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ARTICLE

Casualties of preparedness: the Global Health Security Index and COVID-19

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Abstract

The 2019 Global Health Security Index (GHS Index) assessed the US and the UK as the two countries best prepared to address a catastrophic pandemic. The preparedness rankings of this index have had little correlation with the actual experiences of COVID-19 in various countries. In explaining this disrepancy, the paper argues that better indicators and more data would not have fixed the problem. Rather, the prevailing paradigm of global health security that informs instruments such as the GHS Index needs to be interrogated. This dominant paradigm narrowly conceptualises global health security in terms of the availability of a technical infrastructure to detect emerging infectious diseases and prevent their contagion, but profoundly undertheorises the broader social and political determinants of public health. The neglect of social and political features is amplified in instruments such as the GHS Index that privilege universalised templates presumed to apply across countries but that prove to be inadequate in assessing how individual societies draw on their unique histories to craft public health responses.

Keywords: Global Health Security Index; pandemic preparedness; rankings; COVID-19; political determinants of health

1 Introduction

The Global Health Security Index (GHS Index), a leading index that sought to measure the ability of countries to deal with large infectious-disease threats, ranked the US as the 'most prepared' (GHS Index, 2020). In its 2019 assessment of 195 countries, the UK came in second while countries like Japan, New Zealand and Greece trailed far behind. Countries in sub-Saharan Africa and island nations largely made up the bottom of the list. These rankings are clearly contrary to what the experience of the COVID-19 pandemic in the first twelve months has revealed. The US and the UK have had disastrous track records in their management of the pandemic, racking up high mortality and morbidity levels. In contrast, countries in East and South East Asia, given lower rankings in the GHS Index, have done a much better job of controlling the spread of the disease. Countries in Africa have had varying responses, with many experiencing far lower morbidity and mortality rates than several wealthy OECD countries. In general, it is striking how little correlation there is between countries' preparedness rankings on the GHS Index and the actual experiences with COVID-19. Other preparedness indices have been equally wrong.[1] This dramatic mismatch between GHS Index scores and actual health outcomes and experiences demands an explanation.

Authors of the GHS Index have defended their work by noting that they had pointed to overall low preparedness across countries in the world (Bell, 2020). To explain the egregiously erroneous rankings of countries, they along with other commentators have suggested that the index needs some additional

[1]E.g. see the ReadyScore from Resolve to Save Lives (2020), which uses the World Health Organization's Joint External Evaluation for its preparedness report card. While this index has some distinct parameters, its close alignment with the scores of the GHS Index reveals that it was in line with the prevailing thinking and presumptions of the global health security paradigm (Boyd *et al.*, 2020).

indicators and better data. For them, the GHS Index was a 'somewhat valid measure of health security, but remains incomplete' (Boyd *et al*., 2020; Ravi *et al*, 2020; Razavi *et al*., 2020).

This paper argues that more indicators and better data would not fix the problem. Rather, we need to interrogate the prevailing paradigm of global health security that informs instruments such as the GHS Index. This dominant schema of global health security identifies the problem at hand narrowly – as emerging acute infectious diseases that can travel across borders. The solutions it focuses on are narrow technical and administrative measures that are understood to effectively prevent contagion. What this paradigm of global health security underemphasises, or occasionally completely ignores, are the complex political and social determinants that anchor a country's public health response and that are critical in ensuring the sustained well-being of a population. For instance, in the dominant global health security framework, surveillance laboratories and stockpiles of antibiotics are deemed crucial. In contrast, an equitable and accessible health system, or a well-functioning state administration, are given less weight. COVID-19, however, has starkly revealed the importance of political institutions, societal solidarity and a Rousseau-ian general will in determining a country's pandemic response. The experience of the current pandemic, alongside lessons from the history of international health, demand a reconceptualisation of global health security that explicitly theorises and takes into account the role of broader social and political drivers underlying public health.

The conceptual narrowness of the extant global health security paradigm is illustrated and amplified in the GHS Index, which exemplifies a type of instrument that is increasingly common in global health governance, and that serves simultaneously as a technology of knowledge making and a technology of governance.[2] Animated by comparative metrics and rankings, the GHS Index carries with it a 'foreknowledge' – namely anticipatory categories, models and presumptions that create an a priori understanding of what constitutes global health security (Mahajan, 2008). Based on its foreknowledge, it seeks to measure a particular set of features deemed relevant to pandemic preparedness. Constructed around prior categories and common templates, such instruments have limited ability to incorporate surprises, learn from fast-changing events and capture relationships that tend to be iterative and involve social learning. This incapacity to accommodate and assess diverse trajectories of pandemic response was glaringly revealed during the COVID pandemic.

The GHS Index also serves as a technology of governance. By privileging assessment of those phenomena that can be easily measured in a quantitative or a yes–no fashion, it helps to produce an architecture of global health governance that focuses on narrowly conceived, technical understandings of health. Moreover, such instruments help to constitute the very phenomena that they aim to assess (Hacking, 1991; Lakoff, 2017). In other words, not only does the GHS Index measure pandemic preparedness; it also encourages countries to build the very infrastructure that it seeks to measure.

The paper proceeds by first briefly outlining the premise of the prevailing global health security paradigm. This is followed by a detailed discussion of the GHS Index and its categories and indicators, revealing how the categories are informed by prior commitments to a worldview of a politically volatile Global South that serves as a breeding ground for new infectious diseases. The one-size-fits-all template of the index disallows consideration of domestic imperatives and complex iterative political and social factors, even as it demands a performative visibility of preparedness policies and infrastructure deemed important by global health managers. The paper proceeds by outlining how the initial lessons of COVID-19 starkly illuminate the limitations of this approach. The ensuing implications are relevant not only for the GHS Index, but also for global governance instruments and expertise writ large that favour relentless international comparisons.

2 Global health security: a paradigm for preparedness

The prevailing paradigm of global health security has emerged over the last three decades, coming to the fore initially during the HIV/AIDS pandemic and further evolving in response to the outbreaks of Zika, SARS and Ebola. In his seminal account, Andrew Lakoff (2017) discusses the genealogies of this

[2]See Merry (2011); Adams (2016); Fukuda-Parr (2014); Mahajan (2019).

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global health security schema and how it emerges from a convergence of health and security imaginaries. Central to this paradigm is a spectre of an interconnected world marked by disruptive forces of globalisation including extensive air travel and trade, urbanisation, climate change, civil wars, movement of refugees and other escalating frictions between human and ecological forces. This global context of mobility and volatility is understood as producing frequent vulnerabilities to emerging disease outbreaks. These emerging diseases, new infections that can easily traverse national borders, are understood as potential triggers of global catastrophes. With this overriding concern with contagion of new infectious diseases, the global health security schema focuses on plans to build capacities to identify, contain and report these diseases before they spread beyond a country's borders.[3]

The policy centrepiece of the global health security framework has been the International Health Regulations (IHR), which were first adopted by the World Health Organization (WHO) in 1969 and most recently revised in 2005. These regulations, which have progressively become central to the mandate and responsibilities of the WHO, are legally binding on all WHO Member States. They narrowly frame particular types of health problems – of emerging infectious diseases – as global security threats and aim 'to help the international community prevent and respond to acute public health risks that have the potential to cross borders and threaten people worldwide' (WHO, 2008). The IHR provide a decision tool to identify and categorise a 'public health emergency of international concern' and common guidelines and benchmarks for national governments to detect and respond to outbreaks. The IHR requirements of countries include measures such as developing disease surveillance and reporting tools; laboratory capacities for handling, examining and transferring biological samples; stockpiles for vaccines, antibiotics and other medical countermeasures; communication systems for emergencies; and sufficient hospital capacity.

This global health security framework has conspicuous characteristics that are worth underlining. First, the fear is of *new* infectious diseases. Health security was not about addressing ongoing diseases and other health-related issues in a population. IHR requirements, for instance, have an overwhelming emphasis on developing infrastructure readiness at the national level to contain new diseases rather than to combat existing public health concerns. Indeed, these issues – of new infectious outbreaks on the one hand and routine public health security on the other, are treated as two somewhat separate matters, with only the first of great interest to the international community concerned with global health security. Second, there is a special anxiety about contagion of emerging diseases from poorer, purportedly politically volatile countries in Asia and Africa to industrialised wealthy nations in North America and Europe. While the IHR emphasised the importance of building surveillance capacities in poor countries, the driving goal of this infrastructure was to defend populations in the North. Thus, much importance is placed on *reporting* infectious outbreaks that emerge in poor countries to international authorities and a global machinery that includes institutes like the Centres for Disease Control (CDC) in the US. And, third, this schema of security emphasises governance through generic templates, protocols, plans and checklists that are common across countries.

These priorities of the global health security paradigm are distinct from an older orientation of international health that the WHO had espoused in earlier decades. That had focused more on traditional public health measures that included primary health care, prevention programmes and disease-specific vertical programmes. The older orientation in international health worked to improve health services for national populations. In contrast, the global health security schema was not focused on building national capacities to address existing diseases in a population; rather, it was targeted at new outbreaks – that may or may not erupt in a population – and how to prevent them from travelling across borders.

3 The GHS Index: a universalised instrument to measure preparedness

The GHS Index vividly represents the priorities of the global health security paradigm. The index was described as the 'first comprehensive assessment and benchmarking of health security and related

[3]See Fidler (2005); Garrett (1994); Gostin *et al.* (2015); Lakoff (2017).

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capabilities' (GHS Index, 2020). It was developed in the aftermath of the 2014 Ebola outbreak in West Africa. The WHO had come under intense criticism for not declaring that outbreak a global emergency quickly enough. Soon thereafter came calls for being 'more prepared' to combat future infectious-disease threats that travel across borders (Garrett, 2015). In response to such calls, the WHO initiated new exercises such as 'Joint External Evaluations' that sought to generate better reporting on countries' preparedness capacities. The GHS Index was another such initiative that aimed to generate more information about public health infrastructure vulnerabilities in countries around the world.

The GHS Index project was undertaken by the Johns Hopkins Center for Health Security at the John Hopkins University's Bloomberg School of Public Health and the Nuclear Threat Initiative – a think-tank based in Washington, DC. An additional collaborator was the Economist Intelligence Unit that collected and processed data for the index. The project was funded by philanthropic donors that included the Open Philanthropy Project, the Bill & Melinda Gates Foundation and the Robertson Foundation. It had an international panel of experts that included multiple programme officers from the Gates Foundation; officials from governments in Asia, Latin America and Africa; and various academics.

The GHS Index is a heterogenous index that tries to cover much ground, encompassing indicators for both narrowly defined technical capacities such as the number of doctors, but also more amorphous ideas such as of political risk. Its indicators are divided within the following six categories, which are weighted roughly equally in the final calculation of a country's preparedness score:

1 Prevention
2 Detection
3 Response
4 Health systems
5 Compliance with international health regulations
6 Risk environment.

Within these six categories, the index authors formulated 140 questions and the resultant data were used for animating thirty-four indicators. Most indicators are explicitly quantitative; they are informed by questions that can be answered with specific numerical data points – such as the number of epidemiologists in a country. In addition, there are also so-called 'qualitative' indicators. These are based on questions that cannot be answered simply by quantitative data, but are nonetheless typically framed in a yes–no fashion – such as whether a government had passed policies in accordance with the IHR. Though not marked by a numerical data point, the yes–no nature of the question allowed easy scoring. The thirty-four indicators are themselves composite indicators that aggregate subindicators and multiple data sources. These thirty-four indicators, in turn, are rolled into one final number, which becomes the rank assigned to a country on a preparedness scale.

The anxiety about contagion across borders, the defining hallmark of the concept of global health security, is vividly illustrated in the priorities of the GHS Index. In its introduction, the report for the index summarises this driving rationale: 'Because infectious diseases know no borders, all countries must prioritize and exercise the capabilities required to prevent, detect, and rapidly respond to public health emergencies' (GHS Index, 2020, p. 5). These priorities, of prevention, detection and rapid response, constitute the GHS Index's first three categories and, as such, account for half of the score. In these categories are found forty-four subindicators that culminate into seventeen indicators; they cover issues regarding antimicrobial resistance, zoonotic diseases, vaccination, biosecurity and biosafety systems. For instance, indicator 1.2.3a asks whether a country provides annual reports of zoonotic diseases; and 1.4.2a assesses for 'biosafety training using a standardised, required approach'. There are other indicators about laboratory systems, real-time surveillance, response planning, risk communications and plans for trade-and-travel restrictions.

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Building these capacities of surveillance and containment inevitably involves choices and trade-offs. These choices are necessarily context-driven, with each government in the best position to determine its priorities. For some countries, building a surveillance system for zoonotic disease may not be a priority if there is an absence of a history of zoonotic transmissions. Similarly, building a whole-of-government biosafety and biosecurity infrastructure may not be the best way to use limited funds, especially in resource-constrained environments. Instead, focusing on primary health infrastructure might be a more justifiable and urgent priority.

Moreover, from the point of view of a developing-country government, it is seldom effective to simply add discrete technical capacities such as, say, pathology laboratories that feed into a global machinery of surveillance. For scientific capacities to be wielded effectively requires not merely building siloed laboratories, but rather investing in the overall scientific infrastructure and human resources of a country. Accordingly, a government may prefer that surveillance infrastructure be tailored to and integrated into a broader national system of research and innovation that reflects domestic needs.

However, the GHS Index has little room for taking into account what might be reasonable variations between individual country priorities. The index has prior categories and indicators that it measures preparedness through; individual country performance on each indicator is not contextualised in terms of its historical, social or political imperatives. The emphasis on prevention, detection and response is realised within an one-size-fits-all framework. Indeed, this approach of using a uniform template is a defining feature of not only this index, but also a large number of global health instruments that privilege quantitative comparisons between countries.

Individual governments are given the responsibility of not only the surveillance and containment of infectious diseases, but also, crucially, of communicating to a larger international community. The enormous significance given to reporting and communications by individual governments is prominently illustrated throughout the categories of the GHS Index. Out of the total thirty-nine indicators, thirteen indicators refer to whether a country reports to international authorities such as the WHO about infectious outbreaks, infrastructure capacities, strategic plans and so on. For instance, 1.2.3a asks: 'Has the country submitted a report to OIE on the incidence of human cases of zoonotic disease for the last calendar year?' Indicator 2.2.1b asks if there is 'publicly available evidence that the country reported a potential public health emergency of international concern (PHEIC) to the WHO within the last two years?' In addition to the thirteen indicators that query reporting, additional indicators ask whether a country has published and made public its various emergency and strategic plans. Yet more indicators enquire about whether a government has memberships of international agreements and organisations, and whether it has submitted its plans to international agencies. Indeed, over half of the total thirty-nine indicators are concerned with a government's activities of reporting, publishing and communicating to international bodies and the larger public.

At one level, this overwhelming emphasis on reporting reflects the global health security paradigm's concern with the need to alert an international system about a possible emerging disease. The preponderant emphasis on reporting additionally echoes broader trends within global health where donors have demanded incessant audits and reporting from national governments and non-governmental organisations. This reporting of national governments to global institutions and audiences has become the bedrock of an understanding of accountability and transparency in global health. The GHS Index report explicitly articulates this – it defines transparency as a country's 'capabilities to assure neighbors it can stop an outbreak from becoming an international catastrophe' (GHS Index, 2020, p. 5). Strikingly, a government's accountability and transparency are not to their own people, or to achieving particular health outcomes. Rather, transparency here is defined as a government's capability to provide assurances to neighbours and a global apparatus.

Transparency is of course an important value, but not one that has a simple and self-evident definition. There is often contestation on how to conceptualise and operationalise transparency, and it is inevitably linked to the orientation of institutions and the goals that they aspire to. One needs to ask questions about the transparency of what, to whom, through which practices and towards what ends. The concept of transparency that the GHS Index puts at the centre through its abundance

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of indicators on reporting is that of a *performative visibility*. What this conceptualisation of transparency emphasises most is the government's ability to *show* its preparedness capacity, through publications, reports or memberships. Transparency as front-staging and reporting by national governments is exhaustively measured; as it happens, this is also what *can* be easily measured by an instrument such as the GHS Index. Inevitably, the preponderance of these indicators produces incentives for governments to invest in reporting measures for that is what will get them better scores. It becomes yet another instance of how the index contributes to producing the very phenomenon that it seeks to measure.

The GHS Index's fourth category deals with health systems. Robust, accessible and equitable health systems have long been recognised as central to any country's public health capacity. Of the six indicators under this category, one is about the health capacity in clinics, hospitals and community care centres. Two indicators deal with medical countermeasures, one indicator is about communications with health-care workers, while yet another is about health-care access. So there is an effort here to cover different aspects of a country's health system.

However, there are aspects of health systems that this approach – of a checklist of quantified composite indicators – does not and arguably cannot adequately address. Health systems are inherently relational, with a complex relationship with the context in which they operate. Their effectiveness is dependent on a range of differing types of factors. Some of these matters plainly relate to issues of institutional and policy design and capacity, and can be at least partially captured through indicators such as the number of doctors or the presence of systems to receive foreign health personnel during emergencies. But what also shapes health systems' effectiveness are considerations that relate to people's values, a community's historical experiences with medical and public health officials, and the extant frameworks of knowledge systems. For instance, if communities do not trust a public health system, simply having doctors, tests and vaccines will not be sufficient to ensure that a population avails of these resources. Similarly, questions of broader political leadership and institutions determine how public health systems can do their work. If national-level leadership pointedly ignores or plays down a pandemic threat, even well-functioning health systems can be hampered in their messaging. These considerations of a historical, social and political nature indelibly inform the context in which health systems operate and determine their performance. The precise relationship of these factors to health systems is hard to quantify and analytically parse into a uniform, cross-country template. The GHS Index does not and indeed cannot apprehend these varied factors that are central to the workings of a health system, and this produces a profound weakness in its ability to define and assess preparedness.

The index's fifth category is about compliance with international norms. Specific indicators address whether there are national policies, budgets and processes in place in adherence with the requirements of the IHR. What is attempted here is a measurement of national compliance. However, what is not attempted in the index is assessment of the capacity, funding or support from international institutions to governments. The GHS Index report states that 'global leaders and international organizations bear a collective responsibility for developing and maintaining robust global capability to counter infectious disease threats'. Nonetheless, despite this gesture in the introduction, this purported responsibility of international actors is not assessed in the index; what is assessed is what a national government does, irrespective of international context. Accountability demanded through indicators is solely of national governments and not a global machinery of health security.

The GHS Index has a final sixth category devoted to 'overall risk environment'. This category includes indicators that aim to capture political, social-economic, infrastructure, environmental and public health risks. So here is an attempt to capture not just narrow technical factors such as the number of laboratories and presence of policies, but broader contextual aspects of a society. The indicators in this category, however, reveal the limitations of apprehending something as nebulous as 'overall risk' through a handful of quantitative indicators. Moreover, they again expose how the choice of indicators is seldom neutral, but rather is inevitably guided by prior worldviews, institutional orientations and conceptual commitments.

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In its subcategory for political risk, the GHS Index has six indicators that consider terrorism, armed conflict, orderly transfer of power, social unrest, government territorial control and international tensions, with one last seventh indicator for government effectiveness. Here, the GHS Index reflects the implicit worldview of politically volatile countries in the South that are typically the source of emerging infectious diseases. In its choice of indicators for political risk, it uses what have been traditional metrics for 'fragile' states such as terrorism, armed conflict and so on. The indicators reflect and reinforce a prevailing understanding within the global health security schema that relevant political risks to pandemic control are those that are commonly associated with national-level security such as terrorism, territorial control and armed conflict.

This presumed relationship between national-level security and devastating epidemics was most forcefully articulated during the AIDS pandemic when several commentators, mainly based in the West, proclaimed that the HIV/AIDS pandemic threatened the national security of several African nations. These commentators frequently warned of spectres of widespread unrest, coups, anarchy and civil war. However, empirical studies that examined the actual impacts of the AIDS pandemic showed that the 'more alarmist, relationships assumed to exist between national-level state security and the HIV/AIDS epidemic were not borne out' (de Waal *et al.*, 2010, p. 6). The most relevant relationships between public health crises like the AIDS epidemic and governments lay not in dramatic fears of macro-level state security that had become a kind of common sense in the world of global health security; rather, the most important relationships were found to be in intermediary levels of interaction such as within local governments, state institutional operations that affected health delivery and community resilience. The HIV/AIDS pandemic taught us that the indicators on state fragility such as for terrorism and civil war were wholly inappropriate in capturing what were the relevant political factors affecting public health outcomes.

Despite these lessons from the HIV/AIDS epidemic, the GHS Index persisted with an overall approach of the global health security paradigm that defines relevant political risk through a handful of indicators that deal with overt national security threats. The choice of these indicators was driven again by a foreknowledge, a presumed common sense within the global health security framework. In fact, many of the GHS Index indicators on political risk drew on other indexes, such as for state fragility, producing a self-referential loop of meaning and affirmation. The history of public health and increasingly the experience of the COVID pandemic demands something different – namely analytical approaches and tools that can undertake contextualised assessments about the complex types of political risks relevant to public health. These political factors have been less about coups and terrorism and more often about state capacity, quality of leadership, co-ordination between different levels of government and community-level infrastructure. As with other indicators, the political risk indicators of the GHS Index reveal how the work of measurement inevitably relies not on neutral categories, but rather on metrics shaped by prior conceptualisations, commitments and worldviews.

4 Lessons from COVID-19

The COVID-19 pandemic is obviously still underway and we will continue to obtain new data of a situation that is in constant flux. Nonetheless, the first twelve months of the pandemic allow several initial observations that help to explain countries' very varied responses to the pandemic. The discussion below is not meant to comprehensively address all factors that determine a state's response and health outcomes. Rather, it focuses on those issues that seem crucial but are difficult to capture in the templatised, quantified approach of tools such as the GHS Index.

The most important point to note is that countries that have provided relatively sustained and competent responses to the pandemic in the first twelve months have not followed any single template. In each country, there has been an assemblage of different institutions, policies and socio-economic factors that have enabled successful public health action. Notwithstanding popular media portrayals, the relative low mortality and morbidity rates within some countries cannot be explained by a single dominant factor such as digital surveillance infrastructure, or authoritarian regime type, or

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technological magic bullets, or high trust levels or age distribution in the population. Different countries, ranging from Vietnam, New Zealand, Japan, South Korea and Rwanda, to name but a few, have wielded different combinations of policy and infrastructural measures, deployed a range of national and local innovations, and have operated within starkly different historical and political contexts. These countries belong to a range of income levels; they have different regime types; they have adopted varying border control policies; they have had distinct approaches to lockdowns, testing, contact tracing and quarantines. The diverse experiences of these countries over the last year belie the convenient notion that it is possible to make neat comparisons of preparedness using common metrics. Understanding the reasons for different countries' success demands analytical frameworks that can accommodate nuance and divergent explanations, rather than an approach of tick-marking through a common checklist or modelling countries on a generic template to determine a single preparedness score.

In the context of this considerable diversity, there are nonetheless some broad repeating themes. One of the most consistent points is that the countries that have served as public health exemplars during the COVID pandemic have, without exception, significant state capacity. This state capacity has taken different forms: the ability to co-ordinate across different ministries, sectors and across central, state and local levels of government; to act on short notice and with speed; to be able to roll out effective communications to populations; to co-ordinate with not only government actors, but also private-sector players and community organisations. In most countries, the state has been headed by capable leadership that has been important for success. Many have also had capacious welfare systems and relatively low levels of extreme poverty. State capacity has been reflected in direct public health measures such as instituting and managing quarantines, controlling borders and regulating lockdowns. But, crucially, it has involved a whole host of issues that go beyond a direct public health remit. Some of these factors can be captured through indicators, though ones that are more encompassing of political risk and infrastructure than those provided in the GHS Index. But what is striking is how different countries have wielded different types of state capacities towards a successful response to COVID – there is no one-size-fits-all template that can be used to predict successful response.

Related to state capacity has been the common theme of broad-based, accessible and equitable public health systems. The number of doctors and nurses, as measured in the GHS Index, are part of this, but there is much more than these simple counts of capacity. The health-care systems in many of the countries that have done well have typically been equitable and accessible to all sections of the population. They have involved not only tertiary hospitals with intensive-care units and ventilators, but also community health and primary health infrastructure. They have had the experience of carrying out public health campaigns such as for vaccinations against infectious diseases. More than sophisticated surveillance laboratories armed with molecular diagnostics, able response has been centred on more basic primary health systems that have been effective in routine care. COVID-19 has revealed that many countries that do a good job of routine health care across the population are likely to be in a stronger position for emergency-time pandemic care, too. It creates the imperative that global health security not be conceptualised as exclusively about emerging infectious diseases; rather, it should be integrated with broader matters of health systems.

One aspect of health systems that has been widely discussed is the institutional memory that some national health systems carry of fighting older epidemics, such as SARS, MERS or even tuberculosis and how this has helped in combating COVID. Some of this institutional memory is in the form of legacy infrastructure; some in processes and protocols for quick response and containment; some in the embodied expertise of bureaucrats and doctors; some of this memory of a past epidemic is reflected simply in the willingness of the population to change behaviour in response to public health guidance. The memory of an older epidemic, instituted in public health systems and embodied in population-level behaviour, is an issue that may well be crucial in determining preparedness, but it is also a feature that is especially difficult to measure and quantify through indicators. After all, many countries have had recent and then distant experiences with older epidemics; however, only some have managed to translate those experiences into institutionalised processes that have served as useful

legacies for future pandemics. Figuring out which countries can transform a historical experience of an older epidemic into institutional readiness and infrastructure demands nuanced analyses that are unlikely to be solely captured in discrete indicators.

Another aspect that has received much attention is around the broad topic of trust. Indeed, trust has become a catch-all phrase that encompasses a wide range of issues that speak to histories of solidarity, polarisation and marginalisation in a population. Commentators have talked about how important trust is between scientific experts and the government; between people and the government; between medical experts and people; between the public health system and the wider population. The cultural and historical experiences of marginalised groups with the state and public health system have shaped trust. So has partisanship and how it taints the legitimacy of expert knowledge in the public sphere. These relationships have been shaped by historical experiences, institutional design and party politics. They have been reciprocal relationships with feedback loops – the trust that populations extend to scientific experts is shaped by how experts have responded to the values and needs of the population. These are relationships that are slowly forged in the crucible of historical memories but that can be quickly eroded at times of emergencies. These relationships of trust and solidarity seem to be an important part of explaining both the effectiveness of governments and the willingness of individuals and populations to change behaviour and adhere to public health regulations.

Trust is famously hard to identify, let alone quantify. While there are attempts to quantify trust into discrete indicators, it clearly involves considerations of many types of factors that are ill-suited to quantification. After all, it includes interpersonal and institutional interactions and how people evaluate past experiences. These necessarily implicate broader cosmologies through which people organise their lives, their values and knowledge systems, and the complex histories of political and scientific institutions in a country.

5 Conclusion

The failures of the US, the UK and several other countries in effectively addressing COVID-19 in the first twelve months of the pandemic have led many to proclaim that we need to be 'more prepared' for future pandemics. Pandemic preparedness here has long been construed as following a prescribed set of technical interventions that can purportedly contain newly emerging pathogens within national borders. The interventions called for have included measures such as building pathology laboratories, medical countermeasure stockpiles and emergency communications. As discussed in this paper, this schema of global health security has largely neglected broader historical, social and political factors that COVID-19 has vividly illustrated as being central to pandemic management.

The focus on narrow technical measures in the pandemic-preparedness paradigm has lent itself well to instruments such as the GHS Index. Driven by generic metrics, the index has sought to measure discrete capacities of governments and the risk environment. Political determinants, to the extent that they enter this schema, centre on alarmist concerns over matters such as terrorism, civil war and other elements associated with so-called failed states. Social determinants are confined to quantifiable measures of health-care access. Transparency is defined in terms of a performative visibility, namely a government's ability to display to international authorities that technical-preparedness requirements have been fulfilled.

The foreknowledge encapsulated in these kinds of global instruments can potentially assist a government in anticipating and planning for a potential crisis. However, the planning is done within a pre-existing template that is understood to be relevant across countries. COVID-19 showed that the ensuing neglect of features unique to a society has come at a steep cost, with the generic template inadequate in assessing how individual societies can innovate and draw on their unique resources and histories to craft an effective public health response. That there was a lack of fit between a disease event like COVID-19 and the preparedness scores of countries should perhaps not be a surprise, for, after all, the preparedness scores were not determined by comprehensive characteristics of a society, but rather by a prior seemingly universal blueprint of how to constitute health security.

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Despite these drawbacks, global health actors have been partial to instruments such as the GHS Index because they have allowed comparative rankings. Through relentless comparisons between countries, these instruments produce snapshots and visualisations of the whole world in single frames. Such an approach is doubtlessly useful to global managerial authorities and donors such as the World Bank, the Gates Foundation and the WHO, and also to many academics and journalists, all of whom seek to make comparative assessments between countries.

And yet, this comparative assessment clearly skews knowledge production about global health. This global knowledge gives prominence to what chosen indicators can capture, rendering invisible a whole host of issues that indicators do not and cannot account for. Moreover, the knowledge that is generated about global health comes principally through generic features that are presumed to be common across countries, occluding aspects that are unique to states and do not fit into a universalised framework. The one-size-fits-all template approach has become central to many aspects of global health governance. Instruments such as the GHS Index epitomise this approach, promoting a style of governance that leans on checklists, cross-country comparisons and a performative visibility of capabilities demanded of governments by global institutions.

The experience with COVID-19 should force a reckoning of the limited usefulness of instruments such as the GHS Index. COVID-19 has starkly revealed how the dominant global health security paradigm and its attendant instruments profoundly undertheorise and underprivilege the social and political determinants of public health. It should underline the importance of analytical approaches that take seriously how health, well-being and preparedness are determined not only by narrow technical interventions, but also by broader historical, social and political trajectories of different nations and people.

Conflicts of Interest. None

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