

Note: INGSA studies on evidence-to-policy in response to covid-19 did not distinguish between scientific and health and social (and economic) evidence. This is because policymakers requiring evidence did not frame their questions in disciplinary terms, and so asking our correspondents to make this judgement ran the risk of introducing errors. Further, most questions required a combination of evidence from social as well as from medical and biological sciences.

Tracking Global Evidence-to-Policy pathways in the coronavirus crisis: Key report findings from early stages of the pandemic

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In 2020, International Network for Government Science Advice (INGSA) set up an Evidence-to-Policy 'tracker' to understand the kinds of mechanisms and types of evidence used by governments globally, during the first year of the pandemic. Data was collected by a network of volunteers in over 100 jurisdictions worldwide. The scope of the study included health and social (including economic) evidence and policy. Report published in September 2020 was based on 2495 policy items in the database covering 118 national-level jurisdictions. Here we summarise some of the findings.

New institutions and science advisory mechanisms

Legislative Frameworks and Institutional Mechanisms:

- Tracker data showed a trend of countries instituting or amending legislative orders in March 2020, suggesting existing public health legislative frameworks may not have been suitable for a "flatten the curve" strategy.

Horizontal Coordination:

- Governments adapted legislative frameworks and established ad hoc inter-ministerial and technical task committees, recognising the need for horizontal coordination.
- The initial policy response lacked structured operationalization, relying on new mechanisms rather than leveraging existing decision-making mechanisms.

Advisory Mechanisms and Collaboration:

- Internal/within-government advisory mechanisms were relied on more than external advisory mechanisms.

- Findings indicate limited opportunities for evidence brokerage and collaboration opportunities between governments and research communities.
- 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.

International Perspective and Multilateral Institutions:

- Multilateral institutions such as the WHO played a crucial role in knowledge sharing and developing collective response protocols during the pandemic.
- This was also evident at the regional level, where geographic links required coordinated security measures, border control, and collective resource mobilization.
- The role of multilateral institutions at the international level, such as leaders of the SAARC, and collective dialogue in the Non-Aligned Movement, highlighted cooperation mechanisms outside the traditional UN domain.

Figure 1. New institutions and advisory mechanisms established between Jan-July 2020

	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	■	■	■	■	■	■

INGSA Knowledge Associates: Key Project Findings

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Background

Part II of the evidence-to-policy in covid-19 pandemic INGSA project consisted of a comparative study of the use of evidence in policy pathways related to COVID-19 in six countries representing Asia, Latin America and the Caribbean and Africa: Panama, Jamaica, Sri Lanka, Indonesia, Kenya, and Zimbabwe.

The focus of this work was the use of evidence in diverse regional contexts, including evidence sources and the framing of evidential input, as well as structures and mechanisms of science advice.

The six case studies aimed to examine whether existing science advisory arrangements were sufficient or strengthened for responses during the early stages of the pandemic, and how the formation of new institutional mechanisms and/or multilateral engagements transpired under crisis. Studies were based on desk research and interviews with key informants representing a range of evidence to policy stakeholders in their country's COVID-19 response during the 2020-2021 period.

Sources and types of evidential input

Table 1. Overview of key evidence sources

National Sources		International sources	
Internal to government	External to government	Global	Regional
<ul style="list-style-type: none"> - Expert advisory committees - Ministerial - Expert advisors - Scientific advisors (including Medical Officers of Health) - Ad-hoc committees and taskforces 	<ul style="list-style-type: none"> - National research and policy institutions (including thinktanks) - Academic institutions - Independent experts - Citizen science - Other (informal) 	<ul style="list-style-type: none"> - International organizations (WHO, CDC) - Scientific research bodies - State governments 	<ul style="list-style-type: none"> - Regional forums (PAHO, SAARC) - Transnational research collaborations - State governments

<ul style="list-style-type: none"> - Subnational government - Specialist research units - Legislative - Other (informal) 			
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Analysis of evidence sources

Strong preference for local research and sources of evidence

- **Local and/or regional sources of research and evidence were strongly preferred.**
These findings are consistent with existing literature identifying that decision makers based in low- and middle-income countries (LMICs) most often prioritise evidence from local sources, particularly in Sub-Saharan Africa.
- Decision-makers in LMICs have been found to generally prioritise evidence obtained from similar settings or regional contexts, alongside commissioned research evidence (Damba et al. 2022, Haynes et al. 2018, Witter et al. 2019).
- While evidence from international health organisations played a role in informing pandemic decision-making, **local and regional evidence was preferred and viewed as more relevant for policy**, most evident in the cases of Kenya, Zimbabwe, Jamaica and Sri Lanka.
- Regional evidence sources **were not always sufficient**.
 - In Panama, government agencies did not scale up or improve local data collection mechanisms over the course of pandemic, resulting in dependence on regional evidence sources such as the PAHO, which were limited.

Reliance on international evidence, including state responses

- While the preference was for trusted local research, where this was inaccessible **decision-makers generally favoured international sources of evidence and health data** to guide national pandemic strategy and decision-making. This was often tied to the mimicry of specific interventions, reflecting great sensitivity to situational updates and responses of other countries .
- Following the lead of other countries is a common course of action among decision-makers when outcomes are uncertain, which is consistent with the conditions presented by the COVID-19 pandemic (Shipan and Volden 2012).
- Several issues relating to the mimicry of policy responses emerged. The **lack of context-specific evidence** at both national and regional levels, particularly at the beginning of the pandemic, were identified as key barriers to the uptake of evidence.
 - In Zimbabwe, the formation of specialist task forces and inter-ministerial committees was undertaken without being suitably adapted to the local context.
 - In Kenya, the national government moved swiftly to act in accordance with other countries early in the pandemic when information was scarce, despite

concerns around whether such policy choices were feasible or appropriately tailored for the Kenyan context.

- Across the countries examined, **international (health) organizations were generally viewed as authoritative and reliable sources of evidence** during the critical early stages of the pandemic, due to their perceived credibility and expertise on global health issues.
- **A strong reliance on international evidence was especially noted for countries lacking in internal science advice capacities** or well-established systems of evidence provisioning.
 - In the case of Zimbabwe, weak internal mechanisms for science advice and limited local research capacities meant that evidence was primarily sourced from global health organizations, including the WHO and CDC, but this was often limited in scope.

Less reliance on academic research due to poor linkages with research communities

- Across the countries surveyed, **academic research was among the least preferred and less commonly cited source of evidence**, consistent with existing research highlighting the difficulties faced by policymakers in interpreting and readily utilising academic findings.
- Research formats and channels used to disseminate academic research were identified as **inaccessible to those outside of the academic community** (Aryeetey et al 2017, Damba et al 2022).
- **The issue of funding was raised as impacting on the uptake of academic research in policymaking**, particularly by respondents in Kenya and Zimbabwe.
 - Most research in LMICs is donor driven and funded, addressing funder priorities (Aryeetey et al 2017).
 - As a result of limited funding opportunities, academic research and researchers in African countries are inadequately supported to promote their research to the policy community.
 - Many researchers cannot afford publishing fees, and consequently, a significant proportion of local research findings are published in African-based journals or distributed as grey literature which are not visible to policymakers (Damba et al 2022).
- In Zimbabwe, the lack of engagement with academic research was also linked to **the lack of established research evidence brokerage mechanisms, and poor linkages with academic communities**.
- **Effective evidence uptake took place through established channels**, but this was an exception to the general trend.
 - In Jamaica, the state government mobilised a COVID-19 Taskforce in conjunction with the University of the West Indies (UWI) to **leverage its national university's disciplinary expertise in support of the government's pandemic response**.
 - The presence of a university taskforce served to facilitate the synthesis and uptake of various forms of expert academic knowledge from different disciplines as part of wider pandemic decision-making.

- o In addition, the taskforce operated as a focal hub for science communication and health promotion, disseminating relevant expert knowledge for a general audience via public media broadcasts, as well as an online “Find an Expert” platform to address public queries.

Structures and Mechanisms for Science Advice

Legislative Frameworks for evidence-based policy responses: Effective in design, not always in implementation

- **The effectiveness of legislative frameworks (existing, amended, and new)** in developing, governing, and implementing responses to the pandemic was noted across several of the country case studies.
- In some country contexts, effective evidence transfer occurred due to **specific constitutional and/or legally enshrined requirements around the use of evidence in policy development**.
 - o For instance, the use of evidence to inform policy decisions is well-established and recognised under Kenyan law, with legal provisions enshrined in the 2010 Constitution of Kenya. A majority of respondents expressed awareness of this overarching legal guidance, alongside other government protocols requiring use of evidence in policy development. Consequently, responses identified that there was effort to widely source and utilise evidence systematically in the formulation of policy, although government provisioned evidence was predominantly relied on.
- Some countries had **key mandates for science advice** alongside existing constitutional mechanisms for response.
 - o In Sri Lanka, protocol for the provisioning scientific input into the formulation of national policies is a key mandate for the National Science and Technology Commission (NASTEC). NASTEC has a leading role in providing scientific evidence to decision-making authorities to develop national policies in priority areas.
 - o With the emergence of the pandemic, Sri Lanka strongly also relied on existing constitutional mechanisms to guide its response strategy. The ‘Quarantine and Disease Prevention Ordinance’ of 1897 was updated in response to the emerging circumstances of the pandemic, allowing the Director General of Health Services (DGHS) full authority to mobilise resources to address the health emergency under outlined provisions of the act, including utilisation of the health system at national and sub-national levels of governance.
 - o A similar mandate for evidence-informed decision-making is evident in the Jamaican National Commission on Science and Technology (NCST) introduced under the country’s National Commission on Science and Technology Parliamentary Act of 2007. The NCST Board are required to provide advice and evaluative support to the Government of Jamaica on matters concerning

science and technology; develop, review, and recommend to the Government policies designed to facilitate the use of science and technology; and develop linkages between the users and suppliers of science and technology. The primary role of the NCST is to provide an institutional entry point for scientific evidence, data, and recommendations to the Government of Jamaica.

- o In terms of implementing policy, Jamaican government authorities were largely reliant on the 2015 Disaster Risk Management Act (DRMA) to declare a state of national emergency and establish containment and control policies, as the DRMA gave way to the issuing of binding Enforcement Measures Orders.
- **COVID-19 policy and legislative frameworks were sometimes evidence-informed in design but not in implementation.**
 - o In the case of Zimbabwe, several statutory instruments and policies were passed by the government as part of the COVID-19 response. These instruments enabled formal declaration of the public health emergency nationwide and the passing of urgent measures for containment of the pandemic, but required stronger implementation strategies.
- **Strong legislative powers at the regional/subnational level were invoked to address the pandemic.**
 - o In the case of Indonesia, the pandemic response rested on legislative responsibilities accorded at both the provincial (subnational) and national levels of government. Following growing public concern about the lack of central government action on pandemic containment, local government leaders moved to implement various restriction measures.
 - o This was facilitated by the high degree of formal governance authority vested in provincial governments, alongside their strong capacities for service delivery, owing to over two decades of decentralisation reforms in Indonesia (Sevindik et al. 2021).

Conclusion

In summary, a common theme is the existence of legislative mandates around the use of evidence in policymaking, either enshrined in law or formal institutions for science advice (i.e., national science commissions). In addition, several countries strongly relied on emergency health and disaster legislation to enact immediate interventions in the interest of public health.

However, it was unclear from the limited number of responses whether governments had a legal responsibility to provide an evidence-based justification for policies issued under emergency. Nor were transparency mechanisms for the justification of strategic choices highlighted. In some cases, it was clear that the lack of a transparency mechanism introduced difficulties in retrospectively evaluating why specific strategic choices were made, including whether an effective and reliable science advisory process was truly employed in practice.

Transparency of advisory processes may serve the public good in a way that fosters trust and minimises bias, consequently allowing for the provision of advice that is sound and legitimate (Gundersen and Holst 2022). For instance, curtailing political lobbying and public interest interference can allow scientific experts to undertake assessments following best practice approaches to decision-making, free from external influence. Equally significant is the ability of the advisory mechanism to convey its methods and reasoning in relation to how evidence is assessed and contributed to specific policy recommendations (Elliott 2020). There is a balance to be achieved in ensuring science advice is transparent, independent, and rigorous, while protecting necessary discretionary judgements and confidentiality concerns.

Key role of existing structures and mechanisms for evidence use during the pandemic

- Across the countries surveyed, a **strong reliance on existing mechanisms and structures for science advice** was identified. There was less incentive to radically restructure or reform existing processes, particularly early on in the pandemic when focus was on monitoring the emerging situation and initiating response.
- Newly established taskforces, national commissions, and committees primarily served to support existing evidence-to-policy and governance practices.
- In most cases, **the presence of existing institutions or mechanisms provided well-embedded channels or institutional entry-points for the inclusion of scientific evidence in decision-making affairs**. These supported a more formalised approach to evidence uptake, allowing also for greater accountability in the process.
 - For example, in Kenya, a Parliamentary Caucus on Evidence-Informed Oversight and Decision-Making (PC-EIDM) was established in 2015 with the specific aim of advancing evidence-informed decision-making, along with improving accountability and oversight processes relevant to evidence-informed practice. This caucus proved particularly useful during the pandemic, providing a structured, non-partisan forum for parliamentarians to share and promote approaches and lessons learned in evidence-informed decision-making.
- Findings from the Sri Lankan and Jamaican cases highlights the role of pre-existing national science commissions in enabling the uptake of scientific evidence in high level decision-making and strategy during the pandemic.
 - In Jamaica, The National Commission on Science and Technology (NCST) is the official science advisory pathway within the GOJ; in Sri Lanka, the National Science and Technology Commission (NASTEC) operates within a similar remit and facilitates the use of scientific evidence in policy in priority areas, including health.
- While most countries lacked a dedicated internal advisory structure for science advice and science oversight (i.e., similar to a Chief Science Advisor role), alternative pathways for evidence transmission and brokerage allowed for an effective bridge between science expertise and decision-making over the course of the pandemic.
 - For instance, in Sri Lanka, a relatively robust system of response delegated to the Ministry of Health and health agency taskforces, including specialist units,

- enabled strong and structured pathways for research generation and evidence uptake.
- Conversely, countries that did not have established pathways could not adapt as effectively when the pandemic struck.
 - In Zimbabwe, weak demand-supply research evidence infrastructure and lack of research evidence brokerage mechanisms were identified by key informants as barriers to evidence uptake.
 - Further, the lack of embedded science advice mechanisms meant that there were significant capacity limitations in assessing, interpreting, and translating evidence for decision-making during the pandemic, and ad-hoc structures largely fell short of sufficing.

 - **Existing structures were also liable to be ineffective in their mandate to ensure evidence-informed decision-making because of political interests** stemming from governing administrations.
 - This was the case in Panama, where the Ministry of Health (MINSAs) had an established Department of Epidemiology tasked with integrating data from Panama's main national research institute for health, the Gorgas Commemorative Institute for Health Studies (ICGES).
 - Government agencies were largely restricted in their capacity to generate pandemic evidence in order to avoid public backlash to official data documenting widespread impacts.
 - This had spillover effects for different sectors as it enabled the government to reinforce prior policies and priorities rather than being adaptive to the pandemic situation.

Adaptive responsiveness: emergence of new structures and mechanisms for evidence provisioning

- Across the six countries **the emergence of new structures and institutions for science advice was a key feature of the crisis response.**
- These included inter-governmental structures, including ad-hoc committees, comprised of key leadership and ministerial and/or sectoral representatives, as well as expert advisory committees.
- In Panama, the formation of a Covid expert advisory group was actioned under the leadership of the presiding minister for Health (PAHO/WHO 2021). In cooperation with the PAHO, the group held primary responsibility for research, modelling, and analysis work in relation to the pandemic, including developing policy recommendations. The advisory group provided ongoing scientific support for the development of health strategy, in addition to facilitating interinstitutional and intersectoral work alongside public health communications.
- **In general, expert advisory groups had limited governance authority.** However, unusually in the case of Panama, an independent health advisory group had direct control over pandemic strategy and governance during the early stages of the pandemic.

- In most cases, **the newly established structures and mechanisms served to provide inter-sectoral coordination** with regards to pandemic response and **support extant decision-making processes.**
 - In Sri Lanka, a Presidential Task Force comprising ministerial representatives and industry leaders alongside the National Operations Centre for the Prevention of COVID Disease (NOCPCD) fulfilled these functions. The NOCPCD was the central hub for various expert committees and working groups to formulate strategy and develop implementation plans over the course of the pandemic (Government of Sri Lanka 2021).
 - In Panama, epidemiological surveillance and response planning was undertaken in a newly established COVID-19 Community Control and Traceability Operation Centre (COCYTC), comprising representatives from the Ministries of Security, Health, Social Development and government, the Social Security Fund and local governments.
 - In Kenya, the National COVID-19 taskforce was established, drawing its membership from the health ministry and other government agencies, as well as research bodies, academic institutions, UN agencies, private sector, and civil society (Guleid et al 2022). These institutions served diverse functions to ensure a concerted all-of-government response over the course of the pandemic, including the provisioning of research and evidence, response protocol, as well as the coordination of resource mobilisation and policy implementation across sectors.
 - In the case of Jamaica, the national government established various inter-governmental taskforces and special commissions, including dedicated taskforces for different sector responses.
- **New advisory mechanisms did not always operate efficiently or as planned.** This was despite clear intent on the part of governments to effectively incorporate evidence in decision-making.
- Rather than improving knowledge brokerage processes and linkages with the wider science community, **in some instances the presence of internal expert advisory mechanisms often compromised inclusive approaches to soliciting external evidence for policy and strategy.**
 - In the case of Zimbabwe, the creation of new inter-ministerial taskforces and committees lacked adequate operational capacities and policy implementation capabilities. There was notably less consideration of individual capabilities within these newly formed structures, as well as the necessary strategies for optimising evidence-to-policy pathways.
 - The new advisory structures did not sufficiently engage with local research communities, including research institutions and quasi-government departments that would have been valuable repositories of expert evidence.

Models for effective intersectoral research collaboration: Jamaica and Indonesia

Government taskforce cooperation with academic community: Jamaica

- The Jamaican Ministry of Health established a successful COVID-19 Taskforce in collaboration with The University of the West Indies (UWI).

- Membership of the Task Force comprised specialists from relevant disciplinary backgrounds, including scientists, social science researchers and public health professionals with both technical and strategic expertise. This model had previously been adopted in response to the Zika virus in 2016 to inform and support the government's national and regional public health response.
 - The Task force was principally tasked with providing comprehensive and reliable evidence-based assessments to relevant government agencies and policymakers, as well as being responsible for communicating key information to diverse stake holders including journalists and the public.
- The Government of Jamaica also utilised social and economic data collected by an **established system of autonomous statutory bodies** under the oversight of the Ministry of Finance and the Public Service, including relevant data on the national economy and labour market trends.
 - These statutory bodies included The Statistical Institute of Jamaica (STATIN), the Planning Institute of Jamaica (PIOJ), and the Bank of Jamaica. The PIOJ specifically leads policy formulation on economic and social issues and provided technical and research support to Cabinet over the course of the pandemic.

Research and innovation consortium: Indonesia

- In Indonesia, a **research and innovation consortium** was assembled under the auspices of the Minister of Research and Technology Head of the National Research and Innovation Agency in order **to advance research development and strategic planning related to COVID-19**. The consortium included representatives from noted national research institutions affiliated with the government, as well as the Ministry of Health, academic leadership, and expert stakeholders from the pharmaceutical industry.

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