

Lessons from COVID-19

Managing Borders in the Next Global Public-Health Crisis

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Executive Summary

The world has moved on from the COVID-19 pandemic, but it has yet to fully reckon with its unprecedented shutdown of the global mobility system. The number of government restrictions and conditions on cross-border mobility reached more than 100,000 by the end of 2020 and remained that high for the first two years of the crisis, severely limiting most forms of migration for an extended period. In 2020, international tourism dropped by three-quarters, legal migration to some countries halved, access to asylum was curtailed, and refugee resettlement stopped. This had catastrophic impacts on the global economy, triggering labor shortages and huge financial losses in industries such as tourism and education. It also left travelers stranded, families separated, and people unable to access protection even as humanitarian needs increased. And yet, when future public-health crises emerge, governments will likely once again face guestions about how to manage mobility to reduce risk. Thus, it is critical to understand whether, when, and how travel measures can be an appropriate public-health response.

The decision to impose travel measures is rarely clear cut. Especially in the early stages of a public-health crisis, governments may not know whether a new virus will spread quickly, cause severe illness, or be easily treatable. This uncertainty means

policymakers must walk a delicate line between under- and over-reaction. Travel measures were most effective during the COVID-19 crisis when they were imposed early, tightly, and/or alongside stringent domestic testing and isolation policies. In the bestcase scenario, a combination of travel restrictions, guarantines, and domestic measures can prevent or limit a virus's spread, as they did in the pandemic's early stages in countries such as South Korea and Japan. But in most countries, the virus spread before borders closed, quickly exposing the folly of betting on travel measures as the sole or primary response mechanism. Travel measures may appear to be an easy lever for policymakers to respond to public-health risks, without the public backlash that often accompanies domestic lockdowns and restrictions, but such measures come with significant costs.

It is critical to understand whether, when, and how travel measures can be an appropriate public-health response.

Whether travel measures should be used during future public-health crises depends on the nature of the virus, but better coordination among governments will be essential. One tool in this regard could be risk analysis frameworks. During the COVID-19 pandemic, such frameworks were used only sporadically and largely retroactively (to explain rather than guide border management decisions), but when used more consistently they can help make decisionmaking more predictable and transparent. There is a flicker of opportunity to bring more standardization to such frameworks as governments revise the International Health Regulations, but moving toward a common global framework relies on governments revisiting—both domestically and internationally difficult questions about their risk tolerances and how they rank different types of costs (public health, economic, or otherwise). This demands deeper reflection on the pandemic's impacts on human mobility than is happening in global public-health governance: the pandemic treaty set to be discussed at the World Health Assembly in May 2024 has regrettably not focused on mobility at all. An easier win could be standardization at the regional level, starting with low-hanging fruit including agreeing on a set of common categories of essential movers and exemptions or on initial timelines for closures.

A great deal of mobility-related infrastructure, both physical and virtual, was built during the COVID-19 crisis, and it is important that governments do not jettison this entirely as countries move beyond the pandemic. Instead, they should seek to maintain systems that are dormant but prepared. Examples include maintaining digital health credential systems that emerged during the crisis and ensuring they are interoperable, so that any future vaccination, testing, or screening requirements can be implemented swiftly and standardized (if not globally, at least regionally). In addition, future architectural decisions about transport and borders could mainstream public-health considerations, for instance by improving ventilation and ensuring that check-in and security lines can be spaced out and that guarantine requirements could be implemented.

Arguably one of the most important lessons of the COVID-19 experience is that human behavior matters: the public needs to understand and be able

to comply with rules put in place, and rules that are overly burdensome may lead some people to circumvent them. Throughout the pandemic, travel measures gave rise to negative spillover effects as people rushed home or as health checks compounded congestion in border checkpoints and transport hubs. As time went on, the shift from banning all travelers from certain countries to just those without vaccination or proof of a negative test result was a positive step as it helped get the world moving again. But these were still punitive and symbolic measures that had disproportionate effects on the most vulnerable as well as unintended consequences, such as pushing some people into irregular migration channels if they were unable to meet the heightened rules to move formally. And in some cases, such as vaccination and mask requirements, policies caused public backlash. A more sophisticated strategy would have mapped the risks posed by mobility and used carrots rather than sticks, such as offering vaccination to nonvaccinated people on arrival in a new country (instead of preventing them from moving) or expanding access to testing and health services, inclusive of irregular migrants.

Although migration has returned to the pre-pandemic norm, governments should not forget the costs of unplanned, long-lasting, and stringent travel restrictions. There is an urgent need for a full postmortem of how travel measures and mobility were used and their effectiveness, or lack thereof. Absent this reflection and a global consensus on how to use travel measures, at the very least governments should commit to ensuring future mobility measures are clear (well-communicated, predictable, and based on clear metrics); equitable (not overly burdensome to vulnerable groups); streamlined (used sparingly and lifted as quickly as possible, and certainly not maintained beyond domestic measures); and prepared (based on planning and building on COVID-19 digital and institutional infrastructure). These four principles can serve as guardrails for managing migration and borders during future public-health crises, in a way that balances health risks with the vital role mobility plays in societies and economies around the world.

1 Introduction

In March 2020, the global mobility system shut down in previously unimaginable ways. As COVID-19 cases multiplied, governments closed borders and introduced sweeping travel restrictions, entry bans, and suspensions of asylum and refugee resettlement systems. The early-2020 shutdown was unprecedented in its scale, reaching every country in the world. Although prohibitions on travel were gradually replaced by health protocols such as testing or vaccination requirements, travel measures of all kinds proved remarkably sticky, often outlasting other public-health measures. Some of the policies implemented, such as the ban on European visitors to the United States that was in place for more than 18 months, and the ban on Australian citizens leaving their own country, would have seemed unimaginable—if not dystopian—had they been floated before the onset of the state of emergency. These policies evolved over time, giving rise to a plethora of exemptions and revisions that enabled some movement, but the effects on global mobility cannot be overstated.

Four years on, this is a key moment to examine the lingering impacts of COVID-19 on mobility and the lessons for future epidemics. The mobility shutdown caused massive economic, social, and psychological harm, stranding hundreds of thousands of travelers and migrants abroad and spurring the mass (and often unsafe) return movement of millions. Families were separated, unable to cross international borders to attend funerals, weddings, and graduations. Students had to reject university admissions offers, workers could not get visas to take up jobs abroad, and the tourism industry collapsed. The economic costs were incalculable. Three years of below-average mobility meant three years of lost university fees, economic productivity, and innovation. Health care, agriculture, and construction—all sectors heavily reliant on migration—suddenly faced acute labor shortages as many migrants left and were not replaced by local workers.

The COVID-19 pandemic simultaneously underscored the resilience of mobility and its preeminence in people's lives. Movement never completely stopped, but the closure of border checkpoints meant many people shifted to informal crossings and less safe, irregular routes. It is likely that the pandemic's expansive and extended restriction of regular migration channels was a driving—although by no means sole—force behind today's unprecedented levels of irregular migration in many world regions. Meanwhile, it is striking how swiftly most legal migration rebounded when border closures were lifted. Some countries, including Australia, Canada, and Germany, actively recruited larger numbers of migrants to make up for the two fallow years, and labor and student migration reached record levels.

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The pandemic also made clear the necessity of international cooperation when responding to transnational health crises. Yet regrettably, there is vanishingly little political momentum to build up a pandemic-prepared global mobility system. COVID-19's declining political salience has constrained opportunities for a robust postmortem on what worked and what did not about the pandemic response. Migration policymakers have pivoted to other crises such as Afghan and Venezuelan displacement, the war in Ukraine, and growing pressures on asylum systems. Public-health officials are still working on pandemic-preparedness in general, but migration has been strikingly absent from these conversations.¹ But as global health crises become more common, driven by globalization and climate change,² similar questions about when and whether to restrict human mobility are likely to arise in the future. It is thus vital to build a bench of evidence-based tools to manage mobility during public-health crises, and to not let the lessons of the last crisis evaporate in a cloud of political and public apathy.

This issue brief analyzes mobility and border responses to the COVID-19 pandemic and highlights lessons for managing major public-health events in an era of mass mobility. It draws on more than three years of research under the Migration Policy Institute's Task Force on Mobility and Borders during and after COVID-19 and proposes four principles to guide how governments respond to future public-health crises.

2 COVID-19 and the Mobility Shutdown

COVID-19 changed the landscape of human mobility almost overnight. Since little was known about the virus, many governments acted unilaterally to limit travel, in the hopes that doing so would contain the virus's spread. Initially, the strategy among many countries was to restrict arrivals from areas with high rates of infection or to require travelers to quarantine, though by March 2020 it became clear that the virus had spread almost everywhere. Between March and May 2020, almost every country and territory closed ports of entry and enacted a mix of travel restrictions and landing bans.

These mobility restrictions had an immediate and severe effect on people on the move. Because border closures were put in place with little planning, they left more than 3 million migrants stranded abroad.³ Some were stuck for weeks or months⁴ in difficult conditions, including an estimated 300,000 seafarers trapped on ships and unable to return to land.⁵ Migrants who were able to return to their countries of origin did so on a massive scale. India, Nepal, and Pakistan repatriated millions, including many migrant workers who lost their jobs amid lockdowns in Arab Gulf states, even though these origin countries often could not fully test and guarantine the millions of returnees.⁶ This sudden reversal, turning net-sending countries such as Bangladesh temporarily into net-receiving countries, strained local economies and social systems. At the same time, lockdown measures hit hard migrants who remained abroad, as many worked in sectors highly affected by the pandemic's economic fallout. Migrants and refugees were also especially vulnerable to the direct effects of the public-health crisis because of risk factors such as living in crowded conditions or being unable to practice social distancing at work.7

As borders closed, the impacts could be felt—albeit differently—on nearly all forms of human mobility. The pandemic halted almost three-quarters of international tourism in 2020,8 and almost halved legal migration to Organization for Economic Cooperation and Development (OECD) countries in the first half of the year.9 Many countries severely curtailed family reunification, and visa processing across all streams was placed on ice by embassy, consulate, and processing center closures. Short-term business travel became far more difficult, turning what might have been a three-day conference trip into a multi-week stay due to guarantine requirements. And international students faced the difficult choice of returning home, unsure when they could return and how this would affect their education, or living away from family for the similarly uncertain future. Meanwhile, new forms of mobility emerged, such as the rise of "digital nomads" working remotely from another country, facilitated by new remote work visa streams.¹⁰

Asylum and refugee resettlement systems were similarly suspended. Border closures considerably restricted access to territorial asylum, while lockdown restrictions and work-from-home mandates meant asylum officials, immigration judges, lawyers, and other key players simply could not go to work. In some countries, the public-health crisis offered a convenient excuse for governments to shut down access to asylum, in some cases for multiple years and even after other forms of mobility had restarted.¹¹ Refugee resettlement operations also shut down in early 2020, and they resumed far quicker in some countries than others. Digital tools proved especially important in this regard, such as remote interviews and remote case management, as seen in Finland.12

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Yet, it proved impossible to shut down all movement. Most countries with large borders (especially land rather than sea borders) or with limited capacity to manage their borders could not stop people from entering, and shutting official entry points often simply pushed more people to cross via irregular channels (with the exception of China).¹³ For instance, the closure of the nearly 1,400-mile border between Colombia and Venezuela led to a rise in informal crossings,¹⁴ and efforts to screen and/or guarantine people crossing from India to Nepal were undermined by the much greater number of irregular land crossings.¹⁵ Meanwhile, some governments sought to impose new restrictions on irregular migration (in part using public health to legitimize border management objectives); examples include Greek and Italian pushbacks of migrant boats, the United States' use of its Title 42 public-health statute to bar the entry of asylum seekers and other migrants arriving without authorization at its borders, and increased border enforcement in Ecuador and

Peru.¹⁶ In some cases, these restrictions led to more dangerous and deadly crossings.¹⁷

One of the challenges with pandemic-era travel measures is that most stayed in place for so long that they outlasted their effectiveness. Some countries held out for almost three years: China waited until January 2023 to lift its restrictions.¹⁸ Other countries removed travel restrictions earlier, once testing and vaccination became more widely available and governments were better able to manage the risks. But almost everywhere, the process of reopening was a delicate dance of two steps forward, one step back. Outright bans on travel peaked in mid-2020 and were slowly lifted over two years, but they were replaced by health measures for individual travelers (such as quarantine and testing requirements) that themselves created a chilling effect on travel and migration. These health measures grew in number throughout 2020–21, ending 2021 with 80,000 such measures in place, before declining somewhat in 2022. All told, more than 100,000 travel-related measures (restrictions plus health measures) were in place by late 2020 and many remained through 2021.¹⁹ These rules varied from country to country, forming a complex, constantly shifting patchwork that created uncertainty for travelers, businesses, and governments themselves.

Still, by 2022, momentum was squarely behind reopening, as countries lifted or loosened travel measures and the slow trickle of travel started to rebound in earnest. Almost all migration and mobility began to meet or exceed pre-pandemic levels. Thus, the window of opportunity to build consensus behind a pandemic-prepared, resilient global architecture on migration, borders, and health²⁰ shut even as the virus continued to circulate. The pandemic is now well and truly in the rear view mirror for most policymakers and publics, but it should not be.

3 Lessons for Policymakers

COVID-19 was the first truly global pandemic in the post-World War II era of frequent, high-volume movement. By late February 2020, the World Health Organization (WHO) issued a recommendation against imposing travel measures, as it has done with similar emergent public-health concerns. This stance was accepted as status quo before the COVID-19 pandemic, in line with the International Health Regulations,²¹ and supported by early expert commentary. Yet national governments largely ignored this advice when COVID-19 hit, and the WHO eventually issued new recommendations in December 2020 allowing for travel measures under a "riskbased" approach.²²

The WHO's shifting stance points to a key takeaway from the pandemic: travel measures are now squarely in the toolbox of policy options countries may use to respond to future public-health crises. The contours of the next crisis are not yet clear—in terms of which pathogen will emerge and where, how transmissible it will be, and how it will affect mortality and public-health systems—but governments may well turn to travel measures if faced with a similar unknown pathogen in the future.²³ It is thus important to reflect on whether, when, and how to do so.

A. Restricting Travel during Public-Health Emergencies

Travel restrictions can be helpful in two ways in a public-health emergency: as a containment strategy (to prevent a pathogen from entering a new jurisdiction), and as a risk mitigation strategy (to mitigate the spread of a virus or disease) once the virus is already circulating in the country. The COVID-19 pandemic points to risks and opportunities with both approaches that decisionmakers should heed in future emergencies.

First, it is clear that travel restrictions were largely unable to stop the SARS-CoV-2 virus from arriving in a region. Evidence suggests that the first phase of targeted restrictions (those that banned travel from Wuhan or all of China) were imposed too late, after the virus had arrived in other countries.²⁴ Additionally, they had considerable gaps. Multiple exemptions to bans meant that certain groups were not prevented from traveling or required to guarantine, and some other travelers were able to circumvent bans by transiting through a third country. And in most cases, weak contact tracing systems were unable to track and inform those exposed to an infected passenger during travel. The rare exceptions where the virus was contained were enabled by geography (e.g., the Pacific islands could truly stop all people from entering), draconian measures (such as a ban on most entries and exits), or a combination of the two. However, containing the virus indefinitely proved impossible even for countries that managed to keep cases very low. And guarantine-free "travel bubbles," which were expected to facilitate travel between low-transmission countries, also proved difficult to maintain in practice. For example, the travel bubble between Australia and New Zealand quickly collapsed when cases rose in Australia but not New Zealand.25

Elsewhere, travel restrictions were most effective when used as part of a comprehensive package of measures, rather than the sole tool to manage the virus's spread.²⁶ Yet the idea that COVID-19 could be contained became a powerful political message and may have detracted from broader measures in some countries. The myth of containment outlasted its evidence, for instance as many countries that maintained quarantine requirements for international or interregional travelers despite having high rates of community transmission. Moreover, while experts have pointed to the ability of travel measures to delay the arrival of a virus, even if the arrival is inevitable, there is limited evidence of governments effectively using this delay period during the COVID-19 pandemic to prepare domestic health systems for increased cases and hospitalizations. This points to the need to avoid thinking about mobility as either "open" or "shut," and instead to see travel measures as part of a broader toolkit of risk management and mitigation.

Early decisionmaking is complicated by the dearth of information in the first days of an outbreak, when little is known about a pathogen's characteristics and potential to cause harm.

This poses a problem for future transnational health crises: although travel restrictions tend to be most effective when they are tight, blanket bans imposed early and for the vast majority of travelers, early decisionmaking is complicated by the dearth of information in the first days of an outbreak, when little is known about a pathogen's characteristics and potential to cause harm. Under-reacting poses obvious health risks, especially if, for example, a virus is highly transmissible and has a short incubation period; in such a scenario, a government that fails to close its borders could find itself with a virus circulating widely through the community before it has time to prepare its health and other domestic systems. But over-reacting can also be detrimental. Not only do travel restrictions have massive human and economic costs,²⁷ but they can also penalize countries that report potentially concerning pathogens by restricting travel from those countries.²⁸ For instance, after reporting early cases of the Omicron variant, South Africa was hit with a spate of travel restrictions from other countries, which triggered a drop in international tourism and air traffic to South Africa and associated socioeconomic losses.

Governments therefore need a set of guardrails that is both rigorous enough to ensure travel measures are used only when absolutely needed, yet abstract enough (i.e., nonbinding) to ensure that governments can agree to them. The International Health Regulations in theory offer this, but despite having been revised in response to the 2002–03 severe acute respiratory syndrome (SARS) epidemic to require states to notify WHO of any pathogen with the potential to cause a public-health emergency, they were too barebones to inspire a coordinated response when COVID-19 hit. A revision of the International Health Regulations is ongoing, and one of the proposed amendments would require the WHO to regularly update and agree risk criteria with Member States.29

If there is to be a more predictable and transparent response to future public-health emergencies, it will need more robust risk analysis frameworks at its core. Such frameworks allow governments and travelers to predict, based on objective and transparent metrics, when travel measures might be needed (or lifted), while still allowing governments to set their own goals and levels of risk tolerance (see Box 1).

Finally, the pandemic laid bare the difficulties of predicting how sudden decisions about mobility restrictions will be received by the public. If people do not know what lies ahead, they may fear that they could be stranded abroad and all try to return at once—congregating in airports and train stations, and inevitably further spreading the virus.³⁰ Ensuring there is a transparent, evidence-based, and predictable framework to assess and manage risk, as well as plans for strategic communications during such emergencies, could help reduce this sense of chaos and panic in future crises.

BOX 1 Risk Analysis Frameworks

A 2023 report by researchers from the Pandemics and Borders Project, published by the Migration Policy Institute as part of the Task Force on Mobility and Borders during and after COVID-19, analyzed 11 publicly available risk analysis frameworks, finding little consistency or standardization. While there are some examples of risk analysis working at a national level, many countries lacked a system for tying risk levels to travel measures. South Korea used epidemiological data and the country's domestic public-health capacities (among other metrics) to rank countries as safe, average, or high risk, and travelers from countries at each risk level were subject to different visa, quarantine, and testing conditions. Similarly, New Zealand used a range of indicators to determine the risks in travelers' countries of origin (including case numbers, the number of tests per positive case, case fatality rate, and confidence in predeparture testing measures) and set travel measures accordingly. In contrast, the United States never released a method tying risk levels to specific travel measures, and the United Kingdom explicitly stated that it "does not use a mechanical quantitative approach to assessment with hard thresholds."

The 2023 study also found that during the COVID-19 pandemic, risk analysis frameworks were often developed after major decisions had already been made (being used to justify rather than guide actions). To work properly, risk analysis frameworks should be developed in advance of a public-health emergency, include provisions to quickly adapt risk analysis to new pathogens, draw on shared (or at least similar) metrics and data, and be agreed at a regional (or at least bilateral) level. While harmonization is likely to be incredibly difficult—not least because countries have different risk thresholds and considerations to weigh—there could be scope for agreement on the core elements and steps of risk analysis frameworks, bringing greater consistency and predictability to the handling of travel-related risks in future crises.

Sources: Kelley Lee, Julianne Piper, and Jennifer Fang, *Using Risk Analysis to Shape Border Management: A Review of Approaches during the COVID-19 Pandemic* (Washington, DC: Migration Policy Institute, 2023); UK Health Security Agency, "Risk Assessment Methodology to Inform International Travel Traffic Light System," updated October 29, 2021.

B. Mitigating the Risks and Costs of Travel Measures

In the early phases of the pandemic, governments had to keep certain forms of mobility flowing, even during the tightest border closures.³¹ Over time, border closures, country- or nationality-based entry bans, and travel restrictions were replaced by health measures such as vaccination or testing requirements. While these measures ultimately enriched and diversified the public-health and mobility toolkit, they held their own risks and harms for travelers. The pandemic points to several lessons for mitigating inequities and disproportionate costs. First, it is clear that the volume, inconsistency, and constant changes to travel measures during the pandemic created unnecessary complexity and costs for travelers. Countries rarely coordinated their use of these measures, and thus different rules were in play across travel routes, resulting in a web of overlapping restrictions and gaps in everything from travel bans to quarantine to testing requirements. For example, Canada accepted tests taken 24 hours before a traveler's arrival, while the United States accepted tests one calendar day before arrival. Such complexity both imposed additional financial costs on travelers and migrants, and made it more likely that people would fall foul of rules. Standardizing low-stakes aspects of travel policies, such as testing turnaround times, should be a priority in future public-health emergencies, at least at the regional level.

Further exacerbating this complexity was the patchwork of exemptions from travel measures. For example, exemptions were provided to business travelers and essential workers (such as health-care professionals), frontier workers, diplomats, refugees, students, and children, though these were rarely coordinated between countries. For instance, the European Commission issued a standardized list of exempt groups³² that was followed by some EU Member States (Belgium, Croatia, Czechia, Denmark, Greece, Latvia, and Slovenia), while most others adopted their own lists.³³ While countries make different value judgements about the kinds of movement that are most important, taking steps to avoid this country-by-country variation in exemptions in future crises would give people more predictability about where they can move and would reduce feelings of unfairness.

The shift from country-based rules (i.e., with tighter restrictions on travelers coming from higher-risk countries) to person-based rules (i.e., with tighter restrictions on travelers with higher-risk profiles, such as lacking a negative test result or vaccination) was a key development in helping restart mobility. This shift in approach occurred in most countries with the introduction of testing and then vaccination requirements, but it was perhaps most explicitly noted by the European Union, whose communications began using the language of a "person-based approach."34 In future public-health emergencies, governments should seek to draw more heavily on person-based rules and/or shift to this phase more rapidly. But the pandemic demonstrated the limitations of designating a particular population as "COVID free," since it became clear that passengers who were vaccinated or had negative test results could still spread the virus (since vaccination does not prevent infection entirely and people who test negative can become infected).

Person-based measures are also often burdensome. Quarantine requirements, which varied in length (up to three weeks in Fiji, for example), were very costly for people who could not afford time out of work. In addition, domestic health credential requirements sometimes made it harder for people who had been tested or vaccinated in another country to enter venues and access services.³⁵ And vaccination reguirements to enter a country were hard to meet for people from regions with more limited access to vaccines. Some of the costs could be mitigated: from October 2020 to May 2023, the United States required noncitizens entering on temporary visas to be vaccinated but exempted those coming from countries where "less than 10 percent of the country's total population had been fully vaccinated."³⁶ Other governments stepped in to share the costs of travel measures with migrant workers' employers to ensure that the costs were not passed on to workers with limited means to bear them.³⁷

In future public-health emergencies, governments should seek to manage mobility with health measures rather than to lock it down completely (except in the most extreme circumstances, as detailed above). But even if this is done, governments will need to attend to equity considerations. More could be done to compensate travelers and migrants for additional costs, such as employment loss during guarantine. This would both prevent vulnerable groups from having to absorb disproportionate burdens, and encourage compliance (and thus better public-health outcomes). Moreover, governments could do more to create the enabling infrastructure for safe movement. Rather than punishing people without tests or vaccinations by barring them from travel, governments could reframe the goal of travel measures and use them to incentivize public-health compliance, giving travelers easy access to tests or vaccinations at the airport or on arrival, and using flight booking and check-in communications as touchpoints to encourage people not to travel with symptoms.³⁸ Similarly, policymakers could encourage compliance through public roadmaps for reopening that peg progressive loosening of travel measures to epidemiological criteria (e.g., vaccination rates), helping the public see the light at the end of the tunnel and incentivizing them to comply with public-health rules.³⁹

C. Preparing for Future Emergencies

Governments were poorly prepared to manage mobility during the COVID-19 pandemic, leading to a patchwork of costly, complex travel measures that stayed in place for longer than needed. While the pandemic sparked a spate of innovations in migration and border policy and tools,⁴⁰ much of this innovation risks being lost. There is no need for a total overhaul of borders to accommodate public-health challenges, but by building on pandemic-driven innovations, governments can create systems that are dormant but prepared.

At the same time, governments can only do so much on their own when viruses cross borders. They inherently rely on other countries to implement strong public-health measures, and to manage migration and mobility. While there is limited appetite for more international coordination in this area, governments could work on a regional basis to create mutual mobility plans and to standardize some basic elements of border and mobility policy during crises.

Finding ways to improve planning and to integrate pandemic-era tools into the normal travel system are essential elements of preparing for future public-health crises. Doing so can even streamline and improve nonemergency migration and border processes, such as by enabling remote visa applications.⁴¹ Key areas of focus include:

Digital infrastructure: Digital tools can help sustain mobility while minimizing publichealth risks and are useful even outside of public-health crises. One such tool is the digital health credential (or "vaccine passport"), which can automatically verify its holder's vaccination status, test results, or recovery for prior infection. The utility of digital health credentials during the pandemic was stymied by the proliferation of many, often incompatible, systems,⁴² but a European Union-WHO initiative launched in 2023 to set up a global coordinating architecture is promising. Such credential systems could become part of everyday immunization, allowing people to seamlessly transfer their immunization records whenever they move. A related set of tools includes advanced passenger declaration portals and applications, such as the ArriveCAN app in Canada, through which travelers can provide information about their vaccination status, quarantine plans, travel itinerary, and more before they arrive.⁴³ Sparked by a need to enhance monitoring during the pandemic and to minimize the time people spent filling out forms at the customs gate—these tools could be an increasingly a normal part of travel.

Physical infrastructure: The pandemic also saw a transformation in the built environment surrounding mobility. Some physical changes were innocuous, such as plexiglass screens separating travelers from border agents and systems such as e-Gates (automated gates to speed up travel screening). Many such adaptations are useful even in nonpandemic times: improving ventilation, using outdoor space, and spacing out check-in and security lines can minimize the risk of disease transmission while making the standard travel experience more comfortable. Other transformations were more obvious, such as the creation of bespoke guarantine facilities.

These purpose-built facilities cannot be easily integrated into the non-pandemic travel environment, as opposed to hotels and other shelters that were converted into quarantine facilities and could more easily revert to their other uses. Australia, China, Hong Kong, and others now have to figure out how to transform quarantine facilities into something else useful (proposals include shelters for survivors of domestic violence),⁴⁴ while maintaining them as an "insurance policy" for future crises.⁴⁵

Integrating migrants into pandemic response: In many countries, the pandemic triggered emergency measures to grant migrants access to health systems (e.g., vaccinations and hospitals) and socioeconomic aid measures (e.g., income support, direct cash transfers). Yet many migrants still had far more limited access to support than nationals of the country in which they lived. Sometimes, this resulted from a decision to exclude migrants; for example, Saudi Arabia announced a USD 2.4 billion pandemic job support package for citizens only, not foreigners.⁴⁶ Other times, de facto barriers persisted even where (certain groups of) migrants were not explicitly excluded.⁴⁷ For example, people in the Netherlands needed a registered address, which most irregular migrants did not have, in order to get vaccinated. And in the United States, some vaccine providers required proof of identity or health insurance, even though this was not required by law.⁴⁸ This exclusion was counterproductive, since vaccinating migrants helps boost overall population immunity and minimize a virus's spread. It stemmed from a failure to ensure all people, regardless of migratory status, have access to at least basic health services and social safety nets before the pandemic, underscoring the

need to enhance migrant integration into national systems before the next crisis strikes.

As governments plan for future public-health crises, they have an opportunity to integrate border and mobility considerations into pandemic preparedness more systematically. There is precedent for this: Japan's pandemic, influenza, and infectious disease plan specifically references the potential uses for travel measures.⁴⁹ The Philippines is developing pandemic response plans and playbooks that specifically consider travel measures.⁵⁰ And the European Union's proposal to revise the Schengen Borders Code includes a "new coordination mechanism to deal with health threats."⁵¹ More governments could consider creating national or regional pandemic playbooks that cover issues such as how they will work across governments and with the travel industry to make plans for emergency accommodation and repatriation if borders have to be shut quickly.

At the global level, mobility remains a major blind spot for pandemic planning. Ongoing pandemic preparedness efforts have largely overlooked mobility and travel measures, as in the draft pandemic treaty that WHO Member States are hoping to agree at the World Health Assembly in May 2024, which contains no mentions of mobility, travel, or migration. Meanwhile, the parallel process for revising the International Health Regulations has not squarely focused on mobility and travel measures, although there are some draft amendments on risk assessment, alert systems, and digital health credentials that could help integrate mobility considerations into the document.⁵²

As public attention has shifted away from COVID-19, so has the political will to ensure the lessons, planning, and infrastructure that emerged during the pandemic are maintained for the next crisis. Continued advocacy, even from a small set of government officials and international organizations, is needed to keep this issue on the agenda and to promote a better prepared, coordinated mobility response for future public-health crises.

4 Conclusion

The COVID-19 pandemic both shocked the global mobility architecture and reaffirmed the centrality and resiliency of mobility. On the one hand, 2020 saw human mobility shut down unlike ever before, with massive human costs. On the other hand, the crisis demonstrated that migration and mobility are not optional—they are social and economic lifelines, and even in the worst situations, people still wanted to and did move.

Although migration has largely returned to the pre-pandemic norm, governments should not forget the costs of unplanned, long-lasting, and stringent travel restrictions. Some impacts may be unavoidable, such as the stranding and separation of some travelers in the early stages of a pandemic. And some costs are the inevitable byproduct of political judgments that seek to balance public-health goals and protection of a country's citizens with policy impacts for people on the move. But the pandemic showed how travel measures have the tendency to become symbolic, even reactionary, rather than evidence-based, and thus points to the need for a more calibrated, risk-based approach.

Policy responses to future public-health emergencies will be, and should be, targeted to the characteristics of future pathogens and the epidemiological, political, economic, and social context in which they emerge. Yet they should also seek to learn from the lessons of the COVID-19 pandemic. Empirical data on the impact of travel measures are still emerging, and given the devastation of the past four years, further research is needed to guide decisionmaking in future crises. Still, the initial evidence points to four guiding principles that can support more effective approaches to pandemic and mobility management:

- CLEAR: Travel measures should be wellcommunicated, predictable, and based on transparent decisionmaking and metrics. If travel measures are used in the early stages of a crisis, clear communication is key. Governments should give as much clarity as possible to travelers, the travel industry, and partner countries to minimize the human costs of stranded migrants and travel unpredictability. Over time, they should communicate transparently and consistently about when, and based on which indicators, these measures will tighten or loosen.
- EQUITABLE: Governments should not overly burden vulnerable groups or exclude them from entry. Governments should proactively take an equity lens throughout their pandemic response. They should consider how measures affect the most vulnerable and compensate those disproportionately affected (such as people who lose employment by going into guarantine or people living in communities along borders) and ensure that the most vulnerable are not excluded from mobility (e.g., people from countries without access to vaccines). Governments should also ensure that migrants have access to socioeconomic and health services, and that refugees, lowincome migrants, and other vulnerable groups do not find the costs of compliance with travel measures prohibitive. Prioritizing equity is not just the right thing to do, but it is in the public interest since people will only comply with health measures if it is reasonable for them to do so.

- STREAMLINED: Travel measures should be used sparingly, for short periods, and lifted whenever possible. Border restrictions and entry bans, if used, should be short and sharp, and lifted as quickly as possible. They should, by legislation or by public commitment, be time-bound and expire by default without evidence that they serve a purpose. Travel measures should be considered part of the broader suite of public-health risk mitigation tools, and their effectiveness should be rigorously evaluated alongside domestic measures (such as workfrom-home orders or testing or vaccination requirements).
- PREPARED: Governments should build dormant but prepared systems ahead of future public-health crises. Governments should begin planning for their mobility responses to the next pandemic now.

A starting point could be inventorying digital tools and physical infrastructure that emerged during the COVID-19 crisis to see what can be seamlessly integrated into normal mobility systems, what should be dropped entirely, and what can continue in a dormant but prepared state.

Just as the SARS response was not a universal playbook for the COVID-19 response, policymakers will not be able to rely entirely on experiences during the most recent pandemic to determine the correct course of action when the next crisis comes. At the same time, they should not discount the immense learning and innovation that has taken place since 2020—a period that demonstrated both the massive costs of travel restrictions and the fact that these measures are sometimes needed. The first steps toward a more resilient global architecture on borders and health must be taken today, before the COVID-19 pandemic falls even further into the policy rear view mirror.

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Endnotes

- 1 Member States of the World Health Organization (WHO) have agreed to draft and negotiate a pandemic prevention, preparedness, and response accord, which is expected to be submitted for consideration by the World Health Assembly in May 2024. But thus far, human mobility has been peripheral to that negotiation; there were zero references to travel, mobility, or migration in the draft negotiating text as of October 2023. See WHO, "Proposal for Negotiating Text of the WHO Pandemic Agreement" (draft accord, October 2023).
- 2 Colin J. Carlson et al., "Climate Change Increases Cross-Species Viral Transmission Risk," Nature 607 (2022): 555–562.
- 3 International Organization for Migration (IOM), "COVID-19 Impact on Stranded Migrants" (issue brief, IOM Return Task Force, September 2020).
- 4 Including, in some cases, being stranded within airports. See Hugh Schofield, "Paris Airport: Algerian Passengers from UK Stranded for Weeks," BBC, March 18, 2021.
- 5 International Transport Workers' Federation, "300,000 Seafarers Trapped at Sea" (press release, July 16, 2020).
- 6 Jean N. Lee et al., "Migration, Externalities, and the Diffusion of COVID-19 in South Asia," Journal of Public Economics 193 (January 2021): 104312.
- 7 Liam Patuzzi, *Taking the Long View: Options for Inclusive Post-Pandemic Labour Markets* (Brussels: Migration Policy Institute Europe, 2021).
- 8 World Tourism Organization, "Tourism Back to 1990 Levels as Arrivals Fall by More than 70%" (news release, December 17, 2020).
- 9 In the first half of 2020, new visas and permits to Organization for Economic Cooperation and Development (OECD) countries dropped by 46 percent. See OECD, *International Migration Outlook 2020* (Paris: OECD Publishing, 2020).
- 10 Kate Hooper and Meghan Benton, *The Future of Remote Work: Digital Nomads and the Implications for Immigration Systems* (Washington, DC: Migration Policy Institute, 2022).
- 11 United Nations High Commissioner for Refugees, "UN High Commissioner for Refugees Calls on States to Lift Remaining Pandemic-Related Asylum Restrictions" (press release, May 20, 2022).
- 12 Hanne Beirens, *Rebooting the Asylum System? The Role of Digital Tools in International Protection* (Washington, DC: Migration Policy Institute, 2022).
- 13 One exception was China, which used draconian restrictions to prevent mobility. Other countries, such as Kenya, sought to maintain regular mobility because they considered pushing people into irregular channels to be an even greater public-health risk (since irregular migrants would not have to prove vaccination or have a negative test, for example). According to one Kenyan representative: "there were challenges because of the porous nature of our borders. Any restrictive measures would have led to irregular migration... [which] still would have brought health challenges." See comments by Charles Munyao, Secretary, Kenyan National Coordination Mechanisms on Migration, during the International Migration Review Forum (IMRF) side event "Preparedness for the Next Pandemic: Towards a Resilient Global Architecture on Borders and Health," May 19, 2022.
- 14 Phuong N. Pham et al., "Assessing the Impact of the COVID-19 Pandemic among Venezuelan Refugees and Migrants in Colombia Using Respondent-Driven Sampling (RDS)," *BMJ Open* 12, no. 10 (2022).
- 15 Sujeev Shakya, "India-Nepal Open Borders and the Pandemic" (brief, National University of Singapore, Institute of South Asian Studies, September 9, 2021); Arjun Poudel, "Unmanaged Border Crossings May Expose Nepal's Achilles Heel in Stemming Covid-19," *The Kathmandu Post*, September 24, 2021.
- 16 See Gisela P. Zapata, Luciana Gandini, Marcia Vera Espinoza, and Victoria Prieto Rosas, "Weakening Practices amidst Progressive Laws: Refugee Governance in Latin America during COVID-19," *Journal of Immigrant and Refugee Studies* 21, no. 4 (2023): 547–565.
- 17 For example, crossings of the Mediterranean increased throughout the pandemic and shifted toward more dangerous and deadly routes. Also, new policies in the United States kept migrants waiting on the Mexican side of the U.S.-Mexico border, often in unsafe conditions. See Meghan Benton et al., *COVID-19 and the State of Global Mobility in 2021* (Washington, DC, and Geneva: Migration Policy Institute and IOM, 2022).
- 18 Joyce Zhou and Yew Lun Tian, "China Reopens Borders in Final Farewell to Zero-COVID," Reuters, January 9, 2023.
- 19 This figure includes both measures that restricted travel directly (e.g., travel bans, visa restrictions) and others that added conditions to travel (e.g., quarantine and vaccination requirements). See Benton et al., *COVID-19 and the State of Global Mobility in 2021*.
- 20 Comments during the IMRF side event "Preparedness for the Next Pandemic."
- 21 The International Health Regulations require travel measures to not be "more restrictive of international traffic and not more invasive or intrusive to persons than reasonably available alternatives that would achieve the appropriate level of health protection." See WHO, *International Health Regulations (2005) Third Edition* (Geneva: WHO, 2016).

- 22 Indeed, the WHO's stance may have contributed to the chaotic response. A 2023 study on WHO recommendations during the COVID-19 pandemic and prior public-health emergencies found considerable inconsistency and a lack of clarity in recommendations and the rationale offered, which the authors speculate may have "contributed to the widespread and uncoordinated use of international travel measures." See Catherine Z Worsnop, Samuel Nass, Karen Ann Grépin, and Kelley Lee, "An Analysis of WHO's Temporary Recommendations on International Travel and Trade Measures during Public Health Emergencies of International Concern," *BMJ Global Health* 8, no. 7 (2023). The WHO's shift toward a risk-based approach came alongside similar calls from other global institutions, including the International Civil Aviation Organization and the OECD, reflecting a drastic divergence from the original expert consensus against travel restrictions.
- 23 The International Health Regulations offer states some latitude to implement travel measures, as long as they are the least restrictive options available. However, there proved to be a wide legal gray area where travel measures could be permissible options when new pathogens emerge, and risks are not yet clear.
- 24 Mathieu J. P. Poirier, Susan Rogers Van Katwyk, Gigi Lin, and Steven J. Hoffman, "Quasi-Experimental Evaluation of National Border Closures on COVID-19 Transmission," *PLOS Global Public Health* (February 28, 2023).
- 25 Georgia Hitch, "What Are the Rules around the New Zealand Travel Bubble?" ABC News, October 18, 2020.
- 26 Most evidence to date relies on modeling, rather than empirical data based on what happened during the pandemic, so the most robust evidence based on such data is still emerging. See Jacob Burns et al., "International Travel-Related Control Measures to Contain the COVID-19 Pandemic: A Rapid Review," *Cochrane Database System Review* 3, no. 3 (2021).
- 27 Ying Liu Bazak et al., "The Economic Impact of International Travel Measures Used during the COVID-19 Pandemic: A Scoping Review," *BMJ Global Health* 9, no. 2 (2024).
- 28 Benton et al., COVID-19 and the State of Global Mobility in 2021.
- 29 Working Group on Amendments to the International Health Regulations, "Article-by-Article Compilation of Proposed Amendments to the International Health Regulations (2005) submitted in accordance with decision WHA75(9) (2022)," (compilation of amendments, WHO, 2022).
- 30 Hugo Daniel, "Green List': 27,000 Britons Scrambled to Leave Algarve in Three Days before Portugal Moved to 'Amber List," inews. co.uk, June 18, 2021.
- 31 Relatedly, countries also kept personal protective equipment moving across borders despite initial supply challenges, often creating additional challenges at maritime ports, which were called upon to screen medical equipment for regulatory compliance at record volumes amid huge public need. See Marcy Mason, "Keeping Trade Flowing," U.S. Customs and Border Protection Frontline Magazine, updated August 9, 2023.
- 32 European Commission, "Guidelines Concerning the Exercise of the Free Movement of Workers during COVID-19 Outbreak," Official Journal of the European Union 2020 (C 102 I/03, March 30, 2020).
- 33 Frey Lindsay, *Coordination Breakdown: The Impacts of COVID-19 on Migration in Europe* (Washington, DC: Migration Policy Institute, 2024).
- 34 European Council, "COVID-19: Council Adopts a Revised Recommendation on Measures Affecting Free Movement, Based on the Individual Situation of Persons and No Longer on the Region of Origin" (press release, January 25, 2022).
- 35 Lawrence Huang, *Digital Health Credentials and COVID-19: Can Vaccine and Testing Requirements Restart Global Mobility?* (Washington DC: Migration Policy Institute, 2022).
- 36 See the description of "Implementing Presidential Proclamation on Safe Resumption of Global Travel during the COVID-19 Pandemic" on U.S. Centers for Disease Control and Prevention, "Archived Orders," updated December 20, 2023.
- 37 The Canadian province of British Columbia piloted a cost-sharing model for the two-week isolation of temporary foreign workers, requiring employers to pay for at least 30 hours of work in that period while the government covered up to CAN 1,500 of those costs. See Government of British Columbia, "Temporary Foreign Workers Self-Isolating in Government-Managed Accommodations" (information bulletin, April 14, 2020).
- 38 Rather than using travel measures to allow some people to move and to bar others, they could be seen as another tool to incentivize cooperation with public-health guidance. While there may be some additional risk involved in allowing people to move without being vaccinated, and therefore is not always appropriate depending on the level of risk posed, this approach could also encourage people to get vaccinated.
- 39 For example, the Australian government released a roadmap based on publicly available modeling that tied domestic vaccination rates to lifting domestic lockdowns and travel restrictions, using language such as "lockdowns less likely but possible" to give itself room to adapt to changing epidemiological conditions. See Australian Government, "National Plan to Transition Australia's National COVID-19 Response," accessed March 3, 2024.
- 40 According to one U.S. representative, "One of the silver linings of the pandemic for us has been the way it has forced us to innovate at the border. We have really quickly responded technologically to some of the challenges posed by the pandemic and are committed to advancing those technological solutions in the future." Comments by Blas Nuñez-Neto, Acting Assistant Secretary, Border and Immigration Policy, U.S. Department of Homeland Security, during the IMRF side event "Preparedness for the Next Pandemic."
- 41 IOM, "COVID-19 Identification and Monitoring of Emerging Immigration, Consular and Visa Needs" (issue brief, April 30, 2020).

- 42 These credential systems included, among others, the EU Digital COVID Certificate, the Digital Infrastructure for Verifiable Open Credentialing developed in India, and the African Union's Trusted Travel platform, as well as the SMART Health Card developed by nonprofits primarily in the United States and a standard developed by the International Civil Aviation Organization. See Huang, *Digital Health Credentials and COVID-19*.
- 43 Andrzej Jakubowski and Laurie Trautman, *Is There a Future for ArriveCAN at the Land Border*? (Bellingham, WA: Border Policy Research Institute, 2022).
- 44 Henry Belot, "Labor Considered Turning Covid Quarantine Facilities into Domestic Violence Shelters," *The Guardian*, February 20, 2023.
- 45 Australian Associated Press and Adeshola Ore, "Victoria Closes \$580m Covid Quarantine Facility that Housed 2,168 Guests," *The Guardian*, October 4, 2022.
- 46 Ben Hubbard, "Coronavirus Fears Terrify and Impoverish Migrants in the Persian Gulf," The New York Times, April 13, 2020.
- 47 For example, Argentina automatically registered migrants who had been in the country for two years for Emergency Family Income cash support, which excluded those (primarily Venezuelans) who had arrived since. See Anna Carolina Machado et al., *Social Protection and Venezuelan Migration in Latin America and the Caribbean in the Context of COVID-19* (Brasilia and Panama City: International Policy Centre for Inclusive Growth, United Nations Development Program, United Nations Children's Fund Regional Office for Latin America and the Caribbean, and World Food Program, 2021).
- 48 Sarah Haque and Laura Margottini, "4m Undocumented Migrants, Red Tape, and the Vaccine," EUobserver, September 6, 2021; Akilah Johnson, "For Immigrants, IDs Prove to Be a Barrier to a Dose of Protection," *Washington Post*, April 10, 2021.
- 49 Japanese Cabinet Secretariat, Cabinet Agency for Infectious Disease Crisis Management, "National Action Plan for Pandemic Influenza and New Infectious Diseases" (planning report, June 7, 2013).
- 50 IMRF side event "Preparedness for the Next Pandemic."
- 51 Costica Dumbrava, "Revision of the Schengen Borders Code," European Parliament Legislative Train Schedule, accessed January 30, 2024.
- 52 Working Group on Amendments to the International Health Regulations, "Article-by-Article Compilation of Proposed Amendments."

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