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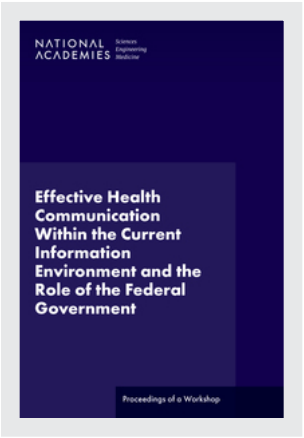

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CONTRIBUTORS

Erin Hammers Forstag and Holly G. Rhodes, Rapporteurs; Board on Science Education; Division of Behavioral and Social Sciences and Education; National Academies of Sciences, Engineering, and Medicine

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Effective Health Communication Within the Current Information Environment and the Role of the Federal Government

Erin Hammers Forstag and Holly G. Rhodes, *Rapporteurs*

Board on Science Education

Division of Behavioral and Social Sciences and Education

Proceedings of a Workshop

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PLANNING COMMITTEE FOR EFFECTIVE HEALTH COMMUNICATION WITHIN THE CURRENT INFORMATION ENVIRONMENT AND THE ROLE OF THE FEDERAL GOVERNMENT

WILLIAM K. HALLMAN (*Chair*), Professor and Chair, Department of Human Ecology, Rutgers University
ELLA M. GREENE-MOTON, Administrator of the Community Based Organization Partners and Community Ethics Review Board, Flint, Michigan
HILARY KARASZ, Deputy Communications Director, Public Health — Seattle & King County
MAIMUNA (MAIA) MAJUMDER, Assistant Professor, Computational Health Informatics Program, Boston Children's Hospital, and Department of Pediatrics, Harvard Medical School
DONALD P. MOYNIHAN, McCourt Chair of Public Policy, Georgetown University
SHARON NATANBLUT, Principal, Natanblut Strategies
JEFF NIEDERDEPPE, Senior Associate Dean, Cornell Jeb E. Brooks School of Public Policy, Cornell University
KATHERINE OGNYANOVA, Associate Professor, School of Communication & Information, Rutgers University
AMELIE RAMIREZ,[1] Director, Salud America!, and Professor of Epidemiology and Biostatistics, The University of Texas Health Science Center at San Antonio

Staff

HOLLY RHODES, *Study Director*, Board on Science Education
TIFFANY TAYLOR, *Program Officer,* Board on Science Education
LAUREN RYAN, *Senior Program Assistant*, Board on Science Education
HEIDI SCHWEINGRUBER, *Director*, Board on Science Education

Consultants

STACEY BAKER, S. L. Baker, LLC

[1] Member, National Academy of Sciences

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Reviewers

This Proceedings of a Workshop was reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise. The purpose of this independent review is to provide candid and critical comments that will assist the National Academies of Sciences, Engineering, and Medicine in making each published proceedings as sound as possible and to ensure that it meets the institutional standards for quality, objectivity, evidence, and responsiveness to the charge. The review comments and draft manuscript remain confidential to protect the integrity of the process.

We thank the following individual for his review of this proceedings:

CHRISTOPHER VOEGELI, Centers for Disease Control and Prevention Communications Office

We also thank staff member **ADRIAN WOLFBERG** for reading and providing helpful comments on this manuscript.

Although the reviewer listed above provided many constructive comments and suggestions, he was not asked to endorse the content of the proceedings, nor did he see the final draft before its release. The review of this proceedings was overseen by **STEPHEN H. LINDER**, University of Texas School of Public Health. He was responsible for making certain that an independent examination of this proceedings was carried out in accordance with standards of the National Academies and that all review comments were carefully considered. Responsibility for the final content rests entirely with the rapporteurs and the National Academies.

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Acknowledgments

This proceedings has been prepared by the workshop rapporteurs as a factual summary of what occurred at the workshop. The planning committee's role was limited to planning and convening the workshop. The views contained in the proceedings are those of individual workshop participants and do not necessarily represent the views of all workshop participants, the planning committee, or the National Academies of Sciences, Engineering, and Medicine.

We wish to express our gratitude to the members of the planning committee for their expertise and the time that they volunteered to create a full and engaging agenda. We also thank the speakers and panelists for their insights and contributions to the rich discussions at the workshop.

We want to thank our colleagues working in federal health communication who were kind enough to share their own thoughts with members of the planning committee and staff to inform the development of the agenda—Alberta Becenti, Wen-Ying Sylvia Chou, A. Rani Elwy, Stefanie Friedhoff, Emily Haas, Jessica Kolis, Elizabeth Maguire, and Christopher Voegeli. We especially want to thank Kyla Fullenwider and Carolyn Greene, who were generous with their time and insights over the course of the planning process. We also want to thank the participants at this workshop, most of whom were public servants, not only for attending and enriching the discussions, but also for their service to our nation to improve the health and well-being of all Americans.

Finally, we wish to thank the Robert Wood Johnson Foundation, which provided the support to make this event possible.

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Contents

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Effective Health Communication Within the Current Information Environment and the Role of the Federal of ...

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Effective Health Communication Within the Current Information Environment and the Role of the Federal of ...

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Boxes, Figures, and Tables

BOXES

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Effective Health Communication Within the Current Information Environment and the Role of the Federal of ...

FIGURES

TABLES

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Acronyms and Abbreviations

AHRQ	Agency for Healthcare Research and Quality
CDC	Centers for Disease Control and Prevention
CPBR	community-based participatory research
EU	European Union
FDA	U.S. Food and Drug Administration
FQHC	Federally Qualified Health Center
GDPR	General Data Protection Regulation
NIH	National Institutes of Health
OECD	Organisation for Economic Co-operation and Development

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Introduction

On March 20 and 21, 2023, the Board on Science Education at the National Academies of Sciences, Engineering, and Medicine hosted a workshop titled Effective Health Communication within the Current Information Environment and the Role of the Federal Government. Workshop speakers and participants, a majority of whom were working in government agencies in federal health communication or leadership positions, joined both in person in Washington, D.C., as well as virtually to consider ways to enhance capacity for effective health communication in the federal government. A planning committee appointed by the National Academies planned the workshop in accordance with a Statement of Task (Box 1-1), with the goals of:

- Exploring the current health information environment and other forces that affect federal health communication;
- Examining the goals and roles of federal health agencies within this information environment;
- Identifying concrete steps for building capacities needed across the U.S. government to support effective health communication moving forward; and
- Identifying ways for the federal government to keep current on the ever-evolving health information environment through research, coordinated learning activities, and/or communities of practice.

"The overall goal of effective health communications is to protect and improve the public health," stated William Hallman, Professor and Chair of

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BOX 1-1
Statement of Task

The National Academies Board on Science Education proposes to hold a workshop to explore the current health information environment as it pertains to public trust and behavior change, how federal health agencies can communicate effectively within the current information environment, and what is needed to support effective health communication moving forward.

Key questions discussed at the workshop will be:

1. What does the current health information environment look like? What forces are shaping it? How does trust and mistrust form online and through practices of sharing health information?
2. What roles do federal agencies currently play in providing health information and helping people navigate misinformation? How do they interface with each other and other providers of health information including trusted community-level voices?
3. How can federal agencies build greater capacity to operate and communicate effectively within the current health information environment and to work in coordination with each other and other providers of health information? How can the federal government communicate in ways that build trust and minimize distrust, particularly among underserved communities?
4. How can the federal government keep current on the ever-evolving health information environment through research, coordinated learning activities and/or a community of practice?

the Department of Human Ecology at Rutgers University and Chair of the Planning Committee. Much of what the federal government does, Hallman said, focuses on addressing infectious and noninfectious diseases, regulating prescription drugs, addressing occupational hazards and environmental contaminants, ensuring highway safety, preparing for and recovering from natural disasters, and many other activities that directly impact public health. In all these activities, effective communication is a fundamental part of protecting and improving public health. Toward that larger aim, this workshop, said Hallman, was designed to examine the goals and roles of federal health communication, consider the challenges that need to be addressed to improve efforts, and discuss viable solutions to these challenges in both the short and long term.

The workshop was organized around five capacities that need to be developed for effective health communication in the federal context. This introductory chapter summarizes conversations about the importance of effective health communication and the goals, roles, and responsibilities of federal health communication. Chapter 2 examines the cross-cutting

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Effective Health Communication Within the Current Information Environment and the Role of the Federal of ...

challenges in health communication and their implications for capacity building. Chapters 3–7 explore various capacities needed in the federal government for effective health communication: listening to and engaging communities, digital data and information systems, expertise and human capital, organizational capacities for agility, and building relationships. Finally, Chapter 8 features key themes that emerged during the workshop and speakers' and participants' thoughts on next steps. Appendices provide the workshop agenda, biographical sketches for the planning committee and panelists, and insights from breakout group discussions related to building capacity for community engagement, data and information systems, and human capital and expertise.

GOALS AND ROLES OF FEDERAL HEALTH COMMUNICATION

Many federal agencies communicate about health as part of their core missions to improve the well-being of Americans, as well as during times of crisis, stated Hallman. Being explicit about the varying objectives for health communication and the appropriate roles and responsibilities of federal agencies is vital for determining the capacities needed. This workshop session offered an overview of the types of key health communication goals, roles, and responsibilities of federal agencies, and explored the implications of these for decision making and building trust and credibility.

Key Points

- Communication is a core function of the public health mission of federal agencies; engaging stakeholders is critical to this function. (Hallman)
- Health communication is a science that plays an important role in connecting research, practice, and policy. (Lichtveld)
- Increasing the credibility of government health communication requires strong adherence to scientific principles and methods and clearly distinguishing between communicating evidence and making policy recommendations. (Lupia)
- Infrastructure and funding for data-collection and dissemination mechanisms need to be in place so they can be rapidly activated when needed, support sound and timely decisions, and help establish the public trust. (Gardner)
- The multiannual research program Enlightenment 2.0 provides a framework for reflecting upon the use of social and behavioral sciences to inform federal health communication that supports evidence-informed decision making and democratic values. (Smillie)

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Effective health communication is defined by more than making decisions about appropriate messaging and public relations, said Hallman. While much attention is given to determining the message to be conveyed, effective health communication is part of a much broader process of engaging with stakeholders. Stakeholder engagement is a critical part of communication, providing insight into which health issues concern the community, what questions they want answered, and what misinformation may need to be addressed. Stakeholders "know things that we do not know and have perspectives that we do not have," said Hallman, and the combination of government and community knowledge and perspectives can improve decisions. In addition, the process of engaging with stakeholders can help achieve consensus, can help anticipate how different stakeholders may react to a given message, and can identify areas in which there may be pushback or counter-messaging. Engagement with stakeholders is also an important part of evaluation, said Hallman. Evaluating the effectiveness of government efforts requires assessing whether messages are understood, reaching the right people, connecting with people's lived experiences, and having the intended impact.

According to Hallman, federal agencies play many roles with respect to authoritative health information, as shown in Box 1-2.

The question, said Hallman, is what role should federal agencies play? The appropriate role may be determined by law, by public expectations, or by an agency's unique ability to collect and analyze information. When not established by law, an agency's role is influenced by its available expertise and resources; its perceived trust and credibility; and the need for agility, timeliness, openness, transparency, and accountability.

Agencies may employ multiple strategies in using authoritative information to influence health behaviors, said Hallman. These strategies may be designed to inform, educate, warn, advise, nudge, persuade, incentivize,

BOX 1-2
Roles of Federal Agencies with Respect to Health Information

- A source of health information; for example, by disseminating statistics on food poisoning.
- An arbiter of information; for example, by determining what types of food labeling statements are truthful and not misleading.
- An amplifier of information; for example, by using the power and reach of the government to boost messages or information created by others.

SOURCE: Presented by William Hallman on March 20, 2023.

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Effective Health Communication Within the Current Information Environment and the Role of the Federal of ...

or coerce. Deciding which strategy to use is not always straightforward, he said, and it is important to examine who decides on the strategy and on what basis. In addition to messaging designed to educate or change behavior, federal agencies may also engage in messaging designed to maintain trust and credibility. An agency may share information with the public about how decisions were made, what information was used, what options were considered, and what risks and benefits were balanced. This type of messaging, said Hallman, may be used to promote transparency or to communicate uncertainty during a time of crisis.

Panelists addressed critical functions of health communication and considerations for fulfilling the various goals and roles the federal government has for effective health communication. Presentations addressed the vital importance of ensuring that shorter-term communication goals and strategies support longer-term goals of strengthening trust, credibility, transparency, and democratic institutions and processes.

HEALTH COMMUNICATION: CONNECTING SCIENCE, PRACTICE, AND POLICY

Health communication is a science, said Maureen Lichtveld, Dean of the School of Public Health, the Jonas Salk Chair in Population Health, and Professor of Environmental and Occupational Health at the University of Pittsburgh, setting the stage for the discussion of health communication goals. Lichtveld presented a framework illustrating how health communication influences each interaction between science, policy, and practice (Figure 1-1). Policy needs to be informed by the application and translation of scientific findings, she said, and this relationship requires effective health communication. For policy to become practice, stakeholders need to use health communication to both implement and monitor the process. Finally, practice can impact science through identifying gaps in knowledge; and science can impact practice through identifying potential areas for risk reduction—both of which require effective health communication. The federal government, said Lichtveld, has a role to play in all these areas.

It is critical, said Lichtveld, that any communication framework begins by considering the target audience. She stressed that the target audience needs to be considered before a crisis occurs, which requires early engagement and relationship building. If these relationships are not in place before a crisis, messages from the federal government may not be the first ones heard, damaging government's influence and credibility with its target audience. It is important for the federal government to seek to be first, to be right, and to be credible, she said. The way that a message is delivered is also essential, and the optimal delivery method varies depending on the message and the target audience.

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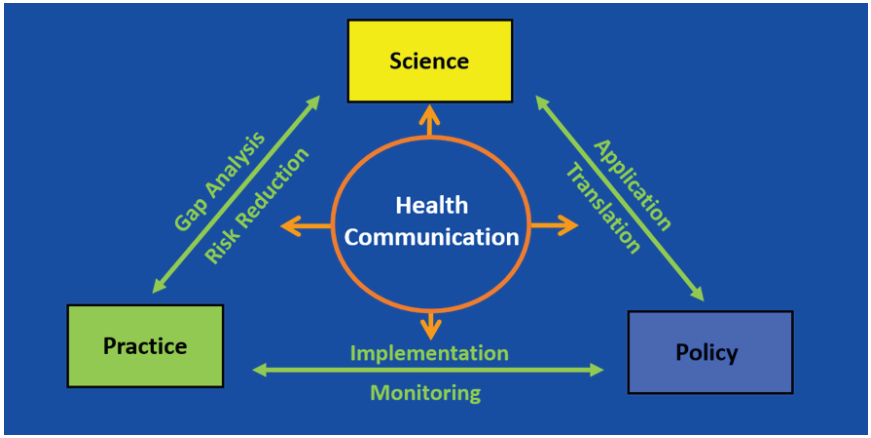

FIGURE 1-1 The science of health communication.
SOURCE: Presentation by Maureen Lichtveld, March 20, 2023.

While health communication and disaster management are not identical processes, there are important lessons from disaster management that can be applied to health communication, said Lichtveld. Preparedness is the most important part of disaster management, yet it usually receives the least attention and investment. The same is true of health communication: during the "preparedness" phase, capacity is built, and trust and credibility are developed. In the response phase of disaster management, coordination between agencies and stakeholders is key. Disaster management includes a phase called the "hot wash," in which stakeholders take a step back and identify lessons learned. Finally, in the recovery phase, sustained partnerships need to happen. Instead of leaving communities after a disaster, said Lichtveld, the recovery phase is the time to fortify the relationships that have been built, to sustain them for the future. The coordination, ongoing learning, and relationship-building steps are equally important for health communication, explained Lichtveld.

INCREASING CREDIBILITY: AN ALTERNATIVE TO "FOLLOW THE SCIENCE"

Effective health communication requires credibility, said Arthur Lupia, Professor of Political Science at the University of Michigan. Credibility is not a constant or a trait. Rather, credibility is earned "every day and through every interaction," according to Lupia. There are various sources of credibility, explained Lupia. Scientists can gain credibility by using the

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scientific method, which produces intersubjective knowledge—that is, the validity of the findings does not depend on who conducted the study. Other members of society gain credibility in different ways. For example, politicians can gain credibility by articulating their values, particularly if those values resonate with others.

There can sometimes be tension between making statements that influence opinions in the short term and remaining credible in the long term, said Lupia. While evidence can inform policy, evidence alone is insufficient to resolve many moral and ethical issues associated with policy recommendations. Instead, factors including values, feelings, beliefs, and politics inform policy recommendations. Confounding scientific claims with policy recommendations can diminish the credibility of the scientist, he explained. Science is a powerful cultural force and anyone who speaks on its behalf has a "huge obligation to really stay true to the method," said Lupia. When scientific authority figures make policy recommendations based on factors other than science without revealing that fact, it becomes easier for others to discredit the authority figures' credibility, he said. For example, during the COVID-19 pandemic, many communicators said, "follow the science, take the vaccine." While this advice has some scientific basis, it also relies on values and tradeoffs that are not strictly scientific. Failing to clarify the role of science in a policy recommendation can mislead people about the true content of scientific studies and decrease their trust in future scientific claims, said Lupia.

Credibility can rise or fall, it can be built or rebuilt, but increasing credibility requires a strategy, according to Lupia. He shared a template for increasing credibility in health communication (Table 1-1). Following this template can empower people to make statements that are meaningful in the short term and credibility enhancing in the long term.

TABLE 1-1 A Template for Increasing Credibility

TYPE OF CLAIM	MODEL STATEMENT	EXAMPLE
Claims about a scientific finding without policy or behavioral implications	"Study A produced Finding B."	"mRNA COVID vaccine clinical trials showed B."
Claims about a scientific finding being used to support a policy or behavioral recommendation	"Our values are X. Research shows Y. Based on X and Y, we recommend Z."	"If you want to reduce your risk of dying from COVID, take the vaccine" (not "Follow the science, take the vaccine.")

SOURCE: Adapted from presentation by Arthur Lupia, March 20, 2023.

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TIMELINESS AND TRANSPARENCY: LESSONS LEARNED FROM COVID-19 REAL-TIME REPORTING

Lauren Gardner, Professor in the Department of Civil and Systems Engineering at the Johns Hopkins Whiting School of Engineering and Bloomberg School of Public Health, spoke to participants about her experiences developing and running the COVID-19 Dashboard at Johns Hopkins.[1] This tool—which collected data on every officially reported COVID-19 case, death, and vaccination in any country—was built from scratch during the early days of the pandemic, in response to overwhelming demand for information. It was like "building an airplane while flying it in the worst lightning storm ever," said Gardner. Building the infrastructure and capabilities to collect, validate, and report COVID-19-related data in the midst of the pandemic was "not how things should be done," she said—there is a need for underlying systems and infrastructure developed and designed ahead of time.

Gardner gave workshop participants an overview of the challenges that arose when building the COVID-19 Dashboard and collecting data. She noted that, while some challenges were specific to COVID-19 and to operating in a "noisy and chaotic environment," other challenges were more general. First, she said, parameter definitions were ambiguous. The definition of COVID-19 cases and deaths changed and evolved over time and between countries, as testing and technologies evolved. Even within the United States, she said, different states and counties used different definitions, which made direct comparisons difficult. Inconsistencies and instability were also present in the way cases and deaths were reported; for example, some locations reported retrospectively or reported data in infographics that were not machine readable. In addition, locations sometimes changed the way they provided data, requiring researchers to be responsive and adapt nimbly. Gardner said that data-reporting guidelines would have been extremely useful to reduce disparities among authoritative reporting entities. An anomaly-detection system, which could find differences in reporting for the same geographic region, was one strategy that researchers used to cope with disparities. Finally, variability in frequency and time-of-day reporting across locations was a major challenge in maintaining real-time reporting.

For data to be actionable, said Gardner, they need to be timely and at resolutions useful for decision making. Drawing on a paper she co-authored on the importance of open public data standards and sharing (Gardner et al., 2020), Gardner emphasized the need for a standardized data-reporting system for emerging infectious and notifiable diseases. Such standardization

[1] https://coronavirus.jhu.edu/map.html

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is essential for generating actionable data, she explained, because it enables data to be systematically collected, visualized, and shared—all transparently and in real time.

Establishing a system before a crisis arises will ensure that sound and timely decisions can be made and can help establish public trust, she said. Gardner shared her views on Johns Hopkins' success collecting and reporting real-time COVID-19 data, and the lessons this effort may hold for others moving forward.

The COVID-19 Dashboard project was developed in a supportive environment that included initial internal funding and later philanthropic funding. Gardner stressed that, moving forward, science agencies and governments need a better mechanism to quickly provide financial support to these types of efforts. She stated that Johns Hopkins University had the technical skillsets required to implement the work; and she noted that integrating engineers, computer scientists, and software developers into public health agencies is advantageous for providing such expertise. In addition, the team had the freedom to make executive decisions in real time, free from bureaucratic approval processes. Gardner noted that this was particularly critical in the early days when the pandemic was rapidly changing. In the future, she said, to effectively aggregate, centralize, and democratize public health data in real time, better open data standards are needed and the infrastructure and process need to be in place prior to the crisis. Finally, Johns Hopkins is a world leader in public health and medicine, and it is a nonpartisan institution. These qualities of the university allowed their project to be trusted and seen as accurately representing the data and science, as opposed to promoting an underlying agenda.

Gardner closed by sharing her perspective on the importance of high-quality, transparent data sources to drive evidence-based policy and decision making. Transparency and consistency are critical to promoting good science, said Gardner. When decisions or policies are based on scientific findings, a clear framework is needed to translate science into policy, and the entire process needs to be transparent and acknowledge the factors contributing to the decision. Consistency of this process over time can help build and maintain trust. When people do not understand how or why a decision was made, noted Gardner, they are less likely to trust that decision.

One participant stated that the federal government can be risk averse in its messaging—that is, it sometimes seeks to protect people through a lack of transparency about the real risks. During discussion, Lichtveld illustrated this point and the importance of transparency with an example from her work in the Gulf of Mexico following the 2010 oil spill. To convey that the risk to human health from consuming shrimp was not severe, a federal official developed a risk assessment that used a 90-kilogram person eating a 13-gram serving of shrimp. At a community meeting, a Vietnamese

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fisherman explained that 13 grams was four shrimp, and a more realistic serving size was far higher. In addition, said Lichtveld, the average Vietnamese fisherman in the area weighed much less than the weight used in the estimate. If the estimate had used local information and local context, the well-intentioned messaging would have been much more effective. Lichtveld reiterated that increasing trust and communication between authorities and communities requires sustained partnerships and presence, even during the periods between disasters.

ETHICAL HEALTH COMMUNICATION IN A DEMOCRACY: INSIGHTS FROM EUROPE

Laura Smillie, Project Leader of the European Commission's Enlightenment 2.0 research program at the Joint Research Centre, shared insights from this project. This multiannual research program aims to understand how the policy process can be optimally informed with the best possible evidence. The program's latest project is looking at trustworthy public communication while grappling with the tension between two goals, Smillie said. First, the European Commission wants to ensure that its messages are meaningful and resonate with the 450 million people across 27 member states. Second, as a democratic organization with democratic values, the Commission wants to ensure that its messaging tactics are ethical and cannot be used by others who seek to undermine democratic values. For example, the Commission is exploring the boundary between informing/persuading and manipulating/coercing.

In recent years, the Joint Research Centre has released several reports that explore issues related to this aim. A 2019 report, *Understanding Our Political Nature*, examined key challenges for 21st-century policy makers, such as collective intelligence; understanding myths and disinformation; the role of emotion, values, and identities; and the role of openness and transparency (Mair et al., 2019). This report, said Smillie, recognized that evidence-informed policy goes hand-in-hand with the values that underpin democratic societies and cannot be taken for granted. A 2020 report, *Technology and Democracy*, explored the influence of online technologies on political behavior and decision making (Lewandowsky et al., 2020), while a 2021 report looked at the role that values and identities play in political decision making (Scharfbillig et al., 2021). The latest report on meaningful and ethical communication is currently in development, said Smillie.

The project on meaningful and ethical communication has several main components. The first is a thorough review of the science, and second is original research on the efficacy of framing with values. The third component is engagement with stakeholders, including front-line professional

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communicators. Finally, the fourth piece is citizen engagement; meetings were held in nine member states to listen to citizens' perspectives on the topic of meaningful and ethical communication. In addition to these reports, the European Commission has also created competence frameworks to help scientists and policy makers better understand each other, said Smillie. Specifically, Smart4Policy is an online self-reflection tool that allows people working in the science and policy fields to better understand themselves and each other.[2]

During discussion, Smillie explained that her previous experience in a European Union (EU) agency taught her that effective communication among countries with varying cultures and languages necessitates member states adapting everyday health messages to their own contexts. This requires humility, "staying out of the limelight," and building strong relationships with key partners and stakeholders. Although some EU-wide messaging is designed to have a broader appeal, much of the agency's work relied upon member states contextualizing messages for their particular cultures, said Smillie.

THE ROLE OF EMOTION

During discussion, one participant noted that many situations that require effective health communication—from pandemics to natural disasters—often involve heightened anxiety and emotions. Panelists offered their views on the role that emotion plays in health communication. Lupia responded that people generally think the "proper way" to interpret information is to think about it first and feel it later, but studies demonstrate that the opposite sequence more accurately describes typical information processing. This partially explains why building credibility is so critical to effective communication; without a relationship in which people want to hear from the communicator, the message will not get through. Once people are paying attention, said Lupia, scientists are ethically obligated to convey their knowledge in a transparent way, and to be clear about what they do not know, to avoid misleading people.

Lichtveld agreed that people tend to react emotionally first. She noted that, in her work on oil spills in the Gulf of Mexico, people's worries about the health of their babies and the quality of the air were central drivers to her research, along with concerns about the physical impact of the spill. The job of a scientist, whether in public health or in a clinical setting, is to acknowledge and empathize with people and work with them to take action. Hallman added that "affect versus cognition" is an important issue in the field of risk communication. Authorities, including federal officials, often

[2] https://smart-for-policy.ec.europa.eu/

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think that if people "just understood the facts, everything would be fine." However, sometimes people would prefer for authorities to simply acknowledge their anger and frustration, said Hallman. Once their emotions are acknowledged, a conversation about the situation becomes possible. Hallman shared that that reflecting compassion and empathy is often easier in a one-on-one interaction; it can "ring hollow" in a public relations campaign.

Smillie noted that the European Commission has been studying the potential use of various types of emotion in communication, and when emotion should or should not be used. The scientific literature, according to Smillie, shows that messaging that relies only on informing the target audience can have limited effectiveness. Successful persuasion requires authenticity and relatability, she said. She noted that while "persuasion" sometimes has a negative connotation, informing alone may be insufficient for helping people make good decisions. Lupia added that 90 percent of persuasion is listening to the target audience. If the speaker does not understand the audience and what motivates and concerns them, the message is unlikely to get through. Gardner acknowledged that while tailoring a message to a particular audience is the most effective approach, it can become challenging to do so if there are multiple, diverse audiences and a limited time to communicate the message.

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2

Key Cross-Cutting Challenges and the Implications for Federal Health Communication

Key challenges to effectively communicating about health in the federal context include (a) declining social and institutional trust; (b) a competitive, complex, and rapidly changing communication environment; (c) increased political polarization of health and science; and (d) widespread health and communication inequities, said Jeff Niederdeppe, Professor of Communication at Cornell University and member of the planning committee. Some of these challenges have emerged gradually over time, while others have accelerated rapidly in recent years, he added. Niederdeppe moderated a workshop session focused on these challenges and potential solutions.

Key Points

- Trust in institutions has declined over time and has become politically polarized. (Brady)
- Rapid changes in the health communication ecosystem have made federal health communication more challenging, requiring new strategies and approaches. (King)
- Politicization of health and science can be addressed applying scientifically supported communication strategies. (Hardy)
- Strategies to address communication inequities include closing the digital gap, acknowledging the mental and emotional toll of poverty and racism, and remedying data absenteeism. (Viswanath)

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THE CHALLENGE OF DECLINING TRUST IN INSTITUTIONS

Confidence and trust are essential to the legitimacy of institutions and their ability to operate effectively, and people's confidence in institutions, including governing bodies, businesses, churches, scientists, higher education, and police, has been declining in recent decades, said Henry Brady, Professor of Political Science and Public Policy at the University of California at Berkeley. Citing data from Blendon and Benson (2022), he noted that during the COVID-19 pandemic, distrust in institutions was related to higher rates of COVID-19 infection, lower support for mitigation policies, and lower vaccination rates. According to Brady, in 2021, the top three reasons that people gave for not getting vaccinated involved mistrust of institutions: "see what happens" (58%), "distrust government" (37%), and "distrust scientists and companies" (28%). Successful health communication requires public confidence in institutions and trust in the information they provide, said Brady.

Brady shared his research findings on how confidence in various institutions has changed over the last 50 years. He and his colleagues used data from polls and surveys that asked people about their confidence in U.S. institutions, and they created a four-point scale, in which zero represented "hardly any confidence" and three represented "a great deal of confidence." These data show the declining trust in every institution except for the military. Figure 2-1 illustrates these data, with branches of government depicted in blue.

Despite these trends, confidence in science has been fairly stable, with only a very small decline over time. However, trust in institutions of higher education has seen a precipitous drop in recent years, while confidence in medicine declined in the mid-1990s but may be leveling out (Figure 2-2).

The bigger problem, said Brady, is that confidence in institutions has become politicized. In the 1970s, Republicans and Democrats had about the same level of trust in most institutions, with the exceptions of labor unions, which Democrats trusted more, and business institutions, which Republicans trusted more. By the 2010s, the confidence level in nearly every institution became polarized by party, with Democrats reporting more confidence in knowledge-producing institutions—the press, TV news, television, law, education, public schools, higher education, and science—and Republicans reporting more confidence in norm-enforcing institutions—religion, police, and the military. Republicans' and Democrats' levels of confidence in medicine and science have remained similar over time, but recent trends suggest that they are starting to diverge, as shown in Figure 2-3. This means, said Brady, that societal debates that occur about the police and the press are "going to come to the institutions that you deal with on an everyday basis."

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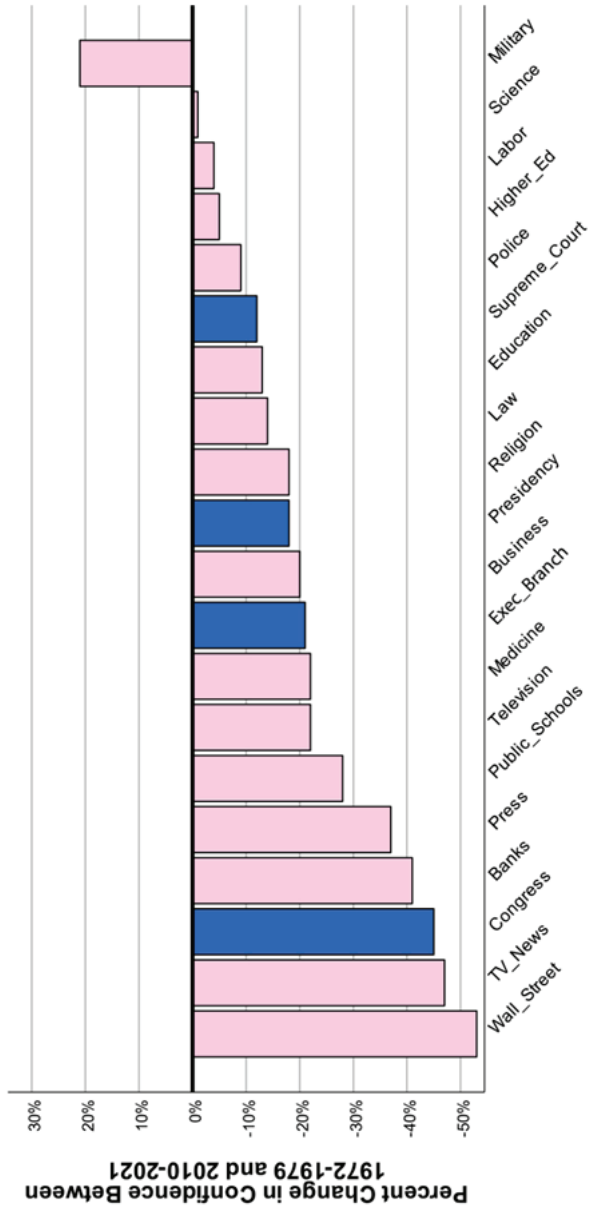

FIGURE 2-1 Changes in confidence in political and nonpolitical institutions between 1972–1979 and 2010–2021.
NOTE: Blue bars indicate political institutions and pink bars indicate nonpolitical institutions.
SOURCE: Brady and Kent, 2022.

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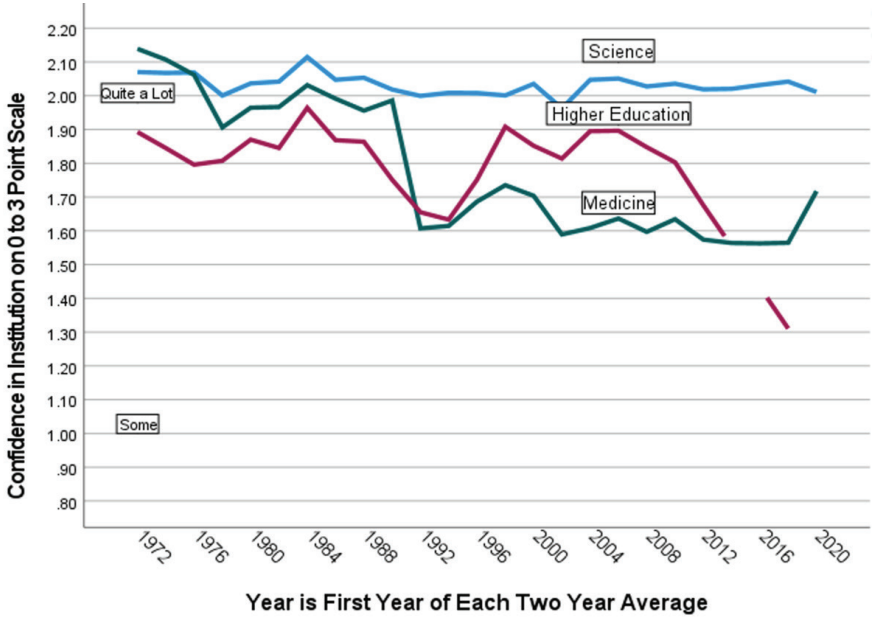

FIGURE 2-2 Confidence in science, medicine, and higher education over time.
SOURCE: Presentation by Henry Brady, March 20, 2023.

Brady offered several possible explanations for the decline in confidence in institutions over time and why confidence has diverged based on political affiliation. Some of the decline in confidence in certain institutions is related to specific events, such as scandals, bank failures, police behavior, and changes in press coverage, while some of the decline is due to generalized distrust in institutions fueled by Watergate and other large-scale events. Political polarization, said Brady, reflects that social, cultural, and racial issues in the United States are a new dimension of American politics. Institutions that produce knowledge or enforce norms are implicated in the polarization process. The individuals involved in such institutions have also become more homogenously associated with a particular political party. For example, professionals in the press, public schools, and higher education are more likely to be associated with Democrats, whereas professionals in religion, the military, and the police are more likely associated with Republicans, he said.

Brady described conclusions and suggestions from "Trust in Medicine, the Health System & Public Health" (Blendon & Benson, 2022), in which the authors offer several approaches for improving public confidence and trust. First, although trust in the institutions of medicine and health has declined over time, trust in nurses and doctors has remained high—85 percent of people report that they trust nurses "somewhat" or "completely,"

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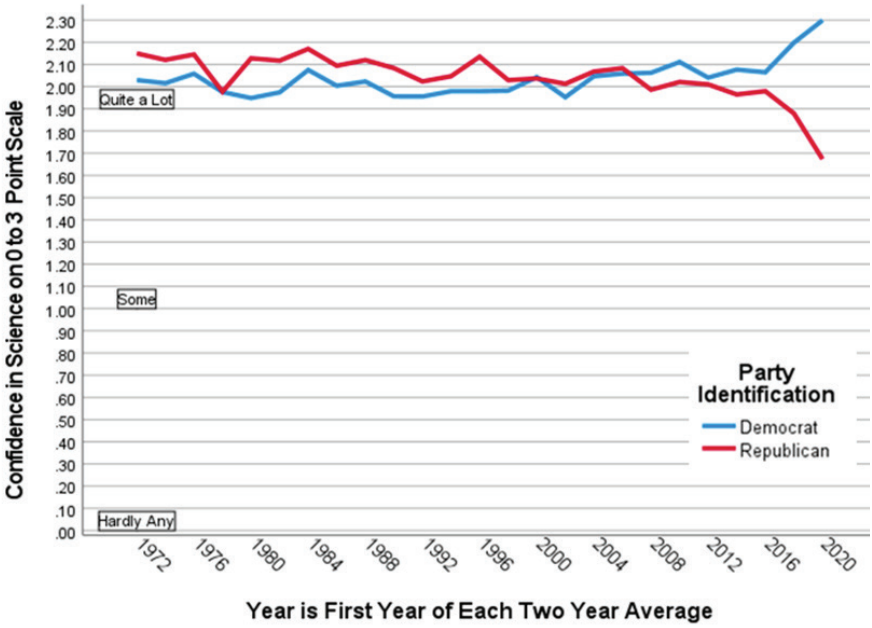

FIGURE 2-3 Partisan confidence in science over time.
SOURCE: Presentation by Henry Brady, March 20, 2023.

with 84 percent saying the same of doctors. Brady said this shows that "the personal touch matters." Citing Blendon and Benson (2022) and Hatton et al. (2022), Brady provided his ideas for how federal health communicators could increase public confidence and trust in public health communication (Box 2-1).

BOX 2-1
Possible Approaches for Increasing Public Confidence and Trust in Federal Health Communicators

- Increase visibility of key government officials;
- Encourage public health officials to take steps to avoid being perceived as affiliated with a political party;
- Recruit a diverse group of people to serve as scientific spokespeople;
- Improve explanations of scientific findings and the meanings of those findings;
- Increase contact between state and local health officials and the public; and
- Rely on local governments and state and municipal health departments to conduct the majority of messaging, due to higher levels of trust.

SOURCE: Presentation by Henry Brady, March 20, 2023.

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TABLE 2-1 Potential Solutions for Restoring Trust in Government

Source of Legitimacy or Trust	Basic Mechanism	Problems	Examples of Problems	Solutions
Regulatory endorsement by government	Borrows legitimacy from government	Government may not be trusted or legitimate	Government not seen as legitimate; too "far away"; not responsive	Use local governments or non-profits
Effectiveness and efficiency in providing goods or services	Produces utility for individuals in good and useful products	Goods or services may be poorly provided	Products are shoddy; services are delivered poorly; quality of service is poor; long waits; too costly	Produce better products; perform better
Adherence to Ethical and Normative Standards of Society	Thought to be fair within the existing rules of the game	Violation of normative standards	Requiring bribes; getting kickbacks; acting immorally; harassing work culture; large profits or compensation	Avoid unethical behavior and be transparent about eliminating it
Culturally appropriate and acceptable	Appeals to basic cultural worldview	Lack of understanding of culture and subcultures	Selling culturally inappropriate products to children; Not understanding personal "safety"; Not understanding need for personal autonomy	Understand different cultures in the population and relate to them

SOURCE: Presentation by Henry Brady, March 20, 2023.

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Brady summarized his suggestions for rebuilding trust in institutions in Table 2-1. He also noted that highly educated "elites" often stumble in understanding and engaging with other communities, including conservative and minority communities. "We have met the enemy and they are us: elite, highly educated people who are not trusted by a large segment of Americans. And that is the problem we are facing, and that is a very deep problem," he said. The answer to increasing trust in institutions is not "gimmicks"; rather, it is doing the hard work to gain a deep understanding of communities and the cultural differences among them, said Brady.

CHALLENGES OF THE COMPLEX HEALTH COMMUNICATION ENVIRONMENT

The health communication ecosystem has grown and changed rapidly, said Andy King, Associate Professor of Communication at the University of Utah, which makes reaching intended audiences and addressing complex public health problems increasingly challenging. The health communication ecosystem includes both the public communication environment (e.g., traditional media, online sources, public service announcements) and the nonpublic communication environment (e.g., private communication and information shared in a network of family and friends but not publicly available). Today, there are more communication platforms and user-generated content than ever before, said King. There is an almost-unlimited number of people to listen to, on platforms from YouTube to television news to government. Information can be conflicting and competing, whether in the form of misinformation about scientific findings or new government recommendations that differ from previous recommendations. Commercial interests also impact the communication environment, through direct-to-consumer advertising, predatory marketing, and promotion of expensive unproven treatments. Moreover, people experience the health communication ecosystem differently due to factors including racism and discrimination, social and digital inequality, and differences in communication infrastructure, he said.

When searching for health information, people often turn to the internet, said King, including federal agency sites, health news sites, general news sites, social media platforms, and more. In addition, people can actively look for health information or simply encounter it while scanning websites. Social media sites have proliferated in the past decade, and the presence and engagement of authoritative sources on these sites varies dramatically. Consumers are oversaturated with content and platform options. In the wake of COVID-19, there is both fatigue and exhaustion about health messages and a deluge of dis/misinformation on many health topics. Erosion of trust in institutions and the politicization of trust have further complicated the health

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communication ecosystem, making it more difficult for people to find useful information, King explained. He suggested improving both communication infrastructure and communication strategies, as summarized in Box 2-2.

During discussion, one participant noted that much of the conversation around health communication centers on conveying accurate information, so that people can make good decisions. However, given the vast amount of information and diverse sources that exist, perhaps health communication needs a greater focus on helping people navigate the information environment. King responded that building capacities and providing tools for digital literacy, numeracy, and health literacy are very important, although these actions can be hard to implement widely. He emphasized, however, that there is still a need to provide accurate information and content that resonates with people. K. "Vish" Viswanath, Professor of Health Communication at the Harvard T. H. Chan School of Public Health, added that "people are very smart," and can think deeply about many topics. The issue, he said, is understanding how to tap into these strengths and reach people with health messages. Niederdeppe said that, within the health communication environment, many messengers do not have health and well-being as their goal but are instead focused on profit or power. In addition to improving health literacy and providing accurate information, there is a need to address the issue of industry and political influence, he said.

Competing in the information marketplace is a challenge for federal health communication, particularly when it is competing with misinformation and profit-driven media, noted one participant. Even with a large budget for a COVID-19 public education campaign, she said, it was difficult to get accurate messages to the public. However, another participant said that the government has some advantages on the internet. For example, government websites usually appear near the top of search results. Many

BOX 2-2
Potential Communication Strategies and Improvements for Communication Infrastructure

- Build capacity to use modern platforms to interact with audiences.
- Involve the community in communication efforts.
- Partner with diverse storytellers across platforms to disseminate messages.
- Avoid strategies that assume that more information is the solution.
- Identify short-term, long-term, and crisis-communication goals.
- Enable agile planning to adapt communication strategies/tactics to goals.

SOURCE: Presentation by Andy King, March 20, 2023.

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platforms have policies and algorithms that privilege credible sources from the government over other sources, he said. However, to compete, the government needs to create content in all relevant areas of the internet. For example, if a government agency is not engaged in a new platform, searches on that platform will necessarily result in nongovernment information. In addition, searches for information like unsubstantiated miracle cures are unlikely to result in credible government sources because the government provides no information about such topics. In general, the internet privileges credible government sources, he said, but the government needs to know where people are looking for information and be willing to create content to fill the gaps.

POLITICAL POLARIZATION OF HEALTH AND SCIENCE

Bruce Hardy, Associate Professor of Communication and Social Influence at Temple University, described the challenges posed by the political polarization of health and science and potential solutions for mitigating these challenges. Over the last several decades, said Hardy, disdain for members of the opposing political party has risen steadily. He noted that three foundational theories of human behavior offer new ways of thinking about this challenge: social identity theory, attitude consistency, and identity protective cognition.

According to Hardy, social identity theory (Tajfel et al., 1997) posits that communities can self-identify as belonging to a specific category, and compare and contrast their communities with others, reinforcing their own social identities. This theory emphasizes that people's identities are based not just on who they are, but on who they are not.

Attitude consistency theory (Heider, 1946) suggests that if a person's attitude toward an object is positive, and that object and a variable have a positive association, the person's attitude toward the variable is also likely to be positive, explained Hardy. For example, if a person likes an athlete and that athlete is sponsored by a specific brand, the person is likely to have a positive attitude toward that brand. The same relationship also works in reverse, with a negative attitude toward an object engendering a negative attitude toward the variable. This theory is particularly salient in today's health communication environment, said Hardy, because political identity can influence how receptive a person is to messaging from a particular federal agency. Since the beginning of the COVID-19 pandemic, Democrats have become more trusting of agencies such as the Centers for Disease Control and Prevention and the National Institutes of Health, while Republicans have become less trusting of these agencies (Levendusky et al., 2023).

Identity protective cognition (Kahan et al., 2007), said Hardy, is the idea that people reject information, evidence, and messages that threaten

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their identities and challenge their attitude consistency. Hardy et al. (forthcoming) have examined how this process may relate to science and public health becoming "issues" that are closely aligned with one party. Democrats are seen as caring more about science and being more capable of dealing with science-related issues, said Hardy, although when science is broken down into distinct areas, the advantage splits. Republicans are seen as having the advantage in nuclear science, military science, and space science, while Democrats have the advantage in environmental science and public health.

Given these patterns of human behavior, Hardy offered several suggestions for avoiding the exacerbation of political polarization (Box 2-3).

During discussion, one participant called on others to consider that a person's attitudes and knowledge do not necessarily lead to specific health behaviors. For example, more than 90 percent of seniors got vaccinated against COVID-19, despite differing levels of trust and varying ideologies within this population, the participant noted.

BOX 2-3
Suggestions for Avoiding the Exacerbation of Political Polarization

- **Avoid aggressive framing.** For example, using a message about the "war on science" has been shown to increase polarization.
- **Use the LIVA model.** The LIVA model (Jamieson & Hardy, 2014) involves leveraging source credibility, involving the audience, visualizing the data, and analogizing the data. This approach guides people away from directional-motivated reasoning and toward accuracy-motivated reasoning. Directional motivation is based on identity, whereas accuracy motivation is based on the desire to "be right." Hardy et al. (forthcoming) conducted a study in which participants were asked questions about data they were given; participants were able to answer the questions accurately, even if the answers did not align with their identities. However, Hardy cautioned that this effect waned after several weeks, so a communication approach leveraging this technique would need to be regularly reinforced.
- **Prime relational identities rather than political identities**. In one recent study of this promising strategy (Zeng, 2021), a researcher asked participants to tell her about their children and their identities as parents, then asked them questions about their intention to practice social distancing during the early months of the COVID-19 pandemic. Parental priming dramatically reduced the partisan gap in attitudes about social distancing, said Hardy, showing that relational priming can potentially overcome identity biases.

SOURCE: Presentation by Bruce Hardy, March 20, 2023.

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THE CHALLENGE OF EQUITY IN HEALTH AND HEALTH COMMUNICATION

Health inequalities are not a new story, said Viswanath. Despite general gains in public health, inequities persist. For example, public health campaigns and policy changes have resulted in a dramatic decrease in the percentage of people who smoke tobacco, but the decrease has been more dramatic among wealthier, primarily White populations. One reason for the unequal distribution of improvement in public health, Viswanath said, is communication inequalities—"differences among social classes in the generation, manipulation, and distribution of information at the group level, and differences in access to and ability to take advantage of information at the individual level." Health and well-being are influenced by social drivers such as culture, policy, community, and social networks, and the impact of these drivers on health is mediated through dimensions of communication including access, engagement, processing, and ability to act. Viswanath said that while the drivers themselves can be very challenging to address, interventions in the communication dimensions could potentially mitigate health inequalities. He focused on three domains to address: (a) the digital gap, (b) the mental and emotional toll of poverty and racism, and (c) data absenteeism.

The digital gap is one cause of communication inequality that contributes to persistent health inequalities, according to Viswanath. He said that when he raised the issue of unequal access to digital information 20 years ago, people dismissed his concerns because they believed that cellphones would eventually eliminate the problem. However, during the COVID-19 pandemic, a number of headlines noted how a lack of internet access worsened disparities in health risks and vaccination rates. Beyond the direct impact on health, lack of internet access made it difficult or impossible for some families to work from home or attend school remotely. Viswanath emphasized that while there has been significant investment in improving broadband access in rural areas, Black Americans and other urban populations are being left behind.

Health communication may also be less effective for some populations due to stress, which can lead to a "mindset of scarcity." People experiencing poverty are "juggling a lot of things," said Viswanath, and are forced to differentially allocate their attention (Shah et al., 2012). Stress associated with poverty, racism, and discrimination can interfere with information processing; this relationship is important to consider when planning health communication strategies.

People from groups experiencing social vulnerability are also significantly underrepresented in research, said Viswanath, making it impossible

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to draw reliable inferences about these communities (Viswanath et al., 2022). This "data absenteeism" is often blamed on groups being "hard to reach," but Viswanath suggested that it is due to a lack of investments in infrastructure to reach these communities, a lack of commitment to collecting representative data, and a propensity toward treating communities as "sites for research rather than partners in research." When efforts are made to recruit participants from underrepresented groups—including poor White people, African American people, Latino communities, people living below the poverty line, and individuals experiencing homelessness—the data can illuminate differences in needs among the groups and suggest ways that health communication could reach groups more effectively.

There are many negative consequences of communication inequalities, said Viswanath, including lower knowledge; norms conducive to unhealthy behaviors; limited or no access to services; inability to act on opportunities even when available; and higher disease incidence, prevalence, and mortality. However, said Viswanath, there are ways to address these inequalities by drawing on communication science. There is a broad body of work in the sciences of communication, community engagement, and participatory science; health communication interventions need to be grounded in this evidence. He shared two examples of practices that could be implemented, which are summarized in Box 2-4.

DISCUSSION

Following the panelists' remarks about the challenges of health communication in the current political and social climate, workshop participants

BOX 2-4
Examples of Evidence-Based Practices to Improve Health Communication and Address Communication Inequalities

- **Leveraging research on the effectiveness of graphical warnings against cigarette smoking**. Research funded by the U.S. Food and Drug Administration and the National Cancer Institute showed that differences among social groups do not emerge as a result of this intervention, yet recommendations to use graphical warnings are not yet being implemented, he stated.
- **Listening to communities**. Viswanath's team was able to shift the focus of a program originally aimed at engaging communities around cancer risk to a focus on COVID-19, based on listening to the needs of the community, engaging the community in research, and giving the data back to the community through dashboards and in multiple languages.

SOURCE: Presentation by K. "Vish" Viswanath, March 30, 2023.

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and panelists engaged in a discussion focused on how the federal government can work to build capacity in a way that addresses some of the challenges identified. Niederdeppe acknowledged that it is challenging for the federal government to engage with local communities and stakeholders from a considerable distance. He asked panelists to consider whether they see a need to fundamentally change how federal health communication operates. Brady acknowledged the difficulty of this problem and suggested that the federal government could make a greater effort to work hand-in-hand with state and local agencies. Viswanath said that while it is a challenge for the federal government to work with communities, it can be done. Drawing on the science of engagement, he described a process he and his colleagues have used to identify key stakeholders, called "community recognizing sampling"; he described this process as a marriage of positional and reputational approaches. Viswanath and his colleagues interviewed around 30 people in the community from different sectors and made radial charts that illustrated "who is talking to whom." These data were used to bring people onto advisory boards and engage with the various sectors. Viswanath emphasized that each agency would need its own individualized approach for community engagement, and that it is advisable for all agencies to develop these relationships prior to a crisis happening, not in the midst of one.

Investing in Communication Expertise and Infrastructure

Many panelists and participants mentioned the importance of using evidence-based communication strategies and having the infrastructure in place to support communication, said Niederdeppe. Panelists offered perspectives on ways that federal agencies can best build this expertise and infrastructure. King noted that infrastructure includes regularly evaluating where people go for information, where they want to go for information, and what information they want. "There is a balance between what agencies might want to communicate to interested audiences and what those audiences care about," he said. Building relationships "on the ground" is important and, once built around one topic of concern (e.g., cancer education) those relationships can pivot to focus on other areas of interest or new platforms. King reiterated that planning for adaptability and flexibility, being proactive rather than reactive, and establishing relationships long before a crisis emerges allow agencies to communicate about multiple health topics (e.g., a new screening recommendation) and disseminate information rapidly when necessary. King emphasized, however, that building these relationships does not erase the impact of social drivers of inequality, noting that agencies need to fund efforts to address social drivers in addition to building a communication strategy. Addressing health inequities requires a

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"holistic response and reaction," so framing it as building infrastructure is a useful way to focus on the broad picture.

Viswanath emphasized that the federal government already has a tremendous amount of expertise in health communication; the issue is ensuring that the people who need to tap into this expertise can do so. He shared an example illustrating the potential of the federal government to make a difference. The Department of Health and Human Services assembled an interagency task force on tobacco that brought multidisciplinary, multiagency expertise into one group; group participants collaborated and shared lessons, then returned to their agencies with new ideas and information. Viswanath underscored the importance of being proactive. As an example, he described a survey to better understand health journalism, since this is an important information source for many people.

Choosing the Right Spokespeople

In discussion, one participant noted that the term "government scientist" creates aversion in a large segment of the population, and asked panelists to speak to the use of science-based approaches to increase trust in government institutions. Hardy agreed that aversion is a considerable problem and noted a recent survey reporting that a sizeable number of people do not trust experts of any type; "'experts' is becoming kind of a dirty word to some folks," he said. Viswanath offered a way to reframe the issue of mistrust in government agencies or experts in general. He drew an analogy to Congress and said that when people are asked if they trust Congress, they often say no, but if asked whether they trust their individual Congressman, they often say yes. When people have a problem or need information, they do not go to a nameless government agency, they go to a specific government agency that has the information and expertise that they need. Viswanath predicted that the poll numbers about trust in government might be quite different if people were asked about specific parts of government. Hardy agreed with this reframing and said that when people are asked a question in the abstract, they tend to rely on their preexisting thought patterns. He gave the example of people saying that they do not trust the public school system as a whole but do trust their own school district or neighborhood school. King agreed that large survey measures of trust are likely not capturing some of the nuance between trust in institutions in general versus trust in specific institutions. He said that by identifying messengers that have retained trust within certain networks, building on and expanding this trust might be possible.

Another participant asked for panelists' opinions on whether government scientists should be "on the frontlines" talking to the public about their research, or whether scientists should instead focus on ensuring that

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those in the media who talk about science have the proper knowledge and understanding. King replied that the appropriate spokesperson for a situation is context dependent, but a communication strategy is needed regardless of who does the talking. Sharing data without putting it in a larger context and without considering the audience is unlikely to be an effective strategy. A workshop participant said that the intentional attacks on institutions and spokespeople are a key challenge for federal health communication, and that when individuals are attacked for speaking up, they are less likely to do so in the future.

One participant asked how federal agencies can humanize themselves by diversifying their spokespeople and building trust through more authentic communication. King said that this is an area in which partner organizations can be very helpful. While a federal agency may not be able to respond to every social media posting or engage in back-and-forth with citizens, a network of partner organizations may be able to fill this role. Further, if the partner organizations are trusted by the community, their relationship with a federal agency could help to improve the community's trust of the federal agency itself. This is a path, said King, that is immediately actionable and could quickly have potential impact.

When considering who should speak for science, said Niederdeppe, it is important to keep in mind that when pure science goes up against emotion, emotion and storytelling often win. Evidence suggests that emotion and stories matter when engaging with audiences. However, he said, the question is whether a federal agency should be using these communication strategies, or whether an agency should provide the information and allow other partners to communicate the strategic messages. For example, said Niederdeppe, the U.S. Centers for Disease Control and Prevention (CDC) could work with partners that develop a brand, a slogan, and a strategy for conveying certain types of information that the CDC wants to disseminate to the public.

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3

Capacity: Listening to and Engaging Communities

The capacity for listening to and engaging communities was a major focus of the workshop and was emphasized by many participants. Although government agencies face numerous challenges in connecting with and listening to communities, the COVID-19 pandemic has presented an opportunity to learn how to connect with communities and to rebuild trust, explained Amelie Ramirez, Professor and Chair of Population Health Sciences at the University of Texas Health Science Center at San Antonio, Director of Salud America!, Planning Committee Member, and moderator of a session focused on this topic. Speakers addressed principles and models for engaging communities that could be applied in the federal context.

Key Points

- To understand the unique aspects of each community, it is critical to ask questions, work with those in proximity to these communities, and make investments in communities. (Richmond)
- Community-academic partnerships with relationships built on a foundation of trust, respect, and transparency can be effective ways to communicate about health in a bidirectional way. (Greene-Moton)
- Engaging community members at every step of a health initiative ensures that communication and tools are culturally appropriate, community leaders feel empowered and meaningfully involved,

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and power dynamics between communities and institutions are more balanced. (Ho)
- To build capacity and elevate the voice of the community, communities need to be approached with humility and community leaders need to be recruited and trained to help the community meet its needs. (Maceda-Maria)
- Federally Qualified Health Centers can be powerful partners for reaching some populations and providing trusted links to communities. (Talavera)
- Virtual engagement can be an evidence-based, structured approach for engaging communities that share common interests but are not located in one geographic area. (Khodyakov)

PRINCIPLES FOR UNDERSTANDING COMMUNITIES

"When you have seen one community, you have seen one community," said Al Richmond of Community-Campus Partnerships for Health. In health communication, there is often an inclination to lump people and communities into categories that may not be accurate or useful. For example, he said, many initiatives use the phrase "Black/African-American" to describe a community. However, these terms could be similar or mean something very different—a Black American could be someone born in Nigeria, or someone of Nigerian descent born in the United States, or someone whose family has lived in the United States for generations. The phrase "Latino/Hispanic" has the same issue—a Puerto Rican U.S. citizen may not be in the same community as a Dominican or a Cuban immigrant. It is important that health communicators take the time to understand the unique nature of the communities they are working with and use clear, accurate, descriptive terms. With the growing diversity in the United States, it is important to avoid assumptions about communities when planning health communication programs. For example, a person from Mexico may speak neither Spanish nor English. The "real work" in public health is often done "on the ground" through community organizations and relationships, said Richmond. His requirements for understanding a community are summarized in Box 3-1.

Richmond shared two examples of promising approaches for engaging communities, in keeping with these principles that could be applied in a federal context. The first, The Black Story Summit, a project funded by the National Network to Innovate for COVID-19 and Adult Vaccine Equity, produced documentaries to give people the opportunity to talk about the community work that was done "block to block" to save lives during the COVID-19 pandemic. This project, said Richmond, provides "the voice of the community in their own words."

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BOX 3-1
Key Factors for Understanding Communities

- Being in close proximity to that community.
- Listening to community perspectives and experiences and asking people in the community how they want information presented.
- Making real, long-term investments in the community.

SOURCE: Presentation by Al Richmond, March 20, 2023.

A second project, iHeard, works to combat the spread of public health misinformation. Several hundred community residents and leaders receive a text message each week asking what they have recently heard about COVID-19. The project curates a list of the top five topics reported that are circulating in the community and sends a text back with the correct information. Projects like this hold a lot of promise for addressing misinformation and effectively communicating accurate messages, said Richmond. The same type of platform could be used during crises like natural disasters, to learn what information people need and get that information to them.

COMMUNITY-ACADEMIC PARTNERSHIPS: LESSONS FROM FLINT, MICHIGAN

Flint, Michigan, was a city already in crisis in 2020, said Ella Greene-Moton, Administrator of the Community Based Organization Partners Community Ethics Review Board and Flint/Genesee Partnership, Health in Our Hands, and Planning Committee Member. The Flint water crisis had left residents feeling overloaded with information and communication, and trust in institutions was severely damaged, Greene-Moton said. However, Flint has a long history of community-academic partnerships, with relationships built on a foundation of trust, respect, and transparency.

Greene-Moton said that when the COVID-19 pandemic began, public health leaders were able to leverage these partnerships to pivot efforts toward communicating about the pandemic. "We realized that it would take a bidirectional process, realizing the importance of clarity even in word choice, using usage and definitions and in this case, a clear definition and understanding of communication, recognizing that a critical component of the communication process is the exchange between the academic partner and the community partner," she said. She also shared that a community webinar transitioned to a focus on COVID-19. Greene-Moton said that this approach was effective because the community already trusted the

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people involved and the credibility of the webinar series. She also noted her involvement with efforts to document the protocol to prepare for future crises. Finally, Green-Moton said:

> I want to leave you with this thought: just because you are right does not mean the other person is wrong. As in this case, it only means that you are only looking at it from a totally different view. If we keep that in mind and even use that in practice, I think it will help us all grow as we are trying to communicate and connect with the communities that we are interested in working with.

CENTERING COMMUNITY: LESSONS FROM PUBLIC HEALTH — SEATTLE & KING COUNTY

"Community partnerships are one of the core values of our strategic plan," said Khanh Ho of Public Health — Seattle & King County. Ho and her colleague, Emma Maceda-Maria, shared an example of their community partnerships work: a program called Fun to Catch, Toxic to Eat. This program, said Ho, is a partnership with the U.S. Environmental Protection Agency, and was built with many community voices. It is a health-promotion program that educates local target audiences on healthy seafood consumption from the Lower Duwamish Waterway, a toxic and contaminated Superfund site. Instead of simply saying "do not eat the fish," Public Health-Seattle and King County works with local subsistence fishing communities to better understand their culture and practices. The goal of the program is to encourage the target audience—which includes immigrant communities, refugee communities of color, fishing communities, and pregnant and nursing women—to make healthier choices. The health department began with "boots-on-the-ground community outreach," said Ho, recognizing the expertise within the community, meeting with trusted messengers and influencers, and forming partnerships with stakeholders including decision makers and federal agency representatives. These stakeholders were willing to share knowledge and power with the community, she said.

The program was built using a Community Informs All Stages approach, in which the community is "at the table" throughout the process (Figure 3-1). A community steering committee informs the planning. Community health workers get feedback from community members at every step, conduct community outreach, and develop culturally appropriate strategies and tools. The health department then revises and rethinks the plan based on community input and evaluation. The practice of engaging community members involves three core tenets, said Ho: capacity building, meaningful involvement, and empowerment. Community leaders representative of the target audiences are hired, trained, and meaningfully involved

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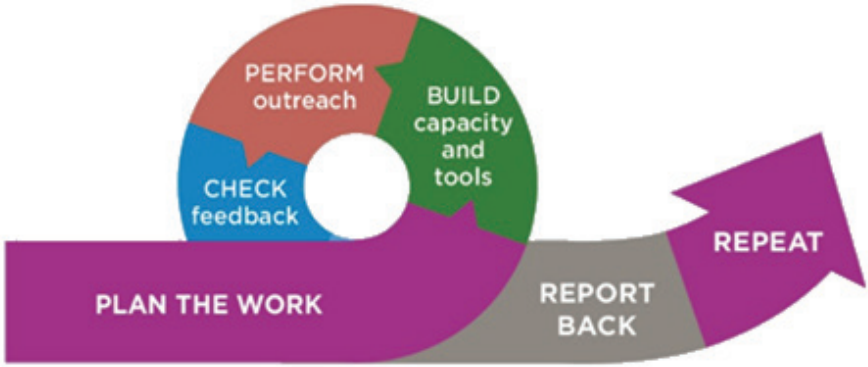

FIGURE 3-1 Community Informs All Stages model.
SOURCE: Presentation by Khanh Ho, March 20, 2023.

in building education materials and health-promotion tools. Through their participation in this process, community leaders are empowered and can speak directly and transparently with institutional leaders. This process helps to address the power imbalance that often exists between "elites" and community members. Ho shared a quote from a community member involved in the program; he said, "They [public health department] have always included us in the process, they make us feel important, we are united, and it has always been that way. They ask us to be part of everything, every step, we are making history…Normally, a decision is made in an office and that is it, but not here."

This type of community-based model has also been applied to other health department programs, including COVID-19 mitigation and response and climate health equity. It "takes a lot of creative thought and solution-forming flexibility," said Ho, and requires "meeting folks where they are."

Maceda-Maria spoke about the program from the perspective of a community leader. She and other community members went through the capacity-building program, and she later led the program with community partners. There is a lot of in-person, hands-on training that allows community leaders to practice sharing messages and getting feedback, she said. One community leader said, "We started with lack of knowledge and confidence, but throughout the training we gained more knowledge and also the community is more educated, so the conversation is getting easier and I am able to deliver the message as well as answer questions."

The meaningful involvement of community leaders, said Maceda-Maria, enables engagement with agencies that want to break down barriers and have open, honest conversations with community members. Maceda-Maria was involved in co-creation of educational materials and tools, including

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leading community outreach and creating a video directed at pregnant women. When Maceda-Maria began the program, she was nervous about talking to community members and sharing messages with them, but through the process, she gained a sense of empowerment and a boost in confidence.

Maceda-Maria explained that, following her training as a community leader, she used her experience in other capacities, including a Community Navigators Program for COVID-19 outreach. In this program, community leaders educated communities, conducted vaccine clinics, distributed personal protective equipment, and provided food to populations that were reluctant to leave their communities. In addition, Maceda-Maria used her experience in programs for wildfire health, recycling and waste management, and flood control. She noted that, in one program, the health department proposed a plan she felt would not work in her community; her empowerment enabled her to express her reservations and create her own proposal. Maceda-Maria said that this program has given her "a seat at the table" and the ability to elevate her community's voice so that its needs are met. Maceda-Maria emphasized that underserved communities are eager for knowledge and desire to protect themselves, but that messages do not always resonate because of the way they are shared. "If government agencies collaborate with communities, communities will be heard and they will be able to take the steps to protect themselves," she said.

FEDERALLY QUALIFIED COMMUNITY HEALTH CENTERS

Greg Talavera, Professor in the Department of Psychology at San Diego State University and Co-Director of the community-based South Bay Latino Research, told workshop participants about his experiences working with a community-based Federally Qualified Health Center (FQHC). FQHCs serve as primary care providers for 30 million patients each year, most of whom have low incomes, are members of racial or ethnic minority groups, and are publicly insured or uninsured. FQHCs are a "great laboratory" for public health, communication, and community outreach, said Talavera. He shared details of a model that has been adapted for FQHCs, which demonstrates potential for collaboration between federal agencies and communities. The basis of the model is community-based participatory research (CBPR). CBPR can be used for many types of health-related efforts, said Talavera, ranging from service-oriented delivery programs to randomized clinical trials. CBPR involves collaboration between scientific researchers and community members to address diseases and conditions affecting the community. It recognizes the strength of each partner, and the community is involved as an equal partner with scientists. Community members collaborate on all aspects of the project, which may include a needs assessment, planning,

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research intervention design, implementation, evaluation, and dissemination of community-level interventions.

Talavera noted that "a lot of lip service" is paid to community engagement in research, but in many cases a researcher only wants a community organization to do the recruiting, or the researcher may want access to data held by the organization. In contrast, Talavera said he always insisted upon open discussions of the proposed plan, involving both the researcher and community partners. Further, Talavera only participates in research that is mutually beneficial to the researcher and the community. He noted that some federal agencies require universities to share funding with community-based organizations, and some even require the community-based organization to be the prime contractor with a subcontract to the university. This could be a positive shift, he said.

Talavera noted that his experience is with FQHCs, but that the CBPR model could be used for any federal program. However, he emphasized that building the necessary capacity and preparing all partners to collaborate takes work. These types of health centers have the advantage of being trusted organizations for community members; he noted that "if you can provide an individual in that community with good, quality medical services, you have their trust." Hard-to-reach populations can often be found in these centers, as they are specifically designed to serve the underserved community. When the COVID-19 pandemic began, people came "knocking on the door" of FQHCs to help distribute information to communities. At Talavera's center, there was a staff of 40 that could be immediately deployed and was trained in research ethics, communication, and health education. His center is also involved in the All of Us[1] research program; researchers reached out to other FQHCs to recruit hard-to-reach populations, and six centers have recruited 12,000 participants for the program. These centers are an "untapped resource" for collaboration among federal agencies, researchers, and communities, said Talavera. While there is a need to build more infrastructure and capacity in some of the smaller centers, FQHCs can reach disadvantaged populations and bring community-based programs to scale.

STRATEGIES FOR VIRTUAL STAKEHOLDER ENGAGEMENT

Dmitry Khodyakov, Co-Director of the RAND Center for Qualitative and Mixed Methods, shared his experiences working on in-person and virtual community engagement, with communities defined by geographic location, demographic characteristics, and medical condition. One of Khodyakov's first projects at RAND was aimed toward evaluating the

[1] https://allofus.nih.gov/

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effectiveness of evidence-based interventions using community-based participatory research; it involved African American and Latino communities in Los Angeles. At the same time, RAND was looking at ways to modernize its approach to conducting expert panels, known as the Delphi method. The Delphi method is an approach to collecting expert opinions both anonymously and iteratively, with the goal of reaching consensus. It is commonly used, he said, to develop evidence in health services research. Khodyakov said that, while working on both projects, it occurred to him that a modified Delphi method could be used to virtually engage communities, particularly larger numbers of community members who may not be located in one place. For example, rare disease communities that are spread across the country may benefit from coming together virtually.

Khodyakov shared the modified-Delphi approach that was created at RAND for virtual engagement, called ExpertLens® (Figure 3-2). This method has been used in a number of studies and initiatives, he said, including the development of the National Suicide Prevention Research Strategy. The method is particularly useful for a multistakeholder engagement in which clinicians and patients are involved in the consensus process; the anonymity the method affords prevents power dynamics from affecting the outcome. The approach begins at Round 0, with recruitment and idea generation; a large number of participants are engaged and asked for input on the topic and the process. At Round 1, participants are asked a series of close-ended questions, and asked to explain why they chose their responses. At Round 2, each participant receives a report showing how their individual answers compare to those of other participants, and they are asked to share their perspectives on an online message board. This round includes opportunities for participants to compare, reflect, engage, and debate, said Khodyakov. Finally, in Round 3, participants reassess and revise their original responses based on the feedback and discussion from Round 2.

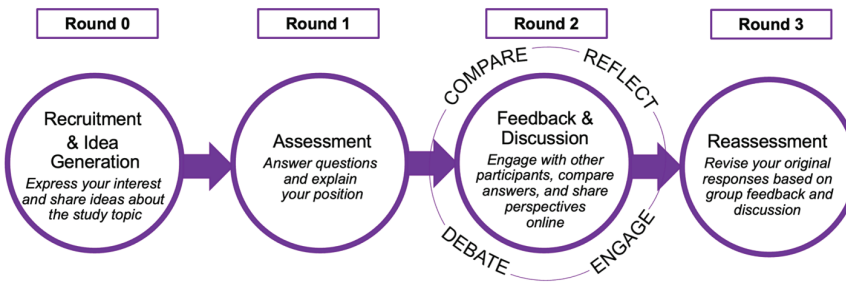

FIGURE 3-2 ExpertLens®: An online modified-Delphi approach.
SOURCE: www.expertlens.org

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Based on their experiences, RAND has developed 11 practical considerations for virtual, multistakeholder engagement (Box 3-2). These suggestions span three phases of research work: preparing for research, implementation and continuous engagement, and evaluation and dissemination.

DISCUSSION

Following the panelists' remarks, Ramirez led a question-and-answer session among panelists and workshop participants.

Engendering Trust with Communities

The challenge of declining trust and polarization "is very real and is impacting public health," said Richmond. Panelists addressed how the federal government, researchers, and other stakeholders can approach communities in ways that engender trust. Ideas surfaced by panelists are summarized in Box 3-3.

BOX 3-2
Practical Considerations for Virtual Multistakeholder Engagement

Preparing for Research

- Co-develop an engagement approach with relevant stakeholders.
- Mirror engagement methods valued by traditional "experts."
- Pilot test the engagement approach.
- Recruit participants with diverse perspectives.
- Assemble a panel of adequate size and composition.

Implementation and Continuous Engagement

- Build participant research and engagement capacity.
- Build two-way interaction.
- Ensure continuous engagement and retention of participants.
- Conduct scientifically rigorous data analysis.

Evaluation and Dissemination

- Evaluate engagement activities.
- Share results with participants.

SOURCE: Adapted from Khodyakov, D., Grant, S., Denger, B., Kinnett, K., Martin, A., Peay, H., & Coulter, I. (2020). Practical considerations in using online modified-delphi approaches to engage patients and other stakeholders in clinical practice guideline development. *The Patient*, *13*(1), 11–21. https://doi.org/10.1007/s40271-019-00389-4

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BOX 3-3
Panelist Ideas for Approaching Communities to Engender Trust

- **Seek an introduction by a community member**. Greene-Moton stated that it is best for a stakeholder to be introduced by someone who is in the community. She noted that because she is known and trusted by her community, anyone she introduces would benefit from that baseline of trust.
- **Include community members as part of stakeholder organizations**. Ho urged stakeholders to build bridges between institutions and community members/organizations. If a member of the target community can be incorporated into the stakeholder organization, she said, this will build capacity, support economic development, raise up communities, and create relationships.
- **Come to listen with humility**. Maceda-Maria emphasized the importance of coming to a community "humbly and with a listening ear." Humble listening is critical to build sustainable, on-going relationships in which the communities' concerns are brought to stakeholders and the stakeholders respond and give feedback. This is important to keep communities from feeling taken advantage of, she said. Maceda-Maria also noted that communities may need meetings to be held at times that are outside the traditional workday.
- **Look for opportunities to provide mutual benefit to communities**. Richmond underscored the need for bidirectional communication and mutual benefit, noting that while organizations often need help from a community, they can also offer the community opportunities such as internships or mentoring.
- **Value the expertise of communities**. Khodyakov said that his experiences have taught him the importance of listening to communities first, rather than coming to a community with a predeveloped idea of a project's benefits. He also urged stakeholders to consider the notion of expertise and who is an expert, noting that community members have valuable expertise to share about their lives, perspectives, and experiences.

SOURCE: Presentations by Ella Greene-Moton, Khanh Ho, Emma Maceda-Maria, Al Richmond, and Dmitry Khodyakov; March 20, 2023.

Need for Investments in Communities

Many participants expressed the importance of investing in communities and posed practical questions about steps that could be taken to advance these efforts. One participant asked panelists to share the biggest challenges they have faced in working with the federal or state government. Richmond noted that there is often "lip service" paid to equity and diversity, but not sufficient investment in the communities and the communication channels that serve them. For example, it is common for a government contract to be awarded to a top communication company, which then subcontracts out a small percentage to a newspaper or radio station that

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serves a minority community. Richmond said that if the government does not invest more in these communication channels, they will not exist to help reach these communities.

Greene-Moton agreed that investment in communities is critical; she noted that communities often lack the capacity to act as partners for government initiatives due to limited investment in capacity building, although Talavera added that FQHCs are well positioned to work with federal partners. Maceda-Maria added that lack of accountability and sustainability is another challenge in working with the government. Government agencies approach communities with specific promises and needs but do not always follow through on the work. For example, community health workers were heavily leaned upon for COVID-19 response, but may now feel that they are no longer needed.

Several participants addressed the challenge of directly funding community organizations. Richmond noted that proposals are often geared toward academic or large-scale nongovernment entities. Waiting for federal funding can be another problem, said Ramirez. Funds can be slow to arrive, and community organizations often cannot wait as long for money as academic institutions or other partners can. Ho encouraged greater courage and creativity in finding ways to work with communities.

Participants also reflected on the impact that the end of COVID-19 pandemic funding will have on community engagement and communication work. Richmond noted that it is difficult for nonprofit organizations to build infrastructure when most of their funding is tied directly to a specific program: "when the program ends, the dollars end." Investment in national infrastructure for community-based organizations is needed. Just as funds are needed to improve roads and bridges, he said, investment is needed in community health infrastructure, so it remains robust, strong, and vibrant for current health issues and future crises. Richmond said that funding for communication staff can be particularly difficult to come by. Some organizations "are so busy doing the work that they do not focus on communication," while others are not sure where to find funding. Greene-Moton said that an organization she works with has identified some flexible funding to allow for building infrastructure and hiring a communication specialist, but funding remains a challenge. Ho said that in new initiatives such as the climate health equity response, King County has prioritized hiring a communication specialist as one of the first employees. Richmond noted the increasing importance of defining "community engagement," as pharmaceutical companies and others may invoke this term to refer to engaging community organizations to recruit for clinical trials, which may be at odds with the educational mission of many organizations.

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INSIGHTS FROM COMMUNITY ENGAGEMENT BREAKOUT SESSIONS

On day two of the workshop, two small groups participated in separate facilitated discussions to generate ideas for building capacity related to listening to and engaging communities. Each group considered the same questions:

1. What resources do we have inside or outside of government to address challenges to building capacity for community engagement?
2. What are examples of successful efforts that could we learn from?
3. What resources are most needed to make progress on this priority/challenge?
4. Who else should be involved in addressing this challenge/priority?

Appendix C summarizes the ideas generated through these discussions, as reported by session facilitators Amelie Ramirez and Hilary Karasz.

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4

Capacity: Digital Data and Information Systems

Data and information systems provide vital supports for effective federal health communication, said Maimuna Majumder, Assistant Professor in the Computational Health Informatics Program at Boston Children's Hospital and Harvard Medical School and Planning Committee Member. Workshop panel presentations and discussions explored these systems with a special focus on interpretable data systems that are anticipatory of and adaptable to the public's concerns, both during health emergencies and within the broader context of day-to-day well-being and longevity. Panelists and participants discussed the data infrastructure needed to better understand the health communication ecosystem. Presentations and discussion also addressed challenges and ethical considerations related to collecting and using these data.

Key Points

- Important data about the online health communication ecosystem are not currently available; a shared public research infrastructure could potentially address many of the challenges of data collection and dissemination. (Lazer)
- Public data infrastructure is needed to understand how amplification of messages happens across various types of media channels in the online environment. Local news sources can be a valuable

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source of information about a community and the interests and concerns of its members. (Bhargava)
- Privacy is not the only ethical issue related to digital health data; other ethical issues include inadequate access to technology, inadequate publicity and transparency, inadequate meaningful public engagement, and inadequate ethical monitoring and oversight. (Ferretti)

DATA INFRASTRUCTURE FOR UNDERSTANDING THE HEALTH COMMUNICATION ECOSYSTEM

The way people get information regarding health and medicine is consequential to their health, said David Lazer, Professor of Political Science and Computer and Information Science at Northeastern University. The good news, he said, is that the internet was built to instrument human behavior, making research possible that was impossible in the 20th-century information ecosystem. However, most data are inaccessible to independent researchers. Data describing how and where people get health information on the internet are an "incredible scientific opportunity," but accessing these data is increasingly difficult. The fundamental question, Lazer said, is which data are necessary to understand the health information ecosystem of the 21st century.

Lazer described types of data that would be useful for understanding the nature and impacts of the health communication ecosystem, and he assigned a letter grade representing their current accessibility (Box 4-1).

Lazer acknowledged that collecting these types of data carries important ethical challenges. Observing people's online behavior is comparable to accessing genetic and health data, he said. Inferences about individuals could potentially be made from such data and information about people the individuals are connected to could also "spill over." However, these issues are not new and need not preclude this type of research; lessons can be drawn from other studies that handle sensitive electronic records, said Lazer.

Drawing on his own work developing the National Internet Observatory, with the objective of recruiting a set of volunteers who allow observation of their online experiences, Lazer explained some of the safeguards in place to protect volunteers' identities and the privacy of the data that they share. Participants volunteer to send data from their mobile devices and desktops to a data warehouse. The data are first processed on participants' devices to eliminate as many identifiers as possible. The data are ordered into distributed analysis clusters, which enables researchers to send queries and get results. Access is tiered by data sensitivity, and technical barriers to

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BOX 4-1
Data Availability and Needs for Understanding the Health Communication Ecosystem

- **What are people shown on various platforms?** For example, what are people seeing about COVID-19 vaccines on Facebook, Google, or TikTok? The visibility of these data is quite low, although some researchers have developed bespoke solutions to track what people see. The only substantial infrastructure that exists, he said, are expensive, commercially oriented products that do not generally look within platforms. (F)
- **What are people engaging with on platforms (e.g., clicking)?** These data are currently only available to people working within the platform companies. (F)
- **What are people sharing?** These data are more accessible for study because shares are often public. (B-)
- **What are people seeing, engaging with, and sharing across platforms?** In an ideal research world, said Lazer, a researcher would be able to access all of these data within and across platforms, link them to other sources of information accessed (e.g., news sources, television), and link them to what people actually believe and do in the real world. (F)
- **What is the causal chain between information consumption and subsequent behavior?** Further research on these links is needed, he said. (F)

SOURCE: Presentation by David Lazer, March 20, 2023.

data extraction are in place. Researchers are required to undergo training about the use of the data and the ethical issues involved, and they must sign a data-use agreement and consent to monitoring. Layered upon these protections, the program has a robust consent process for participants that borrows from the learnings of All of Us.[1]

This research infrastructure, said Lazer, is one example of a potential solution to the need to better understand how and where people are getting health information. Creating a shared infrastructure addresses some of the research challenges including the large, fixed costs of data collection. This model is highly usable for health-related information consumption and may also be useful for other types of information.

MEDIA CLOUD

Trying to examine the health communication environment is like putting together pieces of a puzzle, said Rahul Bhargava, Assistant Professor of

[1] https://allofus.nih.gov/

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Journalism and Art + Design at Northeastern University and Co-Principal Investigator of Media Cloud. There are private social platforms (e.g., Messenger), public social platforms (e.g., Facebook, Twitter), and broadcast platforms (e.g., newspapers, television news). Information flows among these platforms and data about what people are sharing and saying in each sphere are difficult to access. Although there are solitary examples of studies and programs to bring data together, said Bhargava, a public data infrastructure is needed to understand how message amplification happens across these three types of channels in the online environment. People in every field, from computational social science to politics to social media analysis, need to work on their "piece of the puzzle" and communicate with each other to avoid duplication of efforts. Researchers and others who need data would greatly benefit from the ability to access data without having to negotiate this access on their own.

Bhargava shared details about the work he and his colleagues have done to develop Media Cloud. Media Cloud is a set of technologies that can be defined in four ways, he said. First, it is a comprehensive database of global online news; the database includes nearly two billion stories from the last 10 years, from sources across the globe. The global aspect is important, he said, because other databases (e.g., Google News, LexisNexis) may not include the breadth of international sources. Second, Media Cloud is a set of online analysis tools and methods. Technologies embed principles, goals, methods, and philosophies, said Bhargava, and are designed for a specific type of end user. Media Cloud is designed to be "less intimidating" than other tools, to facilitate use by users who are not experts in media analysis. Media Cloud's search tool allows users to investigate media attention, look at coverage in multiple languages, and see top words in coverage and the narratives that people may be reading. Third, Media Cloud is an interdisciplinary team of technologists and researchers; and fourth, it is a cross-sector research service. Bhargava invited workshop participants to try Media Cloud[2] themselves. Bhargava said that while Media Cloud does not "give you answers," it helps "find the space to be able to say what is happening" in one piece of the puzzle.

Moving forward, Bhargava noted the importance of finding funding and support for this infrastructure; in addition, connecting it to other "pieces of the puzzle" will allow users to better understand how, where, and when health messages are being communicated and amplified.

[2]search.mediacloud.org

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ETHICAL CONSIDERATIONS

The health data ecosystem has expanded rapidly in recent years, said Agata Ferretti, Researcher at the Health Ethics & Policy Lab at ETH Zurich. Medical big data and other data sources, combined with powerful analytics tools and new stakeholders, make new types of research possible. Drawing on her work related to the ethics surrounding health information data, Ferretti provided panelists with insights, in a European context, that could be applied to the use of data and information systems to understand people's experiences in the health information ecosystem. Even without medical records, noted Ferretti, it may be possible to infer a person's health information based on location data, credit card purchase data, and social media data. Nontraditional stakeholders, such as big technology companies, provide the infrastructure and hold much of the data. Real-time big data allow scientifically sound and reliable technologies to be built, said Ferretti, but at the same time introduce challenging ethical questions.

Ethical concerns about privacy of health data and other personal information may prevent the adoption of some technologies. For example, the developers of a Swiss contact-tracing tool for COVID-19 expected it to be widely adopted, given its high level of privacy protection; however, fewer than 25 percent of the population adopted the tool.

Ferretti stressed that privacy is not the only ethical issue related to digital health data, although it receives the bulk of the attention. She shared four major unaddressed ethical issues associated with technologies that use health data, like contact tracing applications (Box 4-2).

Based on these issues, Ferretti laid out a path toward ethical digital health. First, there is a need to develop technically robust, privacy-preserving tools; however, she emphasized that addressing privacy is insufficient to ameliorate ethical concerns. Second, representativeness of datasets and scientific efficacy needs to be ensured by tackling issues of accessibility at the social and cultural levels, and by investing in digital infrastructures, digital interoperability, digital literacy, and digital health training. Third, to increase the adoption of technologies and fight misinformation, stakeholders need to provide clear, transparent, and reliable communication about data and their uses, and inform the public about any involvement of private partners in the development and deployment of technologies. Fourth, public trust and social license are critical aspects of ethical digital health; technology developers need to engage with the public and integrate people's perspectives into technology development and data governance. Finally, to ensure fair benefit distribution among stakeholders, ethical oversight and accountability mechanisms need to be strengthened, including monitoring for conflict of interest arising from public-private collaborations. Much effort has gone into highlighting the importance of using data, said Ferretti,

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BOX 4-2
Unaddressed Ethical Issues Associated with Technologies that Use Health Data

- **Inadequate access to technology.** Whether due to inequities or lack of desire to use technologies, inadequate access can result in biased data sets, reducing the scientific reliability and efficacy of the tools.
- **Inadequate publicity and transparency.** When limited information is available about technologies that use health data and about how data are collected and used, tools may be underadopted and misinformation about their use can spread. Clear and transparent communication is needed, describing how the public and private sectors are collaborating and how these efforts can benefit the public.
- **Inadequate meaningful public engagement.** Public engagement is needed to encourage adoption of tools.
- **Inadequate ethical monitoring and oversight.** More monitoring and oversight of these technologies is needed, as well as greater attention toward justice and benefit distribution issues.

SOURCE: Presentation by Agata Ferretti, March 20, 2023.

but the uses of data and the accountability mechanisms in place are less clear to the public.

DISCUSSION

During the discussion period, panelists and participants discuss (a) underutilized data types; (b) ensuring credibility, transparency, and effectiveness; (c) priorities for investing in infrastructure and data development; and (d) equity and representation in systems and platforms.

Underutilized Data Types

Majumder began the discussion by asking panelists to identify at least one data type that they believe is underdiscussed or underutilized in health communication, and the progress that could be achieved with those data. Bhargava responded that radio is an understudied area. Radio is used in many public health messaging campaigns, particularly campaigns directed at specific populations or geographic areas. Bhargava said that, as a consumer, he listens to radio stations that he feels kinship with and that match his identity. As researchers "we have only scratched the surface" of understanding the narratives that flow across radio, he said. Ferretti said

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that one underappreciated area is the importance of new social media platforms. Young people who use social media change platforms very quickly; for example, Facebook was popular ten years ago but is now barely used by young people. Data from new platforms are very valuable, but the platforms may not be familiar to researchers. Majumder added that studies have shown that young people are using TikTok as their primary form of news, including health information. Lazer said that private messaging apps (e.g., WhatsApp) would be an incredibly rich source of data about the spread of information, but that users of private messaging apps have a "deep expectation of privacy" that makes ethical data access challenging. Majumder noted that chain mail messages on private messaging apps are a common source of misinformation, and there may be a way to distinguish such messages from personal messages for data collection.

Ensuring Credibility, Transparency, and Effectiveness

Majumder asked panelists to speak to ways to ensure credibility, transparency, and effectiveness when communicating about health on any platform. Ferretti noted that research on young people indicates that they have unique priorities for information sources; they put less emphasis on privacy and reliability of information, and more emphasis on personalized information and engaging tools. Research is needed to understand the perspectives and priorities of end users so that the most relevant tools and information can be provided, she said. Lazer agreed with this analysis and said that whether a message is "credible" depends on what credibility means to the person receiving the message. For example, does the person put more trust in an expert, their own doctor, a media source, or their peers? A person's thoughts about credibility are also likely to influence their behavior; Lazer said that self-report data indicate that those who rely on Facebook for COVID-19 information are less likely to be vaccinated. Each of these research questions is important to address and it is currently difficult to understand the connections between cognition and behavior, he noted. One major challenge for credibility and transparency, said Bhargava, is that most online communities are controlled by profit-driven companies. Each community has its own norms and rules, and individuals largely lack control over these communities. This is problematic, said Bhargava, and collaborative design of community platforms may be one way to address the issue.

Priorities for Investing in Infrastructure and Data Development

Given the need for developing new infrastructure and data-collection methods, panelists identified several priorities for investments. Lazer noted two major areas he believes are important to prioritize to support research

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on the health communication ecosystem. First, policy change is needed to encourage platforms' transparency and data sharing while protecting privacy. Second, it is necessary to develop shared infrastructures that mitigate the massive, fixed costs of data collection; make data available for analytic access; and address privacy and other ethical issues. Lazer emphasized the needs for legal and ethical data access from platforms, as this work is essential for "societies to work in the 21st century." The General Data Protection Regulation (GDPR) in the European Union, said Ferretti, has brought beneficial changes and promoted collaboration. Although companies and researchers are required to justify their data usage, the GDPR has provided standards to formalize collaboration and data-sharing processes. Moving forward, she said, infrastructure investments are needed to close the digital divide, not only between countries but also between populations within countries. It is critical to close this gap and then to effectively engage with the public about new technologies and their potential uses. Bhargava encouraged investment in social media alternatives. Currently, most social media platforms reflect libertarian values and a "more speech is better speech" attitude. Platforms can work in other ways, and those alternatives need to be supported and developed. In addition, he said, public funding is needed to support data infrastructure. Much of the work in this area has been privately funded and, Bhargava noted, it is time for government funders to "get on the train."

One participant noted that during the COVID-19 pandemic, the work on vaccine communication was "incredibly intensive," particularly in terms of trying to communicate in real time. Bhargava and Lazer noted that both personnel and data infrastructure are critical for collecting and analyzing data. Lazer emphasized the importance of creating actionable data on a timeline, and he said that public infrastructure is needed to collect and disseminate information to inform public discourse. He suggested that people working in academia could do more to support the provision of actionable information in a timely way but reiterated that, ultimately, investments in public data infrastructure are needed to enable the rapid turnaround of public results to inform policy discourse.

Equity and Representation in Systems and Platforms

Social media platforms do not always reflect all communities and can thus overemphasize certain narratives, observed one participant. Given this inequality, she asked panelists how they are "baking in equity" into their systems and platforms. Part of the long-term solution for the National Internet Observatory, said Lazer, is finding ways to make the research infrastructure broadly available to a wide set of researchers. The situation is not "if you build it, they will come," he said; bridges to the infrastructure

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need to be built and training needs to be available and accessible. In terms of equity in the data, Lazer said that the National Internet Observatory is currently building the capacity to conduct focused data collection for specific communities. Bhargava shared two generic approaches for improving equity. In terms of data collection, partnering with people already working in a target population ensures inclusion of diverse data; for example, working with a partner that has a large database of Black-owned and -operated media sources. Bhargava noted that some populations are harder to target for data collection; for example, media from Indigenous populations in the United States are often published and distributed in PDF form, which makes extraction more difficult. A second approach involves privileging important, equity-focused projects. For example, he said, Media Cloud is working with a group of activists in the Americas to automate the pipeline of data on gender-based killings.

A workshop participant asked about the representativeness of data gleaned from the internet, particularly whether it makes sense to rely on these data or whether other sources of community-level data are needed. Bhargava acknowledged this issue, noting that certain approaches can provide data on smaller geographic areas or communities. Media Cloud can geolocate articles and run a query asking for articles about vaccine hesitancy and South Florida, for example. Another way to capture community-level data is to look at media sources popular in the community, for example, the Hindi Star Times for the Indian population in Boston, or the various Brazilian news sources for Boston's large Brazilian population. Tapping into these sources, said Bhargava, requires both a database of global news sources and insight into the community and what they read. He noted that his own knowledge of community news sources can come from personal interactions, such as a WhatsApp group or a parent community meeting. Surveys that ask about media consumption and internet usage are another way to learn about community news sources; for example, Bhargava learned about an active Reddit sub in his own community that discusses community. While each approach to community-level data provides only one piece of the puzzle, wise use of multiple approaches can offer valuable insight, he said. Lazer shared that it would be challenging for the National Internet Observatory to get representative community-level data because of the sheer number of participants needed to represent individual communities.

INSIGHTS FROM DATA AND INFORMATION SYSTEMS BREAKOUT SESSIONS

On day two of the workshop, two small groups participated in separate facilitated discussions to generate ideas for capacity building related to data and information systems to support health communication. Each group considered the same questions:

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1. What resources do we have inside or outside of government to address challenges to building needed data and information systems?
2. What are examples of successful efforts that could we learn from?
3. What resources are most needed to make progress on this priority/challenge?
4. Who else should be involved in addressing this challenge/priority?

Appendix D provides a summary of the ideas generated through these discussions, as reported by session facilitators David Scales and William Hallman.

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5

Capacity: Expertise and Human Capital

Communication is a critical function of any effort to improve health and is most effective when it leverages expertise and human capital in communication and the social sciences, emphasized multiple speakers. Panelists and discussion addressed the near- and long-term steps toward ensuring that the federal government draws upon the expertise necessary to meet current and future health communication needs.

Key Points

- Expertise in risk communication, science communication, and/or health communication needs to be integrated throughout the decision-making process to better understand people's concerns, questions, and perceptions of an issue, and to communicate effectively. (Hallman)
- Health communication is a critical mission that is best conducted by a team with a range of complementary expertise, skills, and competencies. (Yanovitzky)
- There are particular strategies and investments for communicating during an emergency, in the face of uncertainty, evolving science, and heightened risk perception. (Quinn)
- Collaboration with Indigenous populations requires an understanding of the role of sovereignty, a willingness to listen and

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build relationships, and a commitment to honoring Indigenous knowledge and expertise. (Boyd)
- The news media are an important source of health information for many people but can present information in a simplistic or inconsistent way; health communicators can improve media by engaging early and often with journalists. (Gollust)
- Large-scale public health campaigns can be challenging due to the need to create a message that resonates across populations, ensure adequate exposure to the message, and adapt operations in response to feedback and evidence. (Hornik)

Effective health communication is vital for decision making, and it goes beyond simply translating science or explaining results at the end of a decision-making process, said William Hallman, Professor and Chair of the Department of Human Ecology at Rutgers University and Chair of the Planning Committee. Instead, expertise in risk communication, science communication, and health communication needs to be integrated throughout the process to better understand people's concerns, questions, and perceptions of an issue. The expertise needed goes beyond public relations, especially to communicate effectively during a crisis. Hallman said that while expertise exists within agencies, there is a need to map where the expertise is located, which competencies are represented, and which communication skills are still needed. "We need leadership from above," said Hallman, to integrate communication science into the everyday work of federal agencies, and to reorient thinking to emphasize that it is everyone's job to think about effective communication. This workshop session, he said, was designed to explore approaches for building capacity and to examine the benefits and challenges of various capacity-building approaches, including ways that partnerships and collaborations can be leveraged.

EXPERTISE AND CAPACITIES NEEDED FOR EVERYDAY HEALTH COMMUNICATION

Health communication is a critical mission, and it requires investment in the necessary skills, teams, and supports for those teams to conduct this mission, according to Itzhak Yanovitzky, Professor of Communication and Public Health at Rutgers University. Yanovitzky focused his remarks on ongoing, systemic efforts to communicate with the public and other stakeholders about health.

Yanovitzky described the numerous critical competencies and functions of health communication specialists (Figure 5-1), noting that there is no "one person unicorn" that can do all these things; instead, it requires a

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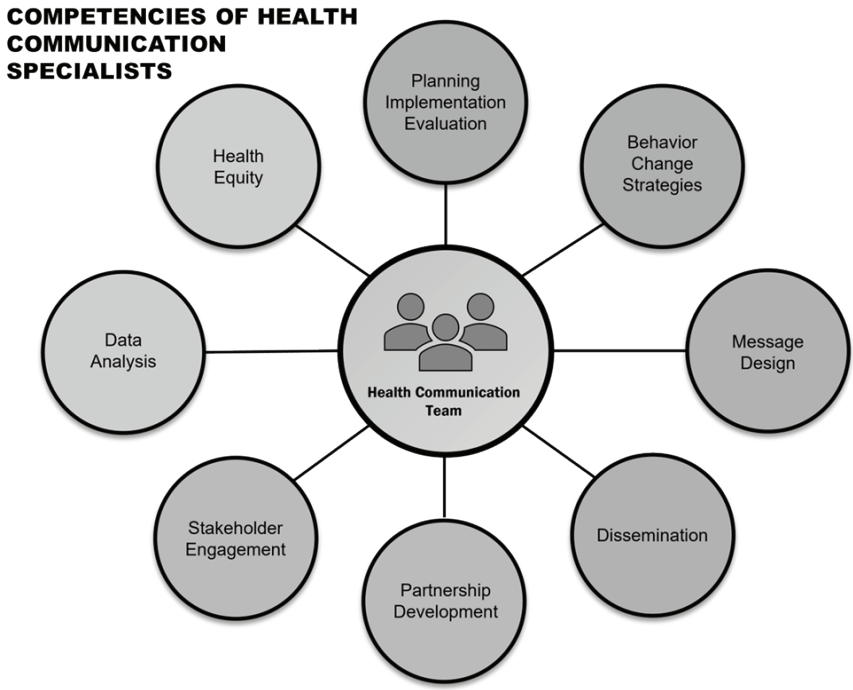

FIGURE 5-1 Competencies of health communication specialists.
SOURCE: Presentation by Itzhak Yanovitzky, March 21, 2023.

team with complementary expertise. For example, not every communication specialist needs to be a data expert, but every communication team needs a data scientist.

On the most basic level, health communication specialists use behavioral change theories to promote healthy behavior in a target audience. Message design is a major component of health communication; messages may be designed to convey information, to warn people of a risk, to encourage a behavior, or to remind people to take an action. There is a science to message design, said Yanovitzky, that offers a systematic way of thinking about the goals and audiences of the communication. Systematic tools such as problem analysis, audience analysis, and messaging testing are utilized to create an effective message and minimize unintended effects. Traditionally, dissemination has been a major focus of health communication, but specialists are also expected to engage in planning, implementation, and evaluation of health communication programs. According to Yanovitzky, this requires skills such as data analysis, stakeholder engagement, and

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partnership development. In addition, specialists need to understand issues of health equity and remain conscious of equity in all communication efforts.

Yanovitzky emphasized that listening is a very important part of communication, particularly listening to what the listener may not "want to listen to." He gave the example of town halls that he and his colleagues held about the opioid epidemic. The intended focus of these meetings was to talk about prevention, but community members wanted to talk about treatment. This indicated a need for increased focus on community priorities, he noted. Health communication experts can help decision makers see the value in listening and can help to create structural opportunities for listening. Yanovitzky added that "providing more science and more facts" will not be effective in the absence of underlying relationships. "Sometimes we think we have a communication problem, but we have a relationship problem instead," he said. With a relationship in place, an agency can ask communities what they need. Many communities may need information about the types of resources that are available to them, said Yanovitzky.

In recent years, the federal government has invested much effort toward building capacity for systematic evaluation; the same kind of effort could be invested for communication. Yanovitzky shared a list of communication capacities, divided into three domains: professionalization, expert and technical support, and coordination and outreach support (Box 5-1). Communications is a unique field, he said, in that there is no standard training and people come into the field from multiple backgrounds. Developing standards for the field and creating clear career paths for people to follow would be useful, according to Yanovitzky. Communication specialists' professional development could be enhanced through links with professional associations and by creating communities of practice. Helping people establish careers in government health communication could be one strategy for minimizing attrition, he added. Yanovitzky noted that health communication specialists are not experts in a particular area of health, but work across many areas and need a community of practice to collaborate and learn from colleagues. For communication specialists to be effective, he said, they need expert and technical support, including access to data, relevant audience/market research, and a platform for testing messages. Further, communication specialists need institutionalized access to experts—both from the health field and from communities—and they need the ability to work with a creative design team to produce accessible, actionable products. By collaborating with experts, communities, and designers, communication teams can create useful, effective products, such as interactive dashboards. Yanovitzky stressed the importance of creating products and materials that have a clear purpose and are actionable. Yanovitzky also noted that the National Institutes of Health has the opportunity to improve

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BOX 5-1
Capacity-Building Domains

Professionalization

- Professional standards and accreditation.
- Training, professional development, and career paths.
- Established links with professional associations and communities of practice.

Expert and Technical Support

- Institutionalized access to health communication expert panels.
- Timely access to a creative design team for producing accessible, actionable, and tailored communication products.

Coordination and Outreach Support

- Ability to coordinate messaging and outreach activities across government agencies.
- Access to in-house media/public relations, community, and/or stakeholder outreach professionals.
- Ability to leverage collaborations with external partnerships to support key health communication functions or tasks.

SOURCE: Presentation by Itzhak Yanovitzky, March 21, 2023.

communication capacity through its funding requirements. "Communication is a core function" of health, said Yanovitzky, and there is a need to learn more about where and how communication is most effective. Funding requirements could ensure that communication strategies are tracked and evaluated.

CAPACITIES NEEDED FOR EFFECTIVE HEALTH COMMUNICATION IN EMERGENCIES

The past three years of the COVID-19 pandemic have demonstrated that the federal government has enormous capacities but also serious constraints on its ability to communicate effectively with different populations, said Sandra Quinn, Professor and Chair of the Department of Family Science and Senior Associate Director of the Maryland Center for Health Equity, School of Public Health at the University of Maryland. The federal government can convene, provide information, build knowledge, and provide resources. However, the federal government has less capacity or ability to take the type of "hyper-local approach" needed both during a crisis and

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in addressing chronic disease and health disparities, said Quinn. This is where state, local, tribal, and territorial health departments can build on the capacity of the federal government and translate those capacities into effective approaches for their communities. She emphasized several important capacities needed at the federal level for effective health communication in an emergency, which emerged from an earlier National Academies of Sciences, Engineering, and Medicine workshop entitled Building Trust in Public Health Preparedness and Response Research (Box 5-2).

One particularly important capacity, said Quinn, is developing and sustaining community engagement and partnerships. Drawing on insights from the CommuniVax Study in multiple sites around the country, she emphasized that recruiting, training, supporting, and utilizing community health workers is vital. These workers can help to determine culture, channels, information needs, and potential messages for effective communication,

BOX 5-2
Ideas for Required Capacities for Effective Health Communication in a Federal Emergency

- **Health communication extends beyond messaging and requires communicating with empathy and humility.** During a crisis, there is incredible uncertainty, evolving science, and heightened risk perception. These characteristics of a crisis make it critical for the government to bring creativity, compassion, empathy, and trustworthiness to their work. These qualities "are the soil that we need to use for effective communication and trust," said Quinn.
- **Train leadership in crisis and emergency risk communication.** Although a health communication team is ideal, some organizations may not even have a single individual trained and tasked with communication. Because of this, it is critical that all members of an organization be trained in crisis and emergency risk communication. Training needs to include leaders and scientists who may not have previously learned the skills or received the preparation necessary to speak with the public with humility.
- **Utilize Clear Communication Index and health literacy tools to translate science into tools/resources.** Training to use tools such as the Centers for Disease Control and Prevention's Clear Communication Index or other health literacy tools can also be helpful, noted Quinn.
- **Train a workforce to understand how to track and counter mis- and disinformation**.
- **Recognize that diversity in every sense plays a role in the health communication exchange.**

SOURCE: Presentation by Sandra Crouse Quinn, March 21, 2023. Adapted from National Academies of Sciences, Engineering, and Medicine. (2022). *Building trust in Public Health Emergency Preparedness and Response (PHEPR) science: Proceedings of a workshop–In brief*. The National Academies Press. https://doi.org/10.17226/26658

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and can help to build trust between the community and the government. Sustained funding sources for community health workers, beyond grants that may "be here today and gone tomorrow" are critical, she said.

Quinn gave an example of the helpfulness of community health workers in working with communities. She and her colleagues have worked with local barbershops for over 10 years, and during the COVID-19 pandemic, a flyer with a lot of misinformation was left in the door of one of the barbershops. One of the barbers, a community health worker, brought the flyer to Quinn and her colleagues; this initiated an ongoing conversation, including town halls in which policy makers, scientists, community members, and other stakeholders were able to listen and communicate with equal voices.

To build capacity on the local and state level, Quinn emphasized that major long-term investments are needed. State and local health departments have shared that their capacity for community engagement and communication was limited before the COVID-19 pandemic and has since worsened. However, Quinn suggested several ways that the federal government could help improve engagement and communication capacity at the local level:

- Fund public health traineeships;
- Fund pre- and postdoctoral fellowships in key areas such as health communication, health literacy, social media, and countering mis/disinformation; and
- Fund pre- and postdoctoral fellowships in public health preparedness and response research and translation.

In discussion, to illustrate this point, Ella Greene-Moton, Administrator of the Community Based Organization Partners Community Ethics Review Board and Flint/Genesee Partnership, Health in Our Hands, and Planning Committee Member, noted that in Flint, Michigan, the COVID-19 messages coming from the Centers for Disease Control and Prevention (CDC) were not trusted by the community. Green-Moton and her colleagues created a task force that included academics, the health department, grassroots organizers, and community- and faith-based organizations; this task force translated CDC messages into community messages that were often delivered in person. When citizens saw that trusted community members were giving the same information as the CDC, "they started to relax a little bit."

Quinn shared that the same sort of community engagement process used with other communities can work with politically conservative communities. She and another participant both noted that evidence supports finding spokespeople who have a common identity with those communities with which they are communicating. For example, during the COVID-19 pandemic, Francis Collins—head of the National Institutes of Health (NIH)

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and an evangelical Christian—spoke on Fox News and in faith-based communities.

ENGAGING AND HONORING THE EXPERTISE OF NATIVE POPULATIONS

Native people have been communicating about health and science for generations, in an effective and culturally appropriate manner, said Amanda Boyd, Associate Professor of Health, Risk and Science Communication at Washington State University, member of the Métis Nation and Co-Director of IREACH, the Institute for Research and Education to Advance Community Health, which works with approximately 150 tribes and Native organizations around the country. Building capacity for health communication in Native communities begins with honoring the experience, expertise, and Indigenous knowledge that exists, she said. Boyd also emphasized that Native communities do not encompass only people living on reservations; over 70 percent of Native people live in urban areas. There are fewer data on these populations and often fewer formal care structures, but engagement can happen through cultural centers, clubs, urban health care organizations, and other mechanisms.

Research on health communication shows that one of the most common factors in effective communication strategies is the leadership and engagement of the affected community, according to Boyd. When the community leads or is involved, messaging is more likely to be trusted, barriers are more likely to be understood, and cultural and traditional norms can be incorporated into communication. Outside agencies or researchers may not have access to local knowledge, understand what affected parties care about, or be aware of the behaviors that affect exposure to a hazard. Boyd shared an example of the importance of this cultural knowledge. In Native communities, vaccine campaigns focused on getting vaccinated for one's community, one's relatives, and one's elders. "The director of the CDC could probably not say that in a way that is appropriate and as effective" as tribal leaders could, she said. She also noted that some tribes have taken it upon themselves to use information from federal agencies to develop ways to engage their communities, noting that this adaptive work does not always have to happen within government agencies.

It is important to determine the best ways to connect Indigenous communities with federal agencies, noted Boyd. She stated that a benefit of the COVID-19 pandemic has been a greater understanding of the need to work with communities, and a greater interest in funding these initiatives. For example, funding from NIH's Rapid Acceleration of Diagnostics program enabled Boyd and her colleagues to work with five urban Indian health organizations to understand communication needs and perceptions of COVID-19 vaccines.

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Boyd encouraged participants to continue to learn from the successes and challenges seen over the last several years, and to continue to fund community-based initiatives. Specifically, she said, there is a need for communities to co-create communication and engagement strategies. Rather than simply bringing information from the community to the decision-making table, community members need to be making decisions and co-creating strategies from the beginning of the process. Boyd shared an example from the Nez Perce tribe located in north-central Idaho. During the COVID-19 pandemic, the tribe had its own communication task force that met regularly to look at CDC guidance and communication and to determine how to amplify the information through their own networks. Boyd noted that the federal government was not involved in this effort, but the effort demonstrates the potential and expertise that exists within communities and could be leveraged by the government.

Boyd said there are many capacities needed for the government and Native communities to successfully collaborate on health communication, and two of those that she considers most important are summarized in Box 5-3.

CAPACITIES FOR EFFECTIVELY ENGAGING THE NEWS MEDIA

Americans rely on news media for much of their health information, said Sarah Gollust, Associate Professor in the Division of Health Policy and

BOX 5-3
Important Capacities for Successful Collaboration between Government and Native Communities

- **People who can listen and build relationships.** It can take years to build relationships and trust, Boyd said, so relationship and trust building need to start now—before another crisis happens. This requires a commitment to building relationships and honoring Indigenous knowledge and expertise within health communication.
- **People who understand the history and recognize tribal sovereignty.** Knowledge of the history of native nations is important for developing trusting relationships with the federal government, said Boyd. Sovereignty, she said, is the "ability to govern and protect and enhance the health, safety, and welfare of tribal citizens within tribal territory." When a government entity approaches a tribal nation to collaborate, it is essential that the government entity understands the role and importance of sovereignty.

SOURCE: Presentation by Amanda Boyd, March 21, 2023.

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Management at the University of Minnesota School of Public Health. Over the last several years, cable news, network TV news, and local TV news were particularly important sources of information about the COVID-19 pandemic (Figure 5-2). Thus, for effective health communication, expertise in engaging with these media sources is key, as is access to the evidence needed to inform those engagements, she said. Gollust discussed the implications of several research findings for federal health communication:

The first challenge, said Gollust, is a disconnect between the experts who are featured as information sources in the media and the degree to which the public trusts them. Studies show that politicians are the most cited source in television news. However, a 2022 survey of U.S. adults (SteelFisher et al., 2023) showed that politicians rank near the bottom of the list of sources trusted by the public. State and local elected officials were also near the bottom, with doctors, nurses, and scientists at the top (Figure 5-3). When politicians are cited in news coverage as a major source of health information, this can potentially exacerbate politicization of health issues and increase political polarization. Gollust suggested mitigating this problem by building relationships with a wider network of people who can serve as news media sources.

Expertise and capacity are also needed to navigate scientific uncertainty and to clearly communicate about such uncertainty with news media, said Gollust. The appearance of "conflicting science" through news coverage of the latest study or latest recommendation contributes to a sense among the public that science is "flip-flopping." A related issue, she said, is a concern around inconsistent messaging, misinformation, and information overload.

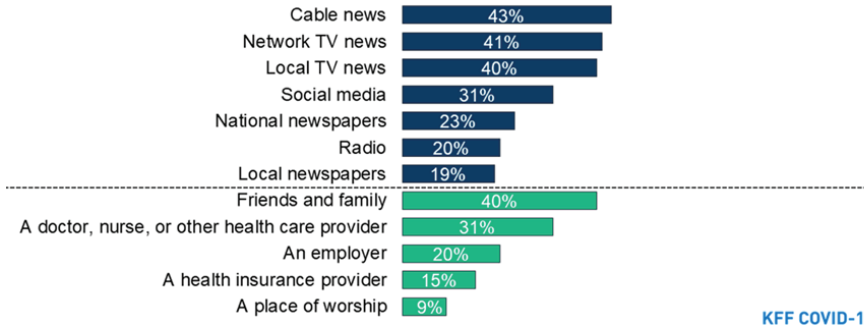

FIGURE 5-2 TV news tops media sources for COVID-19 vaccine information, friends and family top personal sources of information.
NOTE: Percents represent those who reported getting at least a fair amount of information about the COVID-19 vaccine from each source over the past few weeks. Dark blue bars represent media sources of information and green bars represent personal sources of information.
SOURCE: Hamel et al. (2021).

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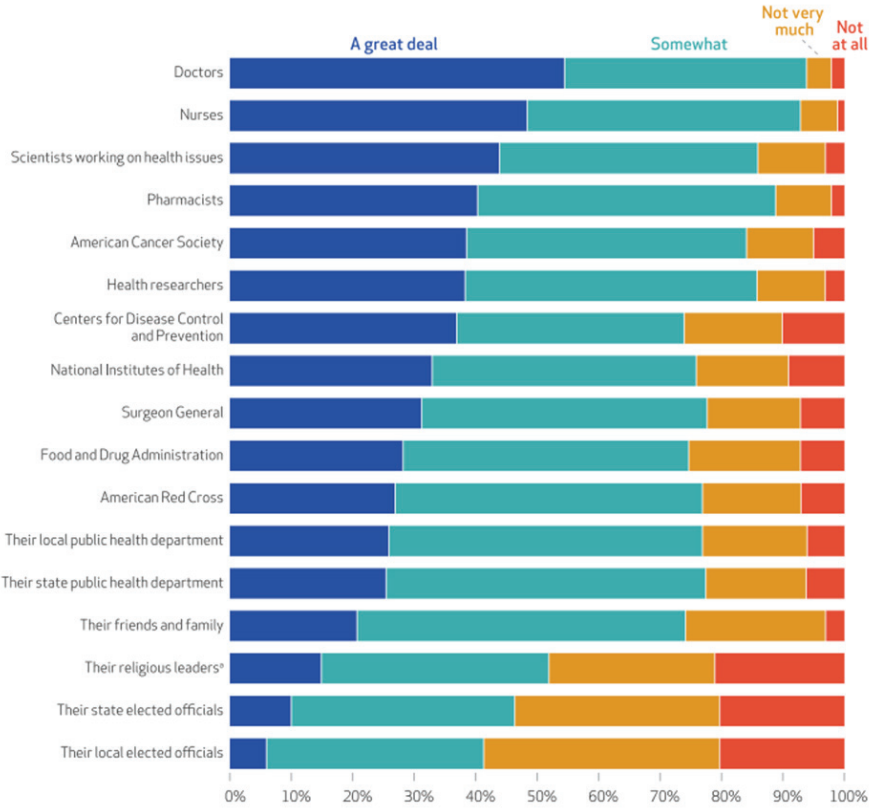

FIGURE 5-3 Public trust in sources of health information among U.S. adults, by degree of trust, 2022.
NOTE: Weighted percentages are displayed. Survey question: "In terms of recommendations made to improve health in general, how much do you trust the recommendations of each of the following groups?"
SOURCE: SteelFisher et al., 2023.

Health communicators can engage with journalists early in the process of reporting, to help them understand the process of scientific discovery and evolution so that they can put new information in context.

Finally, when news media discuss health equity and disparities, said Gollust, they tend to use statistics or examples that focus on particular individuals, rather than emphasizing the structural and systemic reasons behind the disparities. Research shows that this type of coverage can invite a stereotypical understanding of the reasons for health differences between groups, rather than a fuller, more complete structural understanding. Again, health communicators can help by engaging early and often and helping journalists understand the structural issues, said Gollust.

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EXPERTISE AND HUMAN CAPITAL NEEDED FOR EFFECTIVE LARGE-SCALE HEALTH COMMUNICATION CAMPAIGNS

Substantial, large-scale public health campaigns have different challenges than community-level campaigns, explained Robert Hornik, Professor of Communication and Health Policy, Emeritus, at the Annenberg School for Communication, University of Pennsylvania. These large-scale campaigns need to communicate successfully with multiple communities, often without addressing the differences among them. In addition, most large-scale public health communication campaigns designed to change behavior ultimately fail. This does not mean that behavior change does not occur, he clarified, but that behavior change is not the result of one campaign. Instead, change is more likely the result of repeated exposures to messages in the public communication environment. For example, tobacco use has declined significantly over the last several decades, and condom use increased significantly during the HIV epidemic, but neither of these changes can be attributed to one campaign. Hornik said that the lack of "success" of any one campaign should not dissuade future campaigns, but emphasized that "this is hard work."

Hornik reviewed three challenges of public health campaigns: models of behavior change, assuring exposure, and the capacity to adapt to new information. Understanding models of behavior change is an integral part of a campaign, he said. Once the target behavior for a campaign is chosen, the question becomes, "Why do some people engage in a behavior and others do not?" What alternative explanations might account for differences between those who change a behavior and those who do not, and what are the influences on behavior? There may be individual, social, or institutional explanations for behavior, said Hornik. For example, an individual may make a decision about vaccines based on personal beliefs about self-protection, about protecting others, or about possible side effects. Knowledge that other people are getting the vaccine—or not getting it—is a potential social explanation for behavior. Institutional explanations, such as workplace vaccine requirements, may be another reason for a person's vaccine choice. To promote behavior change, communication campaigns could be directed at any or all of these areas.

The question, said Hornik, is to determine empirically which of these explanations matter, and for whom. For example, a campaign to educate people on the risks of cigarette smoking is unlikely to be effective, as nearly everyone already knows and believes that cigarette smoking is harmful. More effective messages might be that quitting smoking can save a person a lot of money, or that it is easier to quit if you quit with help. Hornik said that both of these messages have been shown to be predictors of whether people intended to quit smoking, but the first was more influential for men and the second was influential for everyone. While it is necessary to research

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subpopulations and which messages work for each, "you cannot do 20 campaigns on a national level." With limited resources, finding a common denominator among subgroups is a way to tailor a message to reach as many people as possible.

A second challenge for large-scale public health campaigns is developing an exposure strategy to ensure that the target audience is exposed to the message often enough for it to be effective. Hornik said that he has often seen the government develop a great messaging strategy but without an adequate exposure strategy. An exposure strategy takes into account the target population, what proportion of the population the message needs to reach, how many times individuals need to be exposed to the message over a given time period, and how exposure will be accomplished. Relying on social media or a website is "tempting" but not particularly effective. Hornik said that, in his opinion, a lack of continuous exposure over time is the single best explanation for the ineffectiveness of health communication programs.

The third challenge for campaigns is the need to be flexible and adapt when necessary. "A campaign is not a pill reflecting a fixed regimen that you are delivering," Hornik said. It needs to evolve and adapt over time, whether because the population is changing or simply to correct mistakes made during development. Public health campaigns need the research capacity to feed information from the field back into planning and operations on an ongoing basis, and the operational capacity to adapt when changes are required. Systems need to be structured to collect evidence and use this evidence to improve.

Hornik closed by reiterating three key capacities for large-scale public health campaigns: (a) generate alternative possible models of behavior change and gather evidence for choosing among them; (b) assure adequate exposure to reach the audience, with enough frequency over time; and (c) adapt operations in response to ongoing evidence. Hallman added to this discussion by noting that the ability to document what has worked and what has not worked is another important capacity of large-scale public health campaigns. He noted that federal workers are often overburdened, particularly during a crisis, and lack the capacity to capture successes and failures as they occur; there are opportunities, however, to utilize students or fellows to track the day-to-day operations and add to institutional knowledge.

DISCUSSION

Given the importance of communication science, one participant asked how an "appreciation of communication science expertise among management and leadership" can be increased. Several participants noted that there

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is a great deal of expertise within federal agencies, but a lack of awareness and appreciation of this expertise and what the work involves. Another participant noted that the phrase "health communication science" can confuse people, because there are so many aspects to communication and so many unique competencies. She wondered if speaking more specifically about what communication science entails could help improve understanding and appreciation of the role of these experts. Another participant added that, in addition to being specific about competencies, it is important to realize that competencies evolve over time. One participant noted that work is under way at the CDC to review the existing and needed competencies.

INSIGHTS FROM COMMUNITY ENGAGEMENT BREAKOUT SESSIONS

On day two of the workshop, two small groups participated in separate facilitated discussions to generate ideas for building capacity related to expertise and human capital to support evaluation of federal health communication. Each group considered the same questions:

1. What resources do we have inside or outside of government to address challenges to building the capacity for evaluation of federal health communication?
2. What are examples of successful efforts that could we learn from?
3. What resources are most needed to make progress on this priority/challenge?
4. Who else should be involved in addressing this challenge/priority?

Appendix E provides a summary of the ideas generated through these discussions, as reported by session facilitators Jeff Niederdeppe and Itzhak Yanovitzky.

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6

Capacity: Organizational Capacities for Agility

Organizational structures and roles can facilitate agility in the federal government, which can be consequential for the timeliness and responsiveness of communication, as participants noted throughout the workshop. Remarks and discussion explored approaches for addressing barriers to nimble decision making and cross-agency coordination.

Key Points

- Agile government has strong leaders and empowered teams; is mission driven; uses evidence-informed solutions; works with communities and partners; and values innovation, speed, and persistence. (DeSeve)
- Many communication challenges in the federal government stem from a sense of responsibility and risk aversion; increased agility and effective communication can be fostered when the government shares responsibility, leans on partners, and explores new approaches. (Sharfstein)
- Bold leaders with a strong vision can foster innovative, agile government; experts in communication and social and behavioral sciences need to be included early in conversations about potential initiatives or decisions, rather than brought in at the final stage to communicate the decision. (Natanblut)
- Incorporating feedback loops and adaptive learning into government communication and initiatives is a key component of agile government. (Viswanath)

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Donald Moynihan, Chair at the McCourt School of Public Policy at Georgetown University and Planning Committee Member, set the stage by explaining why agility in government can be so challenging. He explained that federal employees make up a smaller percentage of the population than in years past—they now represent about .64 percent of the population, whereas in the 1960s they represented about 1.1 percent—and that political appointees have been playing increasingly important roles, despite an average of only 18 months in office. In addition, government is often accused of being slow moving, said Moynihan, some of which is due to "procedural fetishism"—the idea that governments are attached to rules and processes rather than outcomes. In addition, the negativity bias explains why the public and politicians are more in tune with stories of failure than success; this natural bias generates incentives for blame avoidance and shifting, said Moynihan. Panelists offered their views on improving the way the government can function more effectively and how agility and innovation in government can help to improve health communication.

APPROACHES FOR INCREASING AGILITY IN GOVERNMENT

Agility requires an open mindset, or the ability to think about new things and changes, said G. Edward DeSeve, Coordinator of the Agile Government Center at the National Academy of Public Administration, which serves as the hub of a network that brings partners together to develop and disseminate agile government principles. DeSeve also drew on his experiences as Special Advisor to President Barack Obama, overseeing the successful implementation of the $787 billion American Recovery and Reinvestment Act, and other roles he has held within government. An agile government is one that has the trust of its citizens—people believe that the government will be responsive to their needs and reliable in providing services. Trust in the government, said DeSeve, has real-world consequences; for example, research published in 2022 estimated that global deaths from COVID-19 could have been reduced by almost 13 percent if all nations had a high level of trust in government (COVID-19 National Preparedness Collaborators, 2022).

DeSeve shared the definition of trust in government from the Organisation for Economic Co-operation and Development (OECD). OECD identified and defined five attributes that influence trust in government (Box 6-1).

Trust in government varies greatly around the world, said DeSeve. In the United States, trust in government has declined significantly over the last several decades. In the early 1960s, around 75 percent of people trusted the government to do what is right always or most of the time, but this number has since declined to around 20 percent. This erosion of trust, he said, leads

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BOX 6-1
Attributes that Influence Trust in Government

- **Responsiveness**: Providing or regulating public services in a timely way.
- **Reliability**: Anticipating change, protecting citizens, and demonstrating care in the concerns and desires of people.
- **Integrity**: Using power and public resources ethically.
- **Openness**: Listening, consulting, engaging, and explaining to citizens.
- **Fairness**: Improving the living conditions for all and treating all in the same way.

SOURCE: Presentation by G. Edward DeSeve, March 21, 2023.

to people's unwillingness to hear communication from the government. The level of trust is better at the state and local levels, with around 65 percent of people trusting state government and 75 percent of people trusting local government in 2013. DeSeve said, "the closer government gets to the people, the higher the degree of trust."

Increasing trust is a core part of agile government, which DeSeve defined as a framework for developing and implementing policies, regulations, and programs at all levels of government to deliver transformational change by improving competence, respecting public values, and increasing trust. He suggested that these principles cultivate "a new mindset for government at all levels," and his colleagues at the National Academy of Public Administration have defined a set of principles for agile government (Box 6-2).

DeSeve drew on his experience in the Obama administration to illustrate these principles. After the American Recovery and Reinvestment Act was passed in 2009, DeSeve worked as a Special Advisor to the President to distribute nearly $800 billion. The first step, he said, was to create a series of networks. An internal network included 22 agencies, while external networks included financial officers in various jurisdictions, mayors, governors, and others. These networks worked together to focus on the mission to be accomplished. Each agency identified a single responsible individual who led a series of teams within the agency, and team members worked together in highly skilled, cross-function teams. Teams had to focus on their area—whether fixing roads, doing science, or building housing—but they also needed to think creatively and be open to change. Further, the White House set a goal of spending 80 percent of the funds within 18 months of the legislation's passage, so the teams had to move quickly, be persistent, and be willing to change course. "If something did not work, we had to change our mind quickly and move onto something else," said DeSeve.

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BOX 6-2
Principles of Agile Government

- **Organizational Leaders**: Leaders need to eliminate roadblocks, aggregate and assume risks, empower teams to make decisions, hold teams accountable, and reward them.
- **Mission**: Mission is at the heart of agile government. A mission needs to be crystal clear, laser focused, easy to communicate and understand, and constantly updated through established processes.
- **Evidence-Informed Solutions**: Solid evidence is critical to form the basis for designing and implementing policy, regulatory, and program options.
- **Metrics**: Measurement protocols need to reflect the mission and be outcome focused, widely agreed upon, evidence based, and easily tracked.
- **Customer-Driven Behavior**: Customers need to be intimately involved in design and redesign of the program, and it is important for programs to focus on the customer journey.
- **External Networks**: Developing and sustaining networks are integral to leveraging the support of customers and the public in accomplishing of the mission of the organization.
- **Empowered, Highly Skilled, Cross-Functional Teams**: Team members need to be experts in their disciplines, understand their roles, be diverse in their thinking, engage in continual face-to-face communication, and make well-supported decisions that address the immediate challenge and advance the project.
- **Innovation**: Innovation needs to be rewarded and new approaches that test the relevancy of rules, regulations, and past practices to deliver better results and higher levels of customer satisfaction need to be preferentially employed.
- **Speed**: Speed needs to be encouraged by establishing clear deadlines that carry a sense of urgency.
- **Persistence**: Achieving successful outcomes requires continual experimentation, evaluation, and improvement over time, to learn from successes and failures.

SOURCE: Presentation by G. Edward DeSeve, March 21, 2023.

While each principle of agile government is important, said DeSeve, the key is an integrated framework. The government's strategy, organization, and implementation need to be based on the principles and need to work together (Figure 6-1). Each principle relies and builds upon the others; leadership ensures a focus on the mission and the vision, evidence is gathered to create metrics, the customers and the public are involved in macronetworks and agencies to rapidly innovate implementation, and the process is continually iterated and refined over time to increase trust, improve competence, and respect public values.

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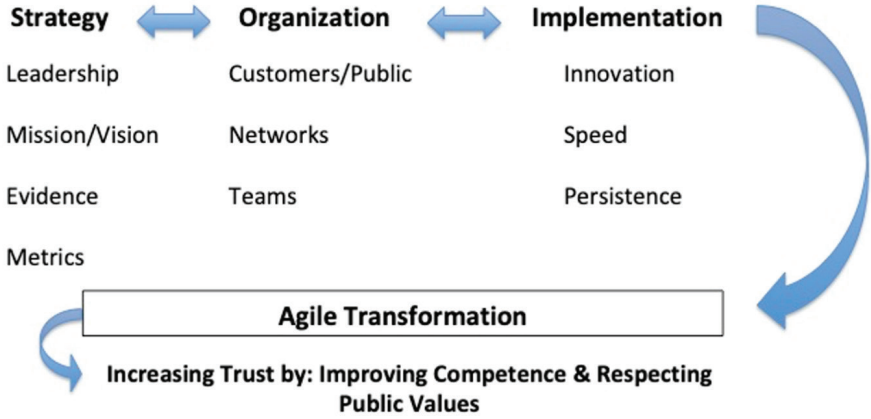

FIGURE 6-1 Integrated framework for agile government.
SOURCE: Presentation by Edward DeSeve, March 21, 2023.

The framework and principles for agile government can be used within government agencies or efforts, including health communication. "There has to be a leadership group that is willing to articulate what success looks like. What does the mission and vision look like, what does evidence look like, and finally, how will we know if we have succeeded?" stated DeSeve. He offered the U.S. Department of Veterans Affairs as an example of an agency that has made major improvements by practicing all the elements of the agile government framework.

Technology, communication, and workforce development are critical components of implementing the framework for agile government, said DeSeve. Technology allows for an exchange of information and enables interaction between the government and the public. Communication needs to be a two-way street, he said, and the government needs to be responsive to information from the public. To do so, the government workforce needs to be agile; this will require a significant amount of training at all levels, he said.

REFLECTIONS AND INSIGHTS FROM THE RESPONSE PANEL

Following DeSeve's remarks, three response panelists and workshop participants discussed challenges and potential solutions for increasing agility in government to improve the effectiveness of federal health communication.

Joshua Sharfstein, Vice Dean for Public Health Practice and Community Engagement at the Johns Hopkins Bloomberg School of Public Health, spoke about his time as the Principal Deputy Commissioner of the

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U.S. Food and Drug Administration (FDA), and the challenges he observed. One major challenge, said Sharfstein, is risk aversion. Trying to get something done in the federal government could be like trying to "tiptoe past 80 closed doors, and any one of them could spring open" with someone jumping out to stop it. There was a constant fear that something would go wrong, and this fear often persisted even after the action was complete. For example, when the FDA took action against caffeinated alcoholic beverages, Sharfstein described steps taken around the communication of this action, including engaging a democratic and republican State Attorney General, the Alcohol and Tobacco Tax and Trade Bureau, and the Centers for Disease Control and Prevention (CDC). He also ensured a careful strategy with stories to share. It was "wildly successful," explained Sharfstein, but after it was over, Sharfstein said, colleagues in the executive branch told him, "'You have no idea how lucky you are that this did not go totally south'… everybody was still thinking about risk aversion." One potential way to ameliorate the pervasiveness of risk aversion in government, he said, is to partner with or lean on others who are less risk averse. For example, during the COVID-19 pandemic, Johns Hopkins University presented information about the pandemic in ways that "would have been hard for the CDC to do," such as discussions about the implications of various policies.

Another challenge of communication in the federal government, said Sharfstein, is an emphasis on quality over speed. Although understandable, such emphasis can have unanticipated consequences. He shared an example from one of his first days at the FDA. In the face of a pistachio recall, Sharfstein wanted to get a press release out quickly. At the time, the process for press releases involved sequential editing by each person involved. After four hours, the document came to Sharfstein and, when he accepted all the changes, the press release "made absolutely no sense." A new process was implemented in which everyone gathers in the same room and finalizes a message together. Sharfstein said that it is important to consider how communication processes balance the needs for speed, quantity, and quality.

A third challenge is that people in government feel "an awesome responsibility." This sense of responsibility, he said, is certainly admirable. But sometimes government workers feel they cannot share that responsibility with others; they feel like they have to "sink or swim" on their own. Sharfstein relayed a story about when the FDA worked with the Consumer Product Safety Commission to take infant sleepers off the market. He suggested inviting the American Academy of Pediatrics to participate in the press conference, and some of his federal colleagues were very uncomfortable bringing in a voice from outside government. In the end, the outside group was successfully included, but some people felt like norms had been violated, he said.

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Sharfstein noted that sharing responsibility is particularly important at times when government's credibility is being attacked or questioned by a subset of the public. For example, during the COVID-19 pandemic, it was critical to have communication partners that could share the responsibility for key messages. Creating these partnerships requires transparency, trust, and information-sharing mechanisms, he said. Government agencies are not keen to share information and planned actions ahead of time, but effective partnerships require keeping one another in the loop. He gave the example of a state health official who lamented that she found out about FDA actions in the newspaper; when citizens came to her with questions and criticisms, she was not prepared to respond and it "undermined the whole credibility of the enterprise." In the current information environment, communicating effectively with the public will require government willingness to share responsibility, lean on partners, and discover new paths, said Sharfstein.

Sharon Natanblut, Principal at Natanblut Strategies and Planning Committee Member, spoke to workshop participants about participating in agile government while working at the FDA. She described the impact of a leader with a strong vision and willingness to take some risks in the service of public health. These qualities were most evident, she said, in the decision for FDA to be involved in tobacco regulation, even though this authority was not explicitly granted by statute. A cross-cutting team of innovative thinkers with skillsets in law, science, and policy worked "day and night." The existing leadership understood that messaging about policy is not something that only happens at the end of the process, said Natanblut. Instead, messaging around the harms of tobacco, especially to children, became part of all the FDA commissioner's tobacco-related actions. Investments in communication technology during this time, said Natanblut, were also made in anticipation of the need for an updated system to manage public comment.

Natanblut also shared stories from her work at FDA after the Food Safety Modernization Act was passed and the FDA was given the responsibility of regulating farmers. The FDA had no previous working relationship with farmers, said Natanblut, and many farmers felt animosity toward the agency. Natanblut and her colleagues traveled across the country, visiting as many farms as possible. Interacting with the farmers, hearing from them directly, and letting them know that the agency cared "made all the difference." Natanblut also worked on stakeholder engagement at the FDA; she noted that "real" stakeholder engagement means getting to know people and figuring out who is knowledgeable and influential. Engaging people before a particular policy is put forth often allows for the development of a better policy and can lead to better media coverage and better support.

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This process is "not for the faint of heart," she said, but it results in stronger policies that the public can support.

A third respondent, K. "Vish" Viswanath, Professor of Health Communication at the Harvard T. H. Chan School of Public Health, suggested that agility means responsiveness to constant change, conflicts, controversies, and outcomes. In the context of health communication, how will campaigns and other planned or unplanned communication be responsive to feedback? Viswanath noted that DeSeve listed "speed" as one of the principles of agile government; he argued that it is not speed that matters, but rather timeliness. Building a feedback loop into a government intervention or communication is key to ensuring that feedback is received and used to adjust the intervention in a timely manner. This approach, said Viswanath, is part of the adaptive learning process.

The adaptive learning process, he explained, involves several steps. The first step is identifying the goal and the theory of change. Taking the time to do this step "forces people to really lay out what they are trying to accomplish and how they will do that," explained Viswanath. Next, it is necessary to collect data and engage with stakeholders and communities. Viswanath stressed the importance of meeting not only with government and other high-level partners, but also with local leaders and program beneficiaries. Stakeholder and community engagement often results in modification of the goal or theory of change. In addition, once the communication or program has begun, it is critical to continue to meet with stakeholders and community members to reassess and reflect on what has worked and what has not, and to discuss changes to implement moving forward. Viswanath noted that many people in government already do such "after-action" reports, and that he utilizes them in his work in Nigeria as "pause-and-reflect" sessions. These sessions may include focus groups or other approaches for collecting feedback, and they make the system more agile, adaptive, and experimental. Building a feedback loop into the system ensures that course corrections are done in time to achieve the goal, said Viswanath.

In discussion, one participant added that the planning and feedback loop could benefit from tabletop activities that involve practicing how to collaborate, how to communicate, and how to make plans. In her experience, conducting such exercises has made certain fields more prepared for crises than communications and social and behavioral scientists often are.

DISCUSSION

Following the panelists' responses, Moynihan opened the floor for a discussion among workshop participants and speakers. Panelists and speakers discuss (a) cross-sector collaboration, (b) the role of communication in decision making, and (c) the role of politics.

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Cross-Sector Collaboration

During discussion, DeSeve agreed that cross-sector collaboration is essential for agility. For example, the National Institutes of Health was working with pharmaceutical companies and researchers long before Warp Speed (the initiative to develop a COVID-19 vaccine quickly) was implemented. Viswanath added that the success of Warp Speed was due in large part to decades of federal investment in the scientific enterprise, as well as to successful public-private partnerships. DeSeve said that government can act as a leader or convenor to bring sectors together, but other stakeholders need to be involved in planning long before implementation. Viswanath agreed, noting that diverse stakeholders see problems in unique ways, so involving them in planning provides a broader understanding of the issue and a better-defined goal and plan. Natanblut said that experts at an agency sometimes feel that they have all the knowledge they need, and they do not prioritize engaging with stakeholders. A program that is entirely invented and developed internally is highly unlikely to be successful, she said, but it can be challenging to convince agencies of this.

Sharfstein added that he supports external engagement, but he does not like the word "stakeholder" because it often refers to people who have a vested interest in something. In practice, the term "stakeholder" often gets defined as the regulated entity, to the exclusion of the public interest. Providing transparency around data and decision making is needed, but it is critical that "vested interests do not have a disproportionate influence on a process where there is a public good."

The Role of Communication in Decision Making

Many participants noted that communication experts need to be involved when decisions are made. As an illustrative example, one participant stated that when her local health department wanted people to get vaccinated in 2021, it used a public relations approach focused on the use of technology. That is, "build the website, they will sign up." Communication experts could have improved the strategy and enabled the health department to meet its goals more effectively and efficiently. However, she added, there is a lack of systematic data collection regarding communication capacities in public health. The lack of evidence makes it difficult to convince a health director that a team needs communication experts.

Sharfstein pushed back on the contention that communication needs to be involved from the very beginning, saying that decisions need to be made based on the right thing to do, and then communicated. Sharfstein noted that, in his work, he has seen problems arise when people are influenced by their perception of how a decision will be communicated, and this can circle back and affect decision making.

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A participant challenged Sharfstein on his assertion and offered an example of why communication needs to be at the decision-making table. There is a vaccine delivery candidate in development that essentially consists of a bandage with a dissolving microneedle; this technology has a huge number of advantages, including not requiring a trained person to administer it. However, making a fully informed decision about whether and how to implement this type of technology requires an understanding of how the public might perceive it, and in particular, an understanding of misinformation narratives that exist around microchips and 5G technology. The role of communication experts is not simply to release information and "twist it this way or that." Rather, they can provide an understanding of human behavior and feelings. This information needs to be available when a decision is made, he said.

Natanblut agreed that communication has an important role in the decision-making process. When health-related decisions are made, they can sometimes be difficult for people to understand or accept; communication experts can help people understand and trust the process and the data used to make the decision. However, if the communication experts were not present when the decision was made, they will lack the sufficient understanding of the process necessary to communicate with the public. Further, having communication experts present allows them the opportunity to raise questions and concerns to the subject matter experts, based on their understanding of how people think and behave, and to help ensure that scientists and leaders understand how their decisions might affect people "in the real world." Sharfstein responded that he appreciated these points and agreed that the ultimate goal is to make a "decision that can be defended entirely on its merits" and can be very clearly communicated. Viswanath added that there are many types of communication experts and many areas of social science expertise (e.g., human behavior, public relations) that can contribute valuable insights as part of a team. One participant noted that the COVID-19 pandemic has encouraged reflection about how and where to incorporate communication experts and emphasized the need for communication expertise on leadership teams. This is a culture change that the CDC is committed to seeing through, she said.

Role of Politics

Members of Congress are like the board of directors for federal agencies, noted one participant. Data and health communication sciences are vitally important, but in the federal context, politics play a role in communication and decision making. A workshop participant agreed and added that the process of listening to the community about their perceptions, concerns, and information voids can be seen by some as creating "reputational risk" for the agency involved. A shift is needed, the participant added, to recognize that community engagement is part of the critical work of figuring out which programs and solutions are effective.

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7

Capacity: Building Relationships to Enhance Effective Health Communication

Building meaningful relationships and partnerships can increase the contextualization of knowledge, the understanding of and trust in evidence, and the chances that health information can be mobilized when and where it is needed, said Angela Bednarek, Director of The Evidence Project at The Pew Charitable Trusts. Panelists and participants examined challenges and opportunities to foster coordination, collaboration, and partnerships, offering concrete examples from their own work.

Key Points

- Breaking down siloes within government departments and having a mechanism for listening to communities, addressing their questions, and shifting power dynamics were important to the COVID-19 response in New York City. There is a need for long-term, sustainable investment in these relationships. (Knudsen)
- The federal government can expand its capacity to engage communities by working with local health departments, but additional capacity is needed at the health department level to evaluate communication efforts; one potential approach for creating capacity in this area is to form academic-public health partnerships. (Karasz)
- Community members may not have the same focus or priorities as the government; it is critical for government officials to listen

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with humility to the community's concerns and work together to create solutions. (Mullen)
- Even when people want and need to collaborate, collaboration may not happen on its own; tools and evidence-based strategies can be used to facilitate collaboration. (Levine)

Many workshop speakers and participants emphasized the importance of relationship building and engagement for effective health communication, said Bednarek, but they also described the challenges of undervaluing the expertise required to do so. The skill sets, capacities, and organizational configurations necessary to build relationships are not consistently developed or resourced, and information about how to do these things effectively can be difficult to access. Fortunately, this is an area of burgeoning interest and an opportunity for health communication to draw upon insights from other sectors that face similar challenges, such as climate or education, said Bednarek. She noted that, among the funding community, there is both interest and demand for relationship building to help create infrastructure and capacity.

Several panelists offered their relationship-building experiences and research that can inform efforts to improve federal health communication.

RELATIONSHIP BUILDING DURING COVID-19 IN NYC

Janine Knudsen, Head of Clinical Innovation and Population Health at Accompany Health, shared experiences from her previous position as the Medical Director of the Commissioner's Office Special Operations Team. In that role, she led strategic public health initiatives focused on community health equity during the COVID-19 pandemic. It was an incredibly unique time, she said, with more than half of the agency activated in the emergency response infrastructure. This structure created a melting pot of skills and expertise, gave staff greater flexibility, and allowed for the creation of interdisciplinary teams. The experience, said Knudsen, "opened my eyes to what a government entity could accomplish if it could break free from traditional structures." In addition to these internal changes to the structure of the public health department, the department was engaging with more outside groups than ever before, including 100 community partners working in dozens of languages, advisory groups representing community leaders, and interagency collaboration across the city. These efforts required a lot of funding and coordination but were worth the investment, Knudsen said. She shared three examples of how the health department built relationships in the community and engaged in bidirectional communication during the COVID-19 pandemic.

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A Community Listening Infrastructure

The first example Knudsen shared was from fall 2020, when the first waves of COVID-19 had ended, and the vaccine was on the horizon. The public health department had been disseminating public health messaging for over six months and had received feedback from community leaders expressing their feelings that their concerns were not being heard. The community engagement teams took this feedback as a "call to action," she said. Community engagement teams partnered with the qualitative data team to establish a community listening infrastructure in the Bronx and Brooklyn, and the teams were "literally walking the streets" asking for feedback and getting a sense of what communities were talking about. Based on these data, the qualitative data team created a report that went to leadership and influenced the outgoing health messaging. Unfortunately, she said, the community infrastructure devolved as the public health department gradually went "back to business," but the experience demonstrated what can be done when investment is made in new internal structures, qualitative data teams, and community engagement.

The Misinformation Response Unit

The second example involved the public health department's misinformation response unit. The unit monitored misinformation trends and suggested responses based on behavioral psychology, which was a new type of undertaking for the department. Other organizations, including the Centers for Disease Control and Prevention, Project VCTR (Vaccine Communication Tracking & Response), and the Public Good Project, were instrumental in flagging community conversations related to topics like microchips, reproductive health, and ivermectin. Conversations with trusted community partners revealed that the community did not like the word "misinformation." In their eyes, said Knudsen, the community had concerns and they were looking for answers. When the public health department did not have answers—which was often—the community looked elsewhere. A related finding was that communities were "deeply unsatisfied" with the way scientists and public health professionals were talking about uncertainty. Community members reported that their questions were often met with "I cannot answer that," or silence; community members said they needed to hear "We do not know right now," or "We will get the answer for you." This kind of honesty and humility, said Knudsen, was what the community really needed at that time, and they did not get it.

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Shifting the Power Dynamics with Community Partners

Knudsen said that the public health department had hundreds of community partners, but at first, the staff did not initially fully trust their partners. For example, the department gave the community partners their data, talking points, and materials, but were not necessarily listening to or responsive to the community's needs. Over time, the department began a power shift, even though it made them "really uncomfortable." The department began encouraging community groups to create their own materials, without the normal approval process and without the public health department's name. Although this kind of power shift seems small, said Knudsen, it is necessary to make government more agile and effective. This experience led to a proposal for a city-wide public health corps of community-based organizations and community health workers as a strategy for emergency preparedness. However, the cost for this infrastructure was too high for city government, so short-term grant funding was pieced together to make it happen. Knudsen expressed her hope that, in the long term, sustainable funding can be secured to incentivize this type of interdisciplinary, cross-sectoral, community-based work.

In closing, Knudsen shared the lessons she learned from her experiences (Box 7-1).

BOX 7-1
Lessons Learned about Relationship Building to Support Public Health Communication

- **Break down silos within government agencies and departments to create new relationships internally**. Attention is often given to building relationships with external partners, but internal team creation and collaboration is also critically important.
- **Community partnerships need long-term, sustainable investment**. "We are never going to win the race" if the goal is only to get the latest facts out, Knudsen said; it is critical to "get ahead of the ball" by developing proactive messaging based on values and relationships.
- **Health professionals need to shift power toward community groups and be humble and transparent**. Power needs to be shifted toward community groups, particularly when it comes to messaging. "We need to be honest when we do not have the answers," and let people know what is being done about it. "Trust is currency, and it compounds over time," said Knudsen.

SOURCE: Presentation by Janine Knudsen, March 21, 2023.

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CO-CREATION OF HEALTH COMMUNICATION AT THE LOCAL LEVEL

Hilary Karasz, Deputy Director of Communications at Public Health — Seattle & King County and Planning Committee Member, described the value of collaboration to support health communication, from the vantage point of a public health department. King County serves a population of over 2.3 million people, a third of the population of Washington State, with over 100 languages spoken and the largest media market in the region. However, prior to the COVID-19 pandemic, only four or five people were working on communication at the health department. The job of the communication team is broad, including tasks such as responding to media, helping people with health promotion projects, managing the website, and overseeing communications generated by leadership. The staff write the messages, create materials, and distribute materials to media, cities, cultural communities, and elected officials. Given these roles, the communication staff does not have the opportunity, funding, or bandwidth to systematically plan or evaluate their communications, said Karasz. The team is "experienced, capable, talented, and creative" but does not have the skillset or resources to undertake this type of endeavor. Other health departments in Washington State have even fewer staff and resources than Seattle & King County does, and often rely on nurses or other staff to perform communication work.

Federal funding during the COVID-19 pandemic enabled the health department to expand its communication team and work on building community partnerships. A major focus of this work, Karasz said, was co-creation of communications through partnering with community organizations and community members, listening to what information they wanted, and working together to create messages and materials that would resonate with the people they serve. This approach has been "fantastic," said Karasz, but it requires time, sustainable funding, and close, ongoing partnerships. A potential role for the federal government, she suggested, would be to support these kinds of relationships and expand capacity by working with local health departments as they work with the community.

Despite the valuable partnerships, evidence of the effectiveness of these co-created messages and materials relative to health department-created messages is lacking because the health department does not have the capacity to conduct evaluation. Karasz suggested that partnering with a local academic institution, common in other areas of practice but not in communication, could effectively create capacity. Partnerships between social scientists in academia and on-the-ground communication practitioners have great potential to facilitate more systematic planning and evaluation of communication, she said.

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CULTURAL HUMILITY: LESSONS FROM LEADERSHIP DURING SANDY HOOK; FLINT, MICHIGAN; AND ZIKA

Jewel Mullen, Associate Dean for Health Equity at the University of Texas at Austin Dell Medical School, said that some people may consider her a boundary spanner, but creating collaborations may require "boundary dissolvers" who work to eliminate the boundaries that keep people from working together. Drawing on her experience in federal, state, and professional organization leadership positions during multiple crises—the school shooting at Sandy Hook Elementary School, the Ebola outbreak, the Flint water crisis, and the emergence of Zika virus—Mullen shared that she saw the "best and most difficult behaviors of everyone trying to respond in crisis."

The value of cultural humility in messaging was a particular lesson that Mullen drew from her experiences after the murders of children and teachers in the Sandy Hook shooting. She explained that when communicators and leaders focus on a particular population, they may not consider how other populations might hear the message. For example, she noted that people often said that an event like the Sandy Hook shooting was "not supposed to happen" in Newtown, Connecticut. The implication to mothers in Hartford and New Haven—who were weary of seeing their children die due to urban violence—was that it was supposed to happen in their locations.

In recalling the water crisis in Flint, Michigan, Mullen acknowledged the complexity and challenge for federal health communicators who wanted to respond but noted that sometimes the right experts are not located in health agencies. Honoring the community's own knowledge and concerns is vitally important, said Mullen. For example, community members knew that something was wrong with their water and wanted to hear from environmental scientists who could confirm their suspicions, rather than hear messages telling them "not to worry so much." Sometimes the best help from the government is to provide the information and leave communication to others who are closer to the community.

During the Zika epidemic, Mullen was asked to travel to Puerto Rico to speak with the governor and to bridge relationships. Governments were concerned about whether people in Puerto Rico were "taking Zika as seriously as they needed to." This thinking was insensitive and arrogant in two ways, she said. First, it assumed that the people of Puerto Rico were incapable of understanding a threat to their health. Second, it assumed that the people place the same priority on a health issue as the government does. Mullen emphasized that people around the world care about their health holistically, and do not only consider one issue at a time. For example, there were debates about spraying for mosquitos in Puerto Rico, or about asking people to install screens or close their windows. These debates ignored the

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fact that most windows had no way to attach screens, or that people did not have air conditioning and did not want their windows closed. Mullen added that the people in Puerto Rico, like those in Flint, wanted to know about the health risks but also the environmental and economic risks. The process of communication, even during a crisis, needs to start with listening to the community, understanding their concerns and priorities, and thinking before speaking. Sitting with people, being in community, and listening to one another not only makes for tremendous learning, but also takes some pressure off the government. Government leaders do not need to have all the answers because the community can help them figure out the solutions.

EVIDENCE-BASED COLLABORATION

"Collaboration does not happen on its own, even in situations where people want it and would value it," stated Adam Levine, Associate Professor of Health Policy and Management in the Bloomberg School of Public Health at Johns Hopkins University. Drawing on his scholarship on the science of collaboration and as the founder of the nonprofit organization research4impact, Levine shared critical principles for fostering collaboration and offered examples in which these principles are being implemented in the federal context.

The most visible type of collaboration is the formal variety, said Levine, including projects that entail shared ownership, decision-making authority, and accountability. Informal collaboration, in which collaborators exchange knowledge but do not become interdependent, is also incredibly important. Levine said that both formal and informal versions of collaboration need to be elevated and legitimized. There can be an unmet desire to collaborate, which may result from limited capacity or lack of incentives. However, sometimes collaboration is prevented because new collaborations require strangers to interact for the first time. "Strangers tend to remain strangers if left to their own devices," he said. Levine's research has shown that people are uncertain how to relate to one another, and building new collaborative relationships requires overcoming this uncertainty.

Surfacing the desire to collaborate with others and better understanding the uncertainty that people feel about relating to strangers can be a first step toward building productive collaborations, said Levine. To this end, he developed a tool called the unmet desire survey. Organizational leaders and others can use this tool to ask people directly about the challenges they face in their work, the information that would help them, the types of collaborations that would be valuable, and the hesitations they have about interacting with other people. The value of this survey, said Levine, is that it asks the questions people have often not been asked, and it provides actionable information needed for building collaborative relationships. There

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are also evidence-based techniques for facilitating matches between collaborators, he said.

Levine shared two examples of federal agencies that are currently piloting unmet desire surveys. The Agency for Healthcare Research and Quality (AHRQ) focuses on improving primary care, which will require new collaborative relationships between practitioners, researchers, funders, and others. AHRQ and Levine are working together to field an unmet desire survey to learn more about what kinds of new collaborative relationships may be important for working toward that goal. At the U.S. Office of Management and Budget, Levine is working to use the survey to advance cross-agency collaboration related to the implementation of the Federal Evidence Act and the White House Year of Evidence.

DISCUSSION

Sustaining Relationships

Participants discussed the challenges to maintaining collaborations with community and external partners that have been supported by emergency funding related to COVID-19, which will soon run out. Karasz replied that the loss of funding will be difficult. Washington State is beginning a process to assure that foundational public health services are present in every county, along with foundational capabilities including policy, community partnerships, communication, and business practices. A "dribble of money" will support these foundational activities, and communication funding will focus on community co-creation work. However, Karasz explained that some activities will also be eliminated by choice. One area on which the health department has decided to spend less time and energy is the use of corporate media to disseminate information. Karasz noted that corporate media are not equally trusted or accessed by all members of the public, so the department is focused on building relationships with multilingual and community media.

Knudsen noted that while public health funding is vital, "it is not all about money." Her experiences at the health department demonstrated that public health can be promoted by connecting people, dismantling systems and bureaucracy, and giving people free rein to apply their ideas in new ways. Making these changes requires courage, she said, which she has seen demonstrated in stories shared at the workshop. Mullen agreed and said that it is more about "how we do our work differently." Researchers and public health officials need to do the day-to-day relationship building with communities, rather than "dropping in" with a specific project. Sitting with communities and listening is a "more credible starting point." Levine said that while informal knowledge exchange collaborations are not costless,

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they are a "pretty light lift." If organizational leaders value, legitimize, and prioritize these types of collaborations, collaborations could be "really impactful." Bednarek noted that the North Carolina Office of Strategic Partnerships offers one model for building capacity, by involving the state's research institutions to address questions originating from state government workers.

Partnering with the Private Sector

Discussion also addressed how the federal government could engage and partner with the private sector. Mullen suggested that private-sector collaboration is important, given that the private sector is where the majority of the resources and capacity for innovation are found. However, when considering partnerships with private industry, it is also important to consider shared interests, how a partnership may influence public image and public trust, how it would benefit the public, and how it would benefit research (e.g., access to data and transparency). Levine added that any sort of new cross-sectoral collaboration will include people with diverse interests; making sure that those interests are clearly stated and commonly understood is "absolutely incredibly essential."

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8

Key Themes and Final Reflections

Several main themes arose throughout the workshop. In addition, members of the planning committee summarized the discussions and identified key themes that emerged in each session. Finally, at the end of the workshop, participants reflected on the entire workshop and offered ideas for next steps that could be taken by the federal government or other actors. The themes that arose from these discussions and reflections include (a) a paradigm shift in federal health communication; (b) listening to, collaborating with, and investing in communities; (c) leveraging social science and health communication expertise; (d) coordination and partnerships to expand capacity; and (e) mechanisms to support collaboration and learning.

A PARADIGM SHIFT IN FEDERAL HEALTH COMMUNICATION

Multiple participants discussed the need for a paradigm shift away from a predominant focus on one-way, broadcast models of communication to one that involves more participatory models of listening and engagement with communities and stakeholders. "There is a real opportunity here for culture change," noted one participant. Speakers and participants across the two-day event noted that new approaches are needed, given the sometimes-adversarial realities of the complex communication ecosystem, the diverse needs of communities, and trends of declining trust. Several speakers noted that building capacity for effective health communication entails taking a

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long view and ensuring that strategies prioritize building trust and credibility over time.

Many speakers and participants spoke to the need to elevate the essential role that health communication plays in protecting public health—a mission of many federal agencies. "Communications in health science is generally undervalued and underestimated across the federal government," noted one federal participant. Part of valuing the role of health communication involves providing the needed support within government and through external supports to front-line federal communicators, as well as support and/or training for scientists and volunteers in communities who work to communicate with and engage communities, noted the participant.

LISTENING TO, COLLABORATING WITH, AND INVESTING IN COMMUNITIES

One key theme in the workshop, said Amelie Ramirez, Professor and Chair of Population Health Sciences at the University of Texas Health Science Center at San Antonio, Director of Salud America!, and Planning Committee Member, is the importance of building trust and engaging with communities. This requires approaching communities with humility and building long-lasting, mutually beneficial relationships. Communities need to be treated as equal partners, and those working with communities need to acknowledge communities' unique culture, expertise, and values, she said. Communication with communities needs to be bidirectional; Ramirez said that community health workers are natural, trusted leaders, and other partners, such as Federally Qualified Health Centers, can be leveraged to connect with underserved communities and facilitate mutually beneficial relationships. Partnering with community organizations or individuals can enable the federal government to better understand the community, to create bidirectional channels for communication and information exchange, and to build relationships based on a foundation of trust. Further, community partners can be more agile and responsive to local needs than the sometimes-slow-moving federal government, and they can connect community members with needed services and address multiple needs. Investment is needed to make these relationships happen, said Ramirez, including funding for new infrastructures and opportunities for sustainable relationships.

LEVERAGING SOCIAL SCIENCE AND HEALTH COMMUNICATION EXPERTISE

Another issue that arose repeatedly during the workshop, said William Hallman, Professor and Chair of the Department of Human Ecology at Rutgers University and Chair of the Planning Committee, is the need to be clear

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and explicit about the unique knowledge, skills, and competencies of communication experts, to leverage existing social science to inform evidence-based approaches to health communication, and to promote inclusion of communication experts in all facets of science and health. Health communication is "more than just messaging"—it is a science, and it is essential in multiple roles, including community engagement, stakeholder partnerships, communicating and amplifying information, building trust and credibility, and evaluating efforts, Hallman said. There is a need to encourage leaders to include communication at all levels. Arthur Lupia, Professor of Political Science at the University of Michigan, said that conveying the importance of communication is difficult to do through abstractions, and easier to do through sharing iconic cases that could foster conversations about the role of communication and how this expertise can be leveraged.

Jeff Niederdeppe, Professor of Communication at Cornell University and Planning Committee Member, underscored, along with other participants, the expertise and experience in health communication already present in federal agencies. Hallman suggested the need for mapping existing capacity and finding ways to better institutionalize existing knowledge and share information both within and across agencies. In addition, the large body of evidence in behavioral and social sciences needs to be leveraged to improve health communication at the federal level, said Hallman, and investment is needed in evaluation to learn from successes and failures. Itzhak Yanovitzky, Professor of Communication and Public Health at Rutgers University, emphasized, along with other participants, that communication experts need to be involved when decisions are made, to inform effective communication strategies.

COORDINATION AND PARTNERSHIPS TO EXPAND CAPACITY

Collaboration, coordination, and partnerships can expand the capacity of the federal government to effectively communicate about health, noted a number of participants across sessions. For example, there are multiple types of data needed for health communication, said Hallman: data on the needs and characteristics of communities, data for decision making, and data for evaluating efforts. While there is a need to map the many datasets that may exist within federal agencies, they are often not connected, and may not lend themselves to the real-time analysis necessary for proactive, agile decision making, said Hallman. Partnering with external organizations may be one approach for increasing the availability of data and improving the ability to use them. Another approach, said Maimuna Majumder, Assistant Professor in the Computational Health Informatics Program at Boston Children's Hospital and Harvard Medical School and Planning Committee

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Member, is building a public, shared infrastructure for large-scale data collection and dissemination, including user-friendly analytic tools to allow people to get real-time, policy-relevant insights. Better data would allow for more nimble communication and responsiveness to the community's needs, while creating new partnerships and strengthening existing partnerships could bring together data, people, and resources.

Workshop sessions highlighted the importance of partnerships to expand capacity through partnering with local health departments, as suggested by Hilary Karasz, Deputy Director of Communications at Public Health — Seattle & King County and Planning Committee Member, or fostering community-academic partnerships, as suggested by several speakers including Ella Greene-Moton, Administrator of the Community Based Organization Partners Community Ethics Review Board and Flint/Genesee Partnership, Health in Our Hands, and Planning Committee Member. Others noted the value in coordinating or partnering with professional organizations or considering public-private partnerships.

MECHANISMS TO SUPPORT COLLABORATION AND LEARNING

Given the wide variety of expertise, roles, and perspectives held by people working in communication, it would be hugely beneficial to create a mechanism to bring people together to share ideas and to discuss successes and failures, said Hallman. Among the mechanisms participants listed were professional conferences, networks, regular seminar series, and communities of practice. Another participant suggested creating community-based technical support teams. These teams could serve as a mechanism to bring communication experts together, making them available for researchers and government programs that need help with community engagement and other facets of communication. In addition, while formal mechanisms are useful, one participant urged people to consider regular, informal gatherings to learn from one another. Lupia seconded this idea, noting that a group of communication experts could hold monthly Zoom meetings during which they could discuss issues that government officials are struggling with. A participant said that any mechanism—whether formal or informal—needs to include a diverse range of people, including higher-level officials and those doing the frontline work. Convening diverse groups of people could help inform policy and dissolve some of the boundaries and silos in government work.

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References

Blendon, R. J., & Benson, J. M. (2022). Trust in medicine, the health system & public health. *Daedalus*, *151*(4), 67–82. https://doi.org/10.1162/daed_a_01944

Brady, H. E., & Kent, T. B. (2022). Fifty years of declining confidence & increasing polarization in trust in American institutions. *Daedalus*, *151*(4), 43–66. https://doi.org/10.1162/daed_a_01943

COVID-19 National Preparedness Collaborators. (2022). Pandemic preparedness and COVID-19: An exploratory analysis of infection and fatality rates, and contextual factors associated with preparedness in 177 countries, from Jan 1, 2020, to Sept 30, 2021. *Lancet*, *399*(10334), 1489–1512. https://doi.org/10.1016/S0140-6736(22)00172-6

Gardner, L., Ratcliff, J., Dong, E., & Katz, A. (2020). A need for open public data standards and sharing in light of COVID-19. *The Lancet Infectious Diseases*, *21*(4). https://doi.org/10.1016/S1473-3099(20)30635-6

Hamel, L., Kirzinger, A., Lopes, L., Kearney, A., Sparks, G., & Brodie, M. (2021). KFF COVID-19 vaccine monitor: January 2021. Kaiser Family Foundation. https://www.kff.org/report-section/kff-covid-19-vaccine-monitor-january-2021-sources-of-information/

Hardy, B. W., Tallapragada, M., Baik, E., & Koshy, A. (forthcoming). Issue ownership of science.

Hatton, C. R., Berry, C. L., Levine, A. S., McGinty, E. E., & Han, H. (2022) American trust in science & institutions in the time of COVID-19. *Daedalus*, *151*(4), 83–97. https://doi.org/10.1162/daed_a_01945

Heider, F. (1946). Attitudes and cognitive organization. *The Journal of Psychology*, *21*(1), 107–112.

Jamieson, K. H., & Hardy, B. W. (2014). Leveraging scientific credibility about Arctic sea ice trends in a polarized political environment. *Proceedings of the National Academy of Sciences of the United States of America, 111 Suppl 4*(Suppl 4), 13598–13605. https://doi.org/10.1073/pnas.1320868111

Kahan, D. M., Braman, D., Gastil, J., Slovic, P., & Mertz, C. K. (2007). Culture and identity-protective cognition: Explaining the White male effect in risk perception. *Journal of Empirical Legal Studies*, *4*(3), 465–505. https://doi.org/10.1111/j.1740-1461.2007.00097.x

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Effective Health Communication Within the Current Information Environment and the Role of the Federal of ...

Levendusky, M., Pasek, J., Holbert, R. L., Hardy, B. W. Kenski, K., Ophir, Y., Renninger, A., Romer, R., Walter, D., Winneg, K., & Jamieson, K. H. (2023). *Democracy amid crises: Polarization, pandemic, protests, and persuasion.* Oxford University Press.

Lewandowsky, S., Smillie, L., Garcia, D., Hertwig, R., Weatherall, J., Egidy, S., Robertson, R. E., O'Connor, C., Kozyreva, A., Lorenz-Spreen, P., Blaschke, Y., & Leiser, M. (2020). *Technology and democracy: Understanding the influence of online technologies on political behaviour and decision-making*. European Commission. https://data.europa.eu/doi/10.2760/709177

Mair, D., Smillie, L., La Placa, G., Schwendinger, F., Raykovska, M., Pasztor, Z., & Van Bavel, R. (2019). *Understanding our political nature: How to put knowledge and reason at the heart of political decision-making*. European Commission. https://dx.doi.org/10.2760/374191

Scharfbillig, M., Smillie, L., Mair, D., Sienkiewicz, M., Keimer, J., Pinho Dos Santos, R., Vinagreiro Alves, H., Vecchione, E., & Scheunemann, L. (2021). *Values and identities—A policymaker's guide*. European Commission. https://dx.doi.org/10.2760/349527

Shah, A. K., Mullainathan S., & Shafir, E. (2012). Some consequences of having too little. *Science*, *338*(6107), 682–685. https://doi.org/10.1126/science.1222426

SteelFisher, G. K., Findling, M. G., Caporello, H. L., Lubell, K. M., Vidoloff Melville, K. G., Lane, L., Boyea, A. A., Schafer, T. J., & Ben-Porath, E. N. (2023). Trust in US federal, state, and local public health agencies during COVID-19: Responses and policy implications. *Health Affairs*, *42*(3), 328–337. https://doi.org/10.1377/hlthaff.2022.01204

Tajfel, H., Turner, J. C., Austin, W. G., & Worchel, S. (1997). Chapter 3: An integrative theory of intergroup conflict. *Organizational identity: A reader*. http://dx.doi.org/10.13140/RG.2.2.30820.60809

Viswanath, K., McCloud, R. F., Lee, E. W. J., & Bekalu, M. A. (2022). Measuring what matters: Data absenteeism, science communication, and the perpetuation of inequities. *The ANNALS of the American Academy of Political and Social Science*, 700(1), 208–219. https://doi.org/10.1177/00027162221093268

Zeng, C. (2021). A relational identity-based solution to group polarization: Can priming parental identity reduce the partisan gap in attitudes toward the COVID-19 pandemic. *Science Communication, 43*(6), 687–718.

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Appendix A

Workshop Agenda

Effective Health Communication within the Current Information Environment and the Role of the Federal Government

(All Times are ET)

Purpose:

This workshop will:

1) Explore the current health information environment and other forces that affect federal health communication;
2) Examine the goals and roles of federal health agencies within this information environment; and
3) Identify concrete steps for building capacities needed across U.S. government to support effective health communication moving forward.

DAY 1: MONDAY, MARCH 20, 2023

9:30AM–9:50AM **Welcome and Opening Remarks**
Holly Rhodes (Study Director), *National Academies of Sciences, Engineering, and Medicine*
William Hallman (Chair), *Rutgers University*

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9:50AM–10:45AM **Importance of Effective Health Communication and the Goals, Roles, and Responsibilities of Federal Health Communication**

This session will describe why effective health communication is so vital to public health and well-being, and the important role that federal health communication plays. Many federal agencies communicate about health as part of their core missions to improve the well-being of Americans, as well as to act in times of crisis. Being explicit about the varying objectives for health communication, and the appropriate roles and responsibilities of federal agencies is vital for determining what capacities are needed. This session offers an overview of the types of key health communication goals, roles, and responsibilities of federal agencies, and an exploration of the assumptions and considerations underlying them.

Moderator:

William Hallman (Chair), *Rutgers University*

Panelists:

Laura Smillie, *Joint Research Centre, European Commission* (virtual)

Arthur Lupia, *University of Michigan*

Maureen Lichtveld, *University of Pittsburgh* (virtual)

Lauren Gardner, *Johns Hopkins University*

10:45AM–11:00AM **Audience Q&A**

11:00AM–11:20AM **Break and Interactive Session**

11:20AM–12:30PM **Key Cross-Cutting Challenges and the Implications for Federal Health Communication**

This session will describe why there may be a need to reimagine federal health communication in the current health communication environment. Presentations will emphasize structural causes of inequities in health and health communication, characterize the many complexities and challenges of the contemporary health communication environment, and explore the factors (including social/networked media system and a climate of both politicization of health information and

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declining trust in institutions) that shape how and where people encounter, understand, and perceive health information. The session will also include a discussion about developing trends in this environment and their implications for capacity building.
Moderator:
Jeff Niederdeppe (Member), *Cornell University*
Presentations:
The challenge of declining trust in institutions
Henry Brady, *University of California, Berkeley*
The challenge of the current health communication environment
Andy King, *University of Utah*
The challenge of health communication in a climate of political polarization and politicization of health and science
Bruce Hardy, *Temple University*
The challenge of equity in health and health communication
K. "Vish" Viswanath, *Harvard T. H. Chan School of Public Health*

12:30PM–12:50PM **Audience Q&A**

12:50PM–1:50PM **Lunch**

1:50PM–2:00PM **Key Themes from Morning Sessions: Implications for Capacity Building**
William Hallman (Chair), *Rutgers University*
Jeff Niederdeppe (Member), *Cornell University*

2:00PM–3:00PM **Capacity: Listening to and Engaging Communities**
The goal of this session is to explore expert recommendations about approaches and considerations for building federal capacities for engaging, listening to, and valuing the needs and concerns of communities, as part of building trust and ensuring that relevant decisions and communication are responsive to the community needs. In addition, discussions will address perspectives on the functions that need to be carried out by the federal government directly and those

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that could be incentivized, supported, or funded by the federal government.
Moderator:
Amelie Ramirez (NAM), (Member), *UT Health San Antonio, Salud America!*
Panelists:
Ella Greene-Moton (Member) *Community Based Organization Partners Community Ethics Review Board* and *Flint/Genesee Partnership, Health in Our Hands*
Khanh Ho, *Public Health — Seattle & King County*
Emma Maceda-Maria, *Public Health — Seattle & King County*
Greg Talavera, *San Diego State University*
Al Richmond, *Community-Campus Partnerships for Health*
Dmitry Khodyakov, *RAND Corporation* (virtual)

3:00PM–3:30PM **Audience Q&A**

3:30PM–3:40PM **Break**

3:40PM–4:40PM **Capacity: Digital Data and Information Systems**
The goal of this session is to explore expert recommendations about the types of data and information that could support federal health communication that is increasingly anticipatory and timely, understandable, relevant to people's concerns, and able to adapt to changes in the communication environment. The session will address the types of data that could be useful to collect, including real-time and on-the-ground information, self-reported data, records of digital information consumption and information seeking, and current trends in mis/disinformation. Panelists will explore the potential benefits and risks, challenges, and pitfalls of such data collection, including ethical and practical barriers to practice.
Moderator:
Maimuna Majumder (Member), *Harvard Medical School and Boston Children's Hospital* (virtual)
Panelists:
David Lazer, *Northeastern University*
Rahul Bhargava, *Media Cloud and Northeastern University*

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Agata Ferretti, *Health Ethics & Policy Lab, ETH Zurich*

4:40PM–5:10PM **Audience Q&A**

5:10PM–5:20PM **Key Themes from Capacity Building Sessions**
Maimuna Majumder (Member), *Harvard Medical School and Boston Children's Hospital*
Amelie Ramirez (NAM), (Member), *UT Health San Antonio, Salud America!*

END OF DAY 1

DAY 2: TUESDAY, MARCH 21, 2023

9:30AM–9:40AM **Welcome, Day 1 Recap, and Overview of Day 2**
Amelie Ramirez (NAM), (Member), *UT Health San Antonio, Salud America!*

9:40AM–10:40AM **Capacity: Expertise and Human Capital**
The goal of this session is to explore expert recommendations for building and leveraging expertise in health communication, other social sciences, and communities for health communication in the federal government. Expert presentations will address ideas for building capacity in the expertise needed for different health communication outcomes and strategies. Discussion will address potential benefits, challenges, and pitfalls; and near and long-term steps toward ensuring that the federal government draws upon the expertise needed to meet current and future health communication needs.
Moderator:
William Hallman (Chair), *Rutgers University*
Panelists:
Itzhak Yanovitzky, *Rutgers University*
Sandra Quinn, *University of Maryland*
Amanda Boyd, *Washington State University*
Sarah Gollust, *University of Minnesota*
Robert Hornik, *University of Pennsylvania*

10:40AM–11:00AM **Audience Q&A**

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11:00AM–11:15AM **Break**

11:15AM–12:00PM **Working Session #1: Taking on Key Challenges**
Participants will have the chance to join one of the following breakout groups:

- Listening to and Engaging Communities
- Digital Data and Information Systems
- Expertise

12:00PM–1:00PM **Lunch**

1:00PM–1:20PM **Key Themes and Report Out on Working Session**
William Hallman (Chair), Rutgers University

1:20PM–2:00PM **Capacity: Organizational Capacities for Agility**
Building on the conversation about expertise, this session will explore recommendations for organizational structures and roles that can facilitate coordinated and agile health communication in the federal government. The conversation will focus on approaches for addressing barriers to nimble decision making and cross-agency coordination, potential benefits, challenges, and pitfalls, and near and long-term steps, cognizant of the nature of government.
Moderator:
Donald Moynihan (Member), *McCourt School of Public Policy, Georgetown University*
Presentation:
Approaches for increasing agility in government
G. Edward DeSeve, *The National Academy of Public Administration*
Response Panel:
Joshua Sharfstein, *Johns Hopkins Bloomberg School of Public Health*
Sharon Natanblut (Member), *Natanblut Strategies*
K. "Vish" Viswanath, *Harvard T. H. Chan School of Public Health*

2:00PM–2:20PM **Audience Q&A**

2:20PM–2:30PM **Break**

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2:30PM–3:15PM	**Building Relationships to Enhance Effective Health Communication** This session will explore the relationships and partnerships that the federal government could leverage to increase the effectiveness of health communication in the near term and build for the long term. Moderator: Angela Bednarek, *The Evidence Project, Pew Charitable Trusts* Panelists: Janine Knudsen, *Accompany Health* (virtual) Hilary Karasz (Member), *Public Health — Seattle & King County* Jewel Mullen, *Dell Medical School, University of Texas at Austin* Adam Levine, *Bloomberg School of Public Health, Johns Hopkins University* (virtual)
3:15PM–3:35PM	**Audience Q&A**
3:35PM–3:45PM	**Break**
3:45PM–4:45PM	**Working Session #2: Planning for the Future and Report Out**
4:45PM–5:00PM	**Final Key Themes and Closing Remarks**

MEETING ADJOURNS

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Appendix B

Participants and Committee Biographies

ANGELA BEDNAREK (*Presenter*, she/her/hers) directs the Evidence Project at The Pew Charitable Trusts. The project promotes innovative and participatory research and problem-solving processes that can inform equitable and effective policy and practice. She created and now leads the Transforming Evidence Funders Network, a global, cross-sectoral network of public and private funders driving change in how research and evidence are produced, mobilized, and used for societal impact. She has published and presented widely on improving the connections between research, policy, and practice. She serves on the U.S. National Academy of Sciences Standing Committee on Advancing Science Communication Research and Practice, as vice-chair of the board of the Global Council for Science and the Environment, and on the Research Advisory Council for the Partnership for Public Service. Bednarek holds a doctorate in biology from the University of Pennsylvania.

RAHUL BHARGAVA (*Presenter*, he/him/his) is an educator, researcher, and designer who builds collaborative projects to interrogate our datafied society with a focus on rethinking representation, participation, and power in data processes. He is currently an assistant professor in journalism and art + design at Northeastern University, where he directs the Data Culture Group and serves as a co-principal investigator on the Media Cloud project. Bhargava has created big data research tools to investigate media attention, built hands-on interactive museum exhibits that delight learners of all ages, and run over 100 workshops to build data culture in newsrooms, nonprofits, and libraries. He has collaborated with groups ranging from the state of

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Minas Gerais in Brazil to the World Food Program. Bhargava has published in academic journals on communication, data literacy, technology, and civic media. His work has been shown at the Boston Museum of Science, Eyebeam Art + Technology Center, and the Fuller Craft Museum. He earned a bachelor of science in electrical and computer engineering from Carnegie Mellon University and a master of science in media arts and science from the Massachusetts Institute of Technology.

AMANDA BOYD (*Presenter*, she/her/hers) is a member of the Métis Nation of Alberta. She is an associate professor in the Elson S. Floyd College of Medicine and is a co-director for the Institute for Research and Education to Advance Community Health, both at Washington State University. Boyd is also affiliated faculty with the Edward R. Murrow College of Communication. Her research draws from an interdisciplinary education, which includes communication, Indigenous studies, and rural sociology. Boyd has more than 16 years of communication research experience with rural and Indigenous populations in the United States and Canada. Her current work also includes examining communication about COVID-19, assessing Inuit perceptions of traditional foods and contaminants in Arctic regions, and working with Indigenous youth to create health messaging for their communities. Boyd engages in research that is informed by Indigenous peoples' priorities and is conducted in ways that respect and is inclusive of their experiences, perspectives, and knowledge. She holds a bachelor of arts in management studies from the University of Lethbridge, a master of science in rural and environmental sociology from the University of Alberta, and a doctorate in communication (energy and environmental systems) from the University of Calgary.

HENRY BRADY (*Presenter*, he/him/his) is the Class of 1941 Monroe Deutsch Professor of political science and public policy at the University of California, Berkeley. He has served as dean of the Goldman School of Public Policy, president of the American Political Science Association, and director of the University of California's Survey Research Center. Brady is co-author of five books including *Unequal and Unrepresented: Political Inequality* and the *People's Voice in the New Gilded Age* (2018), and he has co-edited four books and authored numerous articles on political participation, political methodology, the dynamics of public opinion, and other topics. Recently he co-edited and contributed to the Fall 2022 issue of *Daedalus* on "Institutions, Experts, and the Loss of Trust." Brady was elected a fellow of the American Academy of Arts and Sciences, and of the American Association for the Advancement of Science. He received his doctorate in economics and political science from the Massachusetts Institute of Technology.

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G. EDWARD DESEVE (*Presenter*, he/him/his) is currently coordinator of the Agile Government Center at the National Academy of Public Administration and an executive fellow at the IBM Center for the Business of Government. As special advisor to President Barack Obama, he oversaw the successful implementation of the $787 billion American Recovery and Reinvestment Act. DeSeve's service at the federal level included being controller and deputy director of the Office of Management and Budget as well as the chief financial officer of the Department of Housing and Urban Development. He was the director of finance for the City of Philadelphia and served as a special assistant to the Governor of the Commonwealth of Pennsylvania. DeSeve also held a tenured professorship of public management and finance at the University of Maryland and was a senior lecturer at the University of Pennsylvania. At the Brookings Institution, he was the executive in residence at the Executive Education Program. He is a graduate of Cornell University's School of Industrial and Labor Relations and has a master's in public finance from the Wharton School of the University of Pennsylvania.

AGATA FERRETTI (*Presenter*, she/her/hers) is a postdoctoral researcher at the Health Ethics & Policy Lab, Department of Health Science and Technology, ETH Zürich (Switzerland). Ferretti's background is in philosophy, bioethics, and global health policy. During her undergraduate and master's degrees, she studied at the State University of Milan (Italy) and KU Leuven (Belgium). Prior to joining ETH Zürich, she completed a master of science in global health from the London School of Economics and Political Science (England). Ferretti's doctorate, which was supported by the Swiss National Science Foundation, focused on the ethics and governance of big data in health research and digital health. Leveraging both conceptual and empirical research methods, her work aims to address ethical, societal, and normative questions in the digital health field. Ferretti's most recent academic research has focused on data governance and ethical uses of artificial intelligence in health, quality assurance standards and frameworks for responsible health innovation (such as health apps, wearable devices, and digital epidemiology), and oversight mechanisms for ethically aligned research and technology development. Currently, she is exploring ethical and policy considerations related to the use of digital technologies for youth health promotion in low- and middle-income settings.

LAUREN GARDNER (*Presenter*, she/her/hers) is the Alton and Sandra Cleveland Professor in the Department of Civil and Systems Engineering at Johns Hopkins Whiting School of Engineering, she holds a joint appointment in the Bloomberg School of Public Health, and is director of the Center for Systems Science and Engineering. She is the creator of the interactive

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web-based dashboard being used by public health authorities, researchers, and the general public around the globe to track the outbreak of the novel coronavirus. Gardner was awarded the 2022 Lasker-Bloomberg Public Service Award for creating the COVID-19 dashboard that became the world's most trusted source for reliable, real-time data about the pandemic. She has been named one of TIME's 100 Most Influential People of 2020, included on BBC's 100 Women List 2020: Women Who Led Change, and named one of Fast Company's Most Creative People in Business for 2020. Gardner's research expertise is in integrated transport and epidemiological modeling. She has previously led related interdisciplinary research projects which utilize network optimization and mathematical modeling to progress the state of the art in global epidemiological risk assessment. Beyond mobility, her work focuses more holistically on virus diffusion as a function of climate, land use, mobility, and other contributing risk factors. She received her bachelor of science in architectural engineering, her master of science in civil engineering, and her doctorate in transportation engineering at the University of Texas at Austin.

SARAH GOLLUST (*Presenter*, she/her/hers) is an associate professor in the Division of Health Policy and Management at the University of Minnesota School of Public Health. She is a member of the Collaborative on Media and Messaging for Health & Social Policy, an interdisciplinary group of researchers who study how media and messaging shape public opinions, attitudes, and behaviors. Gollust is a social scientist studying the intersections of communication, politics, and health policy. In her past research, she has examined media influences and public opinion around significant health policy issues, including obesity, health disparities, the Affordable Care Act, and cancer screening. Gollust also examines how research is translated into health policy making. Her research program has been funded by the National Institutes of Health, the American Cancer Society, the Russell Sage Foundation, and the Robert Wood Johnson Foundation. Gollust completed a postdoctoral fellowship in population health science at the University of Pennsylvania and she received her doctorate in health services organization and policy from the University of Michigan.

ELLA GREENE-MOTON (*Planning Committee Member*, she/her/hers) currently serves as administrator of the Community Based Organization Partners Community Ethics Review Board, with specific efforts in public health ethics focused on providing awareness at the community level, developing and elevating the community voice and advocating for community inclusiveness at the state and national levels. Serving as a community/academic bridge, she has an extensive background in public health advocacy, public health policy, community-based participatory research, and

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programming, spanning over the past forty-plus years in the City of Flint and surrounding areas. Greene-Moton's areas of expertise include facilitating community/academic/practice partnership building and sustainability as well as developing and managing community-based projects. She is a part of the Michigan Public Health Association, the Great Lakes Public Health Coalition, and is the president-elect of the American Public Health Association.

WILLIAM K. HALLMAN (*Planning Committee Chair*, he/him/his) is professor and chair of the department of human ecology, and a member of the graduate faculties of the departments of nutritional sciences and psychology, and of the Bloustein School of Planning and Public Policy at Rutgers, the State University of New Jersey. He is a member of the Rutgers Environmental and Occupational Health Sciences Institute, and a member of the executive committee of the Rutgers Global Health Institute. Hallman is also a fellow of the American Association for the Advancement of Science, a fellow of the Society for Risk Analysis, and a distinguished research fellow of the Annenberg Public Policy Center of the University of Pennsylvania. His research examines public perceptions of risk and risk communication related to food, health, technology, and the environment. Hallman is co-chair of the National Academies of Sciences, Engineering, and Medicine Climate Communications Initiative, has served as chair of the Risk Communication Advisory Committee of the U.S. Food and Drug Administration, as a U.S. delegate to the Asia-Pacific Economic Cooperation (APEC) Food Safety Cooperation Forum, Framework for Risk Communication in the APEC Region, as working group chair expert consultation on Food Safety Aspects of Cell-Based Food sponsored by the Food and Agriculture Organization of the United Nations, in collaboration with the World Health Organization, and as director of the Food Policy Institute at Rutgers. He has a bachelor of science in biology and psychology from Juniata College in Huntingdon, Pennsylvania, and earned both a master of arts and doctorate in experimental psychology from the University of South Carolina.

BRUCE HARDY (*Presenter*, he/him/his) is an associate professor of communication and social influence with Temple University's Klein College of Media and Communication, as well as a distinguished research fellow at the University of Pennsylvania's Annenberg Public Policy Center. He has co-authored two books, *The Obama Victory: How Media, Money, and Message Shaped the Election* (2010) and *Democracy Amid Crises: Polarization, Pandemic, Protests, & Persuasion* (2023), and has authored numerous articles on media effects, public opinion, persuasion, and the politicization and polarization of science. Hardy received his doctorate in communication from the Annenberg School of Communication at the University of Pennsylvania.

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KHANH M. HO (*Presenter*, she/her/hers) oversees environmental justice-focused programs and community partnerships within the Environmental Health Division at Public Health — Seattle & King County. She is the program lead for Fun to Catch, Toxic to Eat at Public Health — Seattle & King County and focuses on building relationships, capacity, and empowerment with community partners to advance environmental justice values throughout the health promotion program. Ho is also leading community partnerships development for the Climate Health & Equity Initiative and overseeing outreach and education efforts for the Indoor Air Quality program. With training in community-oriented public health practice, she is passionate about implementing creative ways of knowledge sharing, group facilitation, and community organizing. Ho was a community mobilizer at a local nonprofit organization when she first got involved in organizing with the local fishing communities around the Lower Duwamish Superfund Site. In response to the COVID-19 pandemic, Ho was tasked to lead community engagement efforts for the department and co-created the Community Navigators program that connects the department with community leaders embedded in priority Black, Indigenous, and communities of color to better inform response and resilience strategies surrounding the pandemic. She earned a master of public health at the University of Washington School of Public Health.

ROBERT C. HORNIK (*Presenter*, he/him/his) is the Wilbur Schramm Professor of Communication and Health Policy (emeritus) at the Annenberg School for Communication, University of Pennsylvania. He has led the evaluation of more than 20 public health communication campaigns including those focused on child survival, HIV prevention, and tobacco use throughout the world as well as the evaluation of the U.S. National Youth Antidrug Media Campaign. Recently, Hornik has led research concerning communication intervention related to the COVID pandemic. His framework for choosing message strategies for communication campaigns has been adopted by multiple organizations. Hornik is the author of *Development Communication*, edited *Public Health Communication: Evidence for Behavior Change*, and co-edited *Prediction and Change of Health Behavior* alongside numerous articles and papers. He has served on five U.S. National Academy of Sciences committees, is a fellow of the International Communication Association. Hornik received the Derryberry Award from the American Public Health Association and the Lindback Award for distinguished teaching at the University of Pennsylvania and he won the Steven Chaffee Career Achievement Award from the International Communication Association. He earned a doctorate from Stanford University.

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HILARY N. KARASZ (*Planning Committee Member*, she/her/hers) is the deputy director of communications at Public Health — Seattle & King County, which is the local health jurisdiction for metropolitan Seattle, Washington. Her work centers on public health communications practice from a practice, academic, and research perspective. Karasz has served as the primary investigator of a five-year Centers for Disease Control Preparedness and Emergency Response Research Center mobile health-related grant that focused on developing trust and credibility, taught public health communications and health promotion at the University of Washington, and has served on the planning committee for the National Academies 2022 workshop entitled Building Public Trust in Public Health Emergency Preparedness and Response Science. She holds a bachelor of arts in history from the University of California, Berkeley, a master of arts in broadcast communication arts from San Francisco State University, and a doctorate in communication from the University of Washington.

DMITRY KHODYAKOV (*Presenter*, he/him/his) is a senior behavioral/social scientist at RAND, a co-director of the RAND Center for Qualitative and Mixed Methods, and a professor of policy analysis at the Pardee RAND Graduate School. His research focuses on online methods of expert elicitation and stakeholder engagement, community-based participatory research, ethics of stakeholder-engaged research, and Medicare Advantage benefit design and innovations. As a methodologist, Khodyakov specializes in qualitative and mixed-methods research and Delphi-based methodologies. He is a developer of ExpertLens, an innovative online system and methodology for conducting modified-Delphi panels. Khodyakov is currently co-leading evaluations of two large Centers for Medicare & Medicaid Services model tests: Medicare Advantage Value-Based Insurance Design and Part D Senior Savings models. Some of his recent studies include a PCORI-funded project that developed an online approach to engaging patients in clinical guideline development, an NIH-funded project that identified best practices for participant and stakeholder engagement in the All of Us Research Program, and a National Institutes of Health (NIH)-funded project on ethics of stakeholder-engaged research. Khodyakov is currently serving on the National Academy of Medicine's Committee on Assessing Meaningful Community Engagement in Health & Health Care. He earned a master of art in economy and a master of arts in economy and society from Central European University and a doctorate in sociology from Rutgers University.

ANDY J. KING (*Presenter*, he/him/his) is an associate professor in the Department of Communication, and a member of the Huntsman Cancer Institute, at the University of Utah. His research is focused on health communication, specifically on the design and evaluation of strategic health

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messages and campaigns. Much of King's recent work has focused on how people engage with cancer information in the public communication environment. He's currently principal investigator on a National Cancer Institute grant looking at how using novel approaches to monitor and evaluate public communication about colorectal cancer screening can improve future cancer communication efforts. King also serves as associate editor-in-chief of the academic journal *Health Communication*. He earned a doctorate from Purdue University.

JANINE KNUDSEN (*Presenter*, she/her/hers) is the head of clinical innovation and population health at Accompany Health. She is an internal medicine-trained primary care physician dedicated to improving systems of care and advancing health equity while working towards a future where whole-person care and population health models are the status quo. Previously Knudsen served as medical director on the New York City Department of Health and Mental Hygiene Commissioner's Office Special Operations Team and led strategic public health initiatives focused on community health equity. As medical director in the NYC Health+Hospitals Office of Population Health, she launched the Health+Hospitals CHW program, a home-based primary care program, and supported telehealth initiatives focused on improving care access and equity. Knudsen earned a bachelor of arts from Johns Hopkins University and a doctor of medicine from Harvard Medical School.

DAVID LAZER (*Presenter*, he/him/his) is the University Distinguished Professor of Political Science and Computer Sciences at Northeastern University, faculty fellow at the Institute for Quantitative Social Science at Harvard University, and elected fellow of the National Academy of Public Administration. He has published prominent work on misinformation, democratic deliberation, collective intelligence, computational social science, and algorithmic auditing, across a wide range of prominent journals such as *Science*, *Nature*, *Proceedings of the National Academy of Sciences*, and the *American Political Science Review*. Lazer's research has received extensive coverage in the media, including *The New York Times*, NPR, *The Washington Post*, *The Wall Street Journal*, and CBS Evening News. He is a co-leader of the COVID States Project, one of the leading efforts to understand the social and political dimensions of the pandemic in the United States. He holds a doctorate in political science from the University of Michigan.

ADAM SETH LEVINE (*Presenter*, he/him/his) is the SNF Agora Associate Professor of Health Policy and Management at the Bloomberg School of Public Health at Johns Hopkins. He has published research findings addressing questions regarding the engagement and impact of civic life as well

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as differences in expertise as researchers, practitioners, policy makers, and the collaboration among them in a variety of multidisciplinary journals, as well as a book entitled *American Insecurity* (2015). Levine's second book, tentatively entitled *Collaborate Now! How Expertise Becomes Useful in Civic Life*, is forthcoming. He is also the president and co-founder of research4impact, a nonprofit that creates powerful new collaborative relationships between researchers, practitioners, and policy makers. He earned a bachelor of arts from Cornell University and both a master of arts in applied economics and doctorate in political science from the University of Michigan.

MAUREEN LICHTVELD (*Presenter*, she/her/hers) is the Dean of the School of Public Health, the Jonas Salk Chair in Population Health, and professor of environmental and occupational health at the University of Pittsburgh with over 35 years of expertise in environmental health. As Dean, Dr. Lichtveld oversees seven academic departments, 1000 students, 165 faculty, and 320 staff. Her research focuses on environmentally induced disease, health disparities, climate and health, environmental health policy, disaster preparedness, public health systems, and community resilience. Dean Lichtveld is a member of the National Academy of Medicine (NAM), the NAM Council, and a member of numerous NAM and National Academies of Sciences, Engineering, and Medicine Boards, Roundtables, and Committees. She is a member of the National Research Council Governing Board and Project Approval Committee. Dean Lichtveld is the Chair of the Consortium of Universities for Global Health. She has co-authored the textbook *Environmental Policy and Public Health*. Honors include Johns Hopkins University Society of Scholars, Centers for Disease Control and Prevention Environmental Health Scientist of the Year, and Woman of the Year of the City of New Orleans for her contributions to science. She received her master of public health from Johns Hopkins University's School of Hygiene and Public Health and her medicine doctorate from Anton de Kom University of Suriname and the University of Leiden in the Netherlands.

ARTHUR LUPIA (*Presenter*, he/him/his) is the Gerald R Ford Distinguished University Professor at the University of Michigan. His research clarifies how people make decisions and form or break coalitions in complex, political environments. Lupia has served as assistant director of the National Science Foundation and was the co-chair of the government-wide Subcommittee on Open Science for the White House's Office of Science and Technology Policy. Lupia is a member of the National Academies of Science, Engineering, and Medicine's (National Academies) Strategic Council for Research Excellence, Integrity, and Trust and an Advisory Board member for the National Academies Division on Engineering and Physical Sciences. Lupia has won the National Academies William O. Baker Award

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for Initiatives in Research, is a recipient of Guggenheim and Carnegie Fellowships, and is an elected member of the American Academy of Arts and Sciences and the American Association for the Advancement of Science. He earned his bachelor of arts in economics from the University of Rochester, and holds both a master of science and doctorate in social science from the California Institute of Technology.

EMMA MACEDA-MARIA (*Presenter*, she/her/hers) is the program manager of Grupo Asesor Latino. She has been a part of the Fun to Catch, Toxic to Eat program in King County, Washington, and, early in the COVID-19 pandemic, she was invited to join the Community Navigators program. As a young Indigenous woman from Cholula Puebla, Mexico, she has been helping to elevate the voices of Black, Indigenous, and people of color communities while breaking down barriers and building bridges between communities and agencies. Maceda-Maria's passion is educating her community about environmental health and other social determinants of health and hopes that through her work she can empower her community to take action in protecting their health and the health of their loved ones. Her goals include continuing to grow as a trusted community leader and creating change while building paths for other community members with common goals.

MAIMUNA (MAIA) MAJUMDER (*Planning Committee Member*, she/her/hers) is an assistant professor in the computational health informatics program at Boston Children's Hospital and Harvard Medical School. Her research applies artificial intelligence and machine learning methods to public health problems using search query, mobile phone, as well as news and social media data. Majumder's laboratory currently focuses on emerging and vaccine-preventable infections; medical misinformation; and outcome disparities in marginalized populations, among other issues. Majumder and her team have been actively responding to the ongoing COVID-19 pandemic, including seminal papers in the *Proceedings of the National Academy of Sciences* and in the *Lancet* family of journals. She is currently on the International Advisory Board of the Lancet Digital Health and is principal investigator on multiple federal grants that aim to study misinformation from both a sociopolitical and a public health lens. She earned a master in public health from Tufts University School of Medicine, and both a master of science and doctorate from the Massachusetts Institute of Technology.

DONALD MOYNIHAN (*Planning Committee Member*, he/him/his) is the inaugural McCourt Chair at the McCourt School of Public Policy. His research seeks to improve how the government works. Moynihan examines the behavioral effects of efforts to improve public-sector outcomes through

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government reform, as well as the administrative burdens people encounter in their interactions with the government. At the McCourt School, he co-directs the Better Government Lab. Moynihan has presented his research to policy makers at the U.S. Office of Management and Budget, the World Bank, the World Health Organization, the United Nations, the Organisation for Economic Co-operation and Development, the Government Accountability Office, as well as governments around the world. His writing and research has been cited in President Obama's and President Biden's budget proposals, Office of Management and Budget policy guidance under President Biden, and media outlets such as *The New York Times*, *The Washington Post*, *The New Yorker*, *The Atlantic*, among others. Moynihan completed his bachelor of arts degree in public administration at the University of Limerick and received both his master of art and doctorate in public administration from the Maxwell School of Citizenship and Public Affairs at Syracuse University.

JEWEL MULLEN (*Presenter*, she/her/hers) is associate dean for health equity at the University of Texas at Austin Dell Medical School, as well as an associate professor in the school's population health and internal medicine departments. She also serves as director of health equity at Ascension Seton to help meet health equity goals across its system. Mullen is an internist, epidemiologist, public health expert, and the former principal deputy assistant secretary for health in the U.S. Department of Health and Human Services. She is recognized nationally and internationally as a leader in building effective community-based chronic disease prevention programs and for her commitment to improving individual and population health by strengthening coordination between community, public health and health care systems. A former president of the Association of State and Territorial Health Officials, Mullen is a current member of the Centers for Disease Control and Prevention's *Morbidity and Mortality Weekly Report* Editorial Board, the ChangeLab Solutions Board of Directors, and the Robert Wood Johnson Foundation's Policies for Action National Advisory Committee. She is a current member of the National Academies of Sciences, Engineering, and Medicine Committee on a Fairer and More Equitable, Cost-Effective, and Transparent System of Donor Organ Procurement, Allocation, and Distribution. Mullen received her bachelor's and master of public health degrees from Yale University where she also completed a postdoctoral fellowship in psychosocial epidemiology. She graduated from the Mount Sinai School of Medicine and completed her residency at the Hospital of the University of Pennsylvania. She also holds a master of public administration from Harvard University's John F. Kennedy School of Government and completed intensive and advanced bioethics courses at the Kennedy Institute of Ethics.

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SHARON NATANBLUT (*Planning Committee Member*, she/her/hers) is a public policy and strategic communications consultant, specializing in food safety, nutrition, and public health issues. In her tenure at the Food and Drug Administration, she served as associate commissioner for Strategic Initiatives, deputy director of the Tobacco Office, director of strategic communications and stakeholder engagement and senior advisor to the deputy director of the Foods Program. Natanblut serves on two Tufts University Policy Advisory Groups on nutrition and health and on the Stop Foodborne Outbreak's Recall Modernization Workgroup. She has testified before the Reagan-Udall Foundation regarding the need for a unified foods program under the direction of a fully empowered deputy commissioner and has written an op-ed for *Food Safety News* raising significant concerns about the Food and Drug Administration Commissioner's proposed reorganization. Natanblut holds a bachelor of arts in political science from the University of Rochester, and a master in public administration from the George Washington University.

JEFF NIEDERDEPPE (*Planning Committee Member*, he/him/his) is senior associate dean of faculty development in the Jeb E. Brooks School of Public Policy, a professor of communication and Public Policy at Cornell University, director of Cornell's Health Communication Research Initiative, and co-director of the Cornell Center for Health Equity. His research examines the mechanisms and effects of mass media campaigns, strategic messages, and news coverage in shaping health behavior and social policy. Niederdeppe is committed to producing, supporting, and disseminating innovative and rigorous research to support efforts to achieve health equity. He was elected as a fellow of the International Communication Association and he has received the CALS Research and Extension Award for Outstanding Accomplishments in Science and Public Policy, the Early Career Award from the Public Health Education and Health Promotion Section of the American Public Health Association, and the Lewis Donohew Outstanding Scholar in Health Communication Award from the Kentucky Conference on Health Communication. Niederdeppe serves on the editorial boards for five journals in communication and public health. He holds a bachelor of arts in communication from the University of Arizona as well as both a master of arts and a doctorate in communication from the Annenberg School of Communication at the University of Pennsylvania.

KATHERINE OGNYANOVA (*Planning Committee Member*, she/her/hers) is an associate professor at the School of Communication & Information, Rutgers University. Her research examines the effects of social influence on civic and political behavior, confidence in institutions, information exposure/evaluation, and public opinion formation. Ognyanova's

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methodological expertise is in computational social science, network science, and survey research. Her recent work examines the links between misinformation exposure and political trust. Ognyanova is one of the founders and a principal investigator for The COVID States Project—a large multiuniversity initiative exploring the social and political implications of the COVID-19 pandemic. Her research has been supported by the National Science Foundation and the Russell Sage Foundation. Her work has been covered in news outlets including *The New York Times*, NPR, *Politico*, *The Washington Post*, and *WIRED*, among others. Ognyanova holds a bachelor of science in computer science and a master of art in virtual culture from Sofia University St. Kliment Ohridski, Bulgaria, and a doctoral degree in communication from the University of Southern California.

AMELIE RAMIREZ (*Planning Committee Member*, she/her/hers) is director of Salud America! and a professor of epidemiology and biostatistics at The University of Texas Health Science Center at San Antonio, where she also is founding director of the Institute for Health Promotion Research and associate director of cancer prevention and health disparities at the Mays Cancer Center. She has conducted communications research and behavioral interventions throughout her career that have made tremendous strides to reduce cancer and chronic disease, increase screening rates and clinical trial accrual, and improve healthy lifestyles among U.S. Latinos. Ramirez currently directs the Salud America! national multimedia program to empower its vast network of 200,000 community leaders to drive healthy policy and system changes to promote health equity and support for Latino families (www.salud-america.org, @SaludAmerica on social media). She also directs Quitxt, a bilingual tobacco-cessation service for young Latino adults using mobile-phone text messages; the service yielded a 21 percent quit rate among enrollees at follow-up. She also has trained/mentored 250+ Latinos in health fields and leads the Éxito! training program to help master-level students and professionals pursue a doctoral degree and cancer research career. She has been recognized for her work to improve Latino health and advance Latinos in health, including an Icons in Healthcare Award from CentroMed; an APHA Everett M. Rogers Public Health Communication Award; a Making a Difference Award from Latinas Contra Cancer; a White House "Champion of Change"; and election to the National Academy of Medicine. Ramirez also is a Susan G. Komen Scholar and a member of the scientific advisory board of LIVESTRONG. She is a member of the San Antonio Mayor's Fitness Council, which has overseen implementation of healthy lifestyle programs that have lowered local obesity rates. She also serves on the National Academies of Sciences, Engineering, and Medicine Roundtable on Obesity Solutions. Ramirez holds a master of public health and doctorate of public health from University of Texas' Health Science Center at the Houston School of Public Health.

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Effective Health Communication Within the Current Information Environment and the Role of the Federal of ...

AL RICHMOND (*Presenter, he/him/his*) is executive director of Community-Campus Partnerships for Health (CCPH) and a global thought leader advocating for the increased role of communities in research and public health. In his role as executive director of CCPH, he is advancing the organization's commitment to social justice and health equity. Richmond serves as co-principal investigator of the North Carolina CEAL Project and Co-Lead of the RADxUP Community Engagement Core. In addition, he provides leadership to multiple academic research projects. Richmond's leadership interest seeks to deepen CCPH's focus on emerging issues impacting our nation including education, immigration, diversity, and culture. He holds a master of social work from The Ohio State University and is a certified facilitator for the poverty simulation, intercultural developmental inventory and TOPS facilitation methods.

LAURA SMILLIE (*Presenter*, she/her/hers) is the project leader of the European Commission's Enlightenment 2.0 research program at the Joint Research Centre. It aims to explore the extent to which facts, values, and social relations affect political behavior and decision making. Throughout her career, she has been working at the science/policy interface. In addition to Smillie's practical experience in the fields of global food-chain policy, risk communications, and extensive stakeholder management, she has developed and published a model for optimizing the communication of scientific risk and uncertainty; she is also the founder and former chair of the Crisis & Risk Communications Working Group of the European Association of Communication Directors. Smillie earned a bachelor of art from the University of Strathclyde and a master of art from Leeds Beckett University.

SANDRA CROUSE QUINN (*Presenter*, she/her/hers) is professor and chair of the Department of Family Science and senior associate director of the Maryland Center for Health Equity, School of Public Health at the University of Maryland. She has served as principal investigator for many teams, such as CommuniHealth (with S. Thomas); MPowering the State grant; Predicting and Improving COVID-19 Vaccine Acceptance Among African Americans During the Coronavirus Pandmic (with X. Nan); with the Centers for Disease Control and Prevention; the National Institutes of Health; the Food and Drug Administration; and with of a local research team in Prince George's County, Maryland. Quinn is a member of the Working Committee on a Chan-Zuckerberg Initiative grant, "The Community's Role in an Equitable and Effective COVID-19 Vaccination Rollout." Much of her work has revolved around trust, vaccine acceptance, vaccine disparities, and communication during routine and emergency situations, and engagement of racial/ethnic minorities in research. Quinn recently served as chair of the Planning Committee for a March 2022 National Academies of Sciences,

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Effective Health Communication Within the Current Information Environment and the Role of the Federal of ...

Engineering, and Medicine (National Academies) Workshop Building Public Trust in Public Health Emergency Preparedness and Response (PHEPR) Science: A Workshop. She has also served on the National Academies committee on Evidence-Based Practice for Public Health Emergency Preparedness and Response. Quinn earned a bachelor of arts in social welfare from Virginia Commonwealth University, a master of education in counseling from American University, and a doctorate in health education at the University of Maryland.

GREGORY TALAVERA (*Presenter*, he/him/his) is a bilingual, bicultural physician with over 30 years of community-based clinical and public health research experience. He is a professor in the Department of Psychology at San Diego State University where he founded and co-directs the community-based South Bay Latino Research Center. Talavera has dedicated his clinical practice, research, and advocacy to reducing disparities in the Latino Community both in San Diego and nationally. During the early part of his career, he practiced medicine in the Spanish-speaking, underserved communities of San Diego's border region. As a family practitioner, Talavera came to understand the culture-specific beliefs that serve as barriers to quality chronic disease clinical management. Over the course of his career, he has designed and managed research programs involving cardiovascular disease prevention, breast and cervical cancer screening promotion, behavioral interventions for diabetes care, recruitment of minorities into long-term clinical trials, and smoking cessation. Talavera currently serves as the principal investigator for the landmark All of Us Research Program at the San Ysidro Health, a Federally Qualified Health Center. He obtained his bachelor of arts from the University of California, San Diego, a medical degree from the University of Utah, as well as both his master of public health and preventive medicine residency training from the San Diego State University/University of California, San Diego, joint program.

KASISOMAYAJULA "VISH" VISWANATH (*Presenter*, he/him/his) is Lee Kum Kee Professor of Health Communication in the Department of Social and Behavioral Sciences at the Harvard T. H. Chan School of Public Health and in the McGraw-Patterson Center for Population Sciences at the Dana-Farber Cancer Institute. He is also the faculty director of the Health Communication Core of the Dana-Farber/Harvard Cancer Center. Viswanath's work, drawing from literature in communication science, social epidemiology, and social and health behavior sciences, focuses on translational communication science to influence public health policy and practice. His primary research is in documenting the relationship between communication inequalities, poverty and health disparities, and knowledge translation to address health disparities. Viswanath has written more than 280 journal

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Effective Health Communication Within the Current Information Environment and the Role of the Federal of ...

articles and book chapters concerning communication inequalities and health disparities, knowledge translation, public health communication campaigns, e-health and digital divide, public health preparedness, and the delivery of health communication interventions to underserved populations. Viswanath earned a master of criminal justice from Osmania University in India and both a master of arts and a doctorate in mass communication from the University of Minnesota.

ITZHAK YANOVITZKY (*Presenter*, he/him/his) is a professor of communication and public health at Rutgers, The State University of New Jersey. He is an expert in the areas of health communication, behavior change, and public policy making. Yanovitzky's program of research explores effective mechanisms for knowledge transfer from research to policy and practice and strategies for improving community engagement and capacity building. He regularly partners with collaborators from across academic disciplines and sectors to address a range of public health challenges, including most recently efforts to address the opioid epidemic and the rising toll of youth depression and suicide. Yanovitzky is the immediate past-chair of the health communication division of the International Communication Association and is regularly called upon to provide expert scientific advice to national and international health agencies. He earned his doctorate in communication from the University of Pennsylvania.

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Appendix C

Insights from Community Engagement Breakout Sessions

What resources do we have inside or outside of government to address this priority?

- Leverage existing capacity inside of federal organizations. (Karasz)
- Community-based organizations. (Karasz)
- Power/platform of the federal government to provide data and information that local communities can use. One example was 21Foward (Office of Food Policy and Response), which addressed challenges in the food supply chain during the pandemic. (Karasz)

What are examples of successful efforts that could we learn from?

- Community health workers are a trusted source of information, connect people with services based on their needs, and have a solid understanding of the community. (Ramirez)
- Community navigators and peer leaders who work with community health workers and address multiple needs of community members. (Ramirez)
- Community-based organizations. (Ramirez)
- Federal American Rescue Plan Act funds were helpful at the state level. (Ramirez)
- Local models in which health officials have mentored community-based organizations. (Karasz)
- Current federal-local connections, such as the U.S. Food and Drug Administration's relationship with the U.S. Department of Agriculture's extension workers. (Karasz)

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- Funding models to learn from, such as Community Partnerships to Advance Science for Society (ComPASS), ARPA-H, and the HIV Network at the National Institutes of Health, which has allowed for grant cycles and flexibility to facilitate building community relationships. (Karasz)

What resources are most needed to make progress on this priority?

- More grants like the ComPASS program. (Karasz)
- Greater centering of communities, including opportunities for communities to initiate grants. (Karasz)
- Cross-governmental collaborations, such as collaboration between the U.S. Department of Housing and Urban Development and the U.S. Department of Education to create a common fund and to address common issues. (Karasz)
- Sustainable funding for community organizations and community health workers who can connect federal agencies with local communities. (Ramirez)
- Mechanisms for more quickly approving messages at the federal level to support local communities. (Ramirez)

Who else should be involved in addressing this priority?

- Communities need to provide input in design and delivery of programs. (Ramirez)
- Data analysts are needed to support work in public health. (Ramirez)

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Appendix D

Insights from Data and Information Systems Breakout Sessions

What resources do we have inside or outside of government to address that challenge?

- Many datasets exist within federal agencies, but they are often not well connected. (Hallman)
- Programmatic staff with expertise and data sources that could be better coordinated. (Scales)
- Processes for preclearance that have been used to improve timeliness. (Scales)

What are examples of successful efforts that could we learn from?

- iHeard. (Hallman and Scales)
- Cancer Control P.L.A.N.E.T., which involves a collaboration of the National Cancer Institute, Centers for Disease Control and Prevention, and the Agency for Healthcare Research and Quality, brings together federal, professional, community, and other stakeholders to provide an information resource. (Scales)

What resources are most needed to make progress on this priority/challenge?

- A map of datasets within and across agencies. (Hallman)
- Data standards and the ability to map traffic across the many federal health websites. (Hallman)
- Personnel and flexible funding. (Hallman)
- Capacity to better analyze what people want to know and are understanding about health issues in languages besides English. (Hallman)

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- Enhanced capability to combine social media data with qualitative data gathered through panels and other in-person methods. (Hallman)
- Ability to understand how messages from the federal government are being interpreted and shared in the health communication ecosystem. (Scales)
- Better metrics and indicators to help measure progress toward communication goals, especially meeting the information needs of communities. (Scales)

Who else should be involved in addressing this challenge/priority?

- Trusted partners outside of the federal government who can act with agility and timeliness. (Hallman and Scales)
- Ethicists or others who can help address ethical issues related to determining the appropriate uses of datasets. (Hallman and Scales)
- Partners who can help to address issues of data absenteeism, especially among marginalized communities. (Scales)

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Appendix E

Insights from Expertise and Human Capital for Research and Evaluation in Federal Health Communication Breakout Sessions

What resources do we have inside or outside of government to address that challenge?

- Large national surveys are good for some forms of research and evaluation but are not always nimble or modifiable to address specific evaluation needs. (Niederdeppe)
- Communication scientists and communication professionals are housed within many agencies. (Niederdeppe)

What are examples of successful efforts that could we learn from?

- Tobacco Centers of Regulatory Science or broader funding for tobacco regulatory science, which is a partnership between the U.S. Food and Drug Administration and the National Institutes of Health and provides science that directly informs questions of concern to regulators of tobacco products. (Niederdeppe)
- The National Academies of Sciences, Engineering, and Medicine's Societal Experts Action Network, which provides rapid-response social, behavioral, and economic research for decision making. (Niederdeppe)

What resources are most needed to make progress on this priority/challenge?

- Time needed to demonstrate the value of research and evaluation and for effectively communicating with various audiences. (Niederdeppe)
- Frameworks and templates for research and evaluation. (Niederdeppe and Yanovitzky)

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- Agreement about indicators and outcomes that are important to evaluate across programs to facilitate comparisons and build institutional knowledge. (Yanovitzky)
- Connected data systems that can be appropriately disaggregated to support research and evaluation in equitable ways. (Yanovitzky)
- Transparent data sources that describe rather than prescribe information to minimize politicization. (Yanovitzky)

Who else should be involved in addressing this challenge/priority?

- The National Academies, as a uniquely well-positioned organization to bridge cross-agency questions. (Niederdeppe)
- High-level leadership in federal agencies to both invest in and support communication research and evaluation. (Niederdeppe)
- Boundary spanners to build capacity to connect research and practice. (Yanovitzky)
- Communication professionals working with decision makers. (Yanovitzky)

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