

CHAPTER 16

*Working With the
Federal Government*

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Contrary to the beliefs of many researchers, science is an important part of the political process. Science and technology touch almost every aspect of modern public policy from economic development, health care, and education to national security, energy, and the environment. Over the past 50 years, scientists have helped to shape America's prestigious science and technology enterprise through their engagement with public policy as government employees, as advisers to the federal government (legislative and executive branches), as researchers, and as individual citizens. In basic terms, federal public policy includes the laws written and programs created and funded by Congress and the rules and regulations established by the executive branch to operate those programs. Social policy is designed primarily to promote human well-being, and it has a long history of being shaped by behavioral and social science (Featherman & Vinovskis, 2001). Science policy preserves and advances the infrastructure and processes of science.

Though more and more behavioral and social scientists appreciate the impact that research can have on public policy, not all scientists are inclined to participate and can

be reluctant to interact with the federal government other than as recipients of federal grants. Policy decisions are made every day without input from those who conduct relevant and often federally sponsored research. Among the many reasons for this aversion, scientists can believe that their involvement in "politics" will compromise the integrity of their science and perhaps damage their reputations, or they may perceive that their involvement would be unproductive in an antiscience government. At the same time, other researchers would like to participate but may be unfamiliar with the policy issues, the complex legislative process, and the varied and numerous opportunities to affect science and public policy within Congress and the federal agencies. Because of the many competing factors that go into policy making (discussed later in this chapter) and because policy arguments built around sound science may not always persuade or result in a direct policy outcome, scientists can also underestimate the essential contribution that science makes to public policy.

The first section of the chapter, therefore, takes a brief look back at the relationship between public policy and the social and behavioral sciences and illustrates the value

of science using as an example the policy issue of HIV/AIDS. The chapter continues by showing why policy makers must be continually educated about how scientific work is administered and conducted. The following section explains that to engage successfully in policy making scientists, should develop knowledge in three key areas: understanding the structure and function of Congress and the executive branch agencies, how to develop a communications strategy and the skills needed to execute it, and how to establish and maintain relationships with federal policy makers. The chapter concludes by describing the roles of professional societies and associations in supporting scientists' policy-related work.

BEHAVIORAL AND SOCIAL SCIENCE IS ESSENTIAL TO POLICY MAKING

Fostering Human Progress: Social and Behavioral Science Research Contributions to Public Policy, a publication celebrating the 20th anniversary of the Consortium of Social Science Associations (COSSA), observes that the contributions of the social and behavioral sciences are not always noticed because they often come in “ripples, not waves” and so are frequently “taken for granted by legislators and policymakers who use the science to make choices about competing demands for scarce resources” (Consortium of Social Science Associations, 2001, p. 1). *Fostering*, therefore, provides examples of how these sciences have helped to attain the six societal goals of creating a safer world, increasing prosperity, improving health, educating the nation, promoting fairness, and protecting the environment. COSSA, an advocacy group established to promote social and behavioral science research, maintains that policy makers are able to make choices in these six areas as a result of

the “continued presence of social and behavioral scientists in the Executive and Legislative branches of government and as witnesses before congressional and regulatory bodies” (COSSA, 2001, p. 3). Social and behavioral research has, for example, contributed to major changes in crime prevention and crime-fighting policies by improving our understanding of the causes of criminal behavior and increasing the ability to predict its onset and persistence. As *Fostering* explains, “The major development of the last 25 years has been the recognition of the changing nature of criminal behavior over the course of one’s life, the resulting need for multiple theoretical perspectives to explain these changes, and the value of longitudinal studies of crime to test and improve theories at both the individual and collective levels” (COSSA, 2001, p. 18). This case illustrates but one of the many accomplishments achieved since broad federal support for the behavioral and social sciences first began.

A Brief Look Back

The 1960s and President Lyndon Johnson’s Great Society programs ushered in a “golden age” for social and behavioral studies (COSSA, 2001). Massive increases in government programs in both the Johnson and Nixon administrations changed the nation’s science policy. The social and behavioral sciences “benefited from the need for evaluations of new programs and the desire to complete the unfinished agendas of the New and Fair Deals” (COSSA, 2001, p. 1).

The social and behavioral science fields, however, were vulnerable during the “national malaise” and economic tough times of the 1970s. An amendment was offered on the floor of the House of Representatives aimed at cutting the budget to the National Science Foundation (NSF) Directorate for Biological, Behavioral, and Social Sciences by the precise amount budgeted for social

science research. In an acknowledged attack on social science research, the amendment passed the House. “Both the attacks and defenses of social science research were carried on in the absence of any participation by the social [and behavioral] science community” (COSSA, 1982, p. 8).

In the early 1980s, decision makers began to recognize the potential contributions of the social and behavioral sciences to health promotion and disease prevention. The release of the 1982 Institute of Medicine (IOM) report, *Health and Behavior: Frontiers of Biobehavioral Research*, focused national attention on the relationship between health and behavior by documenting the extent to which lifestyle contributed to chronic diseases such as heart disease and cancer.

By the late 1980s, recognition of the role these sciences could play in the making of effective policy began to increase, leading to the creation of the Social, Behavioral, and Economic Sciences Directorate (SBE) at the NSF in 1991. SBE supports research to develop and advance scientific knowledge on human cognition, language, culture, social behavior, geography, and the interactions between human societies and the physical environment through its Behavioral and Cognition Sciences research division. The Social and Economic Sciences Program (SES), SBE’s second research division, seeks to enhance the understanding of human, social, and organizational behavior. SES accomplishes these missions by building social science infrastructure and developing disciplinary and interdisciplinary research projects that advance knowledge in the social and economics sciences (Social and Economic Sciences, n.d.).

In the early 1990s, policy makers officially recognized the potential contributions of the social and behavioral sciences to health policy. In 1993, Congress created the National Institutes of Health (NIH) Office of Behavioral and Social Sciences Research (OBSSR). The OBSSR’s mission is to “develop

initiatives designed to stimulate research in the behavioral and social sciences arena, integrate a bio-behavioral perspective across the research areas of the NIH, and encourage the study of behavioral and social sciences across NIH’s institutes and centers” (OBSSR, n.d.). The mission also requires the OBSSR to “initiate and promote studies to evaluate the contributions of behavioral, social, and lifestyle determinants in the development, course, treatment, and prevention of illness and related public health problems” (OBSSR, n.d.). In 2000, Congress created the NIH National Center for Minority Health and Health Disparities to conduct and support research, to train researchers, and to disseminate information regarding minority health conditions. This legislation resulted from a diverse coalition of scientists, advocates, and individuals who identified gaps in the research and highlighted the lack of adequate government policies surrounding health disparities. Advocates for the legislation, including scientists, lobbied the Congress, engaged in collective letter writing, held congressional briefings, and made telephone calls in support of the legislation.

Though the above examples illustrate an appreciation for the contributions of SBS research to society, COSSA was formed in response to a crisis: the selective assault against the social and behavioral sciences in the early 1980s by the Reagan administration. The president’s budget threatened cuts up to 75% in the NSF’s social and behavioral science budget and threatened the research supported by other agencies (COSSA, 2001).

An informed and politically active social and behavioral science community opposed the proposed budget cuts to NSF and, led by the newly incorporated COSSA, actively lobbied against them. A memo was sent to more than 4,000 scientists urging them to contact their representatives on the proposed cuts. Each House member was contacted via the

postal service, followed by personal visits to their offices. Scientists also met with members in their congressional districts. Representatives who supported the restoration of social and behavioral science research funds were solicited to make oral statements of support for the research on the House floor during the debate. The floor statements were written by COSSA staff and others supporting the effort. The amendment was defeated 264 to 152. This effort significantly increased the social and behavioral science community's visibility and credibility.

While COSSA was critical to providing the overarching strategy in this movement, the efforts of the many social and behavioral scientists who provided testimony, wrote, called, and visited their representatives made the case that the budget cuts for social and behavioral science research were ill advised and unwarranted. The social and behavioral science community demonstrated that its engagement in the public policy process can make a difference, doing so without the ease of the electronic communication that we enjoy today.

The evolution of federal policy regarding HIV/AIDS also illustrates the magnitude of change in public policy that can occur when scientists join with the rest of the public to influence federal policy. HIV/AIDS was first publicized in the popular press in 1981. In the beginning of the epidemic, everyone, including the government, ignored the lethal impact of the illness. This lack of action by the government fueled the AIDS cause, and what emerged is probably one of the most sophisticated movements ever to affect public policy.

Advocacy for HIV/AIDS policy extended from grassroots activists to advocacy organizations, including health educators, journalists, writers, researchers (including social and behavioral scientists), and service providers, and cut across the various communities affected by the HIV/AIDS epidemic. Groups

traditionally not thought to have an extensive amount of political persuasion joined forces with those who often neglected to use their political capital.

Congress and the executive branch responded to this activism by setting a new scientific research agenda and implementing new policies surrounding the treatment of those with HIV/AIDS. Congress responded to the demands of activists that it review NIH's spending on HIV/AIDS research and put into motion a planning process that included the extramural scientific community, the NIH staff, and the affected communities. Activists fought for the right to sit on federal advisory committees and convinced NIH that it was prudent to allow people with HIV/AIDS to participate in designing the clinical trials. Incorporated in the 1993 NIH reauthorization bill, the response dramatically overhauled the way the NIH coordinates and funds HIV/AIDS research. The bill also led to the creation of the NIH Office of AIDS Research (OAR), which was statutorily authorized to develop and coordinate a comprehensive plan for HIV/AIDS research activities. The statute mandated that the plan provide for basic and applied research, including social and behavioral science.

Following this initial success by advocates of AIDS policy, the social and behavioral science community, led by COSSA and its members, explored ways that social and behavioral scientists could continue contributing to a federal response to the many problems associated with HIV/AIDS by, for example, understanding the course of the disease in society, the long-term impact of selective depopulation on society, and the basics of persuasion, deviance, addiction, sexuality, community organization, voluntary and group behavior, and so on, as they relate to HIV/AIDS (COSSA, 1986). Social and behavioral scientists pushed for health promotion, education, and strong evidence-based intervention programs. They also

sought to help policy makers understand the need for long-range planning to address the societal impact of the crisis.

In a report about HIV/AIDS to the president and at a press conference, U.S. Surgeon General C. Everett Koop demonstrated that the social and behavioral science community's message had been heard by the federal government. In his press conference statement, Koop discussed a number of areas in which social and behavioral scientists were the leading knowledge sources for strategies involving effective research application.

Soon after, a wide range of programs, including social and behavioral research, demonstration, and evaluation projects, were funded for the first time.

WHY POLICY MAKERS NEED CONTINUAL EDUCATION ABOUT SCIENCE AND SCIENCE POLICY

For the most part, research benefits from strong support from the executive branch, Congress, and the public. Scientific knowledge, however, regardless of the discipline, is not always appreciated. The scientific community expends a tremendous amount of energy defending against the misapplication and lack of understanding of science. Every decade since the 1970s, science itself or its potential contributions to public policy have come under scrutiny by either the administration or Congress or both. The current decade is no exception. Recent years have seen the return of this "uneasy relationship" between science and politics as the current administration has been charged with politicizing science and disregarding scientific evidence when it comes to implementing policy (Union of Concerned Scientists, n.d.).

Congress, unfortunately, has not been above the fray. Recent recurring congressional attacks on areas of scientific research that some in Congress deem not worthy of

federal funding have increased the tensions between the federal government and the scientific community. The most recent congressional assault on social and behavioral science research included legislative language by the chair of the Senate committee with jurisdiction over the NSF suggesting that the agency was placing too much emphasis on the social and behavioral sciences. The chair suggested that perhaps support for this research should be removed from the NSF. COSSA again led the response to this charge, working with its allies in the scientific and higher education community to eliminate the threat to NSF's social and behavioral science research.

But recent years have seen the most persistent congressional attacks. The assaults were directed against specific NIH-supported research and, by extension, the NIH peer-review process. In 2003, a member of Congress who was running against a powerful incumbent in the Senate from his own party offered an amendment to the bill that would have rescinded the funding for five research grants awarded by the NIH (COSSA, 2003b). Four of the five grants supported research on sexual behavior and its relation to health. On the House floor, the representative argued that funding this area of research was not as important as funding disease-specific research and therefore should not be part of NIH's portfolio.

The leadership of the Labor, Health, and Human Services (LHHS) Subcommittee and the full Appropriations Committee, however, understood the value of peer review and came to NIH's defense during the floor debate. The chairman of the subcommittee strongly opposed the amendment and explained the peer-review process, while the chairman of the Appropriations Committee also argued in strong opposition to the amendment, calling it "mischievous" (COSSA, 2003a).

The ranking minority members of both the LHHS Subcommittee and the full Appropriations Committee further condemned the

amendment, arguing that the House of Representatives should not make political judgments about scientific research. Despite the Appropriations leadership's forceful response on the behalf of peer review and the NIH, the amendment was defeated by only two votes—210 for and 212 against.

The 2003 amendment was followed by subsequent House amendments offered to the annual spending bills in 2004 and 2005 that would have each defunded successfully peer-reviewed mental health grants funded by NIH's National Institute of Mental Health (NIMH) (COSSA, 2005). In 2004, recognizing the need to educate Congress about the peer-review process and to respond to future attacks on peer-reviewed research and the NIH, a diverse group of social, behavioral, and biomedical organizations; patient groups; and women's health organizations, which had worked together to defeat the 2003 amendment, formed the Coalition to Protect Research (CPR).

To prevent passage of the 2004 and 2005 amendments, CPR used a number of strategies. At CPR's request, professional associations and research societies from across the biomedical, behavioral, and social research spectrum, along with community organizations, wrote letters of support for the NIH and its peer-review process, and CPR posted these letters on its Web site. CPR sponsored congressional briefings in which scientists broadly explained the research, discussed the relevance of sexual health and behavior research to NIH's mission, and answered congressional staff's questions about the NIH peer-review process. Individual CPR organizations mobilized their grassroots membership to call members' offices in support of the NIH generally and, in some organizations, specifically requested the support of sexual behavior and health research. CPR also started two electronic petitions in support of NIH's work. More than 5,000 individuals signed both petitions, which were subsequently combined and delivered to

members' offices prior to the LHHS bill's consideration on the House floor, providing members with the benefit of feedback on the issue from their constituents.

CPR solicited editorials in scientific and professional journals, along with stories in the popular press, that proved instrumental in engaging the scientific community and the public. CPR gave copies of the editorials to congressional staff. These intellectual resources were also linked to CPR's Web site, providing background information to those interested in the issue.

As part of the proactive effort to guard against the possibility that similar amendments would be offered again, CPR members made numerous visits to individual members' offices to discuss their vote on the 2003 amendment in 2004 and 2005. Coalition organizations also mobilized their members to reach out to members of Congress in their district offices. The visits allowed CPR members to offer the coalition as a source of information about NIH, the research it supports, and the peer-review process. These activities enhanced the knowledge of legislators, policy makers, program managers, the general public, and fellow scientists in the biomedical and behavioral research communities.

Although these efforts did not stop representatives from offering the amendments in 2004 and 2005, the work of CPR contributed to a strategy that resulted in dropping the amendments before the final bill was passed. CPR's work provides an example of a successful strategy for affecting congressional policy making and demonstrates the level of effort required to do so.

KEYS TO SUCCESSFUL ENGAGEMENT IN POLICY MAKING

As the activities engaged in by COSSA, HIV/AIDS advocates, and CPR demonstrate, scientists' successful involvement in the federal policy arena can happen in a variety of ways:

- communicating with individual members of Congress or the executive branch agency staff through letters on topics addressed by that entity;
- assisting in organizing congressional hearings;
- providing testimony at congressional hearings;
- participating in congressional briefings;
- signing on to advocacy groups' and professional societies' joint letters, statements, and petitions;
- calling members of Congress or agency staff to register concerns directly;
- meeting with members and staff in their Washington or district offices;
- meeting with executive agency staff at conferences and workshops;
- building relationships with members of Congress and their staffs and with federal appointed officials; and
- communicating indirectly with the federal government and the public through the media, including op-eds and letters to the editor.

And the list could go on. To embark on the appropriate approach and engage effectively in federal policy making, scientists need knowledge and skills in three main areas: knowledge about the functions of Congress and the executive branch agencies and how decisions in these bodies actually get made, knowledge about how to develop a communication strategy and the communication skills needed to execute the strategy effectively, and an understanding of how to establish and maintain relationships with federal policy makers.

What Are Congress and the Executive Branch, and How Do They Function?

Congress. The first step to working with Congress is becoming familiar with the federal legislative process, and so this section presents a very broad overview. In addition to

the many available courses and texts on the legislative process, readers wanting to know more should see the American Association for the Advancement of Science's (AAAS's) *Working With Congress: A Practical Guide for Scientists and Engineers* (Wells, 1996), an excellent guide for scientists and engineers interested in policy activities.

Senators and representatives serve as advocates for their constituencies in Congress and with the federal government. Although Congress regularly considers social policy issues, science and technology topics—such as genes and the environment; nanotechnology; global competitiveness; the ethical, social, and legal implications of genetics research; cyber infrastructure; and so on—increasingly dominate the congressional agenda.

Each year, Congress is expected to cast hundreds of votes on various motions, bills, and amendments. Congress has been entrusted with national taxing and spending powers, as well as the power to create, reform, or abolish agencies and departments. One of its duties is to conduct oversight to ensure that agencies are performing in accordance with their missions. Congress authorizes and oversees federal programs and passes the annual appropriations bills that fund them. These measures, particularly the appropriations bills, affect federal research agencies and programs, thereby shaping research priorities in science policy and courses of action on social policy issues.

No single factor determines a representative's voting behavior. Prior to a major vote, members are often inundated with divergent opinions. They receive statements from expert witnesses testifying before congressional hearings. Professional associations and societies provide research findings. Think tanks and advocacy organizations supply fact sheets. Their colleagues send "Dear Colleague" letters asking them to support or oppose a particular bill. Keenly aware of their responsibility to mirror the viewpoint of the people in their districts, members are also constantly

seeking an accurate reading of their constituents' opinions about legislative proposals. Virtually all members of Congress travel back to their home states several times a month to meet with constituents and seek them out at public functions.

Members also must be aware of political considerations when casting votes, particularly on hot-button issues, or subjects being scrutinized by the public or mass media. For some topics, it is not uncommon to see the majority of one party vote one way and the majority of the other party vote the opposite way. The president's position on an issue is considered when votes are cast. Members feel pressure to support a president of the same political party or to block the agenda of a president from the opposing political party. Members' personal beliefs about an issue also, of course, have some bearing on their voting decisions. Against this complex backdrop, those representing the voice of science must learn to recognize opportunities to productively infuse science into a particular policy debate and the constraints against it.

Because members of Congress are in high demand and are extremely busy people, they have staff whose jobs are to provide them with the best possible information on the various issues they consider. Legislative staff, whether in the member's personal office or on a committee, influences congressional decision making. Most congressional staffs are responsible for a wide range of issues. Staffs also act as "gatekeepers," affecting the flow of information to and from members. Generally, most are just out of college and very young, especially when the amount of responsibility they have is considered. It is a mistake, however, to underestimate their influence on the legislative process.

The structure of individual member offices varies in staff size, staff structure, and office procedures. The administrative assistant (AA) or chief of staff is usually in charge of the staff. Whereas some members prefer a

hierarchical office structure with only certain staff interacting personally with the member, other members may work directly with all of the staff. Given that the internal functioning of the office may be difficult to ascertain, it is crucial to treat all staff as you would the member. In addition, turnover for some offices can be extensive. Today's receptionist may be tomorrow's legislative director (LD), the individual responsible for coordinating the work of the rest of the staff, also known as the legislative assistant or simply staff assistant. It is the responsibility of the legislative assistants to identify and track issues of interest to their member and his or her legislative positions. Other duties include drafting testimony for hearings, floor statements, and speeches; meeting with constituents; assisting constituents in dealing with the federal agencies; and responding to constituent mail. For most members of Congress, their Washington staff is responsible for budget and legislative issues, and district staff handles constituent services.

Congress uses a committee process to sort through the thousands of bills that are introduced in a session. These committees complete the majority of the work of Congress, conducting hearings, amending proposed legislation, and voting to pass the legislation on to the next level in the committee process. Congressional hearings are a formal method of collecting and analyzing information in the beginning stages of policy making. An official record of the information gathered at the hearing is generated along with the opinions that were expressed. Hearings are often initiated in response to the concerns of the chair, his or her staff, or individual members of the committee or subcommittee.

It is through hearings that most researchers and scientists interact with Congress. Public congressional testimony is not as likely to radically change members' views as a private meeting. Still, it serves vital functions. Congressional hearings provide visibility on

the issues at hand. They also offer opportunities for various constituencies to give Congress advice on priorities, opportunities, and challenges. Serving as a witness at a committee hearing is a very effective way to provide input into policy development and to help resolve the problems with which Congress wrestles. It is an opportunity to reach many members at once, to increase exposure to the issue through media coverage of the hearing, and to offer examples and a rationale for legislators inclined to argue for your position.

Though most hearings tend to be bipartisan, it is not uncommon for a hearing to be held for ideological, partisan, or other political reasons. The forum might be used as a tool for promoting an administration's agenda and arguments, or a member might request and be allowed to conduct a hearing, perhaps as a *quid pro quo*, that enables him or her to appear to "take action" on an issue of special concern in a forum that does little to detract from or otherwise threaten the majority agenda.

Legislation that survives the committee process in the House may be considered by the full chamber and, if passed there, may begin the process anew in the other chamber, the Senate. The process works similarly in both the House and the Senate. After passing both chambers, a conference of members from both chambers meets to resolve differences in the legislation passed by each. Legislation that is approved following this conference is then sent to the president. Although most of the opportunities for scientists to have input occur at the committee level, messages from research can be effectively introduced at all stages of the legislative process.

The Executive Branch. The federal government is the primary sponsor of both basic and applied research, and most behavioral and social scientists are familiar with the federal

agencies from which they receive most of their research support—the NIH within the Department of Health and Human Services (DHHS) and the NSF. Research support also comes from a number of other agencies, including the Department of Agriculture, Department of Commerce, NIH's sister agencies in the Public Health Service (Centers for Disease Control and Prevention, Agency for Healthcare Research and Quality, Health Resources and Services Administration [HRSA], and Substance Abuse and Mental Health Services Administration [SAMHSA]), Department of Homeland Security, Department of Housing and Urban Development, Department of Justice, Department of Defense (DOD), Department of Education (ED), Department of Labor, the Federal Aviation Administration, the Environmental Protection Agency (EPA), and the National Aeronautics and Space Administration (NASA) (American Association for the Advancement of Science, 2005).

Though many formal roles and other informal opportunities exist for interacting directly with federal agencies, most scientists tend to focus all their attention on affecting congressional language, spelling out the intent of Congress in reports that accompany bills, thereby missing chances to affect the direction of science policy as well as the use of research in program operations. Although Congress passes legislation to create and fund public policy, it must cede some of the discretion for executing and implementing policies to the federal regulatory agencies that are empowered to create and enforce rules that carry the full force of law. Thus, the real and enforceable actions behind acts of law passed by Congress happen largely unnoticed in the offices of the federal agencies rather than in the halls of Congress.

The Office of Management and Budget (OMB) is the regulatory agency that establishes the rules for the NIH, NSF, and other nonregulatory agencies that include research in their mission. The rules and regulations

relating to science affect the conduct and management of both intramural research (science conducted by government-employed scientists) and extramural research. In addition to science policy issues, rules and regulations for regulatory and nonregulatory agencies deal with social issues surrounding criminal justice, poverty and welfare reform, retirement, disease prevention, cancer and smoking, early childhood learning and teaching, civil rights, national security, environmental regulation, and global change, among many other topics relevant to social and behavioral science. These rules and regulations are published in the *Federal Register*¹ accessible through the Government Printing Office.

Scientists have myriad opportunities to involve themselves in the work of the executive branch agencies. The federal government often asks scientists outside of the agencies to provide independent advice on issues ranging from research funding priorities, to strategic planning of federal investment in research, to funding recommendations on specific research proposals. Nongovernment scientists are also asked to serve as advisers on the hundreds of committees considering policy issues. Other opportunities for engagement include meeting with officials in the federal research and regulatory agencies about their research portfolios or agency priorities, attending the open meetings of federal advisory boards or seeking invitations to sit on such boards, attending or participating in workshops or agency-sponsored conferences on specific science or social policy topics, responding to *Federal Register* notices requesting public comments on particular policies and regulations, serving on grant or cooperative agreement peer-review panels, and testifying before federal agency panels to explain the value of particular research programs.

In some instances, these interactions can assist government scientists in connecting with higher level officials in their own agencies and

with Congress, potentially improving the status, and thereby the resources, of the related research portfolio. Also, federal programs are reorganized and reprioritized regularly, and these changes can affect the way research is conducted and financed. Maintaining direct relationships with federal agency scientists and program personnel provides opportunities for input that may mitigate detrimental changes to research programs. For example, in 1998 and 2004, reorganizations of the NIMH by its new directors were designed to improve the functioning of the institute. This type of change frequently occurs within a federal agency to effect changes in the science it supports. In these cases, although not all of the scientific communities benefited from the reorganizations, both directors worked with their advisory committees, composed of scientists, practitioners, and advocates, to make their final decisions. Organizations that monitor NIMH publicized the process and solicited comments from the scientific community regarding how the proposed changes might affect the science.

Of the available opportunities, serving as an adviser to a federal agency is probably the primary way many scientists contribute to federal policy. Federal advisory boards, panels, committees, and councils of the federal agencies play essential roles in determining research policies. These groups advise agency directors about almost all aspects of the agency's functioning, such as long-term strategic planning, identifying new directions in research, discontinuing lines of research, and providing guidance on many specific science policy issues, including the treatment of human research participants or ownership and sharing of research data. They provide peer review of proposed and completed research, as well as review bodies of scientific literature to offer opinions on the adequacy of the scientific data for drawing particular conclusions or for particular applications. In addition, because

these committees are composed to mirror public policy issues of current interest to the federal government and the public, they often take up a range of social, scientific, health, and workplace issues. Advice from such committees serves to enhance the quality and credibility of federal decision making, and they expand the depth and breadth of knowledge and expertise provided by federal employees (Committee on Science, Engineering, and Public Policy, 2005).

Congress has formally recognized the merits of seeking the advice and assistance of our nation's citizens and has placed certain rules and constraints on the composition of such committees through the Federal Advisory Committee Act (FACA). According to a 2004 report of the U.S. General Accounting Office, now known as the Government Accountability Office (GAO), approximately "950 advisory committees perform peer reviews of scientific research; offer advice on policy issues; identify long-range issues; and evaluate grant proposals, among other functions" (General Accounting Office, 2004). Advisory committee members are drawn from various disciplines, occupational and industry groups, and geographical regions of the United States and its territories. FACA requires that committee memberships be fairly balanced in terms of the points of view represented and the functions to be performed; individuals on one side of the issue to be examined by the advisory committee cannot dominate the committee.

Federal agencies are constantly seeking scientists to serve on these committees and publish committee vacancies in the *Federal Register*. The agencies are required to consider for membership any interested parties with professional or personal qualifications or experience. In addition, professional associations and societies are continually searching for individuals to nominate to represent their discipline or science and provide input to the committees.

But to take advantage of the numerous opportunities to engage policy makers in Congress and the executive branch, scientists must determine their individual goals for engaging in the public policy process and construct a plan to reach them.

Developing a Strategy for Engagement

Good policy begins with good ideas. Regardless of whether one is communicating with Congress, the executive branch agencies, or both, the first step is to define the issue's relevance to a current policy topic. Begin developing your strategy by determining the points of connection: How can the research, yours and others, improve current policy? What new ideas or models should the Congress or the federal agency consider that might help them look at an issue in a new way? What do the data say with relative certainty, and what specific research studies or programs of research should be initiated to secure the needed answers? What issues are not currently on "the radar screen" of the federal government that warrant attention according to the science? Which findings might give opposing political viewpoints something to agree on so that some steps forward can be taken in areas paralyzed by deadlock? Framing your interests this way will help you to craft your message and to identify your audience.

Knowing what topics are under Congress's or the agency's purview is essential to correctly identifying your audience. Does addressing the issue take an act of Congress, or could the actions be accomplished through an agency? If Congress is the appropriate audience, consider which committees, subcommittees, and individual members are interested in your issue and might be ready to hear your message. For members of Congress in particular, it is helpful to be informed about the member's district, committee

assignments, professional background, stance on various issues including yours, and any issues considered a priority for the member's district. This knowledge will help you to emphasize why your issue is important to the member and his or her district or state. If an executive branch agency is the correct audience, determine the appropriate division and research portfolio, and identify the relevant staff members to contact. Targeted efforts usually yield better results than a one-size-fits-all approach.

Once the audience is identified, define the message. Prepare talking points from the data. The format should reflect the audience's knowledge, interest level, and typical means of receiving information. Members of Congress and their staff are often generalists and meet daily with a number of people on many different issues. So, prepare a one- or two-page bulleted document that highlights your main points. Be clear and concise, and use language that the lay public easily understands. Adding anecdotal examples also helps to communicate the meaning and value of the science. Stories are easier to retain and to repeat to colleagues than a recitation of statistics. Federal agency personnel are usually experts in an issue area and usually have more interest in your published paper, abstract, or brief summary of the relevant research with more technical information. Be prepared to discuss the fit between your work and the larger body of research on the topic, especially how the findings relate to research with which congressional and agency staff may already be familiar.

The timing of your message is critical. You must know where the issue is on the agenda in Congress or within the relevant agencies. Policy makers can be most open to information from science when they are establishing a policy agenda, considering new issues, or otherwise not yet committed to a position (Phillips, 2002). Advocating for an issue after the decisions have been made

serves little purpose. Though members of Congress and agency staff do not expect you to be an expert on policy procedures, it is imperative to demonstrate your understanding of the decision-making process within relevant offices, committees, or branches of government.

Evolutions in public policy, whether through legislation or through the promulgation of rules and regulations, happen over time. Years may pass between the introduction of a topic and a vote on relevant legislation or the creation of a related funding stream. In certain parts of the process, however, a short-term effort can result in an immediate and significant change. Consider whether the issue you desire to affect is ripe for immediate change or if a long-term commitment will be required, and plan your efforts accordingly.

After identifying the appropriate audience, crafting your message, and determining the appropriate time to contact your audience, focus on effectively communicating your message. An essential component of the strategy should be developing relationships with your audience.

Establishing and Maintaining Relationships

Promoting the use of research in policy making requires more than just cries for attention by science advocates in times of emergencies. It requires establishing and maintaining personal relationships developed through persistent networking and ongoing interactions. These relationships take time but are a most effective way to influence public policy. Successful relationships are built on mutual respect. They facilitate understanding, help to prevent the misuse of science, and increase the chances of achieving your goals. They are also bidirectional. Understanding the policy makers' needs helps scientists or other messengers tailor their

messages appropriately and can help scientists identify gaps in the research and new directions for investigation. Whether an individual scientist or an organization or network, the most credible information sources help policy makers to achieve their goals, even when those goals may not be directly related to the sources' priorities. For example, a researcher may respond to a request from a local member of Congress for information about a topic other than his or her own research by helping the member to contact the appropriate expert. Although these activities do not further one's own research or policy interests, by providing this information, the researcher appears reliable and helpful, thereby strengthening the relationship with the policy maker.

Personal relationships are crucial for getting a representative to consider an issue to be a priority. If possible, relationship building should begin before a specific pressing issue arises. Introduce yourself to the member or staff and explain how you might serve as a resource. Maintain contact by providing additional information such as summaries of new research or notices of media coverage relevant to the issues you have discussed. Letters, e-mails, telephone calls, and personal visits are highly regarded when it comes from constituents who are well known and who have been helpful in the past. Members of Congress represent all of the people in their district, regardless of political party, and so are open to relationships with all constituents.

Between visits, keep abreast of the issues and track how the member has voted or otherwise spoken on an issue. Look for additional opportunities for interacting with the office, such as when legislation has been introduced, hearings scheduled, a vote planned, or the media have covered the issue. Keep in mind, it will most likely take several meetings to influence legislative activity, and although you may have already contacted staff members, the

high turnover of congressional staff may require repeated contact and initiation of new relationships as staffs change.

Initiating contact with federal employees is surprisingly simple, whether by telephone, through e-mail, or in person. As with Congress, face-to-face meetings with federal staff continue to be one of the most effective means for initiating and maintaining relationships. Meetings can occur at conferences sponsored by the agency, professional associations, or others. Federal employees regularly reserve time in their conference schedules for such meetings and are not only usually receptive to such meetings but also can appreciate the opportunity to receive input and constructive feedback from the scientific community on issues within their purview. Political appointees who direct the executive agencies, such as the Secretary of Education or the Assistant Secretary for Children and Families, are equally receptive to hearing from their agencies' constituents. These officials ultimately sign off on policy or on the implementation of a rule and execute administration priorities that are within their jurisdiction. Whether by letter or in person, scientists can create opportunities to help these officials become aware of research that might contribute to the policies and programs relevant to their agency. Such meetings can be mutually beneficial: The federal official gains direct access to expert information that might be useful in setting and implementing the agency's agenda, and the scientist learns about the official's main interests and concerns.

SCIENTIFIC AND PROFESSIONAL SOCIETIES

Professional associations, scientific societies, foundations, and think tanks play a critical role in public policy in part by bringing information from research to policy makers (see

Chapter 18, this volume, on the work of think tanks and advocacy organizations). Professional and scientific associations also serve the important function of organizing scientists to achieve policy goals, especially as they relate to science policy. These groups expend great effort to maintain and increase the budgets and portfolios of social and behavioral science research in the federal agencies, and they can provide objective scientific expertise on topics of interest to policy makers. They also strive to protect science from misapplied politics that might inappropriately use research findings to support a particular ideological point of view or question the integrity of the scientific enterprise.

As such, these groups can be a useful resource for the scientist who is interested in participating in policy. They can help you keep up to date on public policy initiatives, become familiar with the history of the issue, help to identify achievable goals, identify who has the authority to make your goal happen, direct you to the appropriate people, help decide when to contact an office, and all other critical aspects.

Scientific and professional societies also provide opportunities to postdoctoral researchers to work as legislative assistants for a member of Congress or congressional committees, give workshops on advocacy training through which members can learn about the legislative process, and help scientists get involved in grassroots activities such as calling, writing, and visiting policy makers regarding a particular issue.

Scientific and professional associations also sponsor or cosponsor congressional briefings and seminars held on Capitol Hill, providing another venue for researchers to share their expertise. The organizations invite individuals with specific expertise to present their research in a user-friendly manner, usually on an issue under consideration by Congress at the time. Briefings and seminars are designed to inform, not to lobby.

Transcripts of these proceedings are sent to all members of Congress, relevant federal agencies, and other interested individuals, at the discretion of the sponsor. The briefings not only highlight a particular issue or area of research, but they also bring recognition to the agency supporting the research or implementing the policy and so are indirectly critical to supporting a scientist's program of research.

CONCLUSION

Public policy affects us all, and policy decisions will be made regardless of whether behavioral and social scientists participate. Almost on a cyclical basis, researchers are called on by policy makers to justify their work and its results. This development alone should be incentive enough for most scientists to learn how to navigate the policy environment. The collective participation of scientists has the potential to answer many of the questions that members of Congress and their staff often have about research findings and the scientific process. And the demand for scientist involvement continues to grow. Despite the competing variables that ultimately influence policy decisions, federal legislators increasingly use scientific input and seek it as a decision-making resource. In the executive branch agencies, scientists outside the government can be essential to shaping and implementing public policy. In these roles, scientists are in the unmatched position of contributing a rational, data-driven perspective to policy development that helps to quell irrational fears and speak to the legitimate questions and concerns policy makers have about how science is conducted and managed and how it relates to social policy issues.

In short, whether operating independently or through professional societies and associations, scientists' participation can serve the public and the national interest, the interests

of science, and the scientists' own personal interests and concerns. Participation can buttress Congress's limited understanding of behavioral and social science and its findings, enlightening them not only about the value

of particular research objectives and agendas but also the entire scientific enterprise. A choice not to participate, however, leaves these vital science communications solely in the hands of others.

NOTE

1. Federal law requires that regulatory agencies publish all proposed new regulations in the *Federal Register*, the federal government's daily newspaper, 30 days before they take effect, along with the opportunity for interested parties to comment, propose amendments, or oppose the regulations. Proposed rules are new regulations or amendments to existing regulations. Notices of public hearings or requests for comments on proposed rules are also published in the *Federal Register*, as well as on agency Web sites, in newspapers, and in other publications. In addition, nonregulatory agencies issue notices seeking public comment on policy proposals to advance research. Anyone can submit comments to these requests.

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