INGSA-COVID-19: A comparative analysis of the use of science advice, science diplomacy and policy response to develop insights for managing future crises

Working paper by INGSA & Koi Tū Centre for Informed Futures

This paper will be updated monthly

20 May 2020

Version 1.3.5

Introduction

Governments around the world have responded in diverse ways to the unprecedented global pandemic of COVID-19. As the pandemic spreads and the cases increase, policies and other interventions are introduced, changed and replaced at fast pace. The International Network for Government Science Advice (INGSA) is undertaking a global project (INGSA-COVID-19) to understand the sources and kinds of evidence proffered as well as the uptake and utility of this evidence when developing and implementing covid-19 – related interventions by government. The project will share lessons learned for improving evidence for use in crises particularly those involving transnational dimensions. With its network of experts and practitioners in science policy and science advice across five continents, INGSA is ideally placed to conduct this research.

By tracking the advice and decisions of the WHO, supranational (e.g. EU), national and sub-national governments over the course of the pandemic, our first goal is to understand the various ways in which evidence is mobilised at different stages of the epidemic, by whom and to what end. While the problem itself might be seen as a simple policy question (i.e. how can we stop the spread of a novel virus at population scale?), the reality is far more complex. Whose evidence counts? Is it formal or informal? What

has been the role of international organizations, in particular the WHO? There has been a variety of government responses reflecting the complex interplay between incomplete and fast-moving science, expert views, risk framing, economic concerns, political ideologies, institutional settings, public acceptability and transnational dimensions of the global political economy.

Second, we intend to use the problem of COVID-19 to understand the broader conceptual frameworks of evidence-to-policy pathways that could help guide best response to other transnational crises in the future. We acknowledge that there are substantial differences to the other pressing problem of our time, climate change, but there are also similarities and lessons to learn. The climate change is complex and serious yet relatively slowly developing problem with multiple, at times hard to delineate outcomes, while the pandemic started as a well-circumscribed but rapidly evolving issue with emerging complexity. Yet many considerations 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. With many countries and international organizations starting to think how the experience of pandemic crisis should shape the decisions in medium to long-term future, comparative lessons and insights concerning the initial response will be useful.

The numerous commentaries and analyses on the uses of different kinds of evidence and expertise published in international media are well-researched and thoughtful, but mostly examine a small number of wealthy developed countries, or countries that are seen as exemplary or unusual in their response.[1] Furthermore, the short publication deadlines of newspapers and online platforms, combined with the rapidly changing epidemiological situation and evolving policy responses mean that many of them have dated quickly. A research tool and publication type that has gained much prominence due to their ability to

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[1] Good examples include: Nature Editorial. "Coronavirus: Three things all governments and their science advisers must do now," Nature 17 March 2020 https://www.nature.com/articles/d41586-020-00772-4; David Matthews, "German humanities scholars enlisted to end coronavirus lockdown," Times Higher Education 22 April 2020 https://www.timeshighereducation.com/news/german-humanities-scholars-enlisted-end-coronavirus-lockdown; Scheufele, Dietram A., Nicole M. Krause, Isabelle Freiling, and Dominique Brossard. "How Not to Lose the COVID-19 Communication War." *Issues in Science and Technology* 17 April 2020, https://issues.org/covid-19-communication-war/; Ford, J. "The battle at the heart of British science over coronavirus," Financial Times 15 April 2020 https://www.ft.com/content/1e390ac6-7e2c-11ea-8fdb-7ec06edeef84; Arjini, N. "Science will not come on a white horse with a solution (Interview with Sheila Jasanoff)", The Nation 6 April 2020, https://www.thenation.com/article/society/sheila-jasanoff-interview-coronavirus/. For an early academic and largely theoretical take see Christopher Weible et al. 2020. COVID-19 and the policy sciences: Initial reactions and perspectives. *Policy Sciences* https://doi.org/10.1007/s11077-020-09381-4. Amy Maxmen for *Nature* provides broad international coverage however it is intermittent.

capture rapidly accumulating data are various trackers. For the most part, these trackers collect **what** is changing with regard to the policy intervention, but are no designed to ask or answer '**why**' or '**how**'[2]

The distinction of the INGSA project is twofold. First, it combines the diachronic approach of policy trackers, as it is committed to collecting data over the course of the pandemic, with the focus on the reasoning behind the policy response. Second, it has broad geographical scope, capturing many countries currently neither on the radar of international media, nor included in other policy trackers. Together with its science diplomacy division SPIDER (Science Policy in Diplomacy and External Relations) and its partnership with FMSTAN (Foreign Ministries Science & Technology Network), INGSA has 5,000 members across ~100 countries who are able not only to track policy development in many languages but also, importantly, provide contextual local knowledge. We have utilised this network to recruit national (and in some cases sub- and supra-national) 'Rapporteurs' from across the network.

INGSA members all, in one way or another, inhabit the interface between formal research and public policy. While this project may not draw directly on their formal domains of expertise, it does mobilise their understanding of the features of that interface and the complexities of evidence-informed policy making. Our methodology is a thus a novel form of '*engaged social science'* that combines citizen-science data sourcing techniques that prioritises local knowledge, with the highly specific skill set of knowledge brokers that INGSA membership comprises.

Methods and data:

Our project consists of:

1. **Policymaking platform:** INGSA have built a landing page (http://www.ingsa.org/covid/) on our website as a Covid-19 repository of blogs, publications, and in time, webinars/interviews that explore themes listed above. We are inviting members of our global network to write contributions and share secondary information that is screened and published on the website. An editorial committee has been established with breadth of country, diversity of expertise and age taken into consideration (see under **"Team"**). The editorial committee will also oversee the design of the study (stage 3) and its performance.

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[2] See for example. Oxford Covid Policy Response, OECD Policy Response Tracker and IMF Policy Response Tracker.

2. **Policymaking tracker:** a live web-based data collection tool for tracking policy interventions (https://www.ingsa.org/covid/policymaking-tracker/), and their supporting evidence/justifications, at national and subnational levels. Data collected by our Rapporteur will generate a timeline of interventions in each jurisdiction. Details will include:

   a. Country, subnational jurisdiction (province/state) or supranational jurisdiction (EU).

   b. Type of intervention, with a brief description and hyperlinks to government sources (primary) and other, secondary (media, commentary, speeches) sources. Examples include advisory (formal warning from official sources), executive order, specific action (e.g. evacuations), new tools and institutions (new websites, new advisory committees) and so on. The rapporteurs are also advised to note the occurrence of contextual events that could have influenced policy response to COVID-19: e.g. the first case of COVID-19, the first death, or a major event that could have influenced policymaking in other ways, but that now intersect with the pandemic response (national elections, natural catastrophe).

   c. Sector at which the intervention was aimed (e.g. health, foreign affairs, central bank).

   d. Lead people and organizations (author, advocate, leader of intervention).

   e. Evidence or justification cited (referred) to support the policy measure (advice of internal or external advisors, scientific articles, policy reports, WHO publications), as well as the description of evidence, where provided.

   f. Source of evidence (if provided).

The data collected will be analysed using qualitative research methods to identify leading approaches, sources of evidence and mechanisms through which evidence is informing policy. In a later stage the data collected will be linked to quantitative data available from other trusted sources, i.e. WHO or national statistics.

Their input is added continuously into an online form on INGSA servers and displayed as an interactive and comparative policymaking tracker tool on the website. Alongside email contact, in April 2020 INGSA secretariat also organized two online Q & A sessions with international rapporteurs. Based on the feedback the data collection form was revised and improved. Data is beginning to be displayed on the website and the new visualisation tools and formats are currently under development by a contracted web programmer.

3. The policymaking tracker project will help inform a **comparative mixed method study of the science advice in relation to decisions made during COVID-19** including:

   a. Survey examining how science advice and diplomacy have operated in different countries. Survey is forthcoming and it will include questions such as:

- Were infrastructures for advice available?
- Were these infrastructures prepared for emergencies?
- Were risk registers in place?
- To what extent was the input of supporting evidence formal or informal, transparent or opaque, provided by formal advisory systems or *ad hoc* experts?
- To what extent did countries follow WHO guidance?
- To what extent did the media drive particular decisions? Did misinformation affect the evidence-to-policy interaction?

The survey may be further complemented by regional focus groups that would explore specific regional issues such as influence of (regional) supranational models; regions and neighbours as models for policymaking; "public epistemologies" (what kinds of justification of interventions count as valid); levels of transparency in decision-making. The use of focus groups is dependent on the procurement of additional resources.

b. Semi-structured interviews with contributors in selected countries, so-called 'deeper dives', with questions that will include the following:

- Who were considered the experts? Which disciplines provided input (e.g., behavioural and data science, epidemiology, virology, clinical medicine, psychology, social science)?
- Perceived standard of scientific advice: Who followed the WHO?
- Risk communication/preparedness: what kind of historic evidence and knowledge was used to support predictions (e.g. 1918-1920 influenza as the model for the prediction of a second and third wave, or SARS in the early 21st century?)
- The use of formal epidemiological and economic modelling
- The role of digital technologies (e.g. in contact tracing)
- The impact of the pandemic on social resilience/cohesion
- What kind of human rights and ethical issues emerged?
- The level of International cooperation/science diplomacy
- Science communication/trust. How trusted was the advice? How transparent was the advice?
- The specific issues faced by low and medium-income countries?
- Is the regulatory science framework fit for purpose (this question is relevant for later stages when drugs and vaccines emerge)
- The role of media, evidence and politics in shaping policy in rapidly evolving circumstances

From within the INGSA network, we will use the Rapporteurs and other well-connected regional members, to conduct deeper dives into regional responses, national/sub-national/trans-national collaboration and implications of action/inaction in terms of evidence use.

An INGSA commissioned researcher will also supplement findings by conducting in-depth interviews with major stakeholders from science advisors, academy, government officials and international organisations such as WHO. The project leaders together with the editorial team from the website (listed below) will produce commentary at various stages reviewing findings, and lessons learnt.

Results

An interim analysis of the results of policymaking tracker and stage 3 (depending on the level of completion) will be presented at regional workshops (e.g. organized by the Joint Research Centre of the European Commission) and then the INGSA2020-COVID-19 virtual meeting in September 2020, which is timed to replace the INGSA fourth biennial conference, now postponed to late August/early September 2021 in Montreal, Canada.
It is expected that the interim analysis will then be used to publish both an academic paper and a report aimed at policymaking and advisory bodies.
A more comprehensive compendium of findings will be made open access on the INGSA website on project completion. Further publications are planned depending on the data collected.

Funding

The project is currently funded by the Wellcome Trust (through repurposed funds) and a grant in aid by Fonds de Recherche du Québec. Applications for further funding are currently under consideration by several international funding bodies.

Team

The project was initially designed and implemented by the INGSA Auckland secretariat (Professor Peter Gluckman, Kristiann Allen, Lara Cowen, Grant Mills, Dr Felicia Low, Dr Andrew Chen, Dr Tatjana Buklijas and two research assistants editing and checking data in the policymaking tracker), INGSA vice-chair Professor James Wilsdon at University of Sheffield and the INGSA collaborator Professor Matthias Kaiser of the University of Bergen.
An international "methods group" was set up in mid-May 2020 to work with the core team on the development of methods for parts 2 and 3, and to ensure a global perspective. The group includes Olga

International Science Council

INGSA operates under the auspices of the International Science Council. The INGSA secretariat is currently hosted by the University of Auckland, New Zealand
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Krasnyak (science diplomacy/history/international relations; Moscow University, Russia), Maria Esteli Jarquin (science advice, science policy; Cabinet Office of Costa Rica), Alessandro Allegra (STS, science advice, UCL), Kristian Krieger (science policy, philosophy of science; JCR EC) and Saroj Jayasinghe (medicine, University of Colombo, Sri Lanka); with Roger Pielke Jr (science advice, science policy; University of Colorado) as advisor. We are currently recruiting one or more representatives from the African continent.

Rapporteurs have been signing up to policy-tracker since mid-March, using INGSA network and through collaborative partners. **On writing this update (20 May 2020), the tracker has 163 rapporteurs representing 106 countries contributing to the policy-making tracker.**

INGSA Covid-19 Online Platform Editorial Committee:

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