ROBERT GROVES, MARY T. BASSETT, EMILY P. BACKES, AND MALVERN CHIWESHE

Informing Decisionmakers in Real Time

To offer evidence to policymakers during the COVID-19 pandemic, the National Academies formed an unprecedented network of social science experts who fielded questions and offered advice.

Near the end of April 2020, Alondra Nelson, then the president of the Social Science Research Council, wrote an essay announcing the launch of Council "initiatives that propose answers to the question, what is society after the coronavirus pandemic?" Considering unprecedented economic uncertainty, social inequality, and upheavals to education and work in the early months of the pandemic, Nelson challenged the research community to reconsider the role of the social sciences in informing a response and argued for a new path forward. "As we ask what kind of society we want after this pandemic wave crests," she wrote, "inherent in this question for scholars is the type of robust social research we will need to both apprehend and construct these renewed social communities."

For many, the COVID-19 pandemic was an object lesson in the need for social science to develop the ability to offer practical guidance and solutions for decisionmakers at all levels. Although the foundations for social, behavioral, and economic research were well established, capacity for responding to the specific challenges of the pandemic—for example, how to encourage social distancing, how to address mental health challenges facing young people, or how to communicate scientific evidence in a panicked information environment—had to be built and scaled on the fly, while the scientific and medical understanding of the virus was evolving. As National Academies of Sciences, Engineering, and Medicine (NASEM) committee members and support staff, we were involved in mobilizing NASEM's first

efforts to respond to the multidimensional demands of the pandemic from May 2020 to May 2023. The experience of standing up the Societal Experts Action Network showed us some of the extraordinary gains that can be realized by connecting decisionmakers at state, local, tribal, territorial, and federal levels to social, behavioral, and economic experts.

In March 2020, as the looming public health emergency became apparent, NASEM, with support from the US Department of Health and Human Services' Office of the Assistant Secretary for Preparedness and Response, established the Standing Committee on Emerging Infectious Diseases and 21st Century Health Threats to inform the federal government on critical science and policy issues related to COVID-19. The standing committee immediately began addressing questions from federal agencies and staff, issuing advice in an original format called the rapid expert consultation (REC). Building on 150 years of advising the nation, NASEM was pushed by the pandemic to become more agile in connecting, translating, and disseminating scientific evidence to policymakers. In short: the REC broke the traditional consensus study mold.

Soon it became clear that a separate mechanism to advise on questions related to social, behavioral, and economic sciences was also needed. The scope of questions facing the country's COVID-19 response quickly went beyond the charge and expertise of the standing committee, which was meant to focus on the scientific and public health aspects of the crisis. For example, new information about the surface stability of SARS-CoV-2 and

the effectiveness of fabric masks in preventing transmission of the virus led to questions about how to communicate risks to the public, how to encourage protective behaviors, and how to interpret case counts and hospitalization data to issue advice.

In response, the National Science Foundation (NSF) proposed the creation of a complementary group to provide decisionmakers at all levels with the best available evidence from the social sciences to inform pandemic policymaking. In May 2020, with funding from NSF and additional support from the Alfred P. Sloan Foundation and the David and Lucile Packard Foundation, NASEM established the Societal Experts Action Network (SEAN) to connect "decisionmakers grappling with difficult issues to the evidence, trends, and expert guidance that can help them lead their communities and speed their recovery." We chose to build a network because of the widespread recognition that no one small group of social scientists would have the expertise or the bandwidth to answer all the questions facing decisionmakers. What was needed was a structure that enabled an ongoing feedback loop between researchers and decisionmakers. This structure would foster the integration of evidence, research, and advice in real time, which broke with NASEM's traditional form of aggregating expert guidance over lengthier periods.

In its first phase, SEAN's executive committee set about building a network that could both gather and disseminate knowledge. To start, we brought in organizations of decisionmakers—including the National Association of Counties, the National League of Cities, the International City/County Management Association, and the National Conference of State Legislatures—to solicit their questions. Then we added capacity to the network by inviting social and behavioral organizations—like the National Bureau of Economic Research, the National Hazards Center at the University of Colorado Boulder, the Kaiser Family Foundation, the National Opinion Research Center at the University of Chicago, The Policy Lab at Brown University, and Testing for America—to join and respond to questions and disseminate guidance. In this way, SEAN connected teams of experts with evidence and answers to leaders and communities looking for advice.

With network construction underway, SEAN staff and members turned their attention to the next phase of work: gathering queries, drafting responses, and disseminating guidance. We wanted to offer timely, evidence-based, and solutions-oriented guidance that was directly responsive to decisionmakers' needs. To do that, SEAN had to be very intentional when soliciting questions. Centering the real needs of decisionmakers meant that the questions researchers thought would be the most important did not take precedence—an inversion of the usual expert-driven practice.

Once a question was selected, SEAN staff asked the network to check whether existing social science research findings provided guidance, and a team of social scientists (who were willing to drop their other work) assembled to help craft evidence-based answers. The response needed to be prepared and reviewed quickly. To customize the process for each question, we developed a variety of templates, including RECs, interactive web summaries, policy briefs, webinars, symposiums, and stakeholder convenings. Throughout the process of scoping questions, drafting guidance, and disseminating advice, we sought input on the intention, audience, communication goals, and format from SEAN's stakeholder communities. This feedback-loop structure helped us shift focus as the pandemic evolved.

Portrait of a network in action

SEAN's portfolio of work around COVID-19 testing on college and university campuses provides an illustration of the network in action. During the summer of 2020, we received questions about best practices for COVID-19 testing and mitigation from the Association of Independent Colleges and Universities in Massachusetts, the Association of American Universities, the American Association of Colleges and Universities, and the David and Lucile Packard Foundation. After getting approval from NASEM's governing board, SEAN commenced efforts to provide rapid, actionable guidance on the issue. In this case, our approach was threefold: first, judging the existing social science research findings related to the question; second, convening experts and decisionmakers virtually to share experience and emerging lessons as quickly as possible; and third, developing a REC that could be shared widely. The first two steps were driven by SEAN's networked structure, and the final step was enabled by NASEM's expedited processes for REC review, revision, and publication.

In October 2020, SEAN hosted virtual gatherings to bring together higher education leaders and social, behavioral, and economic (SBE) experts to discuss COVID-19 testing and mitigation approaches on campuses. Over the course of four webinars, campus decisionmakers and SBE researchers discussed the various COVID-19 pre-arrival, arrival, and post-arrival testing strategies that colleges and universities were using. Public health leaders, SBE researchers, university and college administrators and presidents, leaders of university and college COVID-19 response teams, and delegates from student, professional, and nonprofit organizations jointly considered evolving challenges with testing strategies, including the way testing programs intersected with local public health responses. The group discussed trade-offs with a keen awareness of how situations and contexts could change. "I think COVID has taught us all to be humble and know that COVID is in charge, and we are not," the University of Maine System's chancellor Dan Malloy said.

Stakeholders from public and private colleges and universities of various sizes, geographic locations, student

> ## We chose to build a network because of the widespread recognition that no one small group of social scientists would have the expertise or the bandwidth to answer all the questions facing decisionmakers.

profiles, and reopening statuses presented examples during the webinars. And an online questionnaire was sent to colleges and universities that were unable to participate in the virtual sessions. This shared information revealed a range of testing challenges and responses, with significant variation in the timing, frequency, surveillance, and costs of testing strategies employed on campuses. Such diversity emphasized a key lesson: one size does not fit all. The best COVID-19 testing strategies were the ones that matched the needs and circumstances of the particular institution. The degree to which programming could be offered remotely or in person; the redesign of residence halls and dining facilities; students' exposure to local community transmission; and other geographic and operational conditions determined the design of testing protocols.

The "COVID-19 Testing Strategies for Colleges and Universities" REC was published in December 2020, in time to inform spring semester testing strategies. The REC explained that, on the whole, fast and frequent testing, combined with other measures including contact tracing, rapid isolation of those who tested positive for the virus and quarantine of those exposed, masking, physical distancing, and communication about all these measures, was highly effective in limiting community spread of the virus. Some of these conclusions drew on lessons from earlier SEAN activities in the fall of 2020.

As part of a multipronged dissemination approach, SEAN worked with intermediary organizations, participants from the virtual sessions, and other key stakeholders to disseminate the REC and two additional products—an interactive web summary and a one-page policy brief—aimed at putting the scientific evidence directly into the hands of decisionmakers. SEAN also held a webinar shortly after the REC's release in February 2021 to share the findings and to explore lessons learned in adoption and implementation. The strength of the network led to two sets of follow-on convenings on the subject of testing protocols as the epidemic and community public health guidance evolved.

Later that year, university decisionmakers told us they needed a place to share lessons learned as the pandemic continued to morph. In July and August 2021, SEAN began a second set of events we called "peer-to-peer conversations": virtual conversations among university decisionmakers

to discuss testing protocols; vaccination and testing requirements and promotion strategies; wastewater testing; data reporting and privacy; considerations for international students; and isolation protocols for those with positive COVID-19 tests. These conversations were so successful that the network was reconvened in the summer of 2023 to discuss how to adapt college and university public health infrastructure after the rescission of the federal public health emergency order. Campus leaders agreed that responsiveness, flexibility, and epidemiological data to guide decisions will be crucial for keeping their communities safe this fall. What started as an attempt to provide timely guidance had become a truly engaged conversation driven by decisionmakers and experts together.

Building a model for future impact

Since 2020, SEAN has provided guidance and briefings to governors' offices, county and state officials, public health departments, professional organizations, and universities. Over the course of three years—slightly longer than the time for a single traditional NASEM consensus study—SEAN has produced 18 RECs, hosted 23 webinars, hosted a public symposium on social science for decisionmaking, convened stakeholders implementing wastewater-based infectious disease surveillance in Washington State, and contributed to one consensus study report on COVID-19 and correctional facilities. SEAN reports have been downloaded by more than 35,000 readers from all 50 states, 136 countries, and all economic sectors. Over 8,700 people have attended SEAN webinars, submitting more than 1,500 questions. SEAN's work has been cited in over 90 journal articles and referenced over 40 time in a range of media outlets, including National Public Radio.

SEAN's effectiveness confirms the importance of building standing mechanisms to connect networks of decisionmakers and SBE science experts. We think that SEAN's achievements can be largely attributed to its unique process of developing advice in response to questions received directly from state and local decisionmakers, which ensured that its outputs were relevant. Furthermore, NASEM's ability to mobilize expertise across disciplines and sectors and apply rigorous external peer review (with

an added emphasis on timeliness) allowed SEAN to produce high-quality guidance quickly enough to be usable. The process itself had further benefits because it created strong reciprocal relationships between scientists and state and local decisionmakers, building a foundation of trust for future work.

Another factor contributing to SEAN's success has been the availability of funding, matched by the institutional infrastructure and support at NASEM. Importantly, in response to COVID-19, there has been an explosion of SBE research, much of it funded by the NSF through RAPID grants, which initially supported SEAN. The speed with which these grants were awarded—in less than a month, compared to the typical 9–12 months—meant that research could be done quickly in response to the emergency.

With sufficient resources to support the staff, SEAN was able to leverage NASEM's existing procedures for report production, extensive network of volunteers, and internal systems to sustain its activities. The support within NASEM

> What started as an attempt to provide timely guidance had become a truly engaged conversation driven by decisionmakers and experts together.

allowed for RECs to be produced in four to eight weeks, in stark contrast with more traditional NASEM products like the consensus study. The willingness of NASEM to adapt processes to respond rapidly further allowed SEAN to function with a notable nimbleness.

While such investments are significant first steps, our experience with SEAN has shown there is much work to be done to forge stronger, more adaptive, and long-standing connections between social scientists and decisionmakers. We think that much can be learned from ongoing state-level examples connecting scientists to policymakers, such as the North Carolina Collaboratory, the Missouri Science & Technology Policy Initiative, and the Research-to-Policy Collaboration.

We see three areas where investment could improve the impact of social science research. First, although social science literature is national in focus, taking a local view could result in quicker uptake of recommendations. Research partnerships that explore local problems and solutions are of great importance for evidence-informed policymaking, but resources for state and local SBE efforts are few and far

between. Building on the models of state engagement could expand the capacity of the social sciences to inform policy.

Second, investing in maintaining relationships between decisionmakers and researchers can pay off in the longer term. This can be done through virtual and in-person convenings and peer-to-peer exchanges as SEAN has hosted or with broader efforts like conferences and symposia arranged by NASEM and other government and academic research organizations. Today, academic incentive structures rarely reward the effort to develop, maintain, and sustain such relationships. But developing a standing capacity for communication can lay the groundwork and develop the necessary trust for rapid response in emergencies.

Finally, improving knowledge on applied problems can make research more relevant. Social science research has provided greater insight into the causes of societal problems than into their solutions. This is a problem because decisionmakers are often faced with limited budgets and must make compromises on areas of investment, but little guidance is available on resource allocation and the timing of interventions. In particular, supporting SBE fields of inquiry that are just emerging (e.g., disaster research, disinformation and misinformation, convergent science, or implementation science) could help inform decisionmaking in the face of uncertainty.

The SEAN model is a proof of concept that demonstrates what can be achieved when adequate investment supports an infrastructure for responsive, agile, decision-driven social science that bridges the gap between decisionmakers and research practitioners. SEAN has begun to adapt its model and network to be responsive to other social issues, including climate change, in conjunction with the National Climate Task Force's Interagency Working Groups on Drought, Flood, Coastal, Extreme Heat, and Wildfire Resilience. Investing in relationships and networks to build and fortify the bridge now will make it easier to cross when the next crisis strikes.

Robert M. Groves is the Gerard J. Campbell, SJ Professor in the Department of Mathematics and Statistics as well as the Department of Sociology at Georgetown University, where he has served as executive vice president and provost since 2012. He serves as cochair of SEAN. Mary T. Bassett is director of the FXB Center for Health and Human Rights at Harvard University and the FXB Professor of the Practice of Health and Human Rights at the Harvard T. H. Chan School of Public Health. She serves as cochair of SEAN. Emily P. Backes is deputy board director of the Committee on Law and Justice and the Board on Children, Youth, and Families at the National Academies of Sciences, Engineering, and Medicine (NASEM). She directed SEAN from May 2020 to May 2023. Malvern Chiweshe is a program officer with SEAN at NASEM.