

Medical and Social Scientists as Strategic Advisors: The Case of GloPID-R in 2021

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Abstract

Many tech firms and government departments have senior executives whose day job is science. How they can also work as strategists has received little attention. We relate how leading scientists set mid-term research funding priorities worth billions of dollars while addressing the COVID-19 pandemic. Using scenario planning, they utilized a phenomenological epistemology better suited to strategy in turbulent conditions (such as the pandemic) instead of the dominant positivism in their scientific work. This article provides insights for scientists interested in strategy and those seeking to reframe an urgent situation with the help of a useful longer-term perspective.

Introduction & setting

Between January 2020 and January 2022 over [\\$5.5 billion research funding was invested in research on COVID-19](#). The initial research response was facilitated by the identification of priority research needs through the [WHO R&D blueprint mechanism](#), informing ensuing funding calls through members of the research funders coalition - [GloPID-R](#).

As the pandemic swept the world and continued research was called for, what research to prioritize became a critical issue for those determining funding policy. This article surveys how GloPID-R's scientific advisory group undertook this strategic priority-setting task.²

GloPID-R is a [meta-organization](#) comprising 29 member organizations worldwide. In early 2021 the GloPID-R executive leadership asked its Scientific Advisory Group (SAG) – comprised of world-class medical and social scientists – to develop recommendations for research funding priorities over the 2021-2023 funding period.³

Many scientists use a positivist epistemology in their research, oriented to produce facts and establish their veracity. A positivist epistemology engages the future by tweaking models relating

facts established in the past, then runs simulations of those models as forecasts with probabilities attached to the sensitivities involved.

But in the [radical uncertainty](#) conditions of the pandemic inhabited by the SAG members, facts, models, and projections were unhelpful to assess futures because the situation was unique and without precedent. The positivist epistemology does not lend itself well to set future priorities when the planning required is in a turbulent, unpredictably uncertain, novel and ambiguous setting⁴. Planning in such conditions requires using another epistemology instead.

Scenario planning as an alternative epistemology

While the pandemic was still ongoing, the emergency research funding research response had already started to shift towards a longer-term perspective. The UN supported these efforts through the [UN Research Roadmap for the COVID-19 Recovery](#).

Given that the WHO was at that time (Spring of 2021) revising its original research roadmap, GloPID-R leaders were keen to take a complementary longer-term view to consider their shorter-term priorities as well as longer term possibilities, and ‘scenario planning’ was chosen to help reach this objective and to build in resilience and enhance adaptability.

The methodology proponents understood that deploying scenario planning as a rigorous inquiry methodology⁵ involves a phenomenological epistemology that is different⁶ from the positivist one most members of the scientific advisory group use in their own scientific endeavors. **This means that it matters for whom, specifically, the planning is done, as opposed as working for ‘everyone’ or ‘anyone’ as positivists do.**

We followed the so-called ‘path-setter’ research approach in designing and running this inquiry. This approach is characterized by **seeking to have “a broader outlook, (to be) curious, reflective, willing and able to question [existing] frameworks and consider alternative positions, and eager to produce new insights” ... that is, a more critical and path-(up)setting scholarship mode**⁷. The Oxford Scenario Planning Approach (OSPA)⁸ was applied to produce plausible future contexts which pandemic preparedness research and COVID-19 might inhabit. It helped that the OSPA had already been deployed as a scholarly method of inquiry elsewhere⁹.

Prior research prioritization exercises had taken a consensus building, consultative approach, informed by expert opinion¹⁰. In contrast, **the OSPA methodology** was chosen given the uncertainty of the future trajectory of the pandemic. It **encourages thinking about different future scenarios without attaching probabilities to them.**

The methodology also ‘halted’ the attention impact of (at the time) incessant urgency, and **helped the SAG scientists to look at how that urgency might unfold from another temporal framing, situated nine years into the future,** to address the next three years. It in this way that the OSPA is path-setting: it helps its users (here, leading scientists) to question existing frameworks, produce alternative views and derive useful insights.

Through an iterative deductive process, eight GloPID-R SAG members (names found in the appendix), aided by facilitators, defined three scenarios of what worlds GloPID-R member-funded research might inhabit up to 2030. **This nine-year temporal horizon was used to inform shorter term – 18 months – possibilities. Back-casting from 2030 frames to 2021-23 was used to help define which decisions would be seen as wise from the future,** and to better allocate funds to mitigate or cater for the three different scenarios.

Given the short timeframe, impossibility of travel, and resulting inability to engage a wider group of experts beyond the SAG members, this was understood to be an instance of frugal scenario planning appropriate to the time and resource constraints of the pandemic situation⁶. Further iterations of this work are advised to further develop the first iteration produced this way¹¹.

The methodology

Over the course of only six weeks, SAG members participated in the scenario planning research via interviews, virtual workshops and online discussions, supported by the Project team (GloPID-R Secretariat and the Oxford University Saïd Business School). Given the ongoing emergency, all work was done on-line via Zoom utilizing MIRO templates, including three 3-hour workshops during a seven-week period.

To generate useful and plausible future scenarios in such a short timeframe and through social distancing and virtual interactions, the three teams managed the processes of co-learning and co-researching in four main tasks frugally¹²:

1. Outline of each session's expectations, duration, and support;
2. Generation of the contextual factors and actors, both used in the scenario building;
3. Visualization of each scenario and the differences among the scenarios;
4. Detailing of the scenario set.

Following the scenario production and analysis, the SAG held additional online meetings to discuss and agree on specific research recommendations informed by the scenario research. A detailed outline of each step involved in the scenario definition and building process – SAG interviews, identification of factors and of the actors shaping scenarios, the scenario building workshops, the validation surveys, and consensus building – can be [accessed in the full report](#).

Almost 50 contextual factors¹³ considered by the scenario builders. Many of these factors were then integrated into the scenario set which was produced. As the scenarios were built using [the deductive method, two structuring axes were identified](#) - the Level of International Research Collaboration (high/low); and the Links between Climate Change and Infectious Diseases (strong/weak). The framework should be understood as a map onto which a small set of islands can be identified and located as is seen in [Figure 1](#).



Figure 1: the three scenarios in the 2-axis map

The completed set of three scenarios was presented to the SAG members in the third workshop, where participants ‘back-casted’ from these 2030 future worlds to the 2021-2023 period. They identified what GloPID-R should fund in each scenario utilizing the extant WHO 2020 categories and sub-categories as a starting point. For each scenario, SAG participants debated what criteria would determine what, how and with whom to fund. They also determined the research recommendations whose priority was the same across two and all three scenarios.

For each scenario, and following their formulation, research funding recommendations were subsequently identified by SAG members aided by three surveys¹⁴ which also acted as a form of validation of the scenario set. Finally, a consensus-building call was held with all SAG members, where further refinements were made and agreement on areas for research priority recommendations was reached.

Scenarios to set research priorities for Global Health as an exemplar for scientists who act as strategists

The three scenarios provided what was for the scientists and their organizations novel ways to inquire, and with this inquiry to build resilience. It helped them to assess external factors and to navigate the context of uncertainty which the then current COVID-19 pandemic manifested.

By harnessing the OSPA approach, the SAG identified research recommendations, which they organized into three groups:

- Scenario-independent areas for research recommendations in 2022-23.
- ‘Moonshots’ (ambitious and large) projects advisable in each scenario.
- Scenario-dependent areas for research recommendations in 2022-23.

The scenario planning method helped the SAG scientists to highlight three cross-cutting issues of relevance for the global response to the COVID-19 pandemic. Some of the scientists in the SAG felt these might not have emerged if other research priority-setting approaches had been used instead. These issues were:

1) IP and data rights for Low- and Middle- Income countries:

The three scenarios highlighted that IP and data rights were identified as critical factors for GloPID-R coordination with other initiatives (e.g., [CEPI](#), WHO).

2) Funding efficiency:

COVID-19 demonstrated the perils and missed opportunities of not having funds and capacity readily available. Although GloPID-R member funding had been substantial, the requirement for each country to independently execute a research funding process with its own timeline resulted in a very fragmented funding landscape¹⁵ bringing forth fragmented research outcomes and missed opportunities to promote data comparability. This reduces funding return on investment.

3) Research capacity:

This concerns preparedness, and the speed and quality of response. The scenarios suggested that for the future, to address the global COVID-19 disparity in research funding, GloPID-R could expand membership into regions which might invest more in Science, Technology, Engineering and Mathematics (STEM) education with and which have growing youthful populations¹⁶.

Conclusions & managerial implications

This article provides *an empirical exemplar of the ('theoretical') proposition of how to do scenario planning frugally when the need is driven by an emergency*, as in the case of the COVID19 pandemic.

Frugal scenario planning helped the GloPID-R SAG to develop research priorities. *Implicit assumptions were rendered explicit to inform research recommendations. The authors believe this approach offers greater resilience* than would be the case if the SAG had worked only on one possible, assumed, projected 'future' rather than on three plausible futures.

With positivism, facts are established 'objectively', and experiments are tested with null hypotheses and the help of control groups. However, strategy-making requires a different epistemology to the positivist one – for strategy to be useful to the specific group it informs, it mobilizes both a phenomenological stance as well as critical realism. The investigation of plausible futures requires strategists to take knowledge and science as social processes which are constructed¹⁷. The inquiry scenario planning enabled them to create a picture of reality in a process of social interaction to question assumptions and bring forth novel possibilities.

To successfully operate this epistemological transition, *scientists need to step back from the role they are and work in as scientists; to instead consider the context in which they work and might in the future work*.

In other words, *scientists engaging with strategy need to look* – through the lenses of critical realism – *at* the socio-economic, political, technological, legal, and environmental *contexts surrounding, supporting, challenging, and informing their work*.

With scenario planning scientists can create a safe space in which they can produce these alternative perspectives. Here, *the definition of 'future' itself is different* from the cutting-edge one (experienced here-and-now) in which their work as scientists is situated in their respective fields. *Instead, the future concerns imagined yet plausible contexts for their activities that might come to pass (sooner or later) and in which they might reside there-and-then*.

A strategic activity that is centered on *working 'on' rather than 'in' the future* affords scientists the opportunity to employ *scenarios as useful advisory hypotheses*, rather than considering the results which are produced with scenarios as binding, clear-cut, and normative findings, or -worse!- as predictions.

As a result, *doing strategy by using scenarios with this methodology amounts more to a learning initiative* than a decision-making one¹⁸ – a learning initiative that, nonetheless, is ambitious, wide-ranging, and aims to inform decision-making.

In conclusion, this experience is an example for medical and social scientists working in tech companies and occupying senior roles in major corporations and government departments, to pursue methodologies that involve critical thinking about the futures they and their intentions might inhabit, and with this, to reassess priorities here-and-now.

Ethics Statement

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- 3 SAG Members included: Marion Koopmans (SAG Chair, GloPID-R Scientific Advisor); Lina Moses (GOARN Research – Tulane University); Moses Aloba (African Academy of Sciences); Nahoko Shindo (WHO); Nicole Lurie (CEPI); Steven Hoffman (CIHR); Xavier de Lamballerie (University of Marseilles); Yazdan Yazdanpanah (INSERM/ANRS - GloPID-R Vice-Chair).
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