** **Open up the vaccine administration dialog** – it's ok to be vulnerable. Let's get prepared for population sentiments, fluctuating demand preferences, and the realities of inequitable procurement trends.

**3** **Think holistically** – take a moment to conduct end-to-end patient pathway mapping. This should include the traditional route to vaccine, as well as potentially next-gen delivery models such as via pharmacies, at home, and potentially even the use of digitally-enabled tooling.

"Health literacy has definitely improved during COVID-19, so we should leverage the momentum," said Mittal. "However we need clear, accurate, actionable information for patient communities. We are moving quickly, and the risks of failure are high. The power and speed of communications must be noted."

"We anxiously await vaccine availability and the opportunity to support this important global health initiative," said Holt. "We will continue to partner with vaccine delivery programs and work to ensure safe, high quality products for vaccines and vaccine delivery devices."

"There are learnings from previous immunization campaigns, and regions must now support one another," said Dr. Duggan. "Our experience has shown how effective a hub approach to vaccines can be for good practice and equitable access. And this is ultimately the goal of universal health coverage – leave no one behind."

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