NIH Common Fund
Office of Strategic Coordination

Research Gaps and Opportunities for Health and Science Communication

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Virtual

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Introduction

The National Institutes of Health (NIH) is conducting planning activities to inform a potential Common Fund research program to support the development, assessment, and implementation of novel approaches to address health and science communication in a changing sociocultural landscape. As part of these activities, on May 16-17, 2022, the NIH Office of Strategic Coordination (OSC) hosted a workshop to bring together key representatives from multiple sectors to identify research opportunities and gaps that, if addressed, would lead to more effective communication toward promoting healthy behaviors. The workshop format included three moderated panel discussions and five breakout discussions.

Panel 1: Research Gaps and Opportunities in Health/Science Communication

This panel focused on research and/or resources that will transform health-related behavior and decision-making. Renee DiResta (Stanford University) shared that health and science communicators must balance freedom of speech with the need to curate better information. One solution is to identify individuals who are resident voices and can reach target communities to counteract negative and harmful messages. Understanding and then leveraging the influencer dynamics in the spread of narratives is a key action for health and science communications. Although some groups that actively counter anti-vaccine narratives already exist on social media platforms, additional messaging from these trusted groups is needed.

Bruce Lee (City University of New York) explained that COVID-19 misinformation often blames health outcomes from unrelated health conditions on COVID-19 vaccination or propagates theories spread by large numbers of organized individuals. To counteract negative messages, the health communications system—which is complex and consists of the scientific community, journals, conferences, and media platforms—must use a systems approach to generate system-wide solutions.

Monica Ponder (Howard University) framed her comments around communicating to vulnerable communities. She emphasized that researchers should utilize reflexivity to identify research biases and how they influence outcomes. Researchers should consider who benefits and who may be harmed from different research approaches. Research design should endear trust and reduce research-related burden on the individual and community. To achieve these goals, scholars should be culturally responsive and conscious of the lived experience. One means to achieve cultural responsiveness is through interdisciplinary approaches.

Valerie Reyna (Cornell University) offered that communicators must overcome false dichotomies between areas of research (e.g., cognitive and social psychology). In addition, researchers should consider how artificial intelligence (AI), which is used by most platforms that disseminate information, differs from human intelligence; utilize the tools of hypothesis-testing, process-oriented, experimental research and the perspectives of people with an acute

sense of social context and problems; and empower the public with the means to make informed decisions now and in the future.

Vish Viswanath (Harvard University School of Public Health) identified two main barriers to effective health and science communication: (1) the vast amount of scientific information that is beyond the capacity of individuals to process and (2) the lack of gatekeeping regarding the quality of information shared. To overcome these barriers, science journalists, community-based organizations, and private-sector communicators should be trained to interpret science and health communications, and health and science communicators should focus on science that centers on the needs and concerns of the affected communities. Finally, centering equity is critical to effective science and health communication.

Panel 2: Leveraging Health Communication Research in Media and Technology Sectors

This panel focused on how representatives from journalism, marketing, and tech platforms can leverage health communication research. Tony Foleno (Ad Council's Research Committee) noted that health and science communicators would benefit from cross-pollination of ideas and techniques from commercial marketing. Marketers have become experts at being seen in an age of information overload, and their methodologies could be invaluable for communicating research.

Nira Goren (Google Health) shared that online information is accessible when it is discoverable, credible, and digestible. Accessible messaging can transform how individuals are informed, educated, and motivated to live healthier lives. Messaging could be placed in the spaces that individuals are already visiting (e.g., YouTube). To ensure interaction, messaging must be evidence-based and engaging, qualities that represent an important area for future research.

Elizabeth Hair (The Truth Initiative) noted that to adapt to the constantly changing landscape of current media, researchers must better understand how to measure exposure to health-related messages in order to combat misinformation and better disseminate accurate data. Researchers also need better ways to measure the impact of health messaging, and to multiply the impact of informative messaging.

Naseem Miller (The Journalist's Resource) highlighted resources that can help journalists better communicate about science, the most important of which is access to scientists, particularly at NIH and CDC, who can provide insight into decision making and research processes. Excluding the voice of scientists can erode public trust in science messaging. Health and science communicators must address misinformation in a way that does not continue to spread the misinformation. Stopping the spread of misinformation, which is particularly difficult when trusted messengers are the ones spreading the information, is another issue that requires additional research. Additional areas for consideration are storytelling techniques, timeliness of messaging, and transparency of messaging.

Panel 3: Perspectives from the Community

This panel focused on describing the needs of communities. Cliff Coleman (Oregon Health and Science University) highlighted four research topics to explore: efficient ways to develop clear communication habits among learners, the effects of clear communication training for health professionals on patient outcomes, the relative contribution of unclear communication to health care inequities and health disparities, and development and validation of AI-based software to detect clinicians' use of jargon in spoken and written communication to evaluate the effectiveness of training programs.

LaShaundra Cordier (Brunet-Garcia Advertising) stressed that the field of health and science communication is only beginning to understand the significant health inequity in communication. Health and science communicators should always strive to value everyone equally when developing communication. Other key areas for improvement to ensure that the highest level of understanding and appropriate impact are achieved include health literacy, best practices around clear communication, and minimization of stigma. Communicators also need flexibility in adapting to different and evolving landscapes to address community priorities with a human-centered, culturally sensitive approach.

Frances Feltner (University of Kentucky College of Medicine) stressed that misinformation and misunderstanding often result from unclear communication by the scientists. Communicators should have open and clear conversations with communities to build trust and productive partnerships with community members and other stakeholders. They should collaborate with local organizations to ensure that messages are understandable and appropriate for the community, and should train trusted community members in communication and outreach.

Reverend Debra Hickman (Sisters Together And Reaching, Inc. [STAR]) emphasized that scientists should be culturally sensitive when designing research and should ensure that findings result in accessible, long-term improvements or changes for the community. Researchers and providers often do not devote time to value the community. In a highly effective research study assisted by STAR, based on community input, the study team provided participants with the equipment (e.g., blood pressure cuffs, connection to community health workers) necessary to participate in the study.

Alan Wells (Community-Campus Partnerships for Health) noted that work is still needed to disengage structural racism from public health processes. Communities must feel included and that their voices inform the research that affects them. Echoing a comment by Hickman, he explained that researchers often perform "helicopter" research—that is, entering a community, collecting data, and leaving without providing support or lasting solutions. Progress in building relationships with communities works at the speed of trust, and trust is created by supporting, nurturing, and sustaining good partnerships for longer-term relationships, which in turn develops better health equity.

Discussion Topics

Below is a summary of the themes and corresponding recommendations that emerged from the discussions and the small group report-outs.

Optimizing Health and Science Communication

Journalists and communicators should engage with a wider variety of resources, including key communicators specific to communities, and should strategically apply messages to different communities. Communicators need a strategy for vetting influencers to determine those who are most trusted by the public and have large followings within key demographic groups, particularly minority populations. Communicators may also benefit from speaking with local journalists and reporters about strategies for framing work in a culturally relevant way.

Alternatively, scientists could act as influencers to spread positive health and science messaging. Scientists speaking about their own work and promoting health information is an important aspect of health and science communications; however, care must be taken to ensure that the scientists are conveying messages in a helpful, not harmful, manner. To improve their effectiveness, scientists and health care professionals should have media training, including lessons in plain language.

Trust is a critical factor in communication, but often researchers and health and science communicators do not understand how trust varies between communities and how it evolves over time. Research is needed to better identify the best practices for building and sustaining trust. Building trust requires significant investments in communities, which in turn requires working with or recruiting from community organizations.

The science communication system does not reflect the current state of technology and social systems; it must be modernized to be more accessible. A useful tool for the field would be a laboratory in which messages can be tested and vetted for impact and accessibility. In addition, health and science communications would benefit from integration of formal and informal best practices into the communications workforce. Communicators should also advance the science and methodology of social media research—particularly user amplification of positive and negative messages.

Understanding the Effects of Policy and Politics on Health and Science Communication

Amid the COVID-19 pandemic, there were ample discussions, particularly on social media, that questioned the safety and efficacy of COVID-19 vaccinations, and vaccine misinformation has contributed to suboptimal vaccine update and loss of life in some communities. The pandemic highlights the need to overcome barriers to science communication (e.g., how to respond to vitriolic and divisive language, misinformation, and anti-science sentiment that spreads through social media platforms) to allow individuals to make informed decisions regarding their health.

The largest predictor of COVID-19 vaccine hesitancy is political partisanship. Decoupling public health from politics is an important, but complicated, task.

Strategies to improve communication cannot ignore the effects of historical racism in medicine and health systems on communities today. Communicators often lack the ability to change policy, but their messaging should reflect understanding of historical context and the community's needs, and acknowledge social inequity.

Research into health and science communication is not incentivized in the same manner as clinical research. The federal organizations should provide incentives that encourage this research, because without effective communication, research results cannot be adequately implemented. Researchers could identify best practices for messaging by studying social systems, whose historical contexts may create barriers to communications (e.g., distrust in messengers). In addition, the current health system is not incentivized to increase the independence of community members to care for their own health. Finally, individuals who are trained communicators are not incentivized to assist in implementing research that can help communities.

Engaging the Community

Communities are complex entities that involve people, institutions, locations, and businesses. As such, communities should be encouraged to provide input on their values and experiences that will be used to tailor messages. Health and science communicators must learn from, assess, and engage with the information environment in communities and specifically account for structural concerns and lack of resources to help reduce barriers and build capacity. Often the researchers or communicators that enter communities have access to information or data that the communities do not, meaning that sustainability is difficult or impossible. Leveraging key individuals in communities can lead to better opportunities to communicate in effective and trusted ways and enables adaptation to changing environments, particularly in states of crisis. Trusted community groups can also assist researchers with recruitment and retention for studies by communicating clearly and effectively with community members in a culturally relevant manner.

Health and science communicators should listen to individuals with differing perspectives to identify the causes of distrust in health and science communications. Suggested areas for improvement include clearly communicating about the evolving state of science and recommendations, empowering trusted voices to spread messages, using more stories and fewer statistics in messaging, avoiding the perception of elitism, and being willing to admit to mistakes.

Once established, good programs require funding to ensure sustainability, which is often not the case for research programs. Communities need to build their own capacity and infrastructure to implement solutions identified in research.

Advancing Research Strategies

The President's Council of Advisors on Science and Technology held a public session in March 2022 with a number of distinguished researchers in health communication who provided recommendations, including performing an objective audit of public health communications related to COVID-19.

The Office of Behavioral and Social Sciences Research has been deeply engaged in understanding lessons learned from health and science communications during COVID-19. Social and behavioral research is critical to advancing approaches to communication, and lessons learned should be applied to combat distrust of science and public health in general to address future challenges.

Research should be completed in phases to better characterize the dynamics and mechanisms of social systems. With this information, researchers can identify solutions and then test these solutions in small groups of individuals to refine techniques before implementing them in a sustainable manner. Prolonged sustainability will be a major undertaking that leverages resources such as focus censuses to better understand attitudes and thoughts and to identify obstacles to effective communications.

Researchers need a forum to share not only knowledge with other researchers but also accessible and simplified best practices with people working on the ground. Researchers need to better transform knowledge into practice so that findings can benefit communities. Researchers often work in siloes, addressing individual health concerns or conditions, which must be dismantled in order to identify the best practices for health communications. Also needed are rigorous evaluations and standards for measuring whether interventions are working.

An important measure of successful research is equitable access to easy-to-understand and actionable information. In terms of COVID-19, communities with low health literacy were most disproportionately impacted. By adopting a precautious but universal approach to communication, access to information can be improved for all. Health and science communicators may be able to leverage research that has characterized other health care problems to inform health communications.

Meeting participants discussed how PubMed enables researchers to discuss results with one another, and a similar system could be created to communicate the same information in different language to the public. However, meeting participants cautioned that sharing results of single studies can lead to generalizations or misunderstandings. However, aggregation, curation, and interpretation of data offers value, and translation of data for public consumption is an important undertaking.

Finally, researchers should study information burnout to understand how to manage a system that is overloaded and overwhelmed with messaging.