Supporting the COVID Response with Solutions from Science

January 2023 marks the 36th month following the World Health Organization's declaration of COVID-19 as a public health emergency of international concern. Recent and upcoming events show how far the Philippines has come in terms of its response: emerging from what has been referred to as the world's longest lockdown[1], crowds converging in public spaces and participating in mass gatherings demonstrate how people are adapting to COVID-19 as a reality of daily life.

The journey to this milestone has not been simple nor straightforward. In addition to the thousands of health care workers who provide frontline services, a multi-disciplinary group of scientists continues to work tirelessly in the background, dedicating their efforts to gain a better understanding of COVID, particularly in the Philippine context. For example:

1. The Philippines has contributed over 12,000 sequences to the Global Initiative on Sharing Avian Influenza Data (GISAID) platform.[2] This resource provides open access to genomic data on coronavirus and allows real-time surveillance to monitor the emergence of new COVID-19 variants globally.
2. The FASSSTER (Feasibility Analysis of Syndromic Surveillance Using Spatio-Temporal Epidemiological Modeler) team of computer and data scientists, mathematical and economics modelers, public health and epidemiological experts provides scenario-based projections for COVID-19 using a disease surveillance and modeling platform.[3] The platform outputs guide decision making by national and local government agencies for interventions such as community quarantines, granular lockdowns, and vaccination targets.
3. The Department of Science and Technology is supporting more than 60 projects and studies through its ARCHER (Addressing and Responding to COVID-19 Through Health Research) program. Aside from the usual focus on diagnosis, treatment and prevention, work is also being done on a broad range of topics, such as AI/ICT-driven prediction models and COVID behavior studies.[4]

Even as scientists struggled to provide information and technology solutions to guide a rational response, governments followed their advice to varying degrees, sometimes resulting in confusing messages. The pandemic has truly highlighted the "synergies as well as the tensions between science and policy."[5]

Yin and colleagues explored the connection between science and policy in their 2021 paper published in Science. Matching the scientific references in policy documents obtained from a large-scale database with another publication and citation database provided the team with a "distinct opportunity to examine the role of science in the global policy response to COVID-19."

They found that policy documents in the COVID-19 pandemic substantially access recent, peer-reviewed, and high-impact science. However, national policy approaches have varied greatly, with some countries being actively antagonistic to scientific advice.[6]

In a perfect world, science and government should work closely together to formulate evidence-based policy. Bicchieri et al. found the largest gaps between trust in science and trust in government in Colombia and Mexico; in contrast, the smallest were in Germany and South Korea, where policy and science were more aligned. They note that "country-level trust in science, and not in government, becomes a strong predictor of compliance."[7]

According to the United Nations Department of Economic and Social Affairs, the pandemic response requires a more collaborative relationship between scientists and policymakers. Their recommendations include strengthened use of science in policy, ensuring "open science," universal access to solutions, and a faster response to scientific findings. Of note, the need for building public trust in science is also emphasized.[8]

For science to be able to provide solutions to support the COVID response, it must communicate, and it must be heard.

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