Priority setting and coordination of research agendas: lessons learned from COVID 19
Background paper

This short background paper has been prepared for the OECD GSF workshop scheduled on 4-5 October 2021, which is part of a broader project on Mobilising science in response to COVID-19: lessons learned from COVID-19.

Priority setting, steering and coordination of research in crises

The COVID-19 pandemic has set off a cascade of responses from – and had impacts on – multiple actors across the science, technology and innovation (STI) ecosystem. While there were already established mechanisms to investigate and respond to pandemics, both at national and international levels, these appear in many cases to have been inadequate to respond to the scale, scope and complexity of the current crisis. National research agencies and institutions rapidly responded to the COVID-19 pandemic, seeking to both mobilise and protect their research communities.

Initial efforts directed resources at understanding the infectious agent – SARS-CoV-2, and finding medical solutions (i.e. vaccines and treatments) and a multitude of research projects were fast-tracked to respond to the public health questions raised by the pandemic. The WHO defined an initial list of global research priorities and many countries established coordination mechanisms to try and ensure efficient STI responses and implementation of measures at different levels of government. For example, Ireland established a cross-governmental National Action Plan on COVID-19, and South Africa set up a National Command Council.

Countries have implemented a wide range of measures to define and address research priorities to generate the knowledge and tools necessary to help policy makers effectively respond to the crises. Priorities have varied both from country to country and over time as the crisis has progressed, challenging both national and international coordination mechanisms.

To address the socio-economic impact of the crisis, various initiatives were developed to boost digital services, enhance the capacity of public and private organisations to use these across education and industry, and tackle the spread of misinformation. However, the scale and depth of the impact of the crisis on society had not been fully anticipated and government policies were often poorly informed by science. In some cases this reflects gaps in scientific evidence (and research agendas) and in other cases it seems to have been more related to the priority attached to different types of scientific research and evidence.

Whilst medical research, pharmaceutical interventions and vaccine development have understandably been the main research and policy focus in many countries, the reality is that a large variety of non-pharmaceutical interventions or infection control measures have been universally

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1 A version of this document is also available to GSF delegates in O.N.E Members & Partners under the reference code DSTI/STP/GSF(2021)14


implemented through-out the various phases of the pandemic⁴. These have enabled a small number of countries to effectively control the spread of COVID-19 but the lessons have not been effectively transferred or adopted elsewhere. The reasons for this are complex but it is notable that in most countries the development of a coordinated research agenda on non-pharmaceutical interventions has lagged behind that of its biomedical counterpart and the international coordination in this area seems to have been largely absent.

Priority setting, steering and coordination of research efforts has been a major challenge. From the policy perspective different parts of government have different priorities and different requirements for scientific evidence and research. In the absence of effective cross-government (and cross agency) coordination, this can lead to fragmentation and/or duplication of research efforts, with insufficient attention been given to some areas (such as non-pharmaceutical interventions).

STI governance is highly distributed in most OECD countries, involving ministries and implementation agencies, as well as various degrees of subnational autonomy. This presents a coordination challenge for governments when responding to COVID-19 and for the research community, when trying to ensure that their priorities and agendas reflect the full range of policy requirements and that relevant scientific evidence is taken up where it can be most useful⁵. As the pandemic is not confined by national boundaries, the need for international coordination represents an additional level of complexity and adds to the risk of conflicting priorities.

Preparing the science system for crises and ensuring an inclusive and global science and policy response

The COVID-19 crisis has highlighted the limits of the previously established response mechanisms for pandemics and emphasised the need for better preparedness in the future. This pandemic required an acute emergency response, which in most countries was largely based on established public health emergency frameworks and procedures and dictated its own scientific knowledge and research requirements. However, the scale and complex cascading nature of the crisis, which has impacted on all sectors of the economy and society has meant that a broader range of scientific evidence was required to effectively inform policies. Research agendas have had to adapt accordingly.

It is clear that, despite having conducted a plethora of pandemic preparedness exercises, most countries and STI systems were ill-prepared for a pandemic of the scale and complexity of COVID-19, albeit that such an event was widely considered as inevitable. Indeed, earlier initiatives such as “One health” had identified the need for a global approach that requires interdisciplinary research and networks to address future pandemics but the COVID-19 crisis has clearly shown that this has not been fully implemented. Governments will need to prepare more effectively for future shocks, assessing key risks and uncertainties and their implications for STI⁶. What better preparedness actually entails remains open to debate. However, there are important lessons that are already emerging from the COVID-19 crisis:

- the need for a strong scientific knowledge base has been underlined; lack of long-term support for research on coronaviruses that were responsible for earlier epidemics created a knowledge gap at the beginning of the COVID-19 pandemic regarding the epidemiological and virulence potential of the new virus. On the other hands, long-term

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⁴ https://www.nature.com/articles/s41586-020-2405-7
research on RNA-based therapies helped in the development of a vaccine in a record time. Balancing existing (or previous) research priorities and newly emerging ones is an ongoing challenge;

- such a crisis has an impact far beyond the biomedical area and research needs to combine different disciplinary and domain perspectives and integrate multi-dimensional effects such as human-environment interactions; this also requires special attention to research on the effects and costs of non-pharmaceutical interventions (NPIs);

- on the policy side, there is a need to explore how social and policy imperatives can effectively inform the scientific research agenda e.g. how are ministries or social partners involved in setting the science agenda, and who sets the goals for “science for crises”;

- STI policies need to better integrate preparedness for future crises and promote resilience and agility in research systems; this probably includes the use of foresight/scenarios to explore potential future (research) pathways.