



# A Year of Tracking Government Responses to COVID-19: Challenges and Lessons Learned from the Global Data Collection Efforts Around the World

## Executive Summary



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The first COVID-19 Public Health and Social Measures (PHSMs) Data Coverage Conference provided PHSMs policy trackers, scholars, and policymakers the opportunity to network, exchange experiences, explore collaborative possibilities, and reflect on lessons learned from collecting COVID-19 PHSMs with the aim of improving efforts to collect PHSM data not only for the current pandemic, but future ones.

The conference co-hosts convened the conference based on the conviction that while PHSMs made in response to the pandemic clearly have direct (or indirect) impacts on the spread of the pandemic --- along with other social, economic and environmental implications --- the validity of any such research or analysis rests on the provision of complete and accurate data on COVID-19 policy interventions at all levels of policymaking.

The recognition of such data's value is reflected in the existence of exceptional efforts, led by researchers, as well as public and private stakeholders from across the world, to document it. However, many trackers have found PHSMs data collection to be extremely complex, challenging and ever-evolving, especially given the novelty of the data being collected and the efforts necessary to do so in the first place. Indeed, despite having collected an enormous volume of data on COVID-19 PHSMs in the past year, trackers face significant challenges in recruiting and training data collectors to document PHSMs across different countries, ensuring the quality of the data already collected, and adapting their efforts to capture new and often more complex government measures.

The policy trackers who have signed the statement below have come together with the goal of improving the provision of timely, high-quality, and complete COVID-19 PHSMs data. We believe that this can be best achieved by fostering a collaborative ecosystem of policy trackers to facilitate the accumulation of collective knowledge of government responses to COVID-19.

The PHSM Network provides this much needed and pioneering platform for discussing challenges concerning data collection, quality, and coverage; exploring possibilities for cooperation; and sharing funding opportunities. This collaborative ecosystem is built on these core principles: open, living, dynamic and action-oriented. With this framework, we aspire to nurture a lively international PHSM tracking community. With infrastructures such as collaborative software, periodic research seminars, and other bilateral or multilateral cooperative channels, we aim to incubate strong, concrete, collaborative relationships to advance our joint endeavor towards efficient and high-quality data collection for current and future public policy challenges.



# A Year of Tracking Government Responses to COVID-19: Challenges and Lessons Learned from the Global Data Collection Efforts Around the World

**Shared Statement**



### **A Year of Tracking Government Responses to COVID-19: Challenges and Lessons Learned from Data Collection Efforts Around the World**

#### **Shared Statement by the Public Health and Social Measures Trackers participating in the First COVID-19 PHSMs Data Coverage Conference**

The first COVID-19 Public Health and Social Measures (PHSMs) Data Coverage Conference provided PHSMs policy trackers, scholars, and policymakers the opportunity to network, exchange key experiences and takeaways, explore collaborative possibilities, and reflect on lessons learned from collecting PHSM measures for the current COVID-19 pandemic, as well as future pandemics. In this statement, we, the members of various COVID-19 PHSM trackers around the world, offer initial thoughts about the outcomes of this conference. In doing so, we provide a review of identified convergences and gaps, common challenges and best practices among PHSM trackers that were discussed during the conference. This document gives policymakers, scholars, experts, and the media an overview of what policy trackers have done individually, what they could potentially work towards together, and what lessons can be drawn from this conference to better respond to potential similar global crises in the future.

#### **Why we needed a conference**

The COVID-19 pandemic is an unprecedented global health crisis that requires international, transdisciplinary collaboration to address its broad scale societal and public health impacts. Although information technology and rapid advances in data-driven research can greatly enhance the ability of policymakers and scientists to identify strategies and policy solutions to address health effects of COVID-19, to say nothing of its ability to forward inference on the social, economic, and environmental impacts of the pandemic, the validity of any such research or analysis rests on the provision of complete and accurate data on COVID-19 policy interventions at all levels of policymaking.

The importance of such data to forward research and policymaking on the pandemic was recognized early on by researchers and institutions around the world, both public and private, and in many cases the volunteers they relied on, leading to an exceptional outpouring of efforts to document it. Though trackers have taken different approaches in their endeavors, each has sought to bring rigor, structure and order to raw, dispersed, and unsystematic information about government COVID-19 measures. In collecting the data in real time and making it publicly available, they have also built extraordinary historical documents for future generations to parse through.



However, trackers that took on this task quickly found that the collection of such data is extremely complex, challenging and ever-evolving. Governments around the world have responded to the COVID-19 pandemic by implementing a massive number of PHSMs, such as border closures, school closures, stay-at-home orders, and face mask mandates. Despite having collected an enormous volume of data on COVID-19 PHSMs in the past year, policy trackers nevertheless face significant challenges in continuing their work. Such challenges include recruiting and training data collectors to document PHSMs across different countries, ensuring the quality of the data already collected, and adapting efforts to capture new and often more complex government measures.

In response to these common challenges, a consortium of groups collecting COVID-19 PHSMs data, organized all relevant and interested stakeholders to join the first COVID-19 PHSMs Data Coverage Conference. The CoronaNet Research Project<sup>1</sup>, organized the conference in collaboration with the Chair for International Relations at the Hochschule für Politik (Technical University of Munich)<sup>2</sup> and the EU-Horizon 2020 funded PERISCOPE consortium. Co-organizing partners are the ACAPS COVID-19 Government Measures Dataset (ACAPS)<sup>3</sup>, the CSH COVID-19 Control Strategies List (CCCSL)<sup>4</sup> at the Complexity Science Hub Vienna and University of Veterinary Medicine Vienna, the Health Intervention Tracking for COVID-19 (HIT-COVID)<sup>5</sup> tracker at the Johns Hopkins Bloomberg School of Public Health, the Oxford COVID-19 Government Response Tracker (OxCGRT) at the Blavatnik School of Government<sup>6</sup>, and the Oxford Supertracker (OxST)<sup>7</sup>.

### Conference Goals

We ultimately seek to maximize the provision of timely, high-quality, and complete COVID-19 PHSMs data. We believe that this can be best achieved by fostering a collaborative ecosystem of policy trackers to facilitate the accumulation of collective knowledge of government responses to COVID-19. To that end, the conference brought together PHSM trackers from various international organizations and institutions,

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<sup>1</sup> Represented by Cindy Cheng and Luca Messerschmidt. Ezgi Caki, Annika Kaiser, Klea Vogli, Vanessa Zwisele and Maryam Al Hammadi have also provided valuable support with regards to numerous organizational tasks.

<sup>2</sup> Tim Bütthe holds the Chair for International Relations.

<sup>3</sup> Represented by Angeliki Nika, Alex Howes and Steve Penson

<sup>4</sup> Represented by Amélie Desvars-Larrive

<sup>5</sup> Represented by Sophia Zweig, Alex Zapf, Qulu Zheng, and Hanmeng Xu

<sup>6</sup> Represented by Thomas Hale, Anna Petherick, Yuxi Zhang, Emily Cameron-Blake and Helen Tatlow.

<sup>7</sup> Represented by Bernhard Ebbinghaus and Lukas Lehner



focusing on different country scopes and contexts and with diverse tracking specialties, as a first step toward greater communication, cooperation and community.

This PHSM Network, an outcome of the conference, is a pioneering platform for discussing current challenges concerning data collection, data quality, and coverage; exploring possibilities for cooperation; and sharing funding opportunities. The core principles of the collaborative ecosystem are open, living, dynamic, and action-oriented. With this framework, we aspire to nurture a lively international PHSM tracking community. With infrastructures such as collaborative software, periodic research seminars, and other bilateral or multilateral cooperative channels, we aim to incubate strong and concrete collaborative relationships to advance our joint endeavor towards efficient and high-quality data collection for current and future public policy challenges.

### **Conference Overview**

Given the time-sensitive nature of ongoing data collection efforts, the conference was swiftly organized for mid-February. Despite this rapid timeline, over 300 people registered for the conference and more than 100 individuals representing over 40 trackers participated in the first two days of the conference. Moreover, a range of international institutions and agencies, including the EU, WHO, IMF, UN and ILO, participated in the conference. Many of them have their own policy tracking efforts and their participation raised awareness about the conference goals and provided valuable perspectives for working towards them.

The conference was structured to facilitate exchange of ideas and experiences across three days. The first day of the conference enabled trackers to share their knowledge and experiences accumulated over the past year and connect with each other as well as the broader public. They did so by providing overviews of their data collection methods, the challenges they face, and their outlooks and future plans. A Q&A session facilitated a further understanding of how data trackers have converged and diverged in their data collection efforts, including with regard to similarities in data coverage and taxonomy and gaps in data coverage.

On the second day, trackers met in a closed-door session to hone in on the challenges they have faced in collecting PHSM data and to discuss the ways in which cooperation and collaboration could help overcome them. The opening discussion focused on the challenges of developing a taxonomy to capture government responses to COVID-19. In particular, the trackers discussed which policies were most difficult to code for given taxonomies, how discrete categorization of policies can avoid overlap, and how to track



policies with exceptionally detailed conditions. In the following session the focus shifted to organizational strategies for collecting PHSM data. Different groups shared details on their data collection structures, e.g. some groups rely on paid research assistants, others rely on volunteer research assistants, and yet others on machine learning algorithms. The trackers then discussed common challenges relating to data cleaning and quality. These conversations were facilitated by the use of an interactive white board, which helped maximize the participation of different trackers for each of these topics.

These discussions laid the groundwork for the final session of the second day, and arguably the most important session of the conference. In this session, trackers actively brainstormed possibilities for collaboration along three different dimensions: taxonomy, organizational structures and research. In doing so, they considered the possible benefits and challenges for different types of cooperation as well as the concrete steps that would need to be taken for a given collaborative effort. This session represented an important step toward exploring and establishing flexible and sustainable dialogue and collaboration among different trackers.

During the third conference day, which, at the time of writing, has yet to take place, we aim to present the outcomes of the different sessions of the conference thus far, not as a final word on how cooperation can help different trackers overcome their common challenges, but to set the stage for future conversations and cooperative efforts. In what follows, we outline in greater detail what lessons we have learned thus far, to what extent current policy tracker efforts have met different stakeholder expectations, and in what ways collaboration and cooperation can help us gain traction to address not only the current pandemic, but future ones. The following lessons are accumulative facts that should not be taken as applicable to all, or any particular, tracking projects:

### **Lessons learned from comparing tracker methodologies and from the first year of data collection**

In bringing together many different PHSMs trackers, the conference enabled rich discussions encompassing a multitude of perspectives, which otherwise would have been difficult to foster. Despite heterogeneities in scope and methods, the participating trackers identified many similar challenges. These challenges broadly fell into five major categories: rapid project mobilization, project management (including volunteer retention), funding constraints, coordination between trackers, and data quality and completeness. Identifying solutions to these issues will enhance future planning and coordination for pandemic preparedness and response. In what follows, we provide more detail on each issue separately while fully recognizing their interconnectedness:



At the beginning of the pandemic, policy trackers experienced challenges in organizational mobilization. In many cases, COVID-19 measures directly impinged on how tracking efforts could be organized, forcing many to forgo in-person coordination in favor of virtual setups. More significantly, the confusion around the pandemic and the overwhelming influx of PHSM data during the early acceleration of COVID-19 transmission meant that trackers often developed PHSM taxonomies inductively and inferentially. We hope that lessons learned from mobilizing and organizing PHSM data collection efforts for COVID-19 can help those responding to future pandemics.

Another major issue highlighted by multiple trackers was volunteer retention and fluctuations in data entry over time. While multiple trackers benefited enormously from an outpouring of volunteer energy early in the pandemic, many trackers experienced drop off and decreased participation from their volunteers as the pandemic progressed, for a variety of reasons including decreased financial capacity, increased salience of alternative priorities (e.g., work, personal) and decreased motivation. Indeed, the financial ability of volunteers to continue with these efforts has dropped considerably over time, especially for residents of the Global South. Moreover, as many trackers' volunteers were college or graduate students, their ability to contribute to the data collection effort waxed and waned over the academic semesters. Meanwhile, as the virus spread and it became clear that the PHSMs data collection would be a marathon with an uncertain end date rather than a sprint, maintaining motivation among volunteers for the long haul has proved to be challenging. For all these reasons and more, trackers often experienced high turnover and efforts were made to address these motivational and retainment issues through incentives such as monetary compensation, academic exposure, professional development support, and community building. Sharing these motivational strategies provided trackers with opportunities to adjust their recruitment, training and motivational efforts to ensure continued high quality data collection.

Limited funding was another major challenge, resulting in constraints on trackers' time, human resources, and analytic capacity. Indeed, for many trackers, the reliance on volunteers for collecting data was often not a deliberate choice, but a work-around given a lack of funding. While some trackers are able to pay their data collectors, trackers that have delivered world-wide PHSMs coverage have found it difficult to do so without the help of volunteers. For some trackers, funding was only secured for a relatively short period of time which resulted in discontinuation of data collection despite a high number of data end-users and many trackers in the Global South found it particularly difficult to secure funding. If PHSM trackers are to be a lasting and integral part of future pandemic preparedness and response, a sustainable funding mechanism is required to ensure not



only that trackers can be maintained as a public good, but that as much as possible, the data collectors who do the on-the-ground work and have accumulated substantial and valuable expertise along the way are compensated fairly for their efforts.

The emergency need for PHSM data meanwhile led to the launch of several initiatives, which, at the beginning, worked on collecting data simultaneously without knowledge of the existence of other efforts. This led to many parallel efforts and as a consequence, the need for greater coordination and communication among them. While a diversity of approaches in tracking PHSMs is very welcome, this must be balanced against considerations of maximal data coverage, completeness and quality. The PSHM network offers trackers opportunities to stay connected, coordinate tasks and share resources.

Finally, trackers encountered trade-offs between releasing and/or publishing data earlier and taking more time to ensure data quality and completeness. Overall, all trackers had a similar goal of providing open-source COVID-19 PHSM data to all for use in research, policymaking, and pandemic prevention. Moreover, for trackers that relied on volunteers, retention would likely have been much lower had PHSMs datasets been made available only for private use. Through engagement with user feedback and subsequent adaptations, trackers should be able to continuously improve their data quality and methodologies while recognizing that to ensure a rapid response to the pandemic, perfect data quality cannot be fully guaranteed.

In identifying these key issues in collecting PHSMs data for the COVID-19 pandemic, we hope that we can highlight opportunities to develop a sustainable PHSM tracker ecosystem which is ready to support future pandemic preparedness and response when required. In order to ensure that the collected data is useful for subsequent analysis, however, it is equally important to consider the various stakeholders who may be interested in such data and what their needs and expectations may be. We turn to this issue in the next section.

### **Data on PHSMs: Stakeholder Expectations**

Beyond the tremendous organizational effort required to collect PHSMs data, policy trackers must also be sensitive to the needs of the various stakeholders and users of the data that they produce. In what follows, we outline what we have learned about the expectations and needs of different data users, including researchers and data scientists, policymakers and the general public. However, we emphasize that these lessons are far from static. Given that government responses to the pandemic are continuously evolving,



policy trackers must and will adapt to the needs of their end users to ensure that their data remains relevant for assessing the spread of the pandemic and ultimately combatting its social, economic and health effects.

### *Researchers and Data Scientists*

To date, researchers and data scientists are among the main PHSM data users. One of their major objectives over the past year has been to assess the effectiveness of COVID-19 mitigation measures (e.g., their impact on the effective reproductive number,  $R(t)$ ) in order to inform regional or national governments in guiding their decision-making and public policy. Data scientists have further used PHSMs data to forward inference in many other research areas, including the assessment of the social impacts of COVID-19 measures, e.g., on human rights, disadvantaged minority populations, domestic violence; their wider public health impact, e.g., on health equity, women's health, mental health, suicide rates; and their environmental impact, e.g., greenhouse gas emission and pandemic-induced environmental pollution. To accomplish these goals, data scientists have multi-faceted technical, ontological and pragmatic needs.

We identified seven major technical expectations of data scientists with regard to PHSMs data. In particular, the data need to be: i) easily and equitably accessible (i.e. open access); ii) ready to be used for visualization, modelling and machine learning purposes (i.e. structured and using a consistent taxonomy); iii) usable in different programming languages (i.e. data interoperability); iv) understandable (i.e. a clear codebook or glossary of codes is provided), v) transparent (i.e. methodology for data collection, coding, validation and curation is clearly defined); vi) comprehensive (i.e. enabling the users to filter the data they need while providing an exhaustive overview of the situation, and vii) meaningful (i.e. of relevance to the issue under investigation and providing an opportunity to impact practice). The supported data formats (e.g., csv, API, JSON, html) might also influence data scientists in their choice of a dataset to use.

Data scientists also have common expectations with regards to the data ontology, different dimensions of which may be more or less salient depending on their research goals or questions. These include the following dimensions, all of which are often considered by data scientists in forwarding their research questions: i) level of geographic specificity; PHSM data at the subnational level (i.e. the smallest geographical unit for which case data is available) is often important especially when governments employ a decentralized response to the pandemic; ii) time specificity; accurate information as to when a COVID-19 policy is in place can be relevant, (start and end date); iii) population compliance; iv) whether policies are legally-binding or recommended; iv) policy



communication strategies; how policies are communicated can affect how well they are implemented or complied with.

Last, aside from technical and ontological expectations, researchers and data scientists also place high value on real-time PHSMs data as it enables real-time data updates to calibrate models, which increases the accuracy of (local) predictions, and therefore enables critical projections of intervention scenarios for mitigating the impact of the pandemic.

### *Policymakers*

Policymakers represent another important target audience for PHSMs trackers. In order to make informed policy decisions, it is important for policymakers to know what policies are implemented in other countries, how well the population complies with PHSMs, what the costs of an implemented measure will be (i.e., impact on the society, economy, sometimes environment), and ultimately, which measure(s) work(s) best (i.e., their effectiveness in reducing the spread of disease, see above). Therefore, policymakers need data on both PHSMs and COVID-19 epidemiology that are i) clearly but succinctly defined and explained, ii) easily comparable across countries; iii) presented via an interactive user-friendly tool (e.g., dashboard) enabling meaningful visualization (with export option) to promote an accurate understanding and interpretation of the relationships implied by data.

In order to make sense of PHSMs data, it is often important for policymakers to have additional contextual information. For example, some countries may adopt some policies and not others because of institutional or political constraints; pre-existing levels of socio-economic inequality may affect how compliant various populations are to a given policy; or secondary factors such as sensitivity to environmental costs and psychological wellbeing may affect the drivers and effects of COVID-19 policymaking. While such data is often beyond the scope of a policy tracker's original data collection efforts, to the extent that it can present its data in tandem with these other sources, the more it can aid policymakers in their analyses. More generally, policy trackers should provide technical and scientific support in order to ensure a mutual understanding of the collected data and foster data-driven policymaking.

### *General Public*

Finally, the general public also is an important PHSM data user. The public generally expects to receive meaningful, accurate, free, open-access, and real-time data on local



and global situations for a variety of reasons, including to better: i) understand the context of their government's decision-making; ii) evaluate how governments around the world have been handling the pandemic iii) share and communicate information about how various governments around the world have been dealing with the COVID-19 pandemic. This audience is primarily looking for an interactive user-friendly online tool that enables quick and easy access to useful information on PHSM with a broad geographic coverage.

Policy trackers do not collect PHSMs data in a social vacuum. Who uses the data they collect, why they use the data and how they use the data are all important considerations for policy trackers to consider. The more policy trackers and their end users communicate and engage in mutual feedback, the more data can be used to understand the epidemiology and address the impacts of the COVID-19 pandemic.

### **A framework for collaborations between trackers**

The conference has not only allowed an amazing diversity and variety of policy trackers and stakeholders the opportunity to engage in discussion about common challenges but to actively discuss how cooperation may help overcome them. Given the novelty of the PHSM tracking efforts around the world, its unprecedented scale and its high stake in informing evidence-based policymaking, we recognize all cooperative avenues between trackers as innovative and equally valuable. To that end, participating trackers have spent the three weeks between the first two conference days and the final one to set a framework for cooperation which is open, living, dynamic and action-oriented.

In developing this framework, we seek to encourage trackers to connect to and build upon one another to form a multi-faceted ecosystem. Different trackers should feel empowered to create and attempt collaborative strategies that could best serve their specific organizational, developmental and research needs but with an eye toward the public good of PHSM data provision. As such, this framework accommodates and encourages all kinds of collaborations regardless of project scale.

By fostering transparent communication, flexible collaboration, and community-building, we hope this framework will open the doors to mutual input, feedback, support and trust so as to advance the provision of real-time, high-quality, complete PHSM data and forward collective understanding of the COVID-19 pandemic. Beyond advancing the evolution of available COVID-19 PHSMs data, it is also our hope that this framework can lay the foundation for a cooperative ecosystem model with the potential to generalize to broader contexts when shared policy challenges call for global collective responses.



We summarize the collaborative efforts made in the past few weeks by providing greater detail about how the four core principles of our envisioned cooperative ecosystem – open, living, dynamic and action-oriented -- can support the provision of accurate, complete and timely COVID-19 PHSMs data. In doing so, we also discuss the successes, challenges, and limitations of our collaborative efforts.

### **\* Open**

With more than 40 trackers around the world joining, the policy trackers participating in the conference necessarily have diverse organizational needs and research interests. By opening lines of communication between all policy trackers, we can identify individual blind spots, share common issues and solutions, and exchange real-time information on the latest knowledge relevant to tracking PHSMs data. We have built a mechanism for doing so by inviting participating PHSM trackers to join the conference's Slack communications platform. Each tracker owns and hosts an independent channel for disseminating their work, exchanging information, resources and opportunities, teaming up for tasks, asking questions, inviting feedback and initiating collaborative projects. This represents just a first step toward building an open community; we anticipate that future steps will rely on experimentation and creativity to build this community, but we are certain we will meet the challenge.

Thus far, fruits of the first PHSM conference, including presentations and notes from the brainstorming sessions (Miro board) were shared on Slack. A dedicated shared discussion channel has been created and representatives of trackers can also message each other directly.

### **\* Living**

Continued interaction and communication are necessary to sustain any collaborative enterprise. To that end, we plan to organize and host bi-monthly research seminars to keep the conversation going and to construct a living ecosystem. The bi-monthly seminar is a necessary expansion which takes us beyond the conference structure into a networked one. It will function as a forum for scientific exchange, which allows all trackers, regardless of size, to share updates, present work, and connect with other researchers. They are essential for nurturing a close academic community, offering each other continuous support and feedback in collecting PHSMs data more specifically and advancing each tracker's research journey more generally.



We are also planning a second conference this summer which will focus on sharing and disseminating PHSM-related research, analyses and outputs. The second conference will offer tracker partners milestone events to build towards.

### \* **Dynamic**

By building a dynamic ecosystem, the framework highlights the importance of responsive and adaptive data collection. In this way, different policy trackers should feel free to co-design joint endeavors which reflect their individual and collective interests, but with the ultimate goal of improving data collection efficiency and data quality of COVID-19 government responses at the forefront of their efforts. As a first step toward outlining the initial contours of this ecosystem, we have designed a follow-up survey for participating trackers to collect information on the conference's utility, strength, and limitations. We will take conference participants' feedback fully onboard when designing the second and future PHSM conference to facilitate its evolution.

Dynamic also means that trackers are taking a pluralist approach to shaping their future. Having data user's needs in mind, trackers welcome contributions from various stakeholders, including inquiries, indicator suggestions, analysis applications, and funding and other resource support. The conference is organizing a dedicated media Q & A session to communicate the importance of our work, as well as the challenges and difficulties trackers are facing, to academic and policy communities, the public and funders. The PHSMs Network will continue to organize various events to increase the exposure of trackers and help them connect with stakeholders. Finally, interested policy trackers are also working towards producing a short article summarizing these collaborative efforts to further disseminate their findings and reflections and engage with the larger global community.

### \* **Action-oriented**

Participating trackers agree that it is important to go beyond discussion and the sharing of ideas towards developing action-oriented plans. In light of this, trackers have piloted various ways of furthering cooperation.

Emerging cooperative efforts undertaken by some trackers include, in no particular order:

- Convening new joint projects, such as that to track not just the “existence” of policy, but the “absence” of policies, and its impact on the pandemic, as well as its broader social, economic and environmental implications.



- Exploring integrating datasets to ensure data products are actively used even if collection concludes due to significant challenges such as funding shortages.
- Co-designing vaccination policy measures and sharing tasks while preparing for evolving pandemic situation and policy focuses
- Building alternative indexes by pooling indicators across different trackers to offer data users more analytical tools and to validate and improve current data quality.
- Mapping taxonomies to help data users mix-and-match data from multiple datasets and to enhance data transparency. This effort will enhance cross-tracker comparability, facilitate data triangulation, and promote more sophisticated analytical applications.

This above list is not exhaustive, and is growing day by day. This list intends to showcase possible cooperative avenues and serves as an invitation for the first step from more trackers.

We emphasize here that all the routes are equally valuable and important, and will jointly contribute to a growing, reliable, and responsible body of collective knowledge. By fostering greater conversation, connection, and community we are confident that we will be able to achieve more together, in whatever form that may take, than we would have done alone.



**The spirit of this document and its proposed framework for cooperation are supported by the undersigned policy trackers, in alphabetical order:**

- AI-enhanced Open Database & Smart System Society
- ACAPS
- Canadian Institute for Health Information (CIHI)
- Complexity Science Hub COVID-19 Control Strategies List (CCCSL)
- CoronaNet Research Project
- COVID-19 Policy Response Portal (CPR) at the International Food Policy Research Institute (IFPRI)
- COVID-19 State Policy Project at the University of Washington
- COVID-19 (Region & City) Policy Tracker at the School of Government, Peking University
- Health Intervention Tracking for COVID-19 (HIT-COVID) tracker at the Johns Hopkins Bloomberg School of Public Health
- Oxford COVID-19 Government Response Tracker (OxCGRT) at the Blavatnik School of Government
- Oxford Supertracker (OxST) at the Department of Social Policy and Intervention, University of Oxford
- Response2covid19 at IAE Paris-Université Paris I Panthéon-Sorbonne
- Worldwide Non-pharmaceutical Interventions Tracker for COVID-19 (WNTRAC) at IBM Research