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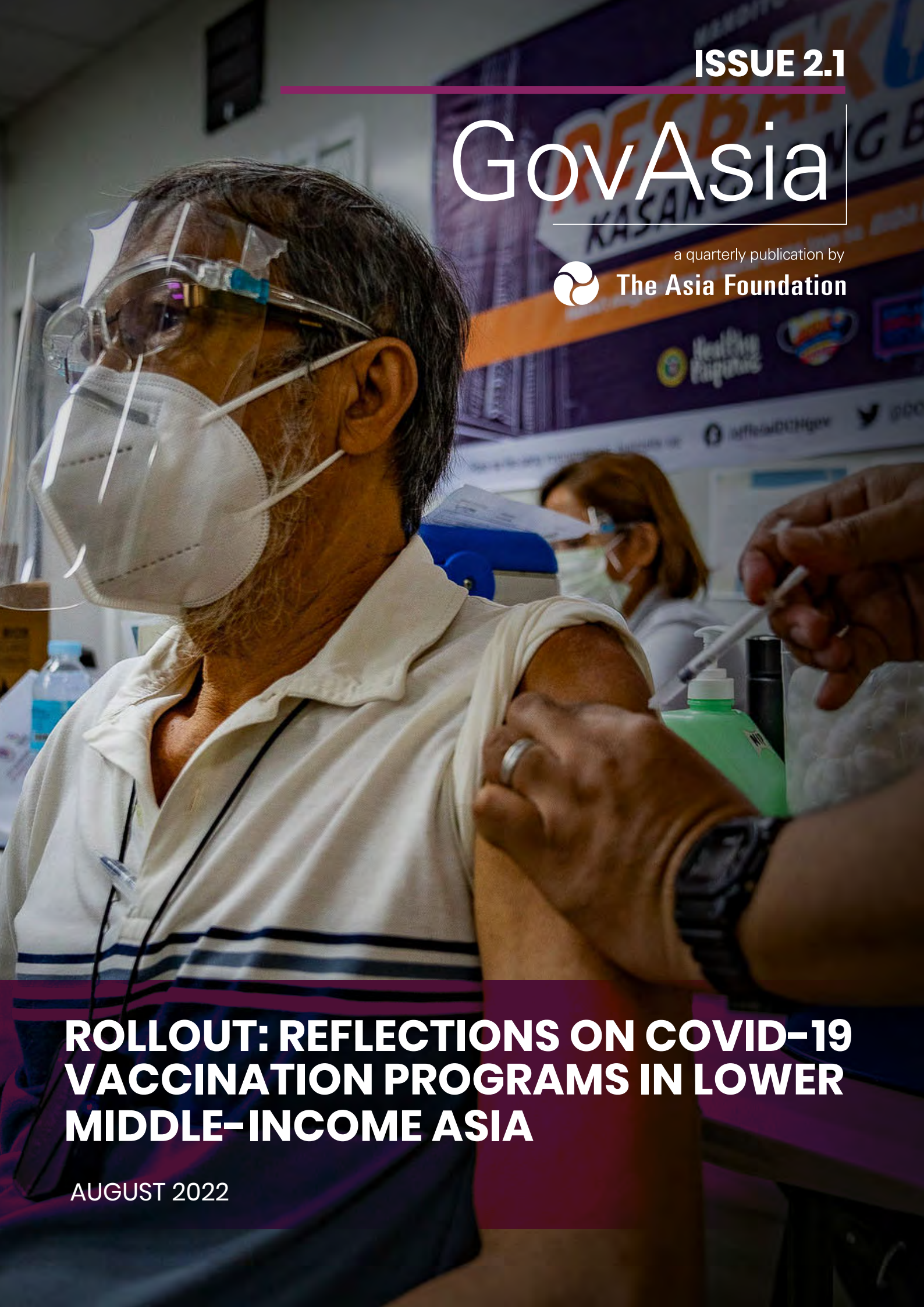

ROLLOUT: REFLECTIONS ON COVID-19 VACCINATION PROGRAMS IN LOWER MIDDLE-INCOME ASIA

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Welcome to Issue 2.1 of GovAsia. Published four times a year, GovAsia provides a platform for The Asia Foundation and its partners to examine the critical social, economic and political problems facing citizens and governments across Asia, drawing on the Foundation's engagement with politically-rooted development challenges. GovAsia aims to facilitate thoughtful debates and build consensus for solutions to the most pressing governance issues facing the region today.

In this issue of GovAsia, we explore four key challenges faced by several lower-middle income countries (LMICs) in Asia as they embarked upon massive universal vaccination campaigns in response to Covid-19. We examine issues related to vaccine shortages; how global supply inequities impacted 11 Asian LMICs; difficulties in rolling out vaccines equitably; and the ongoing challenge of vaccine hesitancy among populations. In unpacking these challenges, we hope to seed the reflection and dialogue needed for a better pandemic response and greater resilience in the future.

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COVER IMAGE: Vaccination rollout in Taguig Lakeshore Mega Vaccination Hub, Philippines (Photo: Asian Development Bank, flickr).

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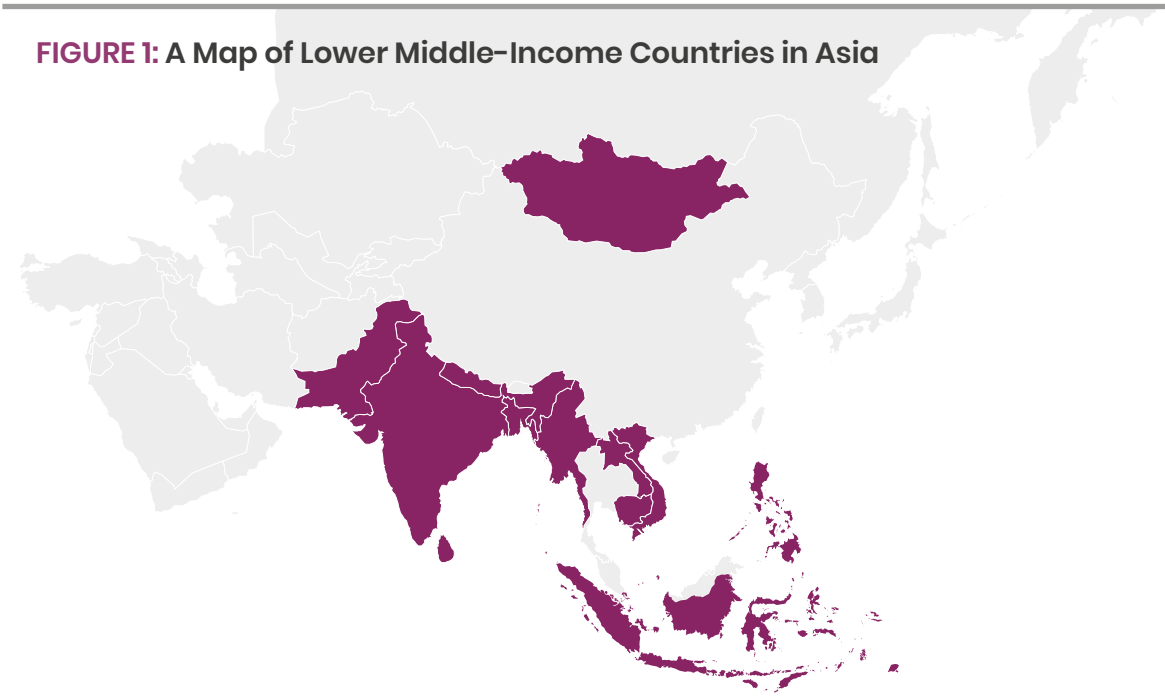
Distribution, preparations and vaccination in SM Center Sangandaan, Philippines.
(Photo: Asian Development Bank, flickr)

INTRODUCTION

Eleven of Asia's larger Lower Middle Income Countries (LMICs)[1] – Bangladesh, Cambodia, India, Indonesia, Lao People's Democratic Republic (PDR), Mongolia, Nepal, Pakistan, Philippines, Sri Lanka, and Vietnam – are home to just over 1.2 billion people.[2] Over the past twenty to thirty years, these countries have significantly reduced poverty and raised standards of living, including through vast improvements in basic service provision. This progress and these countries' capacity for basic service provision in the form mass vaccination against Covid-19 were greatly challenged during the pandemic. It posed a large potential risk and presented a real test of government response in the region. Notably, from the first Covid-19 cases in early 2020 through the release of the first vaccines by the end of that year, these eleven Asian LMICs kept the pandemic relatively well under control in comparison to many other parts of the world.[3] However, the pandemic intensified in 2021 and economies buckled under increasingly costly disease containment measures, revealing administrative and policy weaknesses that Asia's LMICs must address to recover their former economic and social advancements.

Despite their development progress and notwithstanding their significant geographic, cultural, linguistic, and social diversity, as well as their varying political configurations, these countries face distinct challenges in improving the quality of their governance for future progress. Of the six World Bank Governance Indicators – voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption – Vietnam has progressed on four, Cambodia, India and Lao PDR on three, Sri Lanka on two, and Nepal and Pakistan on only one. Although Mongolia hasn't necessarily shown a positive trend on any individual indicator, it stands out from the other LMICs on voice and accountability (along with India) and on political stability (along with Lao PDR). Eight of these 11 countries – Cambodia, India, Indonesia, Lao PDR, Pakistan, the Philippines, Sri Lanka, and Vietnam – have notably improved their government effectiveness. Five have made significant improvements to their regulatory quality, including Cambodia, India, Indonesia, Lao PDR and Vietnam, whereas Mongolia, the Philippines, and Sri Lanka already rated quite well.[4]

FIGURE 1: A Map of Lower Middle-Income Countries in Asia



Source: World Bank, Country and Lending Groups, 2022.

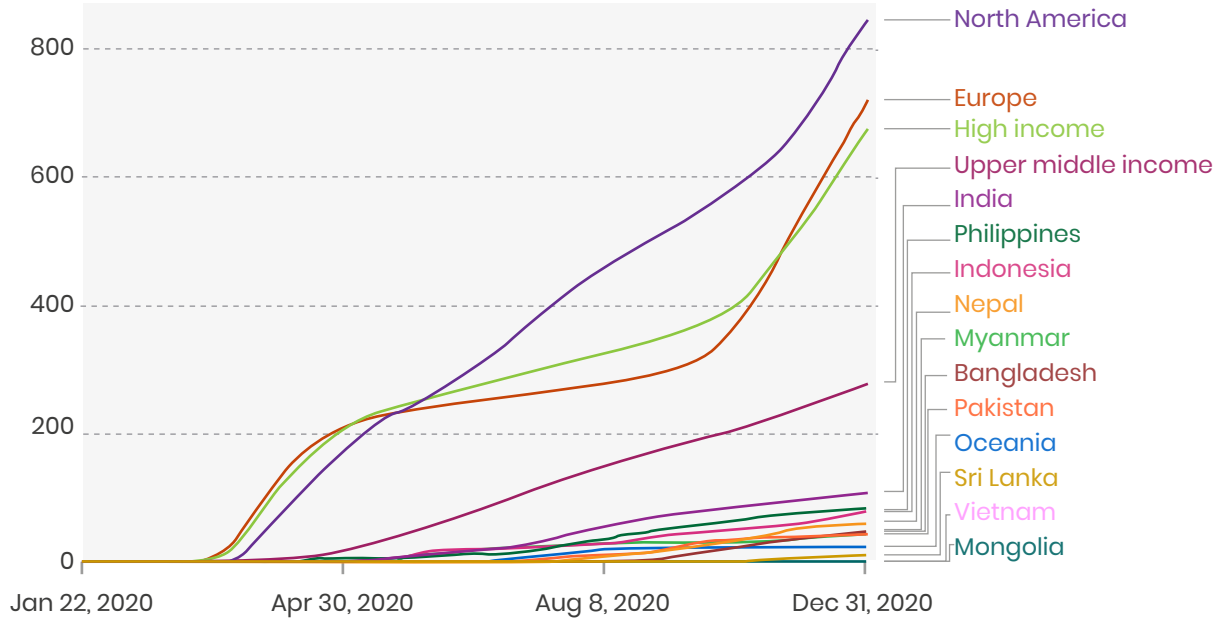
Progress across Asia's LMICs is uneven; it is frequently a case of one step forward and two steps back. Corruption remains endemic in most countries and the 'implementation gap' between the adoption and implementation of policies remains large. This gap is partially caused by institutional weaknesses, which are especially evident in weaker public service institutions at lower government levels.[5] Globally, governance structures and processes continue to be highly patriarchal. In Asian LMICs, these norms continue to inhibit women's full engagement in society, politics, and economies.

Throughout 2020, these eleven countries limited the spread of the Covid-19 virus during the pandemic's first year thanks to their governments' use of reliable data and their populations' adherence to social distancing requirements and other non-pharmaceutical interventions (NPIs). As a result, at the end of 2020, the per capita Covid-19 mortality rate was much lower in Asia than in North America or Europe (Figure 2). Indeed, in Mongolia, the absence of any community spread by the end of 2020 upheld the country as a positive example to others.[6]

By 2021, however, the pandemic's strain on economies and livelihoods was immense, challenging already weak administrations even further as large disease outbreaks and Covid-19 surges, particularly the highly contagious and fatal Delta strain, overwhelmed countries' health systems. By April and May 2021, India experienced a wave of infections that completely overwhelmed clinics and hospitals in several parts of the country, including the capital city, Delhi. To India's north, Nepal was similarly vulnerable. In May, UNICEF observed that South Asia's "hospitals are overwhelmed, there is an acute lack of oxygen and other critical medical supplies, and there is a real risk of fragile health systems collapsing."[7] In April, hospitals in the Philippines struggled to cope.[8] In July 2021, Indonesia flew in emergency oxygen from Singapore when hospitals in Jakarta reached 90 percent capacity.[9] Pakistan and Bangladesh also saw their hospitals stretched to capacity.[10] Cambodia was forced to turn hotels into hospitals to prepare for overflows, while Vietnam constructed massive field hospitals. Only Mongolia and Lao PDR side-stepped the worst of the health crisis, the former having begun its vaccination campaign early and the latter managing to keep case numbers to very low levels.

FIGURE 2: Cumulative confirmed Covid-19 deaths by geography and per capita income, from January 2020 to December 2020 (per million population).

Due to varying protocols and challenges in the attribution of the cause of death, the number of confirmed deaths may not accurately represent the true number of deaths caused by COVID-19



Source: Our World in Data, Cumulative confirmed Covid-19 deaths per million people, from January to December 2020.

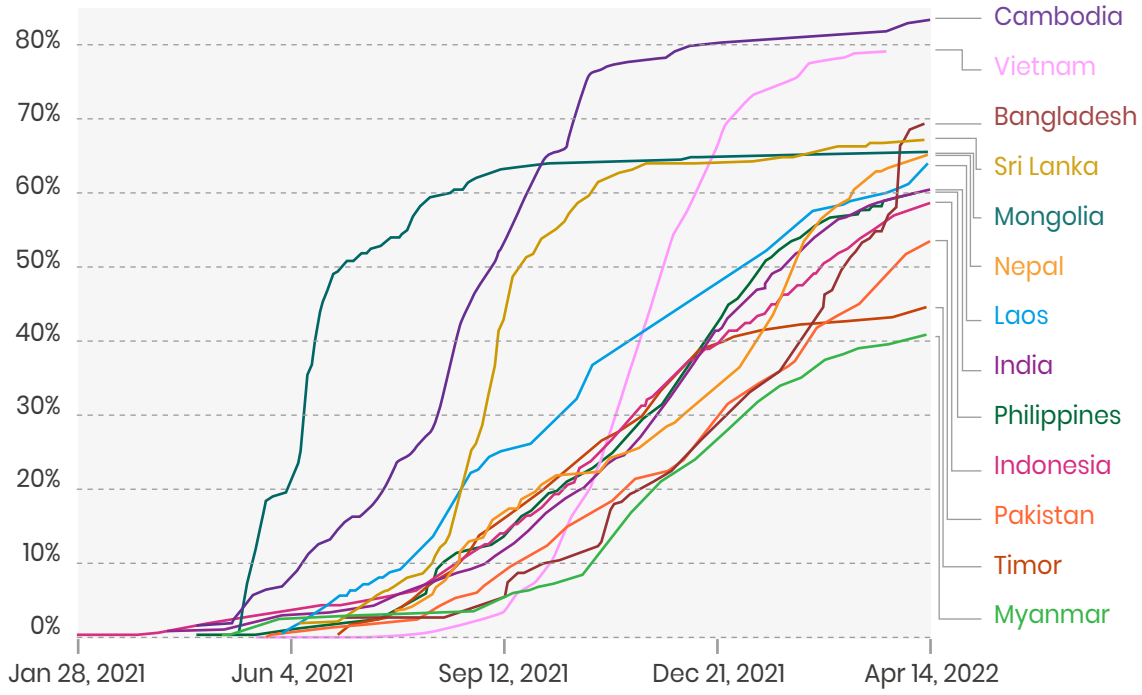
Challenges for Asian LMICs grew as new variants emerged, infection rates increased, and NPI-based preventative measures became increasingly unsustainable.[11] Many countries in North America, Europe, and elsewhere turned to vaccine rollouts to battle back the pandemic, but vaccine rollout faced four major constraints in Asian LMICs: vaccine shortages; barriers to domestic vaccine development and acquisition; ineffectiveness of vaccine rollout; and vaccine hesitancy. Governance did not necessarily lie at the root of these several challenges, but it figured prominently in some.

First, deep inequities in the global distribution of vaccines caused vaccine shortages for all but the wealthiest countries. Only one Asian LMIC produced its own Covid-19 vaccine, which further exacerbated supply issues.[12] Second, most LMICs experienced difficulties in national vaccine roll-out programs. These resulted from a combination of underfunded health systems, corruption in supply lines, elite capture, under-the-counter distribution, unclear government policies, and a lack of national and local government coordination. [13] Third, several LMICs struggled to administer vaccinations equitably and efficiently, despite early-identified priority groups. As the year wore on, the tendency to prioritize economic considerations over health concerns further inhibited efficiency in almost all Asian LMIC vaccination campaigns.[14] Fourth, a few Asian LMICs faced a degree of vaccine hesitancy among the population—although nowhere close to the extent of anti-vax movements experienced elsewhere in the world.[15]

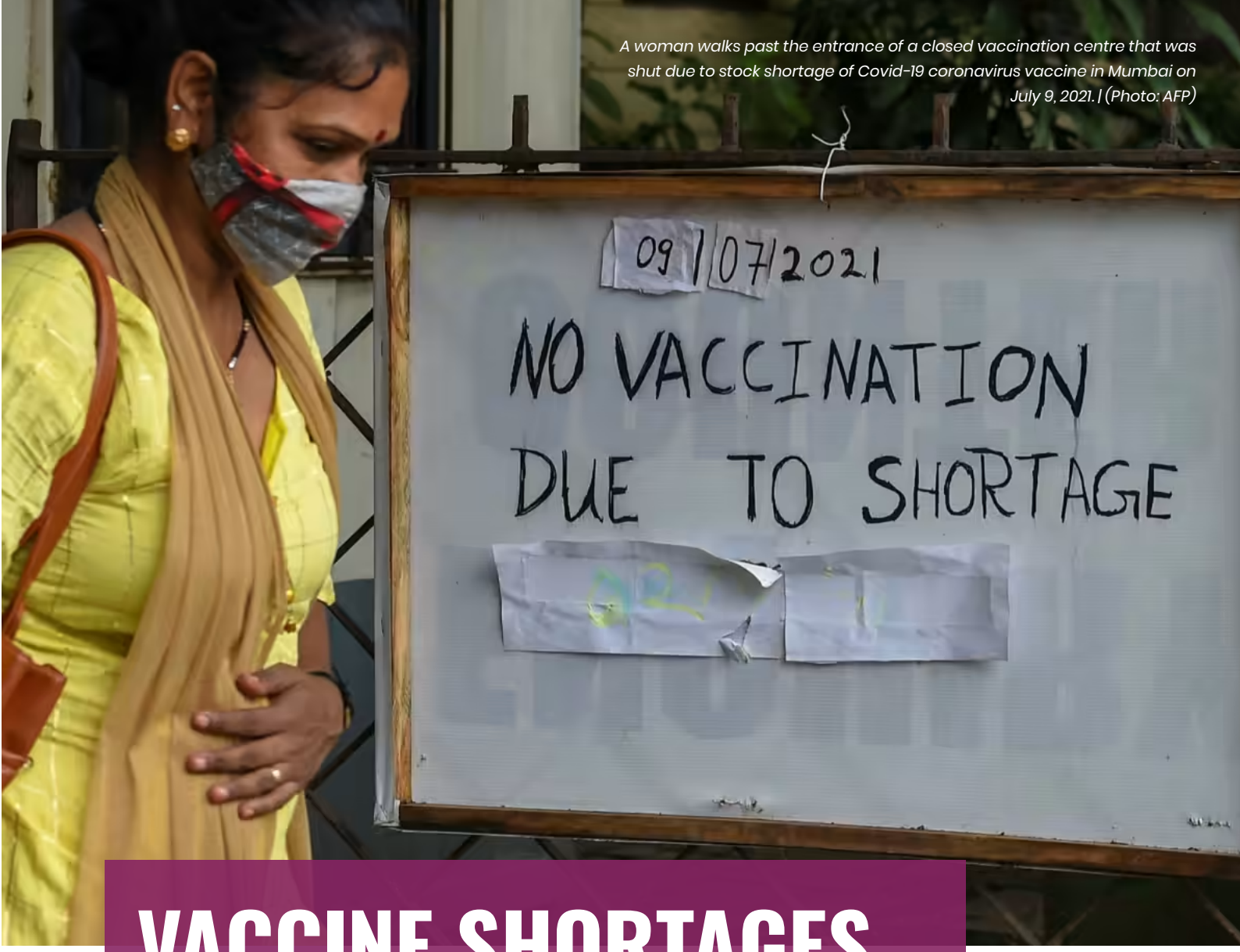
This paper explores how weak governance and other challenges affected the rollout of Covid-19 vaccines in Asian LMICs, providing policy alternatives that countries should prioritize to build greater resilience to future pandemics or other shocks. The pandemic has made it abundantly clear how low and lower-middle income countries need quality universal health systems, with strong emergency response capacity. An assessment of the strengths and weaknesses of vaccine rollouts in Asian LMICs can be a litmus test for the kinds of skills, capabilities, and internal and external political will necessary for Covid-19 and other pandemic responses. The analysis that follows draws on media and academic articles, think tank and international organizations' analyses, and the knowledge and lived experiences of Asia Foundation colleagues.

FIGURE 3: The pace of vaccine rollout across LMIC Asia in 2021 and into 2022

Total number of people who received all doses prescribed by the initial caccination protocol, divided by the total population of the country.



Source: Our World in Data, Share of people who completed the initial Covid-19 vaccination protocol from Janurary 2021 to June 2022.



A woman walks past the entrance of a closed vaccination centre that was shut due to stock shortage of Covid-19 coronavirus vaccine in Mumbai on July 9, 2021. | (Photo: AFP)

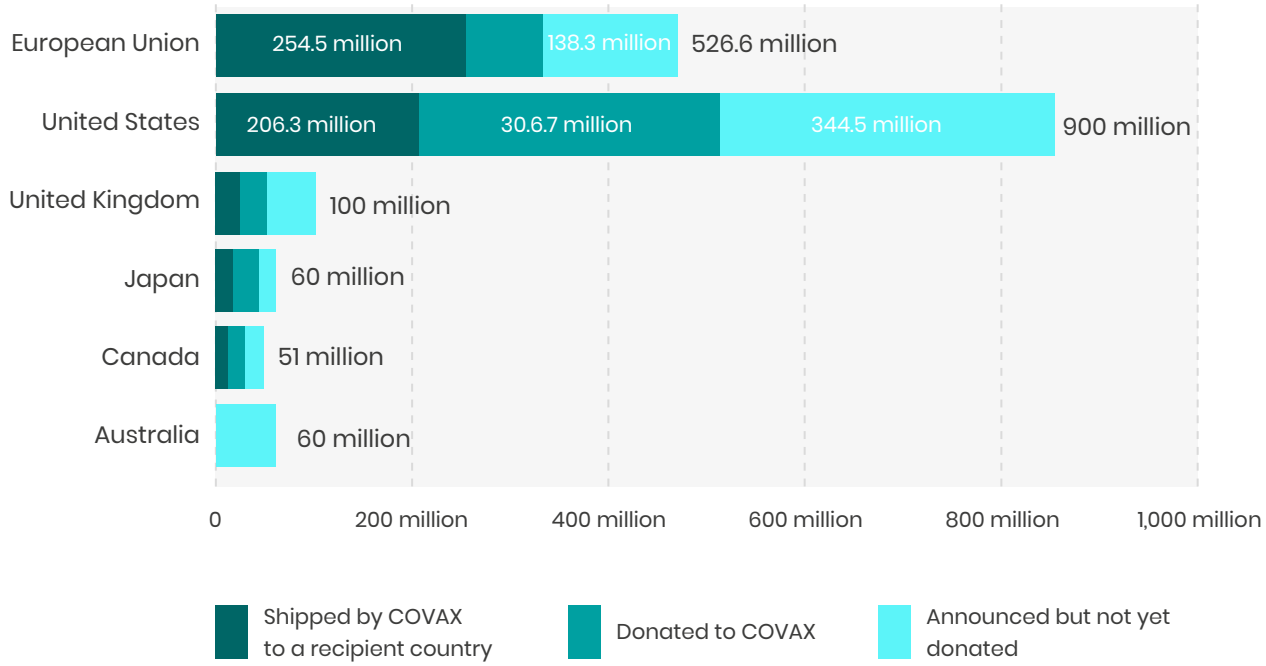
VACCINE SHORTAGES

Development of the first generation of Covid-19 vaccines occurred at an astonishing speed in 2020, with the first vaccines rolled out by December of the same year.[16] Yet, from December 2020 through mid-2021, Asian LMICs faced several challenges accessing vaccines, largely because wealthier countries monopolized vaccine access through massive pre-orders, even before effectiveness trials were completed and often for quantities that vastly exceeded eligible populations.[17] Weaker economic status left many LMIC governments hesitant to gamble on unproven vaccines, particularly as the much-heralded COVAX facility was being set up to provide access to poor countries.[18] These factors combined to make the global political economy of vaccine production and distribution highly unpredictable.

COVAX disappoints

In July 2020, Gavi, the Vaccine Alliance, announced that 92 LMICs would be eligible for vaccines through the COVAX Advanced Market Commitment (AMC)—a joint venture between Gavi, the Coalition for Epidemic Preparedness Innovations (CEPI), the World Health Organization (WHO), and the Bill & Melinda Gates Foundation—with a portion of costs covered by the international community. All Asian LMICs were eligible for vaccines through COVAX.[19]

FIGURE 4: Designed to fail: The level of unrealized commitments to the COVAX facility



Source: Our World in Data, Covid-19 vaccine doses donated to COVAX, May 2022.

COVAX would offset the inequities associated with vaccine pre-orders through the distribution of donated vaccines to countries that were not in a position to place large pre-orders.[20] COVAX began collecting and distributing vaccine donations in early 2021.[21] Unfortunately, an overreliance on market mechanisms and failure to address factors limiting supply (such as vaccine patent waivers and intellectual property and technology transfer) resulted in COVAX competing with wealthier countries for the purchase of vaccines.[22] Ultimately, COVAX did not receive much of its promised donations. COVAX was only equipped to redistribute whatever vaccine supplies were available via existing market mechanisms, and it did not have the capacity to increase vaccine production. By early September 2021, COVAX reduced its original goal for 2021 by over half a billion doses—a 30 percent reduction of its original commitment.[23] As a result, COVAX was of little help to countries that had no other means to procure vaccines, particularly in the latter half of 2021 when global demand far exceeded supply.

India turns inward

India counts among the world's largest pharmaceutical manufacturers, producing 60 percent of global vaccines by volume. It was expected that India, in collaboration with the Serum Institute of India (SII), would play a significant role in global vaccination efforts, particularly in the first months of the pandemic with the Oxford AstraZeneca vaccine in June 2020.[24] By January 2021, SII produced 40 to 50 million vaccines per month.[25] India began a national vaccination campaign while also providing donations to neighboring countries. From January to April 2021, under its 'Neighborhood First' Policy, India sold or granted approximately 19 million doses to Bhutan, Bangladesh, Sri Lanka, the Maldives, Nepal, Sri Lanka, and Thailand.[26] However, faced with an internal Covid-19 crisis from the rise of Delta variant cases, India suspended vaccine exports in April.[27] Although SII signed an agreement with COVAX to provide 550 million doses, it had by then delivered only 30 million. India's vaccine export suspension remained in place until November 2021, after which SII resumed vaccine exports.[28]

No patent waiver

The simplest way most LMICs could access Covid-19 vaccinations at a commensurate rate with their distribution capacity would have been through internal vaccine production. However, despite the capacity for domestic vaccine development within larger Asian LMIC economies, because of patent restrictions, only India has been able to put this into practice for Covid-19 vaccines. In late 2020, India joined South Africa in an attempt to convince the World Trade Organization (WTO) to waive intellectual property rights on effective Covid-19 vaccines to enable greater production levels. The two countries jointly proposed to relax the Trade-Related Aspects of Intellectual Property (TRIPS) Agreement (1995)[29] to facilitate swifter and more affordable access to vaccines.[30] A small group of powerful signatories, including the European Union, United Kingdom, Switzerland, and Norway, opposed this proposal and, despite the support of over 100 countries, negotiations stalled. [31]

Additionally, opposing voices argued that Asian countries lacked the facilities and local capacity for vaccine production, obstructing necessary technology sharing.[32] However, many Asian LMIC pharmaceutical companies did have the technical requirements and quality standards required for producing Covid-19 vaccines – including the more complex messenger ribonucleic acid (mRNA) variety –including factories in Bangladesh, India, Indonesia, Vietnam, and Pakistan.[33] These arguments, along with the unresolved patent debate, forced Asian LMICs to rely on vaccine supplies from China, Europe, India, and the United States (US) — trapped, as Sana Jaffrey points out, "in a cycle of costly lockdowns and deadly surges" while vaccine shortages continue.[34]

Homegrown efforts lag

India developed COVAXIN (Bharat Biotech) in collaboration with the Indian Council of Medical Research (ICMR) and the National Institute of Virology (NIV), which was a vaccine validated for emergency use by the WHO in November 2021. Bangladesh, Indonesia, and Vietnam are still in the process of developing locally-owned Covid-19 vaccine technology. In Bangladesh, Global Biotech Limited is developing the Bangavax vaccine,[35] which was approved for human trials by the Bangladesh Medical Research Council (BMRC) in November 2021, with the trials expected to take at least six months to complete.[36] By April 2021, Vietnam had four candidates for its own vaccine. The most promising of those – Nanocovax – is in phase three trials at time of writing.[37] While these efforts were eclipsed by WHO approvals of vaccines produced elsewhere, they are likely to reduce the cost of vaccines for producing and neighboring countries in the medium- to long-term.[38] Collectively, these efforts illustrate the potential for Asian LMICs to be more self-reliant in Covid-19 management.

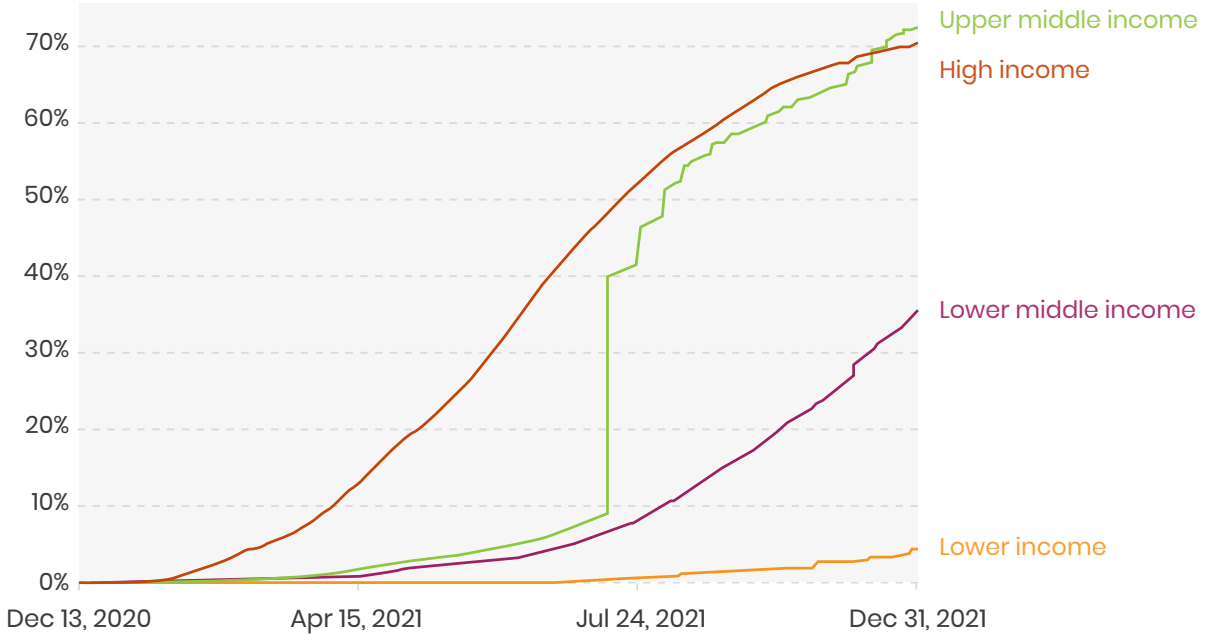
Geopolitical windfalls

Several Asian LMICs received direct bilateral donations as recipients of 'vaccine diplomacy' from large vaccine manufacturing countries. By December 2021, the Think Global Health initiative identified 76 countries that donated a total of 1.16 billion doses to 151 nations.[39] Bangladesh, Indonesia, Pakistan, the Philippines, and Vietnam received large donations from the United States, and Bangladesh, Cambodia, Lao PDR, Indonesia, Mongolia, Nepal, Pakistan, and the Philippines received sizeable donations from China. India donated vaccines to fellow members of the South Asian Association of Regional Cooperation (SAARC) (with the exception of Pakistan), while Russia made small donations to the Philippines, Vietnam, and Lao PDR. Other significant donors include the European Union and Japan.

Mongolia received approximately 300,000 vaccines from China in March 2021, and the Mongolian government was able to begin a national vaccination campaign ahead of many other countries in the region.[40] With donations from both China and Russia, Mongolia emerged as a positive outlier among developing nations in terms of Covid-19 vaccinations:[41] More than 60 percent of Mongolia's population had been vaccinated by early August.[42]

Distribution, preparations and vaccination in The Tent in Las Pinas, Caloocan City, Philippines.
(Photo : Asian Development Bank)

FIGURE 5: The vastly different pace of Covid-19 vaccine rollouts by country income level in 2021

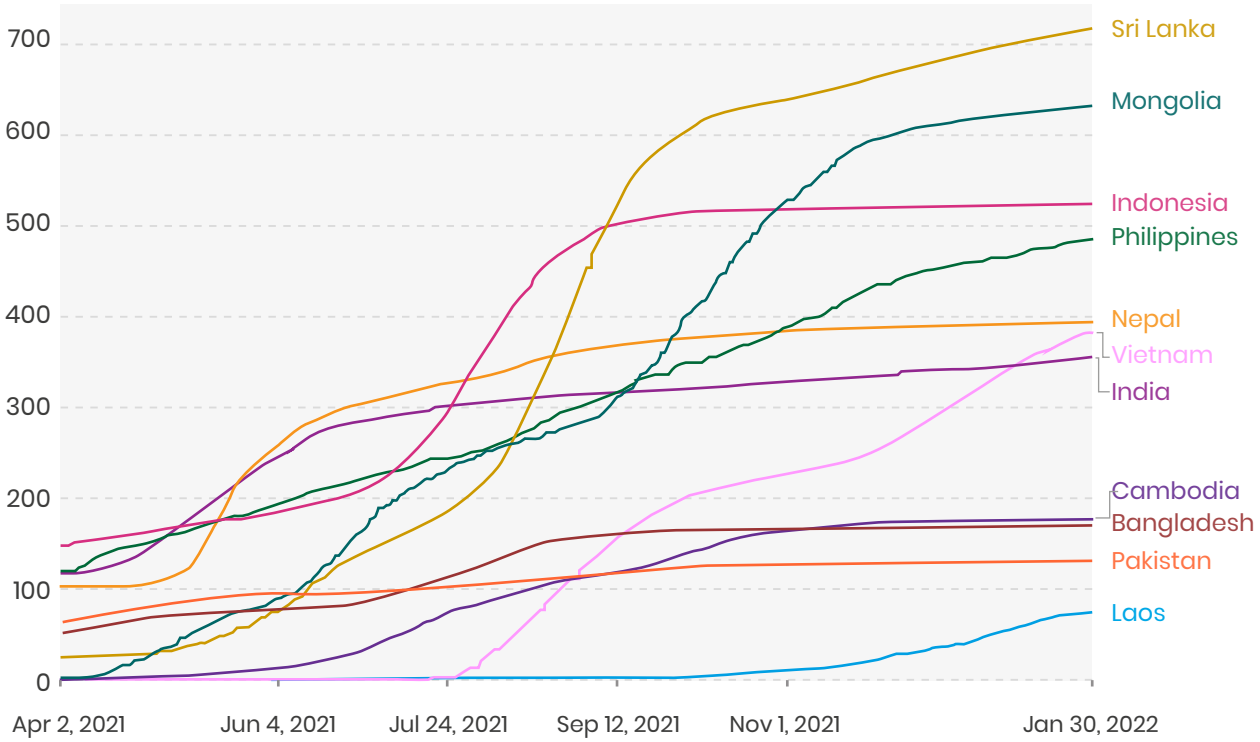


Source: Our World in Data, Share of people who completed the initial Covid-19 vaccination protocol from December 2020 to December 2021.

Negative impacts from shortages

The majority of vaccine inequality analysis and outcry has focused on the impact on Africa – including countries such as Burundi, which had not administered a single vaccine by August 2021.[43] Yet many poorer countries in Asia also struggled with vaccine scarcity and supply interruptions. For most Asian LMICs, the substantial delay in vaccine access between January and June-July 2021 resulted in the greatest Covid-19 surges that year.[44] The impact of vaccine shortages on health, wellbeing, and livelihoods in several Asian LMICs by mid-2021 was significant, resulting in soaring fatalies in Southeast Asia, where countries had managed to keep case numbers low in the first year of the pandemic. Despite preparing for its vaccination campaign in early 2021, the Government of Vietnam was forced to stop and start the campaign numerous times due to vaccine shortages.[45] The situation was particularly challenging in September 2021, when a Covid-19 wave hit Ho Chi Minh City, resulting in over 15,000 deaths.[46] Asian death rates rose in the second half of 2021 (Figure 7) when it was difficult for many LMICs to purchase sufficient vaccines.

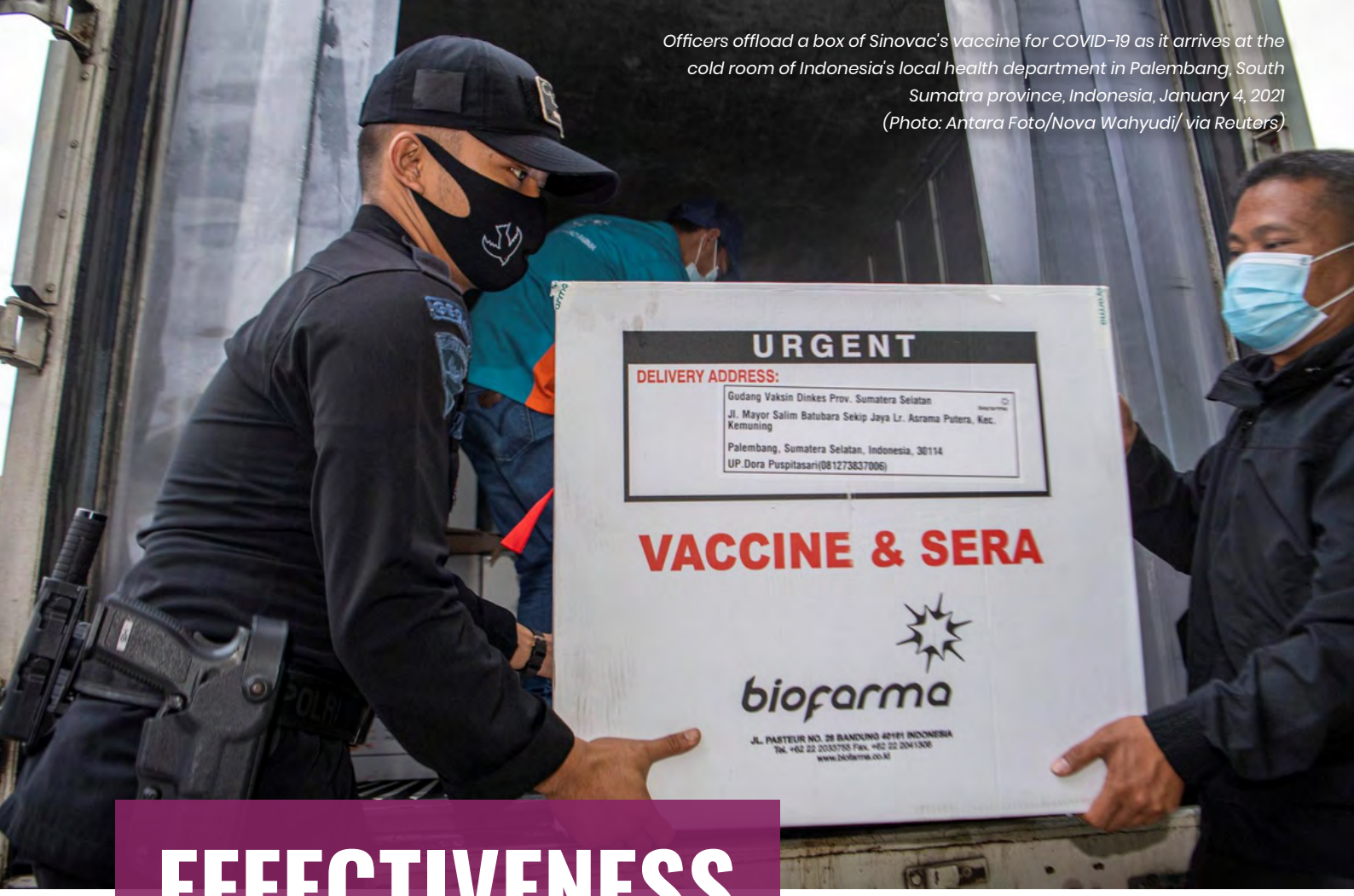
FIGURE 6: Death rates rose in Asian LMICs when access to vaccines was limited



Source: Our World in Data, Cumulative confirmed Covid-19 deaths per million people from April 2021 to January 2022.

Wealthier nations, through early vaccine access, placed themselves on surer footing than many poorer and developing nations in terms of post-pandemic economic recovery. Consequently, some predict that "the disparity between developed and developing countries will further worsen, as disadvantaged countries continue to face devastating impacts while being forced to expend limited economic resources on medical care and vaccines."[47] Similarly, "driven by increased vaccination rates, high-income and upper middle-income countries are projected to make stronger than expected recoveries… At the same time, forecasts for lower middle-income and low-income countries are not encouraging. There was a significant downward revision of economic growth in both groups of countries, compared to estimates from October 2020."[48]

The inequality of vaccine distribution during the second year of the pandemic not only parallels the inequality between richer and poorer nations but will likely deepen this disparity.[49] This inequitable system has left many Asian LMICs vulnerable to future economic and public health shocks, despite perfectly good pandemic response systems and capable bureaucracies.



Officers offload a box of Sinovac's vaccine for COVID-19 as it arrives at the cold room of Indonesia's local health department in Palembang, South Sumatra province, Indonesia, January 4, 2021 (Photo: Antara Foto/Nova Wahyudi/ via Reuters)

EFFECTIVENESS

Once LMIC governments were able to procure vaccines, distribution involved mobilizing resources, engaging with the public, setting up registration and scheduling systems, tracking supply and distributing stocks in their entirety, and monitoring adverse effects.[50] This enormous undertaking was made immensely more difficult given the existing capabilities of state institutions.

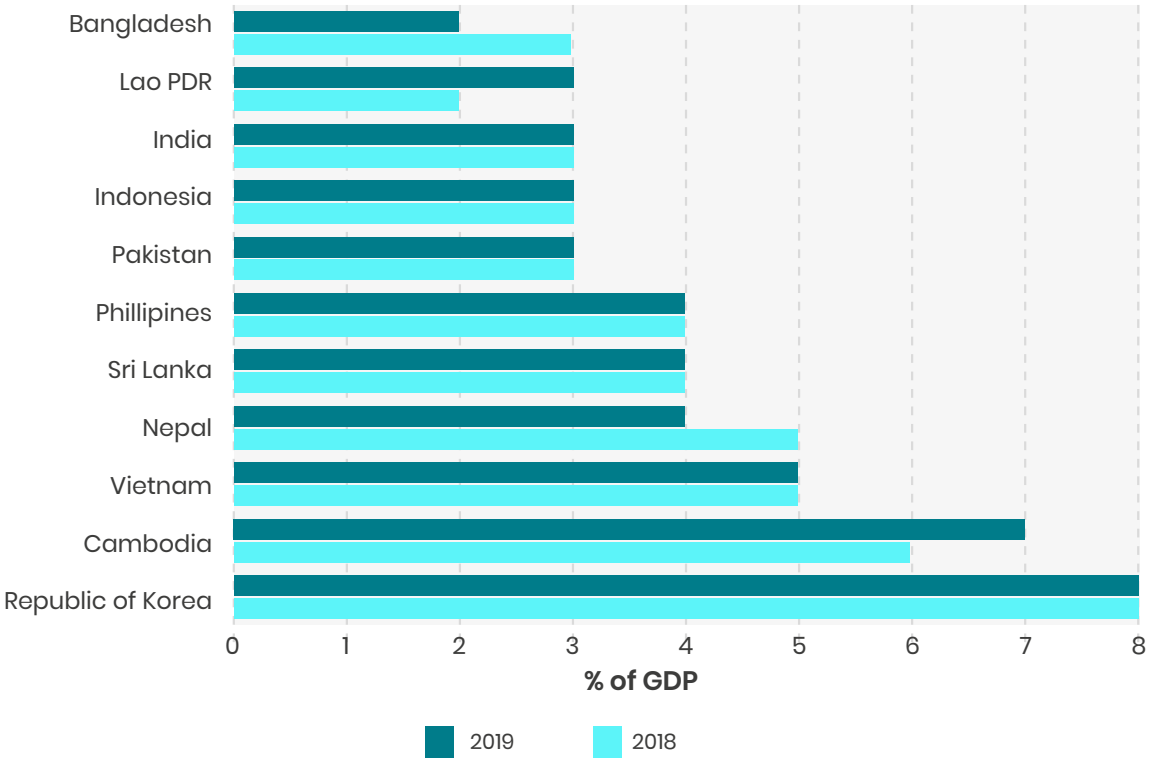
Cambodia – an early success story

Cambodia's first COVID-19 case was recorded in late January 2020. Since then, cases remained under 200 per day until April 2021. The highest number of daily cases was 1,130, on June 30, 2021.[51] The Royal Government of Cambodia (RGC) launched a national vaccination drive on February 10, 2021, using Chinese-manufactured and donated Sinopharm vaccines.[52] By March 2022, close to 92 percent of the country's 16 million population had received at least one dose, one of the highest rates in the world.[53] By late February 2022, Cambodia was one of the first countries to initiate vaccinations for children.[54] The success of the Cambodian vaccination campaign was due to three factors: (1) political leadership that paved the way to widespread acceptance of vaccination safety, (2) readily available and free of cost vaccines for all residents, and (3) access through mobile medical teams for rural residents, complemented by communication campaigns run by village health support groups and local health centers.[55]

Strain on health systems

Among the multiple indicators for health system capacities and capabilities, one of the most telling is the scale of government expenditure on health prior to the Covid-19 pandemic (Figure 7).

FIGURE 7: Health Spending as a Percentage of GDP

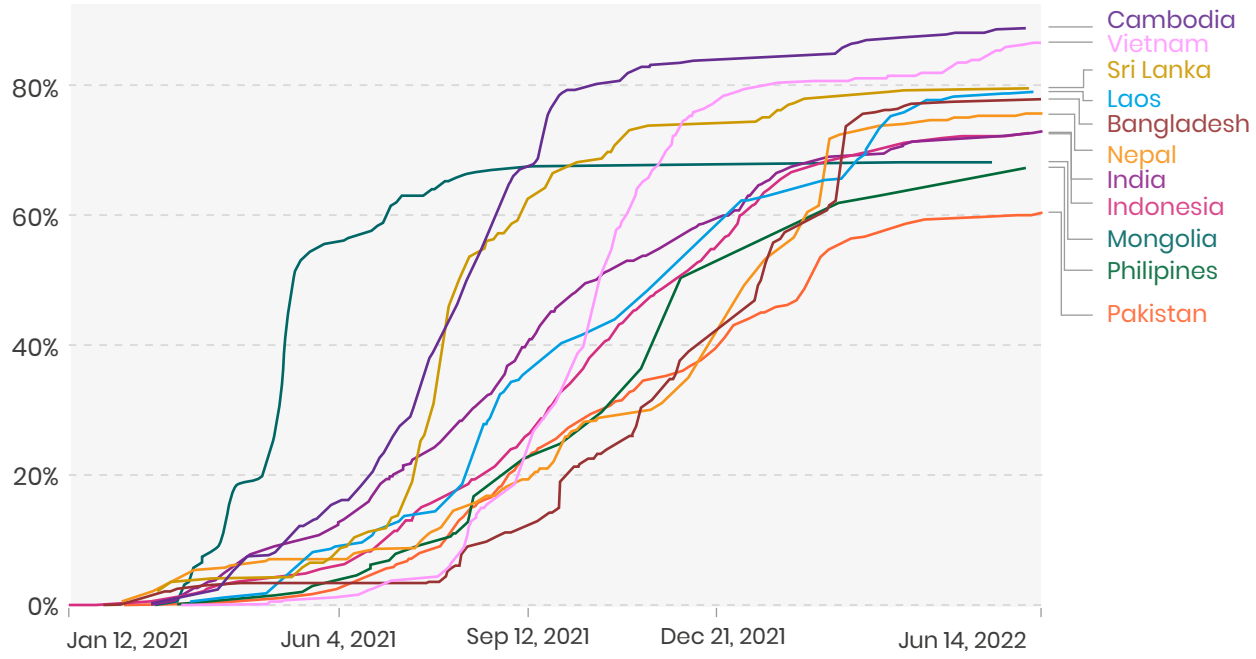


Source: World Bank, Global Health Expenditure Database from 2000 to 2019

Limited investment in health systems meant most Asian LMIC governments were unprepared for vaccination efforts.[56] In a few cases, internal governance weaknesses significantly limited the pace of vaccine rollout.

The more significant impact to overstretched health systems was less obvious. To achieve high speed vaccine distribution, health systems became incapable of supporting other essential services. International organizations, such as the Global Fund,[57] Oxfam, and the WHO, raised the alarm about these overwhelmed health systems. According to a 2020 WHO rapid survey of 163 countries, prevention and treatment services for non-communicable diseases (NCDs) were severely disrupted globally during the pandemic. Therefore, NCDs, such as diabetes and cardiovascular conditions, will likely continue to rise.[58] Research suggests that resulting disruptions in South Asia may, in the long-term, result in more deaths from other communicable diseases, such as HIV, tuberculosis (TB), and malaria, than those suffered due to Covid-19.[59] UNICEF calculated that the health system disruptions in Nepal, Sri Lanka, India, Bangladesh, and Pakistan may have contributed to an estimated 239,000 additional child and maternal deaths.[60] In reality, however, many cases went uncounted, thus disrupting a key measure for improving maternal and neo-natal health care in the future.[61]

FIGURE 8: Off and running: Most LMICs made rapid progress in the second half of 2021



Source: Our World in Data, Share of people who received at least one dose of the Covid-19 vaccine from January 2021 to June 2022.

Other health sectors have also suffered because of reallocated health resources, including to Covid-19 vaccination campaigns. In some cases, this meant the suspension of health services, such as the closure of community-based sexual health clinics in Pakistan and Sri Lanka.[62] Pakistan's health service also paused its polio vaccination campaign between March and July 2020.[63] In India, TB testing machines were requisitioned for Covid-19 testing, while TB field staff were redeployed to Covid-19 duties.[64]

Coordination

Approving and acquiring vaccines has only been one part of the puzzle in Asian LMICs. Swift distribution at scale requires substantial coordination and collaboration between multiple government levels. In certain cases, vaccine rollouts have highlighted the strong capabilities of local governments, some of which stood in marked contrast to weaker national government capacity. The rollouts also highlighted issues within local and national coordination and limited administrative capabilities at local governance levels. Across the region, leadership and membership in national and local pandemic response committees and structures remained male-dominated. In India, for example, only 19 percent of the National COVID-19 Task force was women.[65] This is despite the fact that India's rural infrastructure is entirely reliant on an all-women workforce of accredited social health activist (ASHA) workers.[66] Similarly, in Nepal there was not a single woman in the seven-member COVID-19 crisis management center.[67] The lack of female representation meant that many pandemic response measures failed to fully account for key gender differences in accessibility, information, and time availability.

Lao PDR relied on centralized delegation systems. Given its varied geography and underfunded healthcare system, Lao PDR's National Deployment and Vaccination Plan was quite impressive, involving provincial health departments, local development organizations, and different federal ministries.[68] This resulted in an orderly campaign and equitable access to vaccines throughout 2020 and 2021. Like Cambodia, Lao PDR stands out with a successful vaccine rollout, combined with low Covid-19 case numbers overall. With a comparable one-party political system, Vietnam managed its vaccine campaign through a National Steering Committee headed by the Minister of Health and a command center located at the Ministry of Defense, led by a Deputy Chief of the General Staff of the People's Army.[69] Vietnam's system worked well while numbers were low but became less effective when a lack of vaccines and a spike in cases jointly occurred in July and August 2021. [70]

Other countries relied on devolved political structures to distribute vaccines to local governments. In Indonesia, the national Ministry of Health instructed several institutions to help local governments deliver vaccines.[71] The first and primary vaccine rollout track relied on diverse state bodies: The Indonesian Police and Army (TNI/POLRI), the Coordinating Agency for Family Planning (BKKBN), and the State Intelligence Agency (BIN) were involved in vaccine administration in several regions. Political parties and the private sector were also involved.[72] Indonesia's constitution, which devolves political and administrative power from central to local governments, enabled the government to set up task forces and operational committees at multiple levels – federal, provincial, district, and municipal – by scaling up existing immunization coordination committees.

Registration

One of the most important dimensions of efficient vaccine rollout throughout Asian LMICs was the use of digital technology. Although technology provided several unique challenges, overall the use of digital applications and platforms enabled unprecedented vaccination campaigns in 2021 and laid the groundwork for ongoing Covid vaccination programs into 2022 and beyond.[73]

In some cases, key digital health systems were already in place. In India, for instance, where the government implemented the world's largest vaccination program, the Ministry of Health and Family Welfare established the Electronic Vaccine Intelligence Network (eVIN) to provide real-time information on vaccine stocks. eVIN also ensured that vaccines were properly stored and transported. eVIN improved the flow and coverage of vaccine stocks throughout the pandemic, enabling better planning and distribution.[74] Several other Asian LMICs, through support from the Organization for Economic Development Development Assistance Committee (OECD-DAC), used the Digital Health Information Software2 (DHIS2) system, developed by the University of Oslo. Currently, 73 low and lower-middle income countries use the system, which enables governments to better plan and coordinate health responses, including those related to Covid-19.[75]

Most Asian LMIC governments also used digital technology to support vaccine access. For many, this was a more significant undertaking—one that carried risks of exclusion given limited access to the internet or smart phones, as well as low rates of digital competency in many communities.[76] For instance, in Bangladesh the initial reliance on technology led to lower vaccination rates among women compared to men. By September 2021, two million more men were vaccinated compared to women.[77] In India, inability to register the CoWin app, along with other structural gender disparities, resulted in a 6 percent gender gap in vaccine distribution at the start of the vaccine rollout.[78]

LMIC governments demonstrated high levels of ingenuity in implementing digital systems and communicating their functions to citizens. In Vietnam, for example, the vaccine management platform included a digital application for health records, a vaccine certification system, and a health information portal for public access.[79] Similarly, Cambodia's vaccine management system allowed for online and offline certification, enabling the government to reduce discrimination against those without internet access.[80]

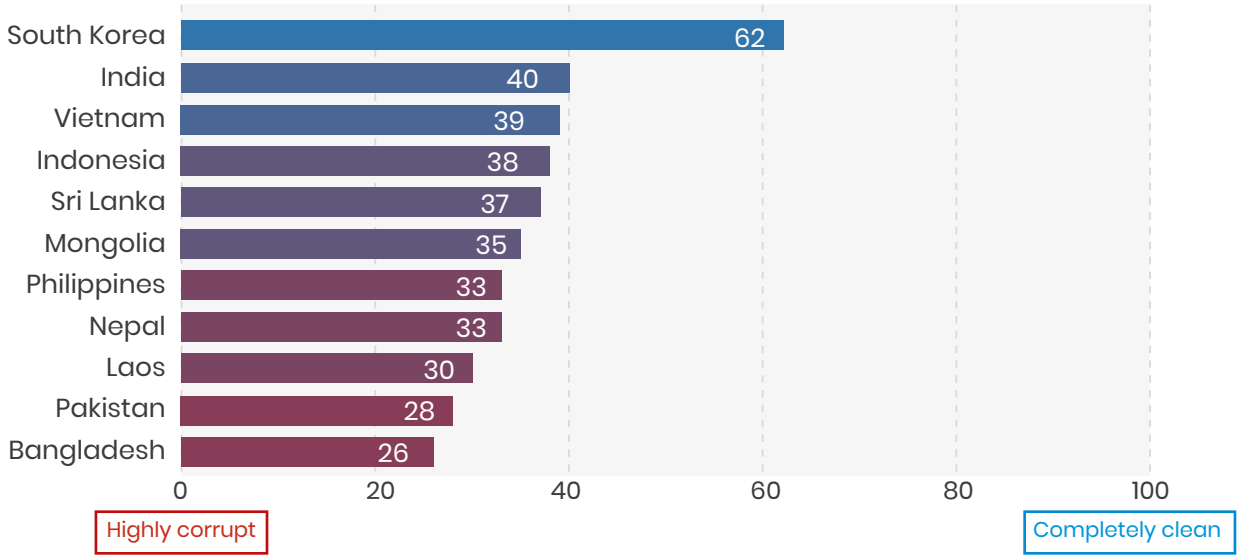
Progress notwithstanding, Asian LMIC governments face numerous challenges sustaining digital platforms. These platforms require funding to set up and maintain and, as earlier observed, Asian LMICs failed to make sufficient investments in health services even before the pandemic. Even where governments have digital infrastructure in place, they lack capacity to run the systems, including administrative and technical capacities across ministries and agencies.[81] Perhaps the biggest challenge – particularly for governments with little interest in digitalization – lies in balancing the practical use of personal data and ensuring privacy protection. Given the absence of independent data protection authorities in nine of the 10 Asian LMICs (Philippines excepted),[82] this issue will likely become more significant, particularly as countries rollout digital Covid-19 Vaccination Certificate systems that enable citizens to move across borders.

Corruption

As with other regions, the governance dimensions of Asia's vaccine rollout programs were weakened by various forms of corruption. Anecdotal evidence claims abundant incidences of petty corruption, such as bribery in and profiteering from the procurement of personal protective equipment, vaccines, and other health services, particularly during pandemic crisis points. In Sri Lanka, for example, Transparency International (TI) documented multiple instances of embezzled relief funds intended for poor and struggling families in rural areas during 2020.[83] In addition to petty corruption, there have been multiple high-profile corruption cases related to vaccination programs across the region. In Pakistan, the Ministry of Finance released a report by the Auditor General on the government's Covid-19 package in November 2021 that "showed misprocurement, payments to ineligible beneficiaries, cash withdrawals through fake biometrics and procurements of substandard goods for consumption."[84] In Vietnam, an investigation revealed a massive national scandal in which officials were bribed to supply hospitals with overpriced test kits. The scandal resulted in the arrest of the health minister and the mayor of Hanoi in June 2022.[85] In Nepal, a corruption scandal in the procurement of vaccines from India in 2021 led to the government halting its vaccination program altogether.[86]

TI observed several global trends that also affected vaccination programs in Asian LMICs during the Covid-19 pandemic: corruption in procurement and contracting; theft and embezzlement of vaccine doses and medical equipment; and bribes and other forms of profiteering at the point of healthcare service delivery.

FIGURE 9: Perceptions of Corruption in 2021 – Asian LMICs, Singapore and Republic of Korea[87]



Source: Transparency International

Bangladesh ranked 147th globally for public perceptions of corruption, and it was criticized for allowing corruption to flourish during the pandemic, spanning bribery in health clinics, misappropriation of aid, interference in medical supplies procurement, and beneficial contracts between powerful businesspeople and government officials.[88] In 2021, the Washington Post reported about the black market for illegal vaccines in the Philippines, raising questions on "how those in positions of power were able to procure shots before front-line health workers."[89] In India, researchers found that infection case numbers had been "grossly underestimated and could be up to 95 times higher than the official numbers."[90] India's Anti-Corruption Resource Centre noted, "corruption has co-opted key resources destined to respond to the pandemic, weakened health systems and national vaccination campaigns, damaged public trust, and contributed to the inequitable distribution of vaccines." Ultimately, corruption limits local and national governments' abilities to respond effectively to the pandemic.[91]

A poster in Hanoi, Vietnam reminds people to take protective measures against COVID-19, April 1, 2020 in Hanoi, Vietnam. (Photo: Linh Pham/Getty Images)

Inclusions and exclusions

Most countries across Asia commenced their vaccination campaigns with a list of prioritized groups who would receive vaccinations sooner than the general public. National policy on priority groups mirrored WHO recommendations: health workers, older adults, and immunocompromised persons,[92] followed by adults with comorbidities, pregnant women, teachers, other essential workers, and any other sub-populations at higher risk of severe Covid-19. As data on the risks faced by children became available in mid-2021, WHO recommended that children and adolescents with comorbidities should be prioritized before healthy children and adolescents.[93] Despite these recommendations, the lack of vaccine access in the region heightened tensions, and almost all Asian LMICs manipulated these categories to benefit the wealthy or powerful.[94] Countries applied elasticity to the idea of 'essential workers,' stretching it to include military and multiple government workers. Some countries focused on their borders as 'frontlines' and prioritized overseas students, diplomats, and border control officials.[95]

In some cases, prioritization reflected outright corruption. For example, in April 2021, the Philippines media reported that the government was looking into a "governor, 14 mayors and a councilor [who] had been asked to explain why they should not be sanctioned for getting Covid-19 shots along with health workers who were at the top of the priority list."[96] This manipulation of the queue by those in power reduced the speed at which truly at-risk populations received vaccinations.

Most governments were committed to providing vaccinations to impoverished populations. Cambodia, Indonesia, India, Lao PDR, Malaysia, Mongolia, the Philippines, and Vietnam provided free vaccinations for all or for a significant portion of their populations in late 2020. The Philippines and Sri Lanka pledged to vaccinate the poorest 20 percent at no cost.[97]

While the use of digital technology supported vaccine programs in Asian LMICs in many ways, the poorest and most vulnerable populations were often barred from digital platforms because of cost or illiteracy. Thus, many in South Asia, such as slumdwellers; Dalits; ethnic minorities; workers, including laborers, daily wage earners, sanitation workers, garment workers, and tea plantation workers; people in rural areas; prisoners; and internally displaced people, were excluded from vaccination efforts.[98] South Asian LMICs required eligible individuals to register themselves via a mobile app. In Pakistan and Bangladesh, the registration process required inputting a National Identity Number, which are unavailable to refugees or migrants.[99] Often, those with an increased need for vaccinations – including those unable to work remotely – experienced the greatest difficulty accessing vaccines.

Pakistan: The moral dilemma of commercial schemes

Pakistan was one of the first Asian LMICs to trial the commercial sale of COVID-19 vaccines. In March 2021, the government allowed vaccines to be imported by a private company for direct sale. The initial plan was to incentivize imports by exempting subsequent sales from price caps. However, given the demand for vaccines at the time, the decision caused a public outcry, and the issue was taken to court, where a determination over fair prices was set at approximately US$55 for two doses of Sputnik-V. Even at that price, civil society organizations, such as Transparency International, argued that the price was exclusionary and would create access inequalities. Mired in controversy, the government was forced to halt the scheme.

When economic impacts became more intense in later 2021, some governments turned to alternative vaccination prioritization strategies. In Vietnam, the focus turned to major cities and densely populated urban areas in order to limit potential spread and mitigate ongoing economic impacts. As a result, the populations of the two largest cities – Hanoi and Ho Chi Minh City – were vaccinated much faster than people in other parts of the country. Some poor rural communities have yet to be vaccinated.[100] The urban-rural divide was often due to a lack of effective local institutions and deficient policies. For example, in India the vaccination drive was much slower in rural areas than urban ones, attributed to a combination of factors, such as a lack of internet connectivity, limited smartphone access, digital illiteracy, and vaccine hesitancy.[101] Indonesia experienced a similar situation, with vaccination speeds varying among regions, notably slower in the outer Java islands and rural areas than in metropolitan Jakarta.[102]

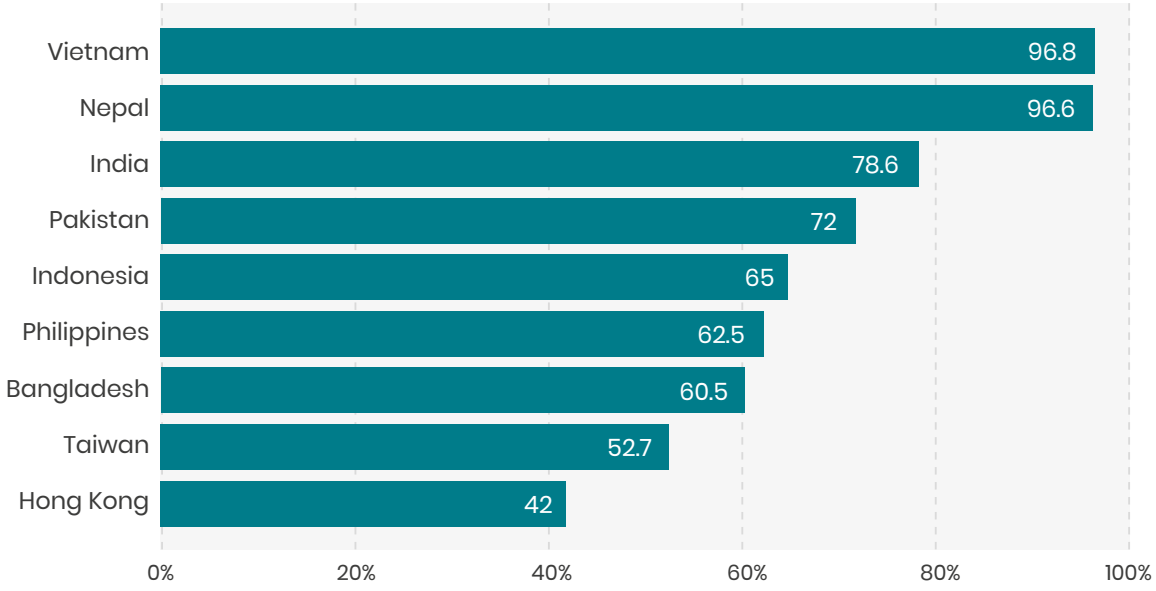
Vaccine hesitancy

Vaccine hesitancy also played a role in the vaccination experience of Asian LMICs. For example, in April 2021, just as parts of the Philippines returned to lockdown and Covid-19 rates increased, a public opinion poll suggested that vaccine hesitancy was also on the rise. Only 16 percent of respondents said they would get vaccinated if vaccines were available to them, while 61 percent said they would not.[103] These marked some of the highest rates of vaccine hesitancy in the region and illustrate the uphill climb some countries face to achieve high vaccination rates once supplies become readily available. Filipino public opinion was particularly affected by a very public scandal over the testing of a French-manufactured dengue vaccine in 2017.[104] However, the Philippines was an outlier in terms of vaccine hesitancy during early vaccine rollout and their vaccination numbers are still comparatively low (63.04 percent fully vaccinated as of June 5, 2022).[105] While Lao PDR, Malaysia, and Vietnam all reported high levels of public support for vaccination at various points in 2021,[106] vaccine hesitancy continues to pose challenges to Covid-19 vaccination programs across the region.[107]

According to research published in the Journal for Tropical Medicine and Health, socio-demographic factors associated with vaccine hesitancy in Southeast Asia include age and income. For example, older populations were more likely than younger populations to express vaccine hesitancy, while participants from poor and wealthy family backgrounds were more likely to express vaccine hesitancy than those from the middle class.[108] In some cases, the exclusion of marginalized groups from health systems contributes to hesitancy.[109]

Disinformation in social and other media also contributed to vaccine hesitancy and slowed vaccine uptake. In India, Malaysia, Nepal, and the Philippines, public opinion considered mRNA vaccines safer and more effective than other vaccines, particularly Chinese-manufactured non-mRNA vaccines and the Oxford-AstraZeneca shot.[110] This made it difficult for Asian LMIC governments in 2021, when only non-mRNA vaccines were available. Exaggerated reporting also reduced the uptake of the AstraZeneca vaccine in wealthy countries. In the Philippines, one poll suggested that 50 percent of respondents trusted only US-manufactured vaccines, whereas the national vaccine campaign relied on Sinovac supplies.[111] In Sri Lanka, unfounded concerns related to vaccine side-effects and allergic reactions included rumors about infertility, miscarriage, or other abnormalities.[112]

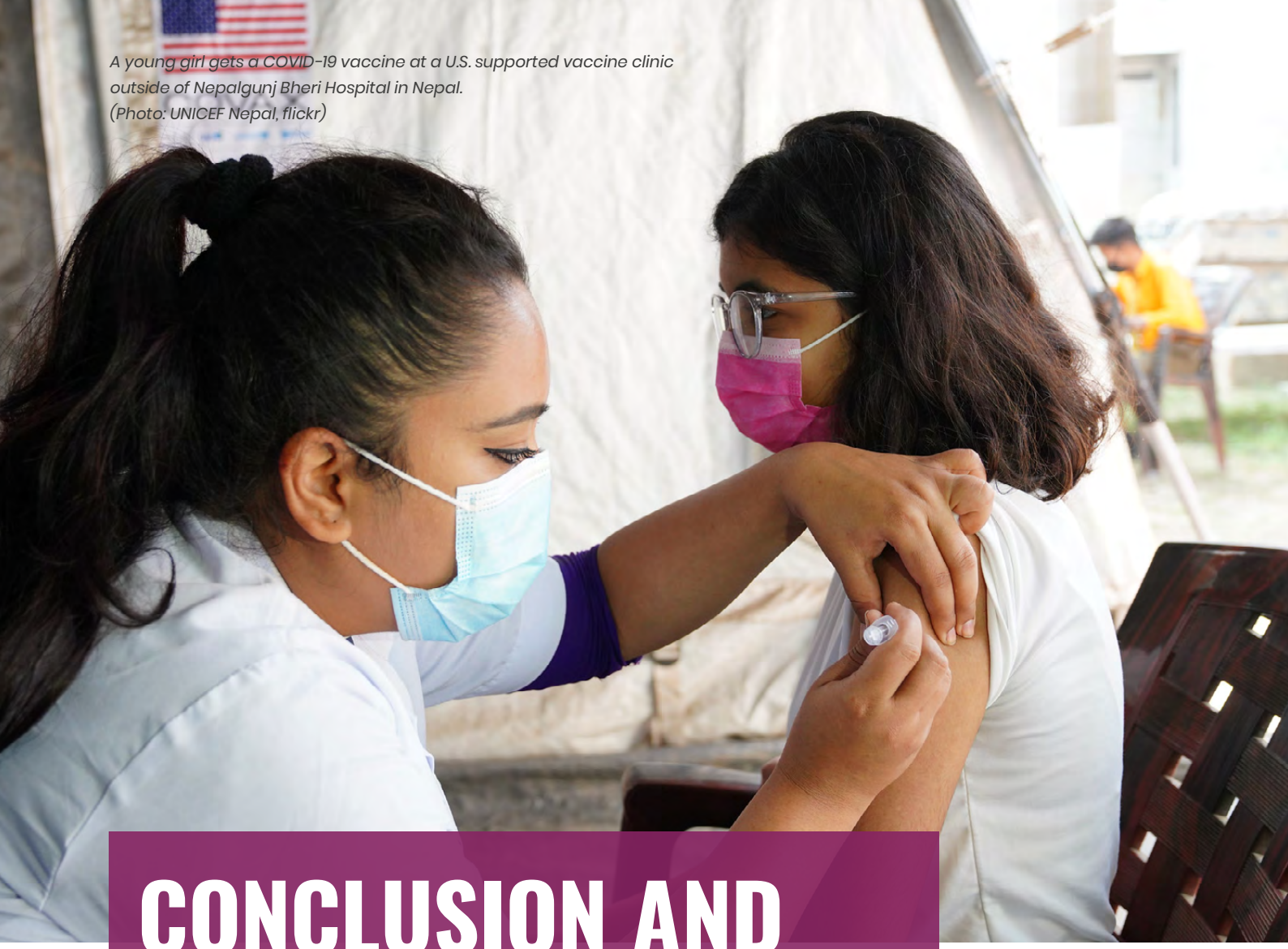
FIGURE 10: Vaccine acceptance rates in Asian LMICs vs Hong Kong and Taiwan (in percent)[113]



Source: Malik Sallam et al., A Global Map of COVID-19 Vaccine Acceptance Rates per Country: An Updates Concise Narrative Review, DovePress 2022; no data available for Cambodia and Lao PDR

At times, disorganized government vaccine campaigns struck a blow to public confidence. Unclear government communications also exacerbated public skepticism.[114] In Nepal, for example, confusion over who was eligible as part of the pre-identified priority groups in the first round of vaccines led to concerns that recipients were being used as guinea pigs.[115] However, despite significant pockets of vaccine hesitancy, the challenges faced in Asia LMICs pale in comparison to those encountered in other parts of the world.

The COVID-19 vaccination campaign in the camps. (Photo: WHO Bangladesh/ Irene Gavieiro Agud)



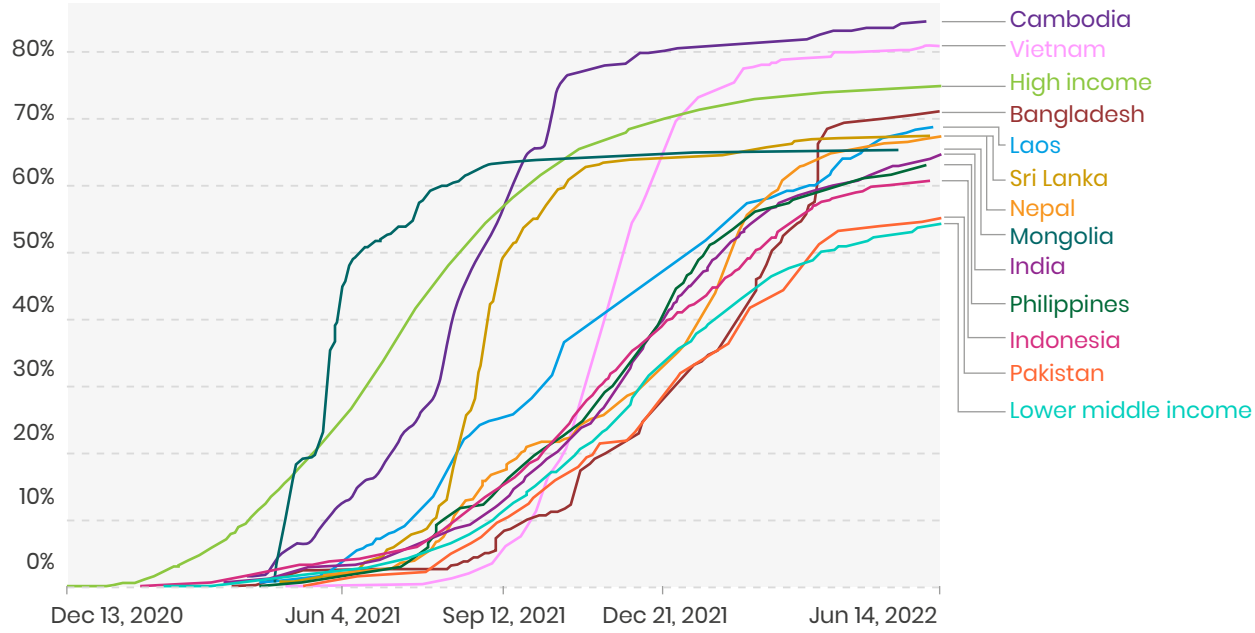
A young girl gets a COVID-19 vaccine at a U.S. supported vaccine clinic outside of Nepalgunj Bheri Hospital in Nepal.
(Photo: UNICEF Nepal, flickr)

CONCLUSION AND RECOMMENDATIONS

By mid-2022, the first phase of the Covid-19 vaccination rollout was largely completed across Asia's LMICs. As of June 5, Cambodia (84 percent) and Vietnam (81 percent) achieved rates of first vaccination higher than those in wealthy countries, and most Asian LMICs exceeded the global LMIC average of 60 percent (Figure 10).

Asian LMICs faced and, in many cases, overcame, significant obstacles in vaccinating large populations in a relatively short timeframe. Technology was an important tool in this effort, as well as local vaccine distribution efforts and government-led information campaigns. The four greatest challenges were vaccine shortages, barriers to local vaccine development, ineffective vaccine rollout, and vaccine hesitancy. These challenges persist among Asian LMICs, underpinned by a suite of governance challenges, including corruption, failure to strengthen broader health system capacity, and poor coordination among national and local government agencies, civil society, private sector, and other actors. Covid-19 response efforts have pointed to a combination of priority local, regional, and global actions that will ensure Asian LMICs are better prepared for future pandemics or other major challenges.

FIGURE 11: Percentage of Asian LMIC and average high income country populations that completed initial COVID-19 vaccination protocol, as of June 5, 2022



Source: Our World in Data, Share of people who completed the initial Covid-19 vaccination protocol from December 2020 to June 2022.

Local

Greater investment in basic healthcare: The full extent of the medium- to long-term health impacts from limited health resources are yet to be fully understood. Early indications suggest that communicable disease rates, such as tuberculosis, have increased.[116] Not only do basic health systems need more investment, but governments must remain alert to potential negative spillovers from the pandemic. Vaccination campaigns left many health systems badly stretched and put many services on hold. Even as Covid-19 rates decline, health systems need to provide services to those suffering Covid-19's long-term impacts, as well as those who suffered mental health consequences of the pandemic. Donors and Asian LMIC local and national governments must invest in health systems to better equip Asian LMICs to meet future health shocks, prioritizing the strategic and financial management of health systems.

Develop and produce anti- and long-Covid-19 treatments domestically: In order to prevent future shortages, the global governance of vaccine intellectual property must shift to enable technology and knowledge transfers to support the local production of generic or pandemic-specific vaccines. Asia's LMICs require support from development partners to create and sustain the medical facilities needed to locally develop and produce vaccines and other treatments, Covid-19 and otherwise, in order to ensure production levels meet local needs. Additionally, questions are already being raised about the current and future efficacy of first generation Covid-19 vaccines, which have demonstrably reduced hospitalization and death rates but have yet to prevent infection or transmission.[117] It is worth noting that Mongolia had its deadliest wave of the pandemic after the vaccination drive had largely been completed.[118] Consequently, there are calls for greater investment in vaccine technology that will prevent transmission and perhaps also reduce the likelihood of new Covid-19 variants.[119] In addition, more investment will be needed in 'long-Covid-19' treatments. Asian LMICs should be engaged as key stakeholders and prospective partners in the development and manufacture of future vaccines and other treatments.

Invest in digital infrastructure: Most Asian LMICs have experienced a leap forward in access to and engagement with digital technology during the pandemic. The acceleration of the digital economy is a silver lining in the pandemic for many countries across Asia, yet the persistence of significant digital divides, particularly across Low Income Countries and LMICs, means this acceleration threatens to increase inequalities. In addition to greater investment in digital infrastructure and equitable access across all populations, government and nongovernment partners need to provide support to marginalized groups (particularly women and the poor), as well as micro- and small-enterprises, to overcome economic, social, cultural, and political hurdles to access and use digital technology.

Address vaccine hesitancy: Looking ahead, the slowing rates of vaccination in Asia and globally suggest that governments – particularly those in Bangladesh and the Philippines, where rate drops are already significant – must stay alert to the challenges of vaccine hesitancy, which could potentially derail future programs. Government and nongovernment actors should continue to collaborate to maintain confidence in vaccination programs, improve health literacy, and address disinformation on social media, catering to the specific contexts of vaccine hesitancy in different populations.

Invest in greater transparency and accountability: The funding of emergency response is highly susceptible to corruption. At the same time, by diverting funds from essential services, corruption also limits the effectiveness of those responses. Addressing corruption during crises can only be possible if there are robust and pre-existing checks and balances, a practice and expectation of transparency among the wider public, and an active and proficient civil society and independent media. These cannot be built overnight. Greater investments in public health infrastructure need to be accompanied by investments in transparency and accountability in order to reduce corruption during future emergencies.

Regional

Facilitate cross-LMIC cooperation: There are opportunities for greater collaboration around knowledge- and technology-sharing at a regional level. Examples of existing cooperation underscore the importance of seizing opportunities for greater South-South cooperation between Asian LMICs in anticipation of future pandemics and other shocks. There is a significant amount to be learned at the global level from Asian LMICs, some of which consistently outperformed Western countries and regions in pandemic responses, including vaccine rollout. Regional cooperation should also be fostered as borders open and migration corridors are revived. After the challenges India and South Africa faced building political momentum around the TRIPS waiver of patent restrictions for Covid-19 vaccinations, Asian LMICs must be supported for greater influence over global political decisions that negatively affect their populations.

Global

An urgent need for greater global solidarity: Irene Torres et al. (2021) argues that vaccine scarcity in LMICs is ultimately "a failure of global solidarity and multilateral instruments." Beyond the capacity development, clinical trials, study protocols, and ethical protocols needed to achieve vaccine development and equitable distribution, there is an urgent need for greater global solidarity, through more robust international partnerships, supported more effectively by multilateral institutions.[120]

The upcoming Group of 20 (G20) meetings in December 2022 present one opportunity to strengthen solidarity. By April 2022, G20 finance ministers were already discussing a new financing vehicle through an improved global pandemic preparedness and response (PPR) regime, which would enable all countries to develop health system capacities for future pandemics.[121] It is clear from the multi-dimensional challenges faced by Asian LMICs during the Covid-19 pandemic that, to be effective, the PPR funding mechanism must look beyond the immediate budget required to support equitable access to vaccines, testing and therapies, research and development, manufacturing, and health infrastructure, while continuing to invest in the quality and effectiveness of Covid-19 vaccines. Additionally, greater investment is needed in public health governance and systems across low and lower-middle income countries to enable effective narrower investments. Moreover, it is clear that improvement of the PPR regime can only be progressed through a much greater diversity in governing voices.

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