Tracking global evidence-to-policy pathways in the coronavirus crisis:

A preliminary report

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Contents

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The report authors are indebted to the selfless work of an international team of volunteers who continue to collect and log data on Covid-19 policy interventions in their jurisdictions. See Appendix 3 for the full list of rapporteurs who agreed to be named in this report.

Abstract

This progress report is the first in a planned series of reports and studies stemming from the INGSA evidence-to-policy tracker [1], an online and participatory data collection tool established at the outset of the global pandemic. The specific aim of the tracker is to capture the contexts and processes behind recorded policy changes, especially with respect to the mobilisation and transfer of supporting evidence and expertise. This initial progress report is based on a subset of twenty-two cases, with two of these examined in more detail by way of illustration (DRC and Sri Lanka). These cases are exploratory and illustrative, rather than comprehensive. They were chosen for regional and institutional diversity and for the sufficiency of available data at the time of writing. They complement existing published research and the work of our partners.

A typology of six initial pandemic response strategies was identified and then used as the basis for cluster analyses of policy choices within the subset of cases. Preliminary findings suggest that the choice of strategy provided an initial, but evolving, template for how evidence/expertise were mobilised within distinct institutional contexts. This preliminary report will help guide case selection for a series of in-depth case studies to be developed over the course of 2021. The choice of detailed case studies is not limited to the subset used in this illustrative and exploratory report.

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[1] See INGSA online tracker tool: https://www.ingsa.org/covid/policymaking-tracker/.

1. Introduction

While the novel coronavirus SARS-CoV-2 is a singular challenge that has caused a pandemic of unprecedented scale, responses of governments worldwide have to be multidimensional, dynamic and context-sensitive. Interventions must be stringent enough to attack the virus and protect citizens but not so stringent that the spillover consequences are unacceptable, for example that the economy cannot recover; what governments ask of their citizens must not strain the social contract to the point that the government becomes unviable. Balancing trade-offs in policymaking is nothing new, but it rarely takes place under the conditions of such extreme pressure and urgency.

Governments everywhere have turned to the advice of various types of expert, formally or informally, domestic or international. Globally there has been a diversity of intervention types and levels of stringency.[2] Yet the very fact that there is such variety in response to an urgent and *common* threat should not go unexamined.

What is behind the diversity in pandemic response policy choices? Many have asked this question, and the body of scholarship is growing rapidly from several perspectives, not least the policy and political sciences.[3] While analyses thus far have focused variously on institutional settings, differences in leadership styles, socio-cultural norms, ethical and political challenges, and experience with previous events, or a combination of factors, this paper considers instead the sources, pathways and use of evidence.[4]

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[2] See the Oxford stringency tracker: https://www.bsg.ox.ac.uk/research/research-projects/oxford-covid-19-government-response-tracker.

[3] Giliberto Capano et al. 2020. Mobilizing policy (in)capacity to fight COVID-19: Understanding variations in state responses. *Policy and Society* 39(3): 285–308, as well as other essays in this special issue.

[4] See for instance the case of Taiwan where pandemic planning may be explained by a confluence of historical geopolitical factors: history of self-sufficiency, lack of ties with the WHO, longstanding suspicion with regard to China combined with close cultural, social and economic links with China that increased exposure to infections circulating in China, i.e. SARS. See Ching Fu Lin et al. 2020. Reimagining the administrative state in times of global health crisis: Anatomy of Taiwan's regulatory actions in response to COVID-19. *European Journal of Risk Regulation* 11(2): 256–72.

By contrast, China's late warning to the global community has been attributed to the lack of autonomy of professional (including scientific) communities that make up the epidemic governance system. Edward Gu and Lantian Li. 2020. Crippled community governance and suppressed scientific/professional communities: A critical assessment of failed early warning for the COVID-19 outbreak in China. *Journal of Chinese Governance* 5(2): 160–77.

Similarly, a comparative study of African countries looked at the how the pandemic pressure to place the good of the collective above the individual freedoms can lead to human rights concerns. See: AE Obasa et al. 2020. Comparative strategic approaches to COVID-19 in Africa: Balancing public interest with civil liberties. *South African Medical Journal* 110(9):858–63.

The use of evidence with which to inform policy decisions is often taken for granted. In much policy process literature, it is considered simply as an input into policy. Yet the sources, breadth, formulation and use of evidence is a significant policy-making factor in its own right, which needs to be problematised and understood as much as any other.[5] Indeed, it is the interaction and mutual shaping of evidence with the other factors of policy-making processes that is of real interest here, and is the focus of INGSA's research. The use of evidence is not a stable, predictable and objective factor. It too is the product of dynamic processes, relationships, institutional contexts, histories and trade-offs.[6]

How are different governments perceiving the problem and its solution? What evidence are they using to make their decisions and how is that evidence getting to decision-makers? Do local institutional, material and other conditions or norms enable or impede the use of relevant evidence and how is this addressed in different jurisdictions? Whose evidence counts? Is it formal or informal? What has been the role of supra- and transnational actors in establishing the legitimacy of evidence, which in turn is used to frame the policy problem?

These are abiding questions in INGSA's work as a network dedicated to improving the interface between science and public policy. The Covid-19 global pandemic presents a unique opportunity to examine the issues in a rigorous comparative way.

2. Aims of the study

As a comparative exercise, the overarching goal of the INGSA-COVID-19 project is to understand the kinds of evidence and mechanisms used to develop and implement Covid-19 interventions by governments in different jurisdictions globally. The aim is not to compare and assess the success of these interventions, but rather to compare the various ways in which evidence has been marshalled and applied, first to articulate a country-specific response goal and then to address it within particular national contexts.

Chronologically, the first aim of the study has been to document the policies in real time through an online Tracker tool, while the memory of interventions and their context is still fresh.

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[5] Justin Parkhurst. *The politics of evidence: From evidence-based policy to the good governance of evidence.* Taylor & Francis, 2017

[6] Marco Liverani, Benjamin Hawkins, and Justin Parkhurst. Political and institutional influences on the use of evidence in public health policy. A systematic review. *PloS One* 8.10 (2013): e77404

The second and key aim is to understand how the factors of influence most often cited in the literature interact with and affect the use (or non-use) of evidence in the choice, development and implementation of national response strategies and regimes. It is in this aim that the work is distinct from other analyses of pandemic policy processes.

We are particularly interested in the role of:

- Institutional settings affecting evidence development or mobilisation (e.g. extant or emerging science advisory mechanisms and crisis/pandemic plans)
- Actors (individuals or organisations) working specifically as knowledge brokers: who are they, what is the source of their legitimacy?
- The types and sources of evidential inputs: what domains of evidence are prioritised and how is evidence framed? What influences this?
- Material contexts and historical events that may influence choices about types or pathways to evidence use (i.e. either through lessons learned or path dependencies)

Taken together, we are interested in whether we can establish/discern national patterns of response, built on recognisable epidemiological approaches.

From this initial exploratory study, we will use the findings to guide the selection of countries for more detailed mixed methods case studies in 2021.

Overall, this study is expected to provide insight into broader conceptual frameworks of evidence-to-policy pathways that could help guide best response to other transnational crises in the future. Such frameworks likely would consider the sources and plurality of evidence, and the processes of evidence synthesis, and of evidence brokerage to decision makers, which may well evolve across the pandemic response and recovery phases. The findings could have implications for other problems, such as climate change, and for the mechanisms of science advice in general. Despite the diversity of contexts, there are similarities and considerations that can be transposed: issues of collective action; the role of diverse interests; the political dimension; and the role of scientific evidence when human values are in dispute.

3. Study design

This study is a partnership across the international network of the INGSA membership to undertake a form of engaged research that is rare in the policy sciences. Crowd-sourced 'citizen-science' is more often seen in the natural sciences, for instance with computer users who lend their processing power to scan the galaxy, or outdoor-enthusiasts who participate in bird counts and other wildlife census activities.[7] By contrast, participatory research in the social sciences tends to be used specifically to legitimise subjectivity and personal lived experience as evidence. In this study, by contrast, the participatory component asks INGSA network members with specific contextual knowledge and expertise to log data about the use of evidence by their country's government.

3.1 Data collection

This project leverages INGSA's unique advantage in having a global network of over 5000 members who work or study at the interface between public policy and academic research, across the natural and social sciences and engineering. When the pandemic broke, the INGSA secretariat launched a call for volunteer rapporteurs via twitter and the INGSA-Covid-19 website. INGSA also sent direct invitations to network members and worked with institutional partners to identify rapporteurs in jurisdictions not covered by the INGSA network. Responses were received from over 100 jurisdictions across the global North and South.

As of 22 August 2020, there were a total of 2495 policy items collected in the database by INGSA, covering 118 national-level jurisdictions. In a number of countries, policies are also collected at the state-level where state governments have primary responsibility for the health response. See Appendix 1 for statistics on data collected.

In parallel, the tracking website was developed with functionality to display all logged entries from individual jurisdictions in a timeline format, as well as a comparative view that can compare two or more jurisdictions' full timelines or filtering by type of policy intervention.[8]

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[7] Rick Bonney et al. 2014. Next steps for citizen science. *Science* 343(6178): 1436-1437.

[8] "Trackers" proliferated during the pandemic as organizations from large intergovernmental bodies such as OECD (https://www.oecd.org/coronavirus/country-policy-tracker/) to research institutions such as Science Complexity Hub of the University of Vienna (https://csh.ac.at/covid19/), down to small volunteer non-profits (https://covid19policywatch.org/) attempted to collect policy data in real time. Policy "trackers" and "observatories" have been used earlier, e.g. in Earth sciences (https://www.earthobservations.org/index.php) and climate research (https://climateactiontracker.org/). The focus of the INGSA website is distinctive, being on the processes of advice not on the outcomes achieved.

Each entry in a jurisdiction's timeline, in turn, could be opened up to display more information and relevant links.

An online data-logging form (see Appendix 2) was developed in multiple iterations by the original research team and collaborators. Links to the form were sent to all volunteers. We took heed of recent literature that singled out data quality as a core challenge in "citizen social science" and advised researchers to provide clear instructions and guidance to "citizen researchers".[9] For that reason, we provided written instructions and email support, as well as two online training sessions. The latter were offered on a drop-in basis to answer rapporteur questions and try to ensure maximum consistency in the type of data collected and logged on the tracker.

Volunteers were asked to log individual entries for each significant policy decision relating to the pandemic in their jurisdiction, explaining the goal and audience for the intervention and any evidence that was cited in its development.

Entries logged by the volunteer rapporteurs were then verified by moderators to check for valid links and consistency of entries before they were logged into the database and uploaded to the public website.

No institutional ethics review was required for this portion of the research as it did not involve human participants as the subjects of the research. Volunteer citizen-scientists (rapporteurs) logged information that was publicly available from news outlets and government websites. Although not the 'subject' of the research, rapporteurs were nonetheless given the opportunity to remain anonymous and to stay in or leave the project as they wished.

3.1.1 DATA ENTRIES FROM OTHER DATABASES

Early in the project, the scientific leads became aware of other groups similarly tracking interventions and contact was made with We Are Policy (a public policy aggregation and communication group in New Zealand) and the Complexity Science Hub (a research institution in Vienna, Austria) to seek opportunities to share and harmonise data to build the database.[10] Through such partnerships, the INGSA database grew by just under 2500 entries and was able to add 50 jurisdictions with work ongoing to harmonise the data entries and categories. As of 11 September 2020, there are now 5770 entries in total across all sources.

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[9] Raffael Heiss and Jörg Matthes. 2017. Citizen science in the social sciences: A call for more evidence. *GAIA* 26(1): 22–6.

[10] See https://covid19policywatch.org/ and http://covid19-interventions.com/

3.1.2 SUPPLEMENTARY DATA COLLECTION

In addition to regularly logging individual entries for each pandemic policy intervention, response or recovery, a supplementary questionnaire was developed for one-time responses by rapporteurs or other knowledgeable INGSA members for each jurisdiction (see Appendix 3). Supplementary questions dealt with the characteristics of institutional and material contexts that were not specifically related to the pandemic, but which may have been influential in the access or use of evidence or decision-making, such as the existence of pandemic preparedness plans, antecedent events and timing from previous or to next election, and similar.

3.1.3 DATA QUALITY AND ASSUMPTIONS

The collection of data through the Tracker intake form required that volunteer rapporteurs include supporting links to policy documents, government speeches or news articles from reliable news sources. Before confirming entry into the database, all links were verified and data were checked for consistency by a moderator. All database entries were subsequently reviewed for consistency of format by the project analyst. The review of data and consistency of format was particularly important for entries obtained by integration with other databases.

It is recognised that the rapporteurs bear a significant responsibility as knowledgeable interpreters of the pandemic situation in their jurisdictions. They are relied upon to interpret and enter data about unfolding events based on how these events are reported to the public.

The potential limitations of this process on data availability and quality are understood to be that:

- Some elements of evidence use or mobilisation may be missed if they were not publicly reported, either directly by officials or the news media
- Some interventions (including the establishment of new advisory mechanisms) may be missed if they were not reported publicly
- Sequencing of events may be used to help infer the influence of new information on policy decisions, but this inference would need to be verified qualitatively. Subsequent deep-dive case studies in (yet to be) selected jurisdictions will enable more detailed analysis.
- Rapporteurs are volunteers who took on the demanding task of participating in a research project that had no end in sight, in the midst of a pandemic that put heavy demands on their personal and professional lives. Many remain enthusiastic, but

some participation has been lost to attrition. INGSA recruitment and retention efforts of volunteers are ongoing.

Limitations to how the available data can be analysed are also recognised:

- Exact comparison between jurisdictions is difficult and ill-advised because each jurisdiction's situation is different and responds to their domestic goals and intentions.
- Contextual factors might account for how evidence was applied (or not) and decisions that were made are being collected on an ongoing basis. Only inferences can be made about the causal role of such factors unless detailed qualitative case studies are undertaken, initially informed by the Tracker.
- The lack of a policy in the Tracker should not be taken to mean that the jurisdiction categorically did not do something, as it is possible that it was simply missed and not recorded in the Tracker.

In sum, the INGSA evidence-to-policy tracker is a tool to help delineate the pathways of evidence mobilisation and some likely factors affecting if and how evidence is used, including when and by whom. This information will be used to generate hypotheses for further examination through more detailed case studies. The Tracker's jurisdictional timelines and comparative sequencing of events may also be useful to help inform more robust process-tracing of specific policy decisions.

3.2 Case selection

A subset of 22 jurisdictions was selected for cluster analysis. Because this is an exploratory and preliminary analysis of the database, the selected cases were not chosen strictly according to conventional comparative design criteria (e.g. 'mostly-similar' or 'mostly-different' factors)[11]. Instead, selection was designed to provide a sufficient variety of illustrative cases, from which initial findings and methodological lessons could inform more detailed qualitative case-study analysis to come. Thus, for exploration purposes, best efforts

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[11] In comparative policy analysis, cases are chosen either because a policy intervention is consistent across cases, but the contextual factors of influence are different ('mostly different' comparative design), or the cases are largely similar in context, but the choice of policy is different (mostly similar comparative design). In the former, the research question is 'why did the same policy choice arise from such different contexts?' In the latter, the research question is 'why did cases of very similar context make different policy choices; what other factors might account for the difference?'

were made to achieve a mix of cases that had at least 40 data points entered into the database and that balanced:

- representation from the global north and south, and from every region
- consideration of cases that might not otherwise attract global attention compared to high profile cases such as the UK or Sweden
- diverse economic profiles
- diverse population sizes
- diverse governance modes

3.3 Analysis

3.3.1 CLUSTERING BY RESPONSE STRATEGY

An initial high-level reading of the data was undertaken to develop first-order categories beyond simply regional groupings. Thematic content analysis was used with open coding, which did not impose themes, but was nonetheless guided by knowledge of pandemic management strategies. This first analytical step resulted in the identification of six different pandemic response strategies.

It was found that 'flatten the curve' was the most frequently adopted choice of strategy across the cases analysed. However, that this goal was not universally adopted, nor did it remain static, was a first significant finding from the Tracker.

Therefore, 'Response Strategy Type' was used as the basis to structure the first order of clustering in this analysis, on the assumption that the choice of strategy would have been informed by and then dictate the type of evidence with which to inform policy interventions. The Response Strategy Types were identified as follows:

1. *Monitoring and surveillance*: general surveillance protocol and precautionary measures, including border screening for arrivals, issuing health alerts, temporary travel restrictions for high risk arrivals, and monitoring the evolving situation in international jurisdictions.
2. *Inaction*: encompasses both the cases where governments actively denied the significance of the virus and instead promoted activities that could encourage the spread, as well as those cases where governments simply did nothing.

3. *Achieving herd immunity[12]*: minimal mandatory restrictions (usually just for the most vulnerable population sections) and reliance on voluntary adherence to social distancing and other non-pharmaceutical interventions. The core assumption is that by allowing the virus to circulate (at lower levels) the population will acquire immunity.

4. *Flatten the curve*: various forms of restriction to reduce R_0 with the aim of preventing an overwhelmed healthcare system.

5. *Suppression*: similar to flatten the curve, with the difference being that the curve is flattened to the point of very few (but non-zero) cases.

6. *Elimination*: "stamp it out and keep it out"– with the goal of reducing the incidence of infection and community spread (at the national level) to zero, this strategy includes tight border control and/or very aggressive track and trace and isolation.

A variety of data sources were used to ascertain the strategies that applied in each case. For instance, in a number of cases, public health authorities/state epidemiologists explicitly stated the national strategy that was applied.[13] In other cases, strategies were inferred from the types of interventions observed.

The strategies of flattening the curve/suppression and elimination are all standard epidemiological approaches to epidemic management.[14] By contrast, achieving "herd immunity" seeks to define the state of immunity in the population in which the likelihood of new infections is reduced.[15] "Herd immunity" is considered a target of epidemiological interventions, namely vaccination, as it was shown that immunizing a certain proportion of the population (<100%), and/or key subpopulations would break the chain of transmission.

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[12] The most notable cases choosing "herd immunity" globally have been the UK (early in the pandemic) and Sweden (ongoing). Data from these cases account for the inclusion of this strategy in our clustering frame. However, neither country was included in the initial sample for this report due to insufficiency of data entered into the Tracker and the understanding that these cases have been profiled thoroughly elsewhere. Nonetheless, achieving 'herd immunity' is retained as an empirically supported strategy in our typology, both for consistency and because the full typology can be used in the detailed qualitative case studies (e.g. asking decision-makers if a herd-immunity strategy was contemplated at any point).

[13] E.g. Michael Baker et al. 2020. New Zealand's elimination strategy for the COVID-19 pandemic and what is required to make it work. *NZMJ* 133(1512): 10–14.

[14] See also Walter R. Dowdle. 1999. The principles of disease elimination and eradication. CDC MMWR 48 (Suppl 01): 23–7. https://www.cdc.gov/mmwr/preview/mmwrhtml/su48a7.htm. CDC broadly divides strategies into control (the reduction of disease incidence, prevalence, morbidity or mortality to a locally acceptable level as a result of deliberate efforts) and elimination, as reduction to zero (of disease or infections) in a defined geographical area, while eradication refers to the permanent reduction to zero of the worldwide incidence of infection.

[15] The literature defines "herd immunity" as "the proportion immune among individuals in a population," "threshold proportion of immune individuals that should lead to a decline in incidence of infection," "pattern of immunity that should protect a population from invasion of a new infection," see Paul Fine, Ken Eames and David L Heymann. 2011. "Herd immunity". A rough guide. *Vaccines* 52: 911–16.

In the current pandemic, achieving "herd immunity" has come to stand for a variety of approaches for which the strategic goal is defined (or at least communicated to the public) not as the reduction of the number of new cases (reducing or eliminating), but the increase in population immunity.

3.3.2 CHANGE IN STRATEGY OVER TIME

Once the clusters were identified by coding for choice of management strategy, each of the cases within the clusters were sequentially traced to note any changes over time in the choice of strategy, as well as any events surrounding such changes (if known). This step produced a diachronic view of the cases within clusters. In this way case timelines could be compared with the known timeline of national and international events in the pandemic's evolution.

Specifically, analysis was undertaken for the first six months of 2020, over which time period a monthly breakdown was established. The month of March was divided into two sections, early-to-mid and late, in order to accommodate the higher number of interventions that transpired during this critical period in the timeline of the pandemic.

Probe questions in this step included:

- Can we identify contextual events or factors that spur the introduction or change in strategy (e.g. the proclamation of a Public Health Emergency of International Concern by WHO on 30 January; proclamation of pandemic on 11 March; first case in the country/in the region; first death in the country/in the region)?
- What type of evidence is cited surrounding the change in strategy? (e.g. tight border control is an effective intervention yet in the early stages WHO advised against it.[16] What did those countries that chose tight border control cite as evidence (if anything)?

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[16] The history of WHO advice deserves a study of its own. It has been suggested that the WHO's reluctance to advise border control was caused by criticisms of exaggerating the risk following the declaration of PHEIC for the 2009 H1N1 influenza, which turned out milder than expected. See Saed Alizamir, Francis de Véricourt and Shouqiang Wang. Why the WHO was afraid of crying 'pandemic'. *Yale Insights* 17 March 2020, https://insights.som.yale.edu/insights/why-the-who-was-afraid-of-crying-pandemic.
The same explanation (fear of overreaction) was proffered for the WHO response to the Ebola outbreak in 2014/2015, with regard to both proclaiming PHEIC and advising travel restrictions and border control. See: Marcus Cueto, Theodore M. Brown and Elizabeth Fee. 2019. *The World Health Organization: A History* (Global Health Histories). Cambridge University Press, pp. 324–5. The failure of Ebola response led to several independent inquiries and reports including the report by the US National Academy of Medicine's independent commission on Global Health Risk Framework for the Future. This report was critical of "unnecessary restrictions on travel and trade" which were perceived as highly counterproductive as they could impede the provision of essential resources to the affected areas, delay response effort and sometimes worsen health and humanitarian crisis; they could also "drive affected patients underground" making it challenging to deliver treatment. See GHRF Commission (Commission on a Global Health Risk Framework for the Future). 2015. *The neglected*

3.3.3 INSTITUTIONAL CHANGE

Next, a sub-clustering examined the emergence of new institutions (i.e. laws, established practices, new authorities or advisory mechanisms) as part of the crisis response. These were compared against existing institutions and science advisory mechanisms, the establishment of which preceded the onset of the pandemic crisis (collected in a supplementary survey of cluster cases).

Only specialised institutions or mechanisms that are specifically relevant to the crisis response were noted (i.e. pandemic or crisis management plans, evidence-informed risk registers, dedicated offices etc.) More general mechanisms of advice for 'street level' policy-making were not considered. Table 1 lists all the types of new and existing institutions and science advisory mechanisms that were considered.

Table 1: Types of institutions and mechanisms recorded for each case

Types of EXISTING institutions		Types of NEW institutions	
Internal to gov.	External to gov.	Internal to gov.	External to gov.
- Response plan - Research and development - Forum with expert advisor or advisory committee - Formation of expert advisory committee - Infrastructure development - Relevant legislation	- Communications and awareness campaigns - Research and Development - Forum with expert advisor or advisory committee - Political appointment - Tool/Service - Formation of expert advisory committee	- Health and medical research - Response or operational plan - Expert advisor or advisory committee - New or changed legislation - Public awareness and communications mechanism	- Academic health and medical research - Industry health and medical research - Tool/Service/Infrastructure - Expert advisor or advisory committee

dimension of global security: A framework to counter infectious disease crises. http://nam.edu/GHRFreport (doi: 10.17226/21891), pp. 6, 56–7.

3.3.4 TYPES OF EVIDENCE CITED

A third sub-clustering analysis focused on the evidence sources associated with overarching strategies and policy decisions. Table two lists the source types.

Table 2: Types of evidence cited

National sources	International sources
- Academic - Government (advice provided by internal expert advisory teams or government officials) - Other (medical research institutions, independent science advisories) - Other, informal	- World Health Organization - Academic (scientific reports, e.g. Imperial College London paper) - Government (responses in international jurisdictions) - Science research institutions - Transnational (regional forums, transnational research collaborations) - Other, informal

4. Preliminary findings

This section reports on findings in this preliminary and exploratory stage of the study. It demonstrates, for the selected subset of countries, the diversity of management strategies adopted at the outset of the pandemic and illustrates changes over time. The mobilisation of any new or existing institutional mechanisms for evidence provision is shown chronologically as well. This preliminary analysis will help to pinpoint how and where to focus more detailed examination in a subsequent step, for instance in the composition of advisory mechanisms and the actors involved.

Figure 1. Strategy shifts over time

Country	January	February	March (early to mid)	March (late)	April	May	June
Democratic Republic of the Congo	Monitoring and surveillance	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve
Ivory Coast	Monitoring and surveillance	Monitoring and surveillance	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve
Ghana	Monitoring and surveillance	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve
Seychelles	Monitoring and surveillance	Monitoring and surveillance	Suppression / Staying below damage threshold	Suppression / Staying below damage threshold	Suppression / Staying below damage threshold	Suppression / Staying below damage threshold	Monitoring and surveillance
South Africa	Monitoring and surveillance	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	No data	No data
New Zealand	Monitoring and surveillance	Monitoring and surveillance	Flatten the curve	Elimination	Elimination	Elimination	Elimination
Fiji	Monitoring and surveillance	Suppression / Staying below damage threshold	Suppression / Staying below damage threshold	Elimination	Elimination	Elimination	Elimination
Iraq	Monitoring and surveillance	Suppression / Staying below damage threshold	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve
Japan	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve	No data

Kyrgyzstan	Monitoring and surveillance	Monitoring and surveillance	Suppression / Staying below damage threshold	Suppression / Staying below damage threshold	Flatten the curve	Flatten the curve	Flatten the curve
Malaysia	Monitoring and surveillance	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve
Pakistan	Monitoring and surveillance	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve	No data
South Korea	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve	No data
Sri Lanka	Monitoring and surveillance	Monitoring and surveillance	Flatten the curve	Suppression / Staying below damage threshold	Suppression / Staying below damage threshold	Suppression / Staying below damage threshold	No data
Thailand	Monitoring and surveillance	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	No data	No data
Brazil	Monitoring and surveillance	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	Inaction (denial)	Inaction (denial)
Peru	No strategy defined	No strategy defined	Flatten the curve	Flatten the curve	Flatten the curve	No data	No data
Venezuela	Monitoring and surveillance	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	No data	No data
Costa Rica	Monitoring and surveillance	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve
Panama	Monitoring and surveillance	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve
Spain	No strategy defined	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve
Lithuania	Monitoring and surveillance	Monitoring and surveillance	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve	Flatten the curve

Figure 2. New institutions and advisory mechanisms established

↓ Strategy Type	
Monitoring and surveillance	(yellow)
Flatten the curve	(light green)
Suppression	(blue)
Elimination	(red)
Inaction	(grey)
Herd Immunity	(black)

→ Month						
Jan	Feb	Mar (early)	Mar (late)	Apr	May	Jun

	Forum with INTERNAL expert advisor or advisory committee	Forum with EXTERNAL expert advisor or advisory committee	Formation of INTERNAL expert advisory committee	Formation of expert advisory committee with EXTERNAL actors	Research and Development Project (internal)	Research and Development Project (external)
DRC						
CÔTE D' IVOIRE						
GHANA						
SEYCHELLES						
SOUTH AFRICA						
NEW ZEALAND						
FIJI						
IRAQ						
JAPAN						
KYRGYZSTAN						
MALAYSIA						
PAKISTAN						
SOUTH KOREA						
SRI LANKA						
THAILAND						
BRAZIL						
PERU						
VENEZUELA						
COSTA RICA						
PANAMA						
SPAIN						
LITHUANIA						

	Response or operational plan						Infrastructure development						New Legislation/Law/Order						Health communications and awareness campaigns						Political appointment						New Tool/System					
DRC			G		G	G		G			G				G	G	G		Y		G			G										G	G	G
CÔTE D' IVOIRE			Y								G				G	G	G					G												G		G
GHANA															G	G			Y		G							G	G				Y		G	
SEYCHELLES	Y		B		B	Y					B				B	B	B		Y			B														
SOUTH AFRICA	Y			G	G			G							G						G											G	G	G		
NEW ZEALAND					R	R					R			Y	R	R	R	R		R				R			R			R		Y		R	R	R
FIJI	Y		B		R									B	R	R					R		R												R	R
IRAQ	Y				G									B	G	G		G	Y			G										Y				
JAPAN		G				G		G						Y	G					G												Y	G			
KYRGYZSTAN			B			G		B						Y	B	B	G			B												Y				
MALAYSIA						G		G							G							G										Y			G	
PAKISTAN				G				Y						Y	Y	G			Y		G											Y	G			G
SOUTH KOREA		G	G	G											G	G	G		Y		G	G	G									Y		G		
SRI LANKA														Y	B	B	B		Y		B		B									Y		Y		
THAILAND		G									G			Y	G	G			Y		G											Y		G		G
BRAZIL								Y						Y	G	G			Y		G												G	G	G	
PERU		G								G					G	G	G				G												G			
VENEZUELA		G	G	G				Y	G		G				G	G	G		Y		G										Y	Y	G			
COSTA RICA	Y				G										G	G	G		Y		G												G			
PANAMA	Y			G		G			G			G	Y		G	G	G		Y		G										Y		G	G		
SPAIN				G											G	G	G															Y	G			
LITHUANIA	Y	Y	Y		G	G					G			Y	G	G	G	G	Y	Y	G	G		G		Y					Y	Y	Y	G	G	

4.1 Sample cases

Out of the 22 countries considered for this report, we selected two cases to illustrate the types of observations emerging out of the evidence-to-policy tracker and the types of questions arising from these observations that would need to be examined in more detailed case studies.[17] While both Democratic Republic of Congo and Sri Lanka are postcolonial societies that experienced conflict and political instability in recent history, their differences outnumber similarities. DRC is a landlocked, low GDP, central African country relying on resource extraction and the informal economy. Sri Lanka is an island state in South Asia, which in spite of a recent economic crisis, ranks well across a range of economic and demographic indicators. Yet its evolution from plantation agriculture towards a service economy with emergent tourism as a significant contributor to GDP and employment may now leave it exposed to deep economic shocks, as travel has ceased in the pandemic.

Looking at the institutions involved and sources of evidence visible in the Tracker, DRC shows a strong reliance on foreign and international organisations. Given the recent history of health crises such as HIV/AIDS and Ebola, which were largely managed by international organisations, this is not surprising. Yet the mention, in the Tracker data, of assistance from Chinese health experts, from very early on in the pandemic is an unexpected finding of the type that would benefit from further exploration in a detailed case study.

In contrast to DRC, Sri Lanka in the early stages of the pandemic shows a stronger reliance on existing national institutions (i.e. Chief Epidemiologist, Ministry of Health, and national medical institutions). As the pandemic continued, there is an observable outward shift in emphasis as the country begins first to consider Chinese preventative interventions, followed by those from other jurisdictions. This progression led to the consultation with regional multilateral organizations (South Asian Association for Regional Cooperation, SAARC) and then finally to the Non-Aligned Movement (NAM)[18]. The latter is a global multilateral organisation that was established during the Cold War, as a counterbalance to the two global blocs. Sri Lanka has been an important member since its beginnings. While the mission of the NAM has changed since the 1990s it remains an important association for multilateral cooperation in the Global South and stands in contradistinction to the UN for some countries.

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[17] Analysis done to date includes a similar overview for each of the 22 countries in the subset, but only two (DRC and Sri Lanka) are included here by way of example. The choice of countries for deep-dive case studies will be finalised by mid-October 2020.
[18] See the coordinating bureau of the Non-Aligned Movement: https://uia.org/s/or/en/1100061001

Figure 3. Sample case (Dem. Rep Congo) showing sources of evidence by strategy type, with key outcomes
(timeline of domestic and international events, below)

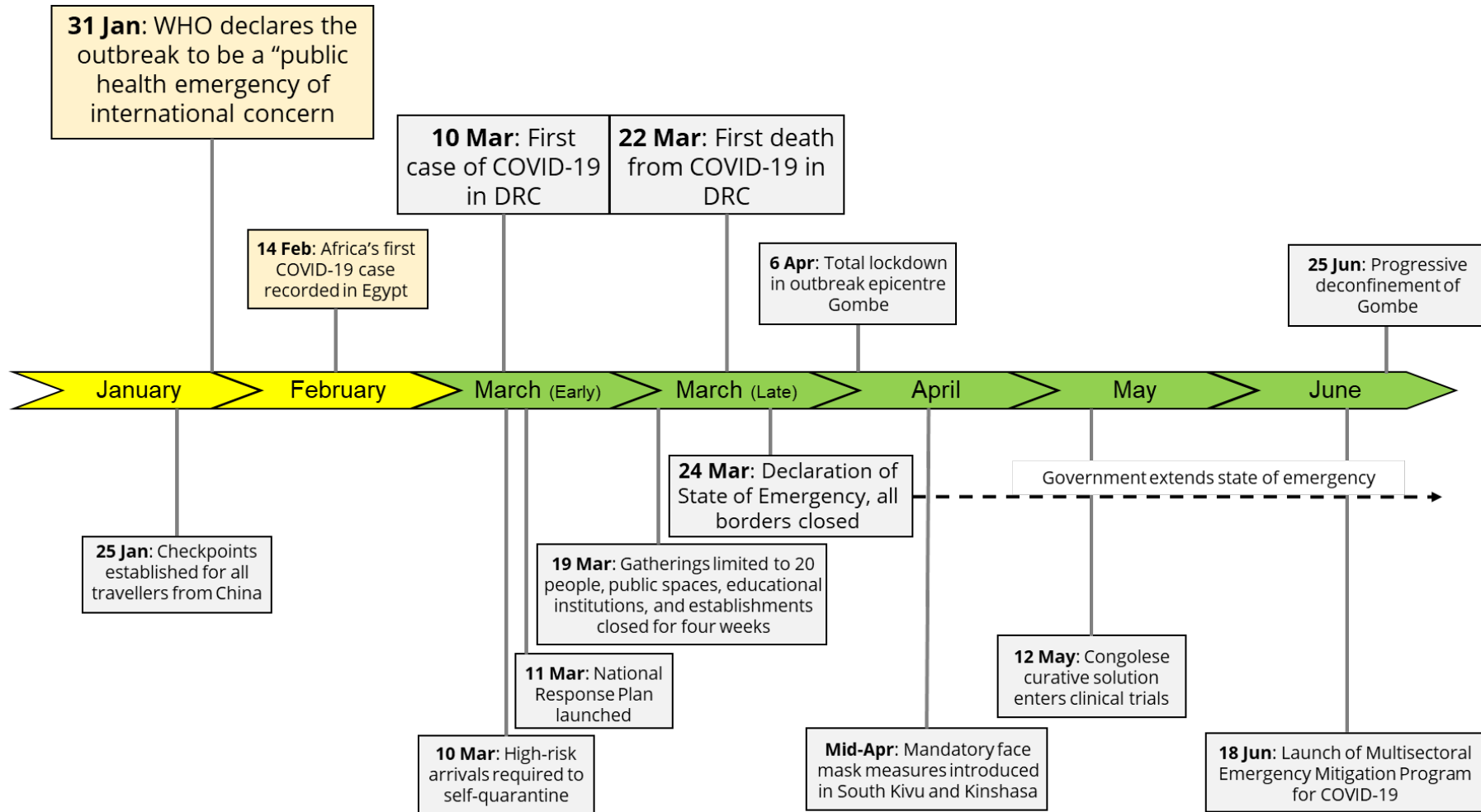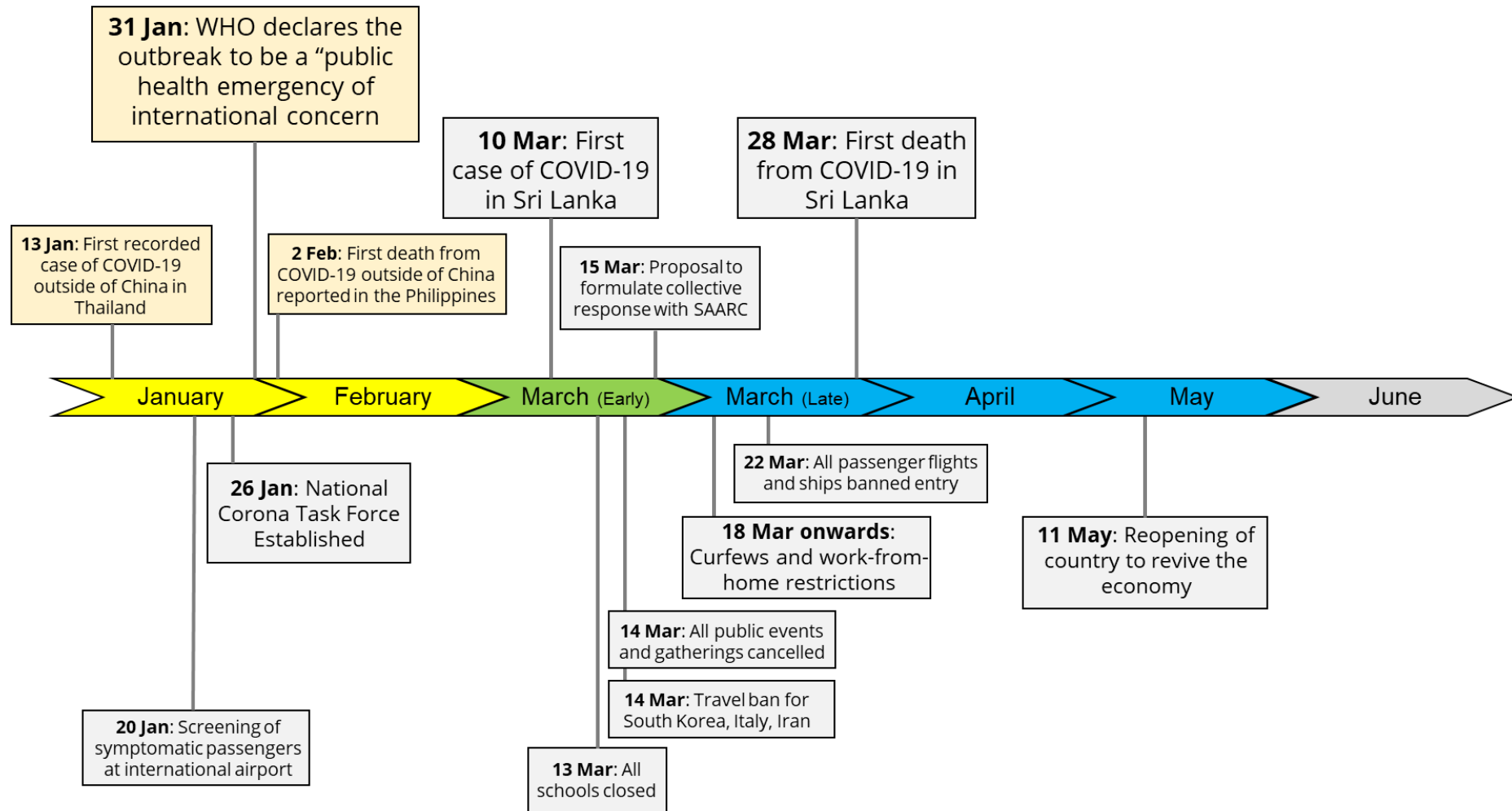| Country	Strategy Type	Sources of evidence	Key Outcomes
Democratic Republic of the Congo	Monitoring and surveillance (January – February)	• **Reports from Chinese health authorities** (external) • **WHO** (external) • **Ministry of Health**	• Public hygiene advisories • Border surveillance strengthened
	Flatten the curve (March – June)	• **WHO** (external) • **Ministry of Health** • **University researchers** (external) • **Rwandan authorities on border control mechanisms** (external) • **Cuban authorities:** bilateral information exchange (external) • **National Hygiene Program** • **Higher Institute of Medical Techniques of Kinshasa** • **National Institute for Biomedical Research** • **Chinese medical experts:** technical assistance	• Epidemiological and situational reporting • Public health advisories • Border control and screening measures • Quarantine measures • Lockdown and travel restrictions • Case diagnosis, treatment and management protocol • Recommended protocol for action to provincial governors by university researchers • Research and development: curative solution proposed by university researchers entered into clinical trials • Mandatory face mask regulations for certain provinces • National Response Plan • Multisectoral Emergency Mitigation Program for COVID-19

Democratic Republic of the Congo

31 Jan: WHO declares the outbreak to be a "public health emergency of international concern

10 Mar: First case of COVID-19 in DRC

22 Mar: First death from COVID-19 in DRC

14 Feb: Africa's first COVID-19 case recorded in Egypt

6 Apr: Total lockdown in outbreak epicentre Gombe

25 Jun: Progressive deconfinement of Gombe

| January | February | March (Early) | March (Late) | April | May | June |

25 Jan: Checkpoints established for all travellers from China

19 Mar: Gatherings limited to 20 people, public spaces, educational institutions, and establishments closed for four weeks

24 Mar: Declaration of State of Emergency, all borders closed

Government extends state of emergency

11 Mar: National Response Plan launched

12 May: Congolese curative solution enters clinical trials

10 Mar: High-risk arrivals required to self-quarantine

Mid-Apr: Mandatory face mask measures introduced in South Kivu and Kinshasa

18 Jun: Launch of Multisectoral Emergency Mitigation Program for COVID-19

Figure 4. Sample case (Sri Lanka) showing sources of evidence by strategy type, with key outcomes
(timeline of domestic and international events, below)

Country	Strategy Type	Sources of evidence	Key Outcomes
Sri Lanka	Monitoring and surveillance (January – February)	**WHO:** including health recommendations and response approaches (external) - Sri Lanka Chief Epidemiologist **Ministry of Health Epidemiology Unit:** situational reports and local health data **National medical research institutions:** National Institute of Infectious Diseases (IDH), Medical Research Institute of Colombo	- Specialised response committees and taskforces - Border control and screening measures - Public health advisories - Quarantine measures - Health monitoring of arrivals: via mobile app and in-person visitations
	Flatten the curve (early to mid-March)	**Ministry of Health Epidemiology Unit:** public health data and situational reports **WHO** (external) **China case studies:** cited in government press release, specifically China's success in managing the social behaviours that contributed to the effective control of the virus. Officials were advised to study the methods extensively that China has practised in this regard. **Conference with SAARC leaders:** under the theme of "SAARC Leader on Combating COVID – 19, Setting an Example to the World." Agreement to share resources and knowledge to effectively curtail the spread of the virus. (external)	- Quarantine measures - Travel restrictions - Lockdown restrictions - Proposal to formulate collective response to Covid-19 with leaders of SAARC

	Suppression (late March – June)	**Ministry of Health:** provisioning of local health data, including basis for government's reopening of the economy. **Ayurvedic Medical Practitioners:** Indigenous medical practices and knowledge. **Research in other jurisdictions:** Influence from other jurisdictions, namely, explicit priority to find alternative indigenous treatments similar to China. (external) **Banning of liquor stores:** The National Authority on Tobacco and Alcohol wrote to the President to ban liquor stores until Covid-19 is completely brought under control, citing public health risks, including domestic violence. **Summit of the Non-Aligned Movement (NAM):** under the theme 'United Against Covid-19.' (external) **The Sri Lanka Standards Institute:** development of standard guidelines for the manufacture of Covid-19 equipment and products including face masks, hand wash, gloves. Standards formulated in accordance with international standard specifications to enable export.	- Specialised response committees and taskforces - Border control and screening measures - Travel restrictions - Lockdown restrictions - Research and development (internal): Ayurvedic indigenous medical practices and knowledge.

Sri Lanka

31 Jan: WHO declares the outbreak to be a "public health emergency of international concern

13 Jan: First recorded case of COVID-19 outside of China in Thailand

2 Feb: First death from COVID-19 outside of China reported in the Philippines

10 Mar: First case of COVID-19 in Sri Lanka

15 Mar: Proposal to formulate collective response with SAARC

28 Mar: First death from COVID-19 in Sri Lanka

January | February | March (Early) | March (Late) | April | May | June

26 Jan: National Corona Task Force Established

22 Mar: All passenger flights and ships banned entry

18 Mar onwards: Curfews and work-from-home restrictions

11 May: Reopening of country to revive the economy

14 Mar: All public events and gatherings cancelled

14 Mar: Travel ban for South Korea, Italy, Iran

20 Jan: Screening of symptomatic passengers at international airport

13 Mar: All schools closed

5. General observations and discussion

This section presents preliminary observations from the tracker data based on a selection of 22 countries, structured as follows. We first present a breakdown of the health response strategies adopted by countries between the months of January and June and overview key trends across this timeline, including factors of influence such as events spurring the introduction of specific strategies and shifts in time.

5.1 Strategy shifts over time

Of the six strategies identified in our methodology, we found three prominent responses across the selected countries analysed: namely, Monitoring and Surveillance, Flatten the Curve, and Suppression strategies.

Overall, the small dataset does not suggest a patterned progression between and among these different strategies. Although all the countries initially began with monitoring and surveillance, as the outbreak progressed globally there was variation in strategy choices by February and early March, with varying degrees of state responsiveness to the emergency context.

As seen in Figure 1, overall countries in this subset entered into a monitoring and surveillance phase in January, which largely culminated by the end of February, thereby necessitating stricter containment measures. By this point in time, most countries in the dataset had recorded cases or instances of transmission within national borders. Two of the selected countries, Iraq and Fiji, acted in advance to deploy more stringent suppression measures in February. Uniquely, Fiji's measures were effected prior to any confirmed cases within its territory.

In East Asia, outbreaks had begun to surge in countries neighbouring the original epicentre of the pandemic, prompting responsive moves by both Japan and South Korea to institute measures to flatten the curve as early as February. In Asia, the quarantine of the cruise ship Diamond Princess in Yokohama Japan on February 4th, and the subsequent rise to 712 cases on board, drew the attention of surrounding governments to the significance of the disease.

In general, dataset countries oriented to mitigation approaches from early March onwards, leading to the widespread adoption of measures aimed at flattening the curve of infection in order to avoid overwhelming health systems. Few countries appeared to institute a clear

suppression strategy to flatten the curve to the point of very few cases. However, this strategy was evident among the smaller island countries Fiji and Seychelles, as well as Kyrgyzstan – which, albeit landlocked, has the highly mountainous terrain that effectively transforms it into an island. Most measures deployed under flattening the curve across the majority of dataset countries aimed to reduce R0 to a manageable level while regional outbreaks continued to grow.

As evident in Figure 1, most dataset countries remained consistent in continuing measures to flatten the curve during the latter part of March until June. Notably, in the Oceania region both Fiji and New Zealand shifted to a unique elimination strategy in addressing the outbreak. The goal of completely eliminating the virus within the national territories of these island nations was supported by a range of rigorous border control measures, including the indefinite closure of borders to foreign nationals, stringent quarantine procedures for returning residents, and suspension of international flights. This was despite both countries relying heavily on international tourism within their economies. During the same period, Sri Lanka adopted suppression measures to contain their outbreak alongside a complete closure of borders. By June, Seychelles returned to a strategy predicated on monitoring and surveillance measures, reopening borders after local transmission was completely controlled.

Against the general trend of countries favouring flattening the curve between the months of January and June, Brazil appears unusual in its inaction (denial) approach at the federal level from May onwards: despite adopting various measures to flatten the curve of transmission earlier on in the course of the pandemic. However several states adopted their own stringent suppression measures and local advisory mechanisms and civil engagement.[19]

5.1.1 TIMELINE OF KEY EVENTS

EARLY ACTION IN ASIA AND OCEANIA

In general, countries in the dataset entered into a monitoring and surveillance phase in early January following disease outbreak alerts issued by the World Health Organisation corresponding with reports from China. At this stage, preliminary epidemiological investigations were underway to assess the full extent of the outbreak, and no cases of novel

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[19] See discussion by Professor Miguel Nicolelis, Professor of Neuroscience at Duke School of Medicine and Coordinator of the Scientific Task Force of Brazil's Northeastern State (https://www.ingsa.org/covid/sept20-covid/high-level-panel/)

coronavirus infection had been reported outside of the city of Wuhan.[20] Information provided by Chinese health authorities regarding the evolving situation confirmed the emergent respiratory illness presented generalised symptoms among a small cluster of individuals, limited to exposure in a single seafood market. Furthermore, no conclusive evidence of human-to-human transmission could be established. Accordingly, WHO recommendations initially advised against travel or trade restrictions on China based on available information, suggesting a low risk of transmissibility and severity.[21] National authorities in China issued further information on response measures undertaken, including closure of affected premises and contact tracing investigations, which merited further confidence in the handling of the outbreak and the low risk posed to jurisdictions outside of the Hubei province.[22]

Consistent with this and further situational reports, countries initially appeared reticent to implement stringent border controls or travel restrictions, though there were some exceptions. On January 30th, the island nation of Seychelles, for instance, prohibited its citizens from travelling to China and advised local airlines to refuse passengers who had visited China within 14 days of their intended journey while pursuing an overall monitoring and surveillance strategy. Malaysia also acted exceptionally on January 27th, suspending immigration services and visas for Chinese citizens from Wuhan and areas around Hubei, focused principally on monitoring and surveillance at the borders. Similarly, New Zealand began screening incoming passengers from China on January 25th, evacuated New Zealand citizens from Wuhan on the 27th and applied entry restrictions on travellers from China on February 2nd. Outside of Asia, New Zealand was unique in acting so early, which may be attributable to its significant trade, immigration, and education ties with China. The New Zealand summer tourist season was also in full swing in January, which may have heightened officials' sensitivity thanks to the importance of cruise ships and Chinese tourism.

Health monitoring and surveillance constituted the earliest response, which involved health checks for individuals returning from Wuhan and the issuance of health and hygiene advice in preventing respiratory illness. Additional recommendations by central health authorities encouraged arrivals from China to seek medical advice in the event of illness within a month of arrival in the country, including instructions to report travel history and any known contact with someone presenting respiratory illness linked to Wuhan. Countries were generally mobilised to detect and test for the virus in the event of a suspected or probable case, as per WHO clinical diagnostic criteria and health guidelines.

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[20] WHO Disease outbreak news: Pneumonia of unknown cause – China. 05 January 2020. See https://www.who.int/csr/don/05-january-2020-pneumonia-of-unkown-cause-china/en/
[21] Timeline of WHO's response to COVID-19. 2020. See https://www.who.int/news-room/detail/29-06-2020-covidtimeline
[22] WHO Disease Outbreak News: Novel Coronavirus – China. 12 January 2020. See https://www.who.int/csr/don/12-january-2020-novel-coronavirus-china/en/

INTERNATIONAL ACTION

By January 22th, a meeting of the Emergency Committee convened by the WHO Director-General under the International Health Regulations (IHR) (2005) regarding the outbreak of novel coronavirus 2019 in the People's Republic of China sought to establish whether the determination of a Public Health Emergency of International Concern (PHEIC) in this instance was appropriate.[23] Imported cases had already been reported across Asia, in the Republic of Korea, Japan, Thailand and Singapore. While the biological origins of the virus remained unclear, human-to-human transmission was confirmed with an estimated R_0 of 1.4-2.5. Further data indicated that of all confirmed cases, a quarter were documented as severe. Members of the Emergency Committee differed in their views on whether the novel coronavirus outbreak reached the threshold for a PHEIC, but agreed to reconvene by the end of the month to evaluate the situation in light of new information.

On January 30th, the WHO declared the outbreak to be a public health emergency of international concern (PHEIC).[24] Additional reports of cases had been confirmed across several jurisdictions outside of Asia at this point in time, including Australia, the United Arab Emirates, as well as Europe and North America. The Emergency Committee affirmed that the outbreak could be contained, provided countries established measures for early detection, isolation and treatment of cases, including effective contact tracing protocols and social distancing measures as part of an effective risk management response. Notably, the Committee again did not recommend any travel or trade restrictions based on the available information, and committed to ongoing review of its evidence-based recommendations commensurate with the evolving situation.

This is largely consistent with the actions taken by the majority of countries in February, as noted in Figure 1. Most states elected to continue with a general monitoring and surveillance strategy. Of the countries examined, Japan and South Korea are notable exceptions, a likely function of their geographic proximity to the original epicentre of the outbreak and close regional links with China. Both countries experienced severe outbreaks early on in the course of the pandemic despite existing monitoring and surveillance mechanisms in place, necessitating crucial measures to address the surge in local cases.

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[23] Statement on the first meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV). 23 January 2020. See https://www.who.int/news-room/detail/23-01-2020-statement-on-the-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)

[24] Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV). 30 January 2020. See https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)

GALVANISING EVENTS

In addition, the Diamond Princess outbreak proved a pivotal event in the timeline of the pandemic, particularly in Asia where the unfolding incident received mass coverage in the media. Following the first reports of cases on February 3rd, 2020, the cruise ship fast became the largest coronavirus outbreak outside of mainland China while quarantined in Yokohama, Japan. Recent findings suggest that the incident aboard the ship was the key influencing factor in raising public awareness of the disease and its lethality in Japan, influencing civic vigilance in reducing the rates of transmission in the country.[25]

The significant outbreak in Iran in February appeared to prompt suppression measures on the part of Iraq soon after, with the country instituting various lockdown measures in its immediate response as soon as imported cases linked to travel from the neighbouring Iran were recorded in the same month. In contrast, Spain maintained a general monitoring and surveillance strategy in February despite a similar spike in cases in Italy over the same period.

By early March, the decision of countries to move into flattening the curve appeared largely responsive to the rising number of regional outbreaks. Additionally, the WHO formally declared the outbreak a pandemic on March 11th, owing to a rapid rise in cases outside China in a growing number of countries.[26] The WHO continued to advocate for an aggressive containment approach to handling the outbreak, by way of systematic testing, tracing and isolation protocol in order to effectively curb community transmission.

Commensurate with this declaration, the WHO Regional Director for Europe issued the following address on March 12th:

> "Whilst every country is responsible for determining the nature and timing of measures introduced to prevent or slow down viral transmission, WHO/Europe considers that social distancing and quarantine measures need to be implemented in a timely and thorough manner. Some of the measures that countries may consider adopting are: closures of schools and universities, implementation of remote working policies, minimizing the use of public transport in peak hours and deferment of nonessential travel."[27]

[25] Kaori Muto, Isamu Yamamoto, Miwako Nagasu, Mikihito Tanaka and Koji Wada. 2020. Japanese citizens' behavioral changes and preparedness against COVID-19: An online survey during the early phase of the pandemic. *Plos oOe, 15(6)*, e0234292.

[26] WHO Director-General's opening remarks at the media briefing on COVID-19. 11 March 2020. See https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020

[27] WHO announces COVID-19 outbreak a pandemic. 12 March 2020. See https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/news/news/2020/3/who-announces-covid-19-outbreak-a-pandemic#:~:text=The%20meeting%20follows%20the%20announcement,a%20growing%20number%20of%20countries

By and large, the countries examined pursued some variation of flattening the curve strategy during the month of March, employing a variety of social distancing and lockdown measures to mitigate the impacts of rising transmission in their respective regions: including Peru, which data suggests had no formally defined strategy until a general uptick in cases early on in the month. The Republic of Côte d'Ivoire moved into flattening the curve during the latter part of March, notably later than all other countries examined, including in the same region. There was a relative delay between confirmation of the first few cases within national territory in early March, and the responsive move to flattening the curve.

Given the broad criteria for classification of the various response strategies, the trends discussed provide an illustrative overview of the general intervention types deployed by states over the course of the pandemic. From this it is possible to highlight some degree of variation in the immediacy and scope of response over time, including the responsiveness of certain countries within the context of international events in the timeline of the pandemic.

Further studies could consider the factors of influence to provide a more detailed analysis of the decision-making processes behind these strategic shifts as well as their variation over time. This includes the relevance of evidential inputs and institutional settings for each country, among them science advisory mechanisms, situated within their respective material and historical contexts.

5.2 New institutions and science advisory mechanisms

The appearance of new formal or informal institutional mechanisms will be a major focus of the detailed case studies to come in the second phase of this project. From the available Tracker data, there appears to have been a tendency to institute new or amended legislative orders during the month of March for most countries. This suggests that existing public health legislative frameworks may not have been fit for purpose in operationalising a "flatten the curve" strategy, which was taken up by the majority of countries during this time. Legislative frameworks could therefore be one line of inquiry in phase two of the project.

In addition to adapting legislative frameworks, there is a detectable predominance of ad hoc inter-ministerial and technical task committees that were struck. This suggests not only that countries recognised the need for horizontal coordination, but also that they were not initially organised to operationalise it (i.e. new mechanisms rather than standing mechanisms were mobilised). Thus the organisational settings for crisis and pandemic response, with which to

enable the flow of evidence and reliable information across governments, is also a consideration for subsequent detailed studies.

The use of advisory mechanisms internal to government seemed more prominent than turning to external actors within the wider national system. This preliminary observation within the subset of countries analysed will help to formulate a stronger hypothesis about the extent and quality of evidence brokerage and collaboration between governments and research communities for instance, whereas it had been assumed that such collaboration would be an important part of responses (in countries with strong R&D systems at least). To be sure, the Tracker data covered only the first six months of responses, with higher level of activity detected in the early part of the year as emergency response measures were coming on board. R&D initiatives tended to come later and in parallel with other less emergency-oriented measures. However, the difference between engaging the R&D community for *research* activity and for *advisory* activity is an important distinction and needs to be considered in more detail within case studies to come.

From the international perspective, the role of multilateral institutions in knowledge sharing and developing collective response protocol during the unfolding pandemic stands out in the countries analysed. This is particularly true at the regional level where close geographic links can require coordinated security measures, such as in regard to border control, as well as in mobilising collective resources and medical expertise, as observed in actions undertaken by leaders of the SAARC. Collective dialogue involving members of the Non-Aligned Movement highlights the emerging relevance, for some countries, of cooperation mechanisms outside the traditional domain of the UN.

These initial observations, based on a subset of countries, will contribute to framing some of the subsequent questions and hypotheses in the second phase of this project. By selecting a set of cases (to be determined) for more detailed qualitative analysis,[28] we hope to gain further insight into these and other observations. Other potential lines of inquiry may arise from within the INGSA community – particularly from rapporteurs – as we engage in outreach activities around the overall project and the data. Taken together, it is expected that this work will provide valuable insight to guide promising practices for responding to other transnational crises in the future.

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[28] Methods for detailed case studies will include qualitative process-tracing and narrative analysis of key-informant interviews, together with institutional and actor mapping in each of the case study jurisdiction.

6. Next steps

This initial phase of exploratory analysis suggests some early clues about what factors influenced the mobilisation, dissemination and use of evidence in various jurisdictions during the pandemic. This may help shine a light on the broader formal and informal frameworks of evidence-to-policy pathways and how these are activated (or not) at the national and regional levels.

Already, the INGSA Tracker has partnered for further research through the tool and its continued development. Two agreements are in place for securing the detailed case studies for the next phase of the project. The first is through INGSA's partnership on a National Science Foundation (US) funded project led by the University of Colorado's Roger Pielke Jr. (https://www.ingsa.org/ingsa-news/escape-nsf/). The second is through INGSA's IDRC-funded Knowledge Associates programs, which in the past has awarded competitive fellowships for LMIC researchers to undertake projects on evidence-to-policy processes in a variety of fields. This year, the program will be fully dedicated to the Covid-19 case studies. Thus, the next cadre of INGSA Knowledge Associates that is chosen will be asked to focus their efforts on co-designed case studies informed by the Tracker's preliminary findings. A call for applications for this funded research opportunity will by launched in late September 2020.

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Supplementary research surveys were led by Aidan Elliot of the University of Auckland

Appendices

Appendix 1 Data statistics for the Tracker
(as at 22 August, 2020)

Jurisdiction	Number of policies tracked
United States	788
Canada	314
Democratic Republic of the Congo	147
New Zealand	135
Japan	115
Netherlands	115
Venezuela	115
South Africa	114
Iraq	113
Brazil	104
Hungary	93
Spain	90
Lithuania	86
Sri Lanka	80
Bulgaria	79

Region	Number of Policies
Asia	1256
Africa	671
North America	1214
Central America	102
South America	446
Europe	1608
Oceania	238

Policies Tracked by Week
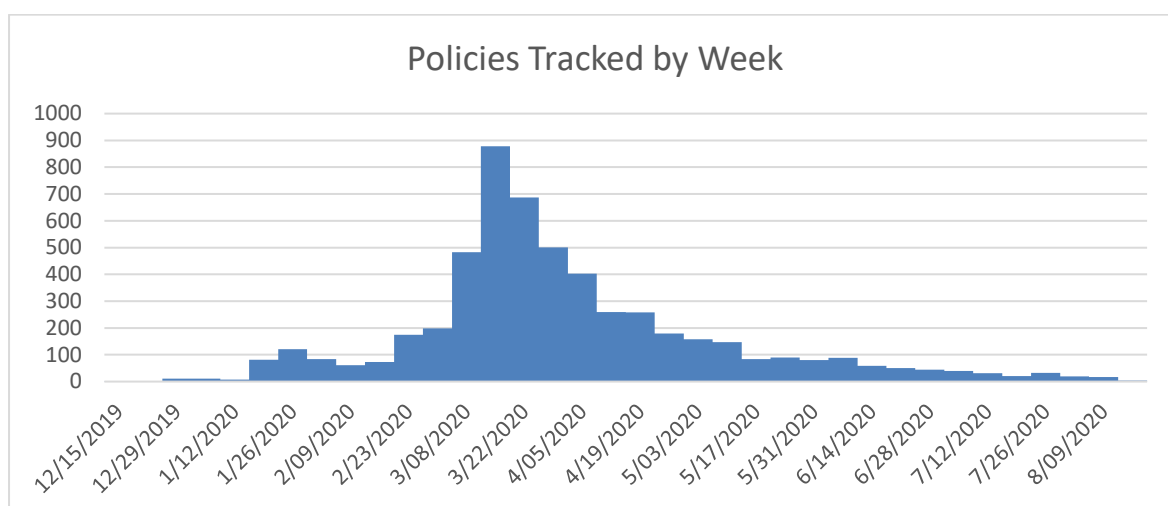
Appendix 2 Data collection tools

INGSA COVID-19 RAPPORTEUR FORM

(A Google Docs version of this form has been made available to all volunteer rapporteurs via link to a Google form for regular use and automatic uploading to the database.)

E-mail Address: pre-filled field

Country: select from drop-down list of all countries, can be pre-filled

Level of Jurisdiction: free-entry field
e.g. Supranational (e.g. European Union), National, Federal, State, Regional, City, or non-governmental organisation - please name the state (e.g. the two or three letter code) or subnational jurisdiction if applicable.

Intervention Date: date/calendar entry field

Type of Intervention: multi-select checkbox
e.g. Advisory (e.g. a formal warning from official sources), Executive Order (e.g. an order coming directly from the office of the head of government), Financial and Economic (e.g. economic 'rescue' interventions, stimulus packages), Guidance (e.g. informal information provided to the public), Judiciary (e.g. court judgments), New Tool/Service/Body (e.g. new website, app, testing, council, committee), Regulation (e.g. order-in-council, legislation), Specific Action (e.g. significant actions such as expatriate evacuations, cancelling large events, airport checks, quarantine announcements), Other Announcement (e.g. first case of COVID-19, co-operation agreement, other significant event)

- Advisory
- Executive Order
- Financial and Economic
- Guidance
- Judiciary
- New Tool / Service / Body
- Regulation
- Specific Action
- Other Announcement
- Other: [free-entry field]

Sectors: multi-select checkbox

At which sector is the intervention aimed? NOTE: Interventions associated with a lockdown or movement/mobility restrictions should be categorised as Civil Defence. Border lockdowns should be categorised as Immigration.

- Central Bank
- Civil Defence
- Corrections / Justice
- Education
- Environment
- Ethnic and Minority Affairs
- Executive Office
- Finance/Economy
- Foreign Affairs
- Health
- Immigration
- Indigenous Peoples
- Local Government
- Media/Arts/Culture
- Military
- Parliament
- Private Sector and Businesses
- Police and Interior Affairs
- Research and Development
- Social Services
- Supply Chains
- Tourism
- Transportation
- Other: [free-entry field]

Brief Description: free-entry field

What was the intervention? Who was the target audience? What was the intended effect? Please provide specific and factual information to describe the policy announcement related to COVID-19.

Primary Link: free-entry URL field

Government announcement or article from a reputable news source that refers to this intervention - this is the link that is displayed on the website.

Other Links: free-entry field

e.g. government agency reports, press releases, speeches, media reports

Lead People/Agency: free-entry field

Who made the decision on the intervention? Who is leading the implementation of the intervention? This could be an individual or a body (enter N/A if not applicable). You can enter multiple people/organisations in this field but please distinguish the decision makers from the implementers if relevant.

Evidence Base

The next three questions relate to whether the intervention you are logging included reference to any evidence or advice used to formulate the intervention. If there was no mention of an evidence base or other justification, enter 'no justification given' in the next question and leave the final three questions blank.

Evidence/Justification: multi-select checkbox

For example: a specific mention of a scientific article, policy report, or other source of evidence OR justification given as advice from officials, a perception of increased threat, matching international efforts or advice, etc.

- Advice of INTERNAL government advisory committee or group
- Advice of EXTERNAL expert advisor or advisory committee
- Advice of EXTERNAL group of non-academics (e.g. business or community leaders)
- Learning of other jurisdictions
- Scientific Evidence (e.g academic paper, report)
- Anecdotal Evidence (e.g. social or traditional media with limited evidence base)
- Public Opinion (e.g. consultations, opinion polling)
- Perception of an increased threat
- No justification given
- Other: [free-field entry]

Evidence/Justification Description: free-entry field

Please give a brief overview of the justification given for the policy incl. who/where it is from.

Source of Evidence: multi-select checkbox

If there was evidence cited as a justification, what type of organisation or person is cited as generating the evidence or justification for this intervention?

- World Health Organisation
- National – academic
- National – government
- National – other
- International – academic
- International – government
- International – other
- Other: [free-field entry]

Evidence Links: free-entry URL field

e.g. URLs and hyperlinks to evidence cited by officials (if available)

POLICY-MAKING TRACKER CONTEXT SURVEY

(This is a supplementary survey that was conducted for each of the selected subset of countries considered for this preliminary report. It was either completed by rapporteurs, or by the INGSA Secretariat, with validation by rapporteurs)

E-mail Address: pre-filled field

Country or Subnational Jurisdiction: free-entry field

All subsequent questions are free-entry fields.

Part 1 – Structures of the Emergency Response

Response Plans: Before COVID-19, was there an existing pandemic response plan that you know of? If so, was it implemented as intended in response to the pandemic? Provide links if possible.

Responsible Agencies: Is there a single department or agency responsible for 1) civil emergencies and 2) pandemic response? (Please provide links to these agencies if possible)

Risk Registers: Is there a national risk register, which lists and ranks the likelihood of risks to the population? How was it developed and who maintains it? (Please provide links if possible)

Leadership Change – Public Health Response: Did the responsibility for the leadership of the public health response change to a different authority (organisation or individual) during the course of the pandemic, either overall or for any component of the response? If so, what was the change, at what point did it happen and why?

Leadership Change – Other Positions: Were there significant leadership changes in relevant positions during the course of the pandemic? (e.g. Ministerial positions or similar) If so, what was the change, at what point did it happen and why?

Part 2 – Scientific Evidence

Influential Evidence: Thinking about the data that you have been uploading through the Tracker tool, can you point to any type of evidence or advice practice/mechanism that has been especially influential? For instance, were officials in your jurisdiction particularly motivated to act following the release of certain international or national reports, models or scientific papers (which ones?) or on the advice of a certain individual, group or committee (who?)

Response Strategy: Was there a single model or strategy that dominated the national policy discussion? Or was there debate about which strategy would work best? For example, was there debate about whether to adopt a "flatten the curve", "herd immunity", "keep it out", or "elimination" approach. If so, please explain.

New Advisory Groups: Was a new advisory committee, task force, or other group formed by the government in response to the pandemic? Provide links if possible.

Marginalised Groups: Did the response(s) to the pandemic specifically consider the impact on marginalised groups of the population? For example, taking into account considerations about impacts by gender, ethnicity, age, socio-economic status. If so, please explain.

Part 3 – Contextual Influences on Policy-making

Events in Public Memory: In your country or neighbouring countries, have there been any health or security threats (or other significant events) in public memory that could have informed how the public and government responded to COVID-19? For instance, epidemics or natural disasters that have resulted in population behavioural changes. If so, please describe.

Other Events in 2020: In your country or neighbouring countries, have there been other events in 2020 that could have competed with the pandemic for policy attention? For instance, political scandals, natural disasters, armed conflict, cultural holidays, or other events. If so, please describe.

Other Policy Priorities: Did the government have specific policy priorities at the time that enhanced or detracted from the government's response to Covid-19 (e.g. a planned reform of health care, an economic plan, a program or policy announcement)?

Influences from Other Jurisdictions: Was your jurisdiction's pandemic response influenced by other countries or jurisdictions? Was your jurisdiction heavily reliant on any outside assistance during the pandemic response? This could include policy, economic, or cultural influence. If so, which countries and how? Provide details and links (news story etc.) if possible.

Part 4 – Other Influences on Policy-Making

Non-government Pressure Groups: Who are the non-government pressure groups that have been most active around the pandemic response in your jurisdiction and to what effect? (e.g. employers' and manufacturers' associations, trade unions, medical organizations, NGO, etc)

Influential People: Have there been specific individuals who have influenced the government's decision regarding the pandemic response? Who are they and what was their influence? (e.g. notable academics, business leaders, government public servants etc)

Public Reactions: Was government policymaking influenced by public reactions? For example, was there public resistance or civil unrest after policy announcements? If so, how did this influence government actions, if at all? Please provide details and links (news story etc.) if possible.

Other Influences: Any other comments (e.g. other influences on policymaking) that you think are important to note.

Appendix 3 Rapporteurs

We are extremely grateful to all of our volunteer rapporteurs from the INGSA network who have contributed generously their time and local knowledge to the Evidence-to-Policy Tracker. Among this group there are university faculty, staff and students, independent researchers, journalists, public servants and medical and other professionals. To balance both recognition and privacy, they are listed here without affiliations or the jurisdictions they tracked. It is anticipated that scholarly publications stemming from this initial report will include self-nominating rapporteurs as co-authors.

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Marcus Guzman
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Bojan Baca
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Sam Wilsdon
Samantha Vilkins
Samantha Vilkins
Sameer Dixit
Sameh Soror
Saroj Jayasinghe
Savana Dehning
Sebastian Escobar
Seun Balogun
Shafiq Mirzazada
Shaheen Motala-Timol
Sheku Bangura
Sherzod Shamiev
Sierra Kirylo

Holly Monaco

Isabelle Eaton

Ivaylo Markov

James Wilsdon

Jared Reiss

Jean Liyongo

Jean-Aime Kombate

Jorge Huete-Perez

Joseph Fassler

Juan Francisco Facetti

Justine Germo Nzweundji

Kairgul Abdyrahmanova

Kaminieli Tawake

Karma Tenzin

Kate Franko

Kavita Shah

Kelsey Reeves

Kienon-Kabore Timpoko Hélène

Klaus Taschwer

Koen Vermeir

Kristiann Allen

Simonas Narvydas

Sinéad Riordan

Soe Thu Ra

Soledad Quiroz

Sonnet Sarker

Sujatha Raman

Susana Lolohea

Sydney Sproul

Tatjana Buklijaš

Thierno Abdoul Bah

Toan Ngoc Dang

Tomas Michalek

Umuhoza Karemera Noella Josiane

Uzma Urooj

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