

Rethinking the Translation and Dissemination Paradigm: Recommendations from Science Communication Research for Health Services Policy Debates

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Executive Summary

Experts across a variety of fields tend to believe that the gap between expert knowledge and policymaker knowledge and decision-making results from a lack of understanding of the technical nature of problems and their proposed solutions.^{1,2} In response, health services researchers and their peers across other fields have engaged in translation and dissemination activities that involve a wide variety communication platforms such as blogs, Facebook, Twitter, online video, open-access journals, and other interactive tools. Yet, research from the fields of science communication, policy studies, and political communication suggests that a narrow focus on these tactics comes at the expense of a broader set of strategies that are likely to be more consequential for improving societal decisions about health services–related issues. Drawing on research from these fields, this paper provides an overview of current challenges to the traditional translation and dissemination paradigm and offers three alternative strategies for effective communication of expert knowledge in the field of health services research.

Challenges to the Current Translation and Dissemination Paradigm

Research from the growing field of the “science of science communication” looks at the social and cognitive factors that shape debates about science and technology and how these processes play out across highly contested political environments.³ Among the major conclusions of this research is that the traditional goal of translation and dissemination—to boost technical knowledge—is a relatively ineffective way to influence public judgments and decisions.^{4,5} Research shows that, in highly political environments, even carefully crafted efforts to influence individuals holding factually incorrect beliefs may reinforce those beliefs.^{6,7} Other research suggests that, when translation, dissemination, and media outreach efforts intensify, it is often the most highly educated who benefit from the increased access to information while lower socioeconomic and/or minority populations remain inattentive and disengaged.^{8,9,10} Overall, translating and disseminating expert knowledge via increasingly sophisticated multimedia tools and online platforms may only strengthen political disagreement among already highly informed partisans while failing to engage historically underserved segments of the public.

Alternative Approaches to the Communication of Expert Knowledge

In light of these challenges, health services researchers need to move beyond existing approaches to research translation and dissemination to:

1. Pool their resources to conduct research on the framing of complex debates
2. Function as “honest brokers” and forge partnerships with trusted opinion leaders
3. Invest in states’ and regions’ civic capacity for debate and collective decision-making

Explore Appropriate Framing of Complex Issues

No matter how well articulated or explained, expert findings disseminated by way of social media or news coverage do not speak for themselves, and policymakers, stakeholders, or publics across different backgrounds do not interpret, accept, or perceive findings in the same way. Rather, perceptions and decisions turn on the context and points of emphasis that define communication efforts. Social scientists recommend that effective communication focus on both “framing” or conveying the social relevance of an issue and fitting information to the existing values, mental models, experience, and interests of an intended audience.^{11,12,13}

Studies funded by the Robert Wood Johnson Foundation on the framing of climate change provide a model for similar research on complex health services issues and problems.¹⁴ Study authors Nisbet and colleagues investigated how the public understands climate change and fossil fuel dependency not as environmental problems or political debates but rather as public health threats.^{15,16,17} The studies found that messaging centered on the health implications of climate change was both useful and compelling and that framing the issue around public health generated more hope and less anger than messages define climate change in terms of either national security or environmental threats.¹⁸ Health services researchers should consider conducting similar research around the most effective framing of complex health policy issues. Local opinion leaders can also play an important role in spreading conversations about health care–related issues that employ preferred frames.

Act as Honest Brokers

Health services researchers and their organizations can enhance their effectiveness by expanding the range of policy options considered on an issue. Research conducted by Roger Pielke Jr., Ph.D., at the University of Colorado suggests that instead of allowing researchers’ expertise to be used in promoting a narrow set of policy approaches, experts and their institutions should instead strive to be “honest brokers,” expanding the range of policy options and technological choices under consideration by the political community. In the case of complex, often divisive problems such as health care, a broad menu of policies under consideration can create greater opportunity for compromise among decision makers.^{19,20} Pielke’s findings are consistent with the work of Dan Kahan and colleagues, suggesting that acceptance of expert advice is strongly dependent on the proposed policy actions linked with that advice.^{21,22}

If we apply Pielke’s and Kahan’s reasoning to future debates over health care policymaking, it follows that broad-based public support depends on safeguarding what Kahan refers to as the “risk communication environment.”²³ In other words, a social problem or trend tends to be defined exclusively in terms of a specific legislative bill or regulatory action or in relation to the goals of a specific ideologi-

cal group. As honest brokers, health services researchers and their organizations should proactively encourage journalists, policymakers, and the public to discuss a broad menu of options rather than tacitly allow (or sometimes promote) efforts by activists, bloggers, and commentators to limit debate to just a handful of options that supports a specific ideology and cultural outlook.^{24,25}

Invest in Regional Civic Capacity and Deliberation

Preventing health care debates from being recast in politically divisive terms will also require an investment in our civic capacity to discuss, debate, and participate in collective decisions. To that end, universities and other research institutions can play a vital role by facilitating public dialogue on health care problems and trends, by working with philanthropic funders and community partners to sponsor local media platforms, by convening stakeholders and political groups, and by serving as a resource for collaboration and cooperation.

Face-to-face dialogue should be complemented by online media forums and news services that bridge, blur, and add context to perspectives on health care trends and problems and expand discussion of policy options and solutions, thereby offering an alternative to the moral outrage that dominates much of our media. Regional initiatives that engage experts in a conversation among journalists, stakeholders, and members of the public are consistent with the tradition of community-based participatory research (CBPR) initia-

tives in public health. CBPR methods, such as carefully organized and evaluated public forums, provide a means for effectively and efficiently gathering input and fostering participation from groups with varying values, concerns, and levels of expertise. In contrast to the traditional translation and dissemination paradigm, the CBPR paradigm focuses on an equitable, two-way interaction between experts and communities rather than on a one-way, expert-led communication approach in which experts attempt to broadcast their knowledge to passive lay audiences.^{26,27} A shift in focus will allow health services researchers to apply their communication training and enthusiasm for public outreach to a process that encompasses more than a single voice or perspective.^{28,29}

Conclusion

This paper highlights existing challenges for effectively translating and disseminating research. It offers alternative strategies for communicating expert knowledge supported by insights from science communication research and related fields. These strategies include investing in new frames of reference and cultural voices, proactively widening the menu of policy options under consideration, and investing in localized public and media forums that provide context on health care problems, encourage collaboration, and bridge several perspectives. Despite evidence supporting their efficacy, these communication strategies should not be seen as a silver bullet but instead as incremental steps that accelerate a long-term process of change.

Introduction

Communication is defined as a process of translation and dissemination from experts to non-experts. Experts working across fields tend to agree that political disagreement stems from a “gap” between expert knowledge and policymaker knowledge. Efforts to close the gap are based on the assumption that, if policymakers and the public better understood the technical nature of problems and their proposed solutions, then they would achieve political consensus, followed by societal action.^{30,31}

Like their peers across other fields, health services researchers have invested heavily in a variety of translation and dissemination activities to close the communication gap. Whether via blogs, Facebook, Twitter, online video, open-access journals, and other interactive tools, expert institutions have turned to sophisticated narrative styles, presentation formats, and platforms that were once the exclusive domain of news organizations and journalists. For example, the Web sites of many universities, nonprofit organizations, and philanthropies are now interactive multimedia hubs featuring news stories, blog posts, and video interviews that, in turn, are promoted and spread by social media.³² To take advantage of today’s digital tools, experts are encouraged to enroll in communication workshops to learn how to blog, use Twitter, produce online videos, create visual presentations, provide public testimony, employ Hollywood acting techniques, and cultivate relationships with journalists.³³

Amid a rapidly evolving communication ecosystem, health services professionals along with highly motivated members of the public can recommend, share, and comment on preferred topics across media platforms. Not only does the public have access to seemingly countless expert voices and perspectives, but any motivated individual also has direct access to primary sources of information and data, including studies, reports, live and archived feeds of press conferences and events, transcripts of speeches, and copies of legislation. In addition, individuals enjoy access to the complete archive of stories, blog posts, interviews, and statements about a health services topic, along with substantial excerpts of books and studies via Google and Amazon.³⁴ All of these communication trends suggest that we live in a digitally enabled Golden Age for the translation and dissemination of expert knowledge.

Yet, despite the wave of enthusiasm among experts for various dissemination and translation activities, research in the fields of science communication, policy studies, political communication, and corresponding disciplines suggests that a narrow focus on popular channels of communication tends to filter out a broader set of strategies that are likely to be more consequential for improving societal decisions about health services–related issues. Researchers in these fields have analyzed the factors shaping effective communication and expert advice in relation to environmental problems, scientific

breakthroughs, and emerging technologies. Insights from these studies are highly relevant to health services researchers, given that the political dynamics of science and environmental controversies are similar to those shaping many complex health care problems and trends.

As detailed in this paper, there are four broad conclusions about communication from this body of research that warrant the consideration of health services researchers and their organizations and that challenge the contemporary translation and dissemination paradigm. In the first case, over the past decade, as part of a growing field that the U.S. National Academies calls the “science of science communication,” researchers have investigated the social and cognitive factors that shape decisions about complex debates over science and technology and how these factors play out across highly contested political environments.³⁵ One of the major conclusions of the research holds that the traditional goal of dissemination and translation—to boost technical knowledge—is a relatively ineffective way to influence public judgments and decisions.^{36,37}

In highly contested political environments, the impact of knowledge often varies with an individual’s political identity such that well-educated individuals from different social groups tend to be the most divided in their opinions.^{38,39,40} In such a context, even carefully crafted efforts to influence individuals holding factually incorrect beliefs may simply reinforce those beliefs.^{41,42} Other research suggests that, when dissemination, translation, and media outreach efforts intensify, it is often the most highly educated who benefit from the increased access to information; lower socioeconomic and/or minority populations remain inattentive and disengaged.^{43,44,45} In all, the dissemination and translation of expert knowledge via increasingly sophisticated multimedia tools and online platforms may only strengthen political disagreement among already highly informed partisans while failing to engage historically underserved segments of the public.

Second, based on the above research, social scientists recommend that effective communication should focus on “framing” or conveying the social relevance of an issue and, at the same time, fit information to the existing values, mental models, experience, and interests of an intended audience.^{46,47,48} Such strategies are enhanced if experts partner with everyday opinion leaders who have earned the trust of a target group and can pass on information by word of mouth and social media, thereby shaping impressions within their social networks about what is socially desirable and acceptable.^{49,50}

Third, simply applying research to the formulation and design of a broader-based communication strategy is insufficient. Health services researchers need to consider carefully the role they play as policy advisors. In efforts to overcome the polarized perceptions that tend to derail substantive policy discussions, health services

researchers and their organizations may be most effective if they adopt the role of “honest broker,” expanding and diversifying the policy choices and options considered by decision makers.^{51,52}

Fourth, instead of viewing communication as a one-way process of dissemination, translation, and persuasion, health services researchers and their organizations could benefit from pooling their resources and investing in localized public and media forums in which decision makers, stakeholders, and members of the public learn, debate, and participate by offering their own recommendations and solutions to health services problems. Local and regional engagement at a time of gridlock at the federal level not only can help identify policy innovations but can also create the cross-cutting networks of support needed to promote policy change at the national level once political conditions change.⁵³

Perception Gaps in a Politically Contested Media Environment

Research suggests that, when faced with complexity, uncertainty, and limited time and attention, individuals seldom engage in active deliberation about complex policy issues. They do not weigh and assess the many facets of a policy issue and do not avail themselves of in-depth sources of expert knowledge accessible via online and social media platforms. Instead, research characterizes individuals as “cognitive misers” who generally collect only as much information about a complex topic as they think is needed to reach a decision.^{54,55} Research has identified such a practice as specific to health information-seeking behavior, according to Smith and Smith in their discussion paper for this AcademyHealth series.⁵⁶

In politicized policy debates, researchers have studied how partisan cues in the form of slogans, talking points, and political labels make it easier for individuals to reach decisions efficiently, resulting in a form of “limited information rationality.” Somewhat counterintuitively, studies find that individuals with higher levels of education tend to be the most efficient cognitive misers; as compared to those with lower educational attainment, they are better able to recognize partisan cues and determine what others like them think. In addition, they are more likely to react to these cues in ideologically consistent ways and more skilled in offering arguments to support and reinforce their positions.^{57,58}

It is useful to consider that, during the presidency of George W. Bush, polls demonstrated majority public support for government action to improve health care coverage.⁵⁹ Yet, following the 2008 election, as elected officials and party leaders quickly diverged in their messaging about the issue, public opinion shifted to reflect partisan differences. After President Barack Obama took office, support among Republicans for health care reform almost imme-

diately declined and steeply.^{60,61} These trends parallel earlier shifts in public opinion that occurred during the Clinton era’s health care debate.⁶² Moreover, the drop in support was greatest among Republicans who also held the strongest levels of racial resentment, suggesting that the efforts by opponents to “frame” health care as favoring undeserving racial minorities were especially effective.⁶³

In a similar pattern, studies have tracked the increase in diverging partisan cues on complex science policy debates over, for example, embryonic stem cell research and climate change and the resulting influence on public opinion. Early in both debates, even before political party leaders and activists began to communicate their opposing policy positions, surveys showed only marginal differences in opinion among Democrats and Republicans. Over the years, however, as political leaders quarreled over policy and news coverage played up partisan differences, the gap in opinion between college-educated Democrats and Republicans grew to be as wide as 30 to 50 percentage points.^{64,65,66}

The tendency for the public and decision makers to attend selectively to and interpret dissemination and translation efforts by way of the media is magnified when experts narrowly focus their media outreach efforts on elite outlets such as the *New York Times*, the *Washington Post*, the *New Yorker*, National Public Radio, and similarly prestigious news organizations. Though these outlets exert an important agenda-setting influence on policymakers, they do so in an era of virtually unlimited media choices. In other words, if a member of the public lacks a strong interest in public affairs, he or she can avoid such coverage altogether and pay attention only to those issues that deeply concern him or her.⁶⁷

As a consequence, research findings suggest that those of higher socioeconomic status rely on prestige news outlets in their attempts to understand complex issues. As a result, those who are already attentive to and knowledgeable about a subject grow even more knowledgeable. At the same time, members of the public of lower socioeconomic status tend to gain little knowledge. As a consequence, gaps in knowledge and concern about an issue grow more pronounced and divisive,^{68,69,70} a finding consistently demonstrated relative to public health issues and debates, as reviewed by Smith and Smith in their AcademyHealth discussion paper.⁷¹

Apart from knowledge gaps by socioeconomic status, today’s media system reinforces and feeds on the tendency toward perception gaps among highly attentive partisans. In the era of the 24-hour political news cycle, commentators and bloggers on the political left and right rely on the latest insider strategy, negative attack, or gaffe to appeal to ideologically motivated audiences, connecting almost every policy issue to the broader struggle between liberals and

conservatives for control of American politics.^{72,73,74} In this regard, the divisiveness and rancor that typify online commentary about health care reform or climate change is driven in part by what Tufts University scholars Jeffrey Berry and Sarah Sobieraj characterize in a series of studies as the media “outrage industry.”^{75,76}

The culture of “outrage” discourse specializes in provoking emotional responses from audiences; trading in exaggerations, insults, name calling, and partial truths about opponents; and reducing complex issues to “ad hominem attacks, overgeneralizations, mockery, and dire forecasts of impending doom.”^{77,78} In the 2009 debate over health care reform, it is helpful to consider the reaction among left-leaning media pundits when the single-payer option was dropped from the proposed legislation in an effort to win support from moderate Democrats. In this case, an outraged Howard Dean and MSNBC host Keith Olbermann urged cable viewers to demand that Congress “kill the bill.” Quoting Winston Churchill, Olbermann said that the “appeasement” of moderate Democrats would mean “total and unmitigated defeat, without a war.”⁷⁹

Yet, to be sure, Fox News can claim the most notorious example of moral outrage when, in 2009, commentators favorably referenced Sarah Palin’s Facebook warning about health care reform leading to “death panels.”⁸⁰ A survey at the time found that 45 percent of regular Fox viewers believed that health care reform would lead to death panels; fewer than 30 percent of respondents among CNN and MSNBC viewers believed likewise.⁸¹ However, attempts to correct false information can backfire. A study evaluating the effectiveness of messages that aimed to correct the facts about death panels showed that, among politically knowledgeable experimental subjects who viewed Sarah Palin favorably, belief in the panels intensified.⁸²

Media outrage and distortions ripple through the populace by way of Americans’ informal conversations and online social networks. In recent decades, as people have sorted themselves into like-minded residential areas, workplaces, and political districts, the similarity of Americans’ social, political, and geographic enclaves has increased appreciably.^{83,84} As a result, with respect to health care reform, for example, many Americans are unlikely to report knowing people who hold views different from their own. Instead, the “political other” is a caricature perpetuated and reinforced by blogs, talk radio, and/or cable news. For many conservatives, those who support health care reform are “socialists”; for many liberals, those who oppose health care reform are “racists.” In each case, the opposing side is viewed as incapable of either reason or compromise.⁸⁵

Editorial and business decisions at prestige news outlets have also unwittingly boosted polarization on complex policy debates such as health care reform. For example, the *New York Times* and *Washington Post* have cut back on their news budgets, dismissing many of

their most experienced reporters and allowing advocacy-oriented media outlets and commentators to fill the information gap. As a consequence, careful reporting at these outlets on the technical details of a given policy has given way to morally framed interpretations from bloggers and advocacy journalists at outlets such as *Mother Jones*, *The Nation*, or the *National Review*.⁸⁶ Online news and commentary are also highly socially contextualized, passed along and preselected by people who are likely to share similar world views and political preferences. If an individual incidentally “bumps” into news about climate change or health care reform by way of Twitter, Facebook, or Google +, the news item is likely to be the subject of metacommentary that frames the political and moral relevance of the information. By taking advantage of self-reinforcing spirals, advocacy groups devote considerable resources to flooding social media with comments politically favorable to their position as embodied in purposively selected stories.^{87,88}

Even when prompted by a high-profile focusing event, individuals might seek out additional information via Google and other search engines without concern for further selectivity. Liberals might search for information on “health care reform” and encounter one set of differentially framed search results, whereas a conservative might search for information on “Obamacare” and encounter an entirely different set of search results. Not only do word choice and phrasing shape the information returned through Google, but the individual’s past browsing and search history also influence the resultant information, adding another layer of selectivity and bias to the information encountered.^{89,90}

The response to these factors has been to train experts to invest in personalized social media strategies and platforms as a way to offset the loss of high-quality news coverage and counter the spread of false information. However, it is unlikely that, even in the aggregate, experts’ individualized social media efforts can compete with the efforts of well-financed advocacy groups and aligned media outlets. Indeed, efforts directed at correcting false information often prove ineffective or, as noted, even backfire. Moreover, to the extent that interest groups and advocacy journalists highlight experts’ dissemination efforts, research findings are likely to find application in scoring partisan points rather than in guiding decision-making.

In the face of these challenges, health services researchers and their organizations would be prudent to shift away from the dominant dissemination and translation paradigm, even as the paradigm continues to draw attention. Instead, health services researchers and their organizations can benefit from pooling their resources to conduct research on the framing of complex debates, to forge partnerships with trusted opinion leaders, and to invest in building the civic capacity of states and regions.

The Framing Contest over Health Care Reform

No matter how well articulated or explained, expert findings disseminated by social media or traditional news coverage do not speak for themselves, and policymakers, stakeholders, or publics across different backgrounds do not interpret, accept, or perceive relevant findings in the same way. Rather, perceptions and decisions turn on the context and points of emphasis that define communication efforts.

Framing—as an area of research and communication strategy—spans several scholarly disciplines and professional fields. In media coverage and policy debates, frames may be considered as interpretive story lines that set in motion a specific train of thought, communicating why an issue might be a problem or pose a threat, who or what might be responsible for it, and what should be done about it. When individuals consider a complex and uncertain policy issue, they will likely arrive at markedly different responses, depending on the terminology used to describe the problem or the visual context provided in the message.^{91,92,93} Political leaders and activists typically use framing strategies to emphasize their differences and to mobilize a base of support around strongly held core values and ideologies.

In the debate over health care reform, for example, conservative opponents framed the issue within a larger narrative about liberal “big government” and out-of-control spending. Framing strategies that called President Barack Obama a “socialist” and warned of a “government takeover” instantly conveyed a particular strategic meaning. Racial biases and stereotypes similar to those that characterized opposition to welfare policies also played out in the health care debate. In appealing to conservative ideals of perceived fairness or lack thereof, conservative opponents defined the Obama administration as pushing for yet another government giveaway to “freeloaders” even as the deficit and debt kept climbing. The phrase “Obamacare” not only easily personalized the issue for conservatives, but it also resonated with suspicion that Obama favored policies that “unfairly” benefited poor blacks, Latinos, and illegal immigrants over hard-working whites.⁹⁴

In a May 2009 report, Frank Luntz outlined a fairness message strategy aimed at undercutting support for Obamacare. Luntz also recommended that conservative leaders emphasize how “politicians,” “bureaucrats,” and “Washington” would deny Americans individual freedom to choose their health care. “It is essential that *deny* and *denial* enter the conservative lexicon immediately because it is at the core of what scares Americans most about government takeover of health care,” wrote Luntz. “Takeovers are like coups—they both lead to dictators and loss of freedom.”⁹⁵ Sarah Palin’s later reference to “death panels” and the media attention sparked by her words provoked underlying concerns about loss of personal freedom and control.

The Obama White House and its political allies responded to conservatives’ “fairness” framing strategies by emphasizing not just the plight of the 30 million Americans without health insurance but, more important, by also pointing to the severe risks and escalating costs faced by all Americans who already had health coverage. In addition, President Obama stressed that the bill was not based on a liberal agenda but rather on bipartisan ideas and proposals, notably the Massachusetts health care model.⁹⁶

As the White House repeatedly explained, the legislation would mean that every relevant stakeholder would take responsibility for the costs of health care, adding to the emphasis on fairness in a way that might hold more appeal for Republicans. To underscore the point, the White House frequently cited former Republican Massachusetts Governor Mitt Romney, who called his state’s version of health care “the ultimate conservative idea, which is that people have responsibility for their own care, and they don’t look to government. . .if they can afford to take care of themselves.”⁹⁷

To create a common enemy that transcended partisanship, the White House also consistently sought to criticize the health insurance industry. As President Obama emphasized in a 2010 nationally televised address, with health care reform, it would be against the law for an insurance company to “drop your coverage when you get sick or water it down when you need it the most. . .because in the United States of America, no one should go broke because they get sick.”⁹⁸

For health services researchers, framing is an unavoidable reality of the communication process, especially for those seeking to engage policymakers and stakeholders. There is no such thing as unframed information, and most successful communicators are adept at framing, whether they do so intentionally or intuitively. Lay publics rely on frames to make sense of and discuss an issue; journalists use frames to craft interesting and appealing news reports; policymakers apply frames to define policy options and reach decisions; and experts employ frames to simplify technical details and make them persuasive.^{99,100}

Research on framing is an invaluable tool that health services researchers and their organizations can use for more effectively communicating the relevance of a problem and explaining why support for policy solutions need to transcend partisan differences. In this regard, framing, it should be noted, is not synonymous with placing a false “spin” on an issue, although, as was the case in the health care reform debate, some experts, advocates, journalists, and policymakers certainly took great liberties with evidence and facts. Rather, in an attempt to remain true to what is conventionally known about a complex topic, framing as a communication necessity can be useful in paring down information and giving greater weight to certain considerations and elements over

others, thereby communicating personal relevance and shared interests or values.^{101,102}

Reframing the Climate Change Conversation

Studies funded by the Robert Wood Johnson Foundation on the framing of climate change offer a model for similar research on complex health services issues and problems.¹⁰³ In these studies with Edward Maibach and several colleagues, we investigated how the public understands climate change and fossil fuel dependency not as environmental problems or political debates but rather as public health threats.^{104,105,106} Our goal was to guide the work of public health professionals, municipal managers and planners, journalists, scientists, and other trusted civic leaders as they seek to engage broader publics on the health and security risks posed by climate change. In doing so, we have applied our findings to the development of educational materials, workshops, and strategic planning initiatives for organizations working across sectors.^{107,108}

We started with the assumption that reframing climate change in terms of public health recasts climate change as a phenomenon with the potential to increase the incidence of infectious diseases, asthma, allergies, heat stroke, and other salient health problems, especially among the most vulnerable populations: the elderly and children. In the process, the public health frame makes climate change personally relevant to lower socioeconomic, minority, and underserved publics by connecting the issue to already familiar health problems long perceived as important. The frame also shifts the geographic location of impacts, replacing images of remote Arctic regions with proximate neighbors and places in local communities and cities. The recast frame also generates coverage by local television news outlets and specialized urban media, drawing attention to the issue that goes beyond the traditional audiences of prestige outlets such as the *New York Times* or National Public Radio.^{109,110}

Efforts to protect and defend people and communities are easily localized. State and municipal governments have considerable control, responsibility, and authority over climate change–related policy actions. In addition, recruiting Americans to protect their neighbors and defend their communities against the impacts of climate change naturally lends itself to forms of civic participation and community volunteering. In these cases, given the localization of the issue and the nonpolitical nature of participation, it may be relatively easy to overcome barriers related to polarization as a diversity of organizations addresses the issue without the labels of “advocate,” “activist,” or “environmentalist.” Moreover, once community members from different political backgrounds join together to achieve a broadly inspiring goal, then the resulting networks of trust and collaboration may be activated to move diverse segments of the population toward cooperation in pursuit of national policy goals.^{111,112}

To test these assumptions, we conducted in-depth interviews with 70 respondents from 29 states after recruiting subjects from six previously defined audience segments. The segments ranged along a continuum from individuals deeply alarmed by climate change to those deeply dismissive of the problem. Across all six audience segments, individuals said that information about the health implications of climate change was both useful and compelling, particularly when locally focused mitigation and adaptation-related actions were paired with specific benefits to public health.¹¹³

In a follow-up study, we conducted a nationally representative Web-based survey in which respondents from each of the six audience segments were randomly assigned to three experimental conditions, thereby allowing us to evaluate their emotional reactions to strategically framed messages about climate change. Though people in the various audience segments reacted differently to some of the messages, we found that framing climate change in terms of public health generally generated more hope and less anger than messages framed around climate change in terms of either national security or environmental threats. Somewhat surprisingly, our findings also indicated that the national security frame could “boomerang” among audience segments already doubtful or dismissive of the issue, eliciting unintended feelings of anger.¹¹⁴

In a third study, we examined how Americans perceived the risks posed by a major spike in fossil fuel energy prices. According to our analysis of national survey data, approximately half of American adults believe that our health is at risk from major shifts in fossil fuel prices and availability. Moreover, people of different political ideologies shared this belief, and even individuals otherwise dismissive of climate change held strongly to the belief. Our findings suggest that many Americans would respond favorably to communication efforts emphasizing energy resilience strategies that reduce demand for fossil fuels, thereby limiting greenhouse emissions and preparing communities for fuel shortages or price spikes. Strategies include improving home heating and automobile fuel efficiency, increasing the availability and affordability of public transportation, and investing in government-sponsored research on cleaner, more efficient energy technologies.¹¹⁵

Recruiting Opinion Leaders to Span Knowledge and Perception Gaps

If health services researchers adopt research techniques similar to those that have succeeded with respect to climate change, the next challenge is to initiate conversations about health care–related issues that are organized around preferred frames of reference. In this regard, it is important to identify and recruit opinion leaders across sectors and social groups. Opinion leaders are everyday individuals who exhibit a strong motivation for acquiring knowledge specific to a health care services–related issue and who, as a

trusted source, demonstrate a special ability to share that information with others. Opinion leaders rarely hold formal positions of authority and instead prove influential by way of their greater attention to a topic, their knowledge related to that topic, and the strength of their personality and experience in serving as a central go-between for information within their large network of core and more distant ties.¹¹⁶

Opinion leaders not only help draw the attention of others to a particular issue, action, or consumer choice, but perhaps, most important, they also signal how others should in turn respond or act. They may influence others by offering advice and recommendations, by serving as a role model, by persuading or convincing others, or by providing a source of contagion. In the case of contagion, ideas or behaviors spread without the initiator's and the recipient's awareness of any intentional attempt at influence.¹¹⁷ In this regard, opinion leaders embody several of the key traits that Smith and Smith identify in their *AcademyHealth* discussion paper; that is, opinion leaders encourage successful face-to-face and social media engagement.¹¹⁸

More specifically, opinion leaders can bridge online audience gaps by passing on and sharing news and information about a health services-related issue that their peers would never otherwise encounter. Opinion leaders' bridging role is especially important with respect to major focusing events or outreach campaigns such as the release of a new government report, a local event or political decision, a pending national decision, or within the context of a primary or general election. Through conversations and social media, opinion leaders may also function as direct peer educators, informing and instructing their friends and family in how to engage in different forms of participation. For low-income and underserved populations, opinion leaders can break down competency gaps in the use of digital technology by modeling the use of mobile and hand-held devices or teaching others how and where to access high-quality information sources and digital tools.¹¹⁹

Former Vice President Al Gore's We Can Solve It campaign demonstrates the strengths and weaknesses of opinion leaders' involvement in outreach on climate change issues. In 2008, Gore announced in a *60 Minutes* interview that he would embark on a three-year television advertising campaign "to recruit 10 million advocates to seek laws and policies that can cut greenhouse gases." Spending more than \$100 million during 2009 and 2010, the campaign featured strategically framed television advertisements that asked audiences to visit the campaign's Web site, the main platform for activating recruited opinion leaders.¹²⁰

The Web site primarily asked visitors to sign up to be part of the campaign's action email list so that "your voice can be heard." For visitors to the site, the most visually prominent feature was the pop-up projection of an everyday opinion leader telling visitors in his or her own words why they need to get involved and/or explaining a feature of the site. Also prominent on the site's front page was statistical information on the number of people to date "who want to be part of the solution" on climate change. In addition, the Web site featured a social networking component such as Facebook that allowed visitors to create a profile, friend other people, write blog entries and letters to the editor, create groups, and attempt to organize local events in their community. These action alerts were coordinated with either a major vote in Congress, a major speech by Gore, or, for example, the launch of a new commercial during the August 2008 Olympics broadcast. Participants who convinced 40 friends to sign up through word of mouth and/or forwarded emails and/or other social media actions earned distinction as a "WE leader" and received "access to special information." The campaigns also launched their own Facebook application, where participants (referred to as Climate Champions) who signed up fellow Facebook "friends" could earn points that donors would then match as financial contributions to the campaign.¹²¹

Despite its innovations, the effectiveness and reach of the We Can Solve It campaign was likely limited because of its almost exclusive emphasis on online interaction and the influence of opinion leaders. Reliance on digital connections and recruitment is appealing because of the relative ease with which organizers can measure success, but ease in tracking data does not equate to effectiveness. Health services researchers and their organizations should be careful not to rely overly on digital networks, especially in place of face-to-face influence.¹²²

Surveys show that Americans still prefer to learn about recommended actions and policy positions via verbal interaction. Moreover, research has not yet concluded whether digital networks can overcome the Web's self-selection biases. In addition, with the Web's strong selectivity bias, exclusive reliance on digital interaction might lead to ideological reinforcement and the intensification of beliefs about an issue, possibly limiting the eventual willingness of recruited opinion leaders to compromise on pragmatic policy solutions. Moreover, if the "weak ties" of digital interactions lack the strength of traditional opinion leaders' influence, then time and effort spent online by digital opinion leaders may be far less effective than traditional face-to-face influence. Heavy reliance on digital organizing might create a false sense of efficacy among participants, with activists believing that they are making a difference on climate change when their impact may be limited at best.¹²³

Given the above considerations, future research on opinion leaders and their relevance to outreach efforts specific to health services issues should examine under what conditions or with which demographic segments digital opinion leaders can prove effective and in which ways online interactions can build on real-world ties. Combining digital organizing with face-to-face interaction by using smart phones, for example, is a strategy that future research should explore.¹²⁴

Health Services Researchers as Honest Brokers

Apart from applying framing research and recruiting opinion leaders, health services researchers and their organizations can enhance their effectiveness by actively expanding the range of policy options related to an issue. As the University of Colorado's Roger Pielke Jr., Ph.D., has noted in evaluating science policy debates, instead of allowing their expertise to be used in efforts to promote a narrow set of policy approaches, experts and their institutions should instead strive to be "honest brokers," expanding the range of policy options and technological choices under consideration by the political community. In the case of complex, often divisive problems such as health care, the broader the menu of policies under consideration, the greater is the opportunity for compromise among decision makers and the less likely that emerging issues will become targets of polarization.^{125,126}

Pielke's analysis is consistent with the research findings on how cultural world views intersect with the range of policy choices associated with a complex risk-related subject. Research by Yale University's Dan Kahan and colleagues demonstrates that the acceptance of expert advice is strongly dependent on the proposed policy actions linked with that advice. An instructive example is the state-level controversy surrounding mandatory HPV vaccination versus the relative lack of state-level controversy surrounding mandatory Hepatitis B vaccination. As Kahan relates, the manufacturer of the HPV vaccination pressured the federal government to "fast-track" the addition of the vaccine to routine immunization schedules, thereby generating a contentious response by state legislatures. The competing frames offered by interest groups, elected officials, and experts triggered the type of perception gaps that have derailed consensus on climate change, stem cell research, and health care reform. In comparison, the Hepatitis B vaccine was never fast-tracked and instead was slowly introduced by regulatory and administrative agencies, maintaining a much lower profile than HPV vaccination and thus insulating the issue from conflicting cultural and political cues.^{127,128}

If we apply Pielke's and Kahan's reasoning to future debates over health care services, we see that broad-based public support depends on safeguarding what Kahan refers to as the "risk communication environment." In other words, it is essential not to allow

a social problem or trend to be defined exclusively in terms of a specific legislative bill or regulatory action or in relation to the goals of a specific ideological group. As honest brokers, health care services experts and their organizations should proactively encourage journalists, policymakers, and the public to discuss a broad menu of options rather than tacitly allow (or sometimes promote) activists, bloggers, and commentators to restrict the debate to just a handful of options suited to a specific ideology and cultural outlook.^{129,130}

Investing in Regional Civic Capacity and Deliberation

Efforts to prevent debates over health care services from being cast in politically divisive terms also demand an investment in our civic capacity to discuss, debate, and participate in collective decisions. In this regard, U.S. universities and other research institutions can play a vital function. They can facilitate public dialogue about health care problems and trends, work with philanthropic funders and community partners to sponsor local media platforms, convene stakeholders and political groups, and serve as a resource for collaboration and cooperation. In fact, cities and local regions are the contexts in which we can most effectively experiment with communication initiatives that challenge how each of us debates, thinks, and talks about the future of health care. In these forums, new cultural voices can be heard, new cultural framings and meanings emphasized, and innovative policy approaches discussed.

By building up our local and regional communication capacity, we can also start to set the conditions for eventual change in national politics, rewiring our expectations and norms relative to public debate and forging relationships and collaborations that span ideological differences and cultural world views.¹³¹ In this regard, as possible partners and collaborators, health services researchers and their universities should look to apply insights from science centers and museums. As reviewed in the AcademyHealth discussion paper by Selvakumar and Shugart, over the past two decades, science centers have evaluated several models that create "civic spaces" that encourage and permit community members to debate, learn about, and participate in complex science-related policy decisions.¹³²

It is vital to complement face-to-face dialogue with online media forums and news services that bridge, blur, and add context to perspectives on health care trends and problems and expand discussion of policy options and solutions, thereby offering an alternative to the moral outrage that dominates much of our media. As regional newspapers suffer financially and cut coverage of public affairs in general and of health care problems in particular, new forms of nonprofit, university-based media platforms will be needed to ensure that various regions of the country have the civic capacity to make informed decisions and choices. One leading university-based prototype that lends itself to adaptation to the health care sector is *Ensis*, a foundation-funded Web-based magazine launched

by the Institute on the Environment at the University of Minnesota (www.ensia.com). The online magazine's mission is to use news, commentary, and discussion to identify and inspire new approaches to climate change and other environmental problems. *Ensia* features reporting by top freelancers, commentaries by experts and thought leaders, and a TED conference-like event series that is broadcast and archived online.

These types of regional initiatives that embed health services researchers within a conversation among journalists, stakeholders, and members of the public are consistent with the tradition of community-based participatory research (CBPR) initiatives in public health. CBPR methods, such as carefully organized and evaluated public forums, provide a means for effectively and efficiently gathering input from and fostering participation among groups with varying values, concerns, and levels of expertise. Long-term planning related to health care services requires careful consideration of matters related to ethics, values, equity, social justice, and economic trade-offs—questions that are too important and complex to leave to experts or government officials alone and that demand the active input and participation of stakeholders and the public. The CBPR paradigm focuses on an equitable, two-way interaction between experts and communities rather than on a one-way expert-led communication approach in which experts attempt to broadcast their knowledge to passive lay audiences.^{133,134}

Earlier research on CBPR approaches and similar initiatives that focused on environmental and science-related issues shows that organized deliberation and discussion can lead to several important outcomes, such as reduced polarization among participants, enhanced forms of knowledge and trust, an increased sense of efficacy that problems can be solved and that participants have control over decisions, and favorable perceptions of fairness, transparency, and justice. In sum, by shifting from one-way dissemination and translation of expert views by way of social media and other platforms to institutionally led investments in states' and regions' civic and media infrastructure, experts will be able to apply their communication training and enthusiasm for public outreach to an inclusive process instead of conveying a single voice or perspective.^{135,136}

Conclusion

This paper has reviewed several of the weaknesses in today's dominant dissemination and translation paradigm, highlighting alternative strategies and investments supported by insights from science communication research and related fields. These strategies call for investing in new frames of reference and cultural voices; proactively widening the menu of policy options on the table; protecting an issue from easy polarization; and investing in localized public and media forums that provide context for health care problems and trends while bridging perspectives.

Yet, despite the evidence supporting the efficacy of these communication strategies, the application of research-based principles to health services-related issues does not guarantee the avoidance of conflict or polarization. Research findings such as those related to framing are often messy, complex, and difficult to translate into practice. They are also contingent on and subject to revision based on new research, changes in the dynamics surrounding an issue, or the nature of a given issue and social context. Moreover, no matter how knowledgeable and adept the health services community might be in applying research-based principles to engagement efforts, intensely polarized debates take years, if not decades, for resolution and require all parties to the debate to give ground, negotiate, and compromise.¹³⁷

In the ongoing debate over how to manage and pay for health care costs, the main drivers of eventual resolution and agreement are most likely to be deep changes in the political system, shifts in demographic and social trends, external shocks such as economic recessions, and/or breakthroughs in technologies and delivery systems. Applying insights from science communication and other disciplines can help accelerate this long-term process incrementally, but by no means should it be considered a silver bullet.

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