HEALTH EDUCATION RESEARCH
Vol.30 no.6 2015
Pages 840–848
Advance Access published 13 October 2015

State legislators' sources and use of information: bridging the gap between research and policy

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Received on February 21, 2015; accepted on September 11, 2015

Abstract

Research can inform policymakers of public health issues and shape policy decisions, hopefully benefiting public health; thus, improving dissemination of research to policymakers is important for developing effective public health policies that improve health and health equity. However, the utilization of research among policymakers is often not fully realized. This study builds upon current knowledge about what types of information legislators seek when working on health issues and where they go for information. Further, it explores what kinds of information legislators find most helpful and if there are ways researchers could better provide this evidence. Key-informant interviews were conducted with 25 U.S. state legislators holding health committee leadership positions between July and November, 2010. Regarding types of information sought, most legislators discussed their desire for data and statistics when working on health-related issues. When asked about their most trusted sources of information, participants mentioned government sources as well as advocacy, lobby and industry groups. A few mentioned universities and healthcare professionals. Results from this study offer public health researchers and practitioners' insights into the types of information that may be most helpful to policymakers. Insights gathered may improve the dissemination of research and bridge the gap between knowledge users and knowledge producers.

Introduction

Research can inform policymakers of public health issues and shape policy decisions, hopefully benefiting public health; thus, improving dissemination of research to policymakers is important for developing effective public health policies that improve health and health equity in the United States [1, 2]. However, the utilization of research among policymakers is often not fully realized, resulting in policies that may not have a sound basis in evidence [3].

To address this concern and increase the practice of evidence-based policy making, researchers have studied the dissemination of research to policymakers by identifying what should be transferred to decision makers (the message), to whom (the target audience), by whom (the messenger), via what medium (the channel) and how the message should be communicated (format) [4]. Linking research evidence to direct impacts, costs and benefits has been identified as a facilitator to incorporating evidence into policy, whereas low quantity, quality, accessibility and usability of evidence are known barriers [5–9]. Other barriers to the inclusion of research in the policymaking process include differences in decision making (between researchers and policymakers), poor timing, ambiguous findings, information overload and lack of relevant data [10]. Further, the presence of competing sources of information with opposing conclusions pose a threat to information credibility, and require policymakers to

doi:10.1093/her/cyv044

navigate multiple sources of information to make well-informed policy decisions [5].

Sustained relationships between researchers and research users (e.g. policymakers, legislative staff) may improve the utilization of evidence in policy-making [11–13]. Government organizations and state agencies have been identified by some policymakers as sources of research information, highlighting the crucial role these groups can play in informing policymakers [14]. The best ways to share information with policymakers have also been studied. There is evidence suggesting that no 'one-size fits all' approach exists when delivering information to policymakers; rather, information should be tailored to the type of policymaker [6, 15]. Most policymakers, bombarded with information from a variety of sources, prefer information to be concise and relevant to current debates [14].

While previous work has sought to improve dissemination of research to policymakers, a gap exists in understanding how policymakers obtain information, including which sources they consider trustworthy [16, 17]. This study builds upon current knowledge about what types of information state legislators look for when working on health issues (e.g. types of data, anecdotal stories) [6]. It explores the kinds of information state legislators seek when working on health policy issues, which sources they find most trustworthy, and ways researchers or universities could provide this information that would be more useful to legislators.

Methods

This work was part of a study designed to increase the dissemination of evidence-based interventions to control cancer, focusing on the uptake of effective environmental and policy approaches among state-level policymakers [6]. To better understand quantitative data collected in the study's first phase and to address study research questions, the research team decided to conduct a set of key-informant interviews with state legislators. To this end, a semi-structured survey instrument was created and revised by the research team. The questions were designed to understand what led participants to work on health issues (i.e. any legislative issue related to health), address their use of information, the types of information they seek, the sources from which they seek it, the types of information they need but have difficulty finding and their ideas for how information could be made more useful to them. The final tool contained 18 questions, 12 of which were open-ended, and was designed to be completed in ~20 min. The first nine questions addressed legislators' use of information. Participants were asked to recall a recent health issue that they sponsored or cosponsored and describe what led them to work on the issue, the types of information most helpful to them in that work, and any information they needed but were unable to find. They were then asked more specifically about scientific information, including where they go when they need it and where they turn for their most trusted sources of scientific information. The second nine questions addressed legislators' beliefs about important causes of cancer, most promising methods of cancer prevention and personal experiences with cancer. This article addresses only the first nine questions.

Legislators were recruited from 12 states, which were selected based on two criteria. All states were ranked in terms of all-cause cancer mortality [18] and the number of cancer-related pieces of legislation that were introduced into the state legislature in 2009 (according to a Westlaw search) [19]. States were then divided into tertiles. The states with the highest cancer mortality and lowest bill introduction were selected, and included Alabama, Arkansas, Delaware, Indiana, Illinois, Louisiana, Maine, Mississippi, Pennsylvania, South Carolina, Tennessee and West Virginia. From within these states, participants selected for the interviews were state legislators who held leadership positions on health or public health legislative committees (e.g. committee chairperson, vice-chairperson, ranking minority member). Legislators were identified through web-based searches of state legislature websites.

Legislators were initially contacted via telephone to schedule 20-min interviews. At least three telephone attempts were made per legislator between July and November, 2010. A total of 86 legislators were contacted; 25 completed telephone interviews for a response rate of 29%. Average interview length was 26 min (range 11–45). Interviews were tape-recorded and transcribed verbatim. A focused coding strategy was then used to code each transcript by hand. Focused coding uses the most frequent and/or meaningful codes to organize data into categories [20]. Two members of the research team read each transcript and jointly created a coding tool. This tool was then used to organize data from all transcripts into categories based on codes and sub-codes. This work was done individually by each coder, and then discussed to confirm agreement. Discrepancies in coding were few and easily resolved between coders. Main themes from each category were then outlined and representative or illuminating quotes were identified.

Additional demographic data were collected for each participant, including gender, legislative chamber of service, political party, whether they had an educational background in a health field and number of years in the legislature. These data were collected from each legislator's personal web-page.

The Institutional Review Board at Washington University in St. Louis approved this study.

Results

Sample

Of the 25 legislators interviewed, 36% were female and 72% were Democrats. Legislators served an average of 10.6 years (range 4–29) in the legislature. At the time of their interviews, 40% were serving as state senators. Twenty-eight percent of participants had professional backgrounds in a health-related field (i.e. physicians, pharmacists, nurse practitioners). Legislators represented all 12 selected states except Delaware; two states had full-time legislatures. The sample was very similar to the 61 legislators who were invited to participate but declined. Among non-responders, 59% serviced in the state house of representatives, 62% were male and 61% were Democrats.

Information sought by legislators when working on health issues

Legislators were asked what types of information they seek when working on health-related issues. Most (76%) discussed their desire for data and statistics, specifically mentioning data on demographics of populations affected by disease, prevalence, causes of health issues, disparity information and information to help them understand the severity of an issue. As one participant noted:

> We can take smoking as an example, as we' re . . . looking once again to ban smoking in public places. It's much more helpful to have data to show the impact of secondhand smoke as to having a few stories of someone who worked in a restaurant where they smoked and then later got lung cancer . . . It's just much better to have facts as opposed to just, if you will, stories.

Other legislators, however, indicated a preference for information in the form of stories, because of their power to convince. In describing this preference, one participant called those who came to tell anecdotes on 'why evidence was meaningful to them,' the 'frontline persuaders.' As another participant noted, 'any personal testimony is very powerful. It helps to advance the issue.' Similarly, one legislator explained the value of oral communication when working with legislators: 'stories don't do so well for people to read . . . You almost have to have a person in order to make it relevant for people.' Thus, information communicated orally and in the form of stories was also cited as quite helpful to legislators when working on health issues.

Further, participants indicated that they find information helpful when it includes both stories and data, depending on various factors:

> What we do at the legislative level . . . must be data driven, has to be; however, to drive the impetus behind that kind of legislation, you really have to have a certain amount of street level public interest. And that's why these kinds of these anecdotes, stories if you will, can be utilized to increase the awareness

> of the problem in a specific and a personal way, while at the same time you're using data to really define and derive the legislation that will speak to those stories.

Thus, overall, participants explained that the reason they need the information and the context in which they will use it helps determine the type and format of information that they seek. In addition, legislators mentioned their interest in specific types of information, such as cost data (e.g. cost of healthcare and lives lost; cost comparisons between solutions) and existing policy or what other states are doing. Importantly, when discussing the types of information they seek, legislators also explained their preferences for the format of data they receive:

> I requested a one-page bullet point, take say the ten most important things in a report and pull them out onto a one-page sheet and type them in bold type . . . because I can get people to read a page. I can't get them to read a really nice report . . . no matter how good it is or how relevant it is. So trying to make it concise, make it to the point, make it relatable.

Sources where legislators seek scientific information when working on health issues

Legislators were next asked where they turn when seeking scientific information for work on health issues. Over half reported that they often begin their searches on the Internet, either through a Google search or by visiting the site of a federal agency or health department. Many mentioned government sources, such as the Centers for Disease Control and Prevention, the Food and Drug Administration and state or local health departments as places where they seek scientific information:

> If it has to do with a public health issue, I know people at the Health Department, I know of other people in the legislature, the agency people that I know and trust and I usually just call them, or our legislative research division, I would just call someone there and have them research it, and then just to get me in touch with the person that really knows the issue.

Many legislators (88%) also mentioned the National Conference of State Legislatures (NCSL) as an important source of scientific information for them when working on health topics. Professional and advocacy organizations were also frequently mentioned (e.g. American Heart association, American Cancer Society) as were independent research centers, foundations, and lobbyists:

> I mean obviously staff does a great deal of research and provides us with that information. We get information from the various entities and the lobbyists as well as other organizations that are in support or against a particular issue. And on occasion I've even gone to the NCSL website, the National Conference of State Legislatures website, and ask them questions about certain issues, if those issues had been taken up in other states.

Several participants noted that their existing relationships with healthcare professionals offered them a trustworthy starting place when they seek health information. Participants also mentioned that they turn to universities or educational institutions that they know are working on the same health issue, though they mentioned that it's often hard to know *how* to seek information from universities so instead, they often wait for the information to come to them through another organization that has made the connection for them.

In contrast, when asked this question about where he/she sought scientific information when working on health issues, one legislator admitted, 'I don't think I've ever thought I needed scientific evidence,' suggesting that researchers may face challenges not only both in making their research available and accessible to legislators, but also in convincing some that they need it.

Legislators' most trusted sources of scientific information

When asked about their most trusted sources of *scientific* information, participants both gave examples of their sources and emphasized the importance of credibility. Specific sources mentioned included government sources as well as advocacy, lobby and industry groups. A few mentioned the NCSL, universities and healthcare professionals again: 'I have a group of physicians that I meet with. They're like a brain tank.' These groups and professionals are key intermediaries that often play important roles in policy development [21]. Many participants were hesitant to name a most trusted source, explaining that it really depended on the type of issue and information they were seeking.

Perhaps more important to participants than naming specific trusted sources of information was the emphasis they placed on what made a source trustworthy: credibility (expertise) and lack of bias. Participants were clear about the crucial nature of perceived source credibility. As one participant noted, 'It's credibility . . . on which everything hinges.' As another explained,

> I don't have to know anything as long as I know, if I'm the chair, I have to know who does know and who I can trust or . . . not trust, but who I can trust to do a job. And so for me, that's the most important thing is to come from people who have the expertise and are not biased.

It seemed that many were aware that they could not and need not know everything about every subject as long as they had an unbiased expert to whom they could turn.

Types of information legislators seek but have difficulty finding

Participants were also asked what information they may have sought in the past but had difficulty finding. The most common responses to this question included unbiased, accurate, current, local and economic data. These points are crucial for those preparing information to share with legislators, highlighting the importance of double-checking accuracy of data, providing the most current data available, localizing information to legislators' districts whenever possible and including information about costs of health issues or proposed solutions.

Legislators said that while they believe the information they seek exists and is available, 'it is hard to find easy access to information that you want,' noting further that they, 'don't have a lot of time to go through that kind of stuff' and are 'presented with too much information . . . at least more than [they] could pay attention to.' One participant summarized the issue by saying,

> Well I mean you can get any kind of information you want. The question is, can you get it when you need it? . . . It's not that the information isn't out there, it's just not readily available . . . it's not that it's not available, it's not readily available.

Thus, it seems clear that legislators in this sample know the information they need may exist, but struggle to find it quickly and easily. This suggests how valuable it may be for researchers and practitioners to actively disseminate information to policymakers rather than utilizing more passive means, such as posting information on websites or mailing newsletters.

Legislators also noted their frustrations with seeking 'current, up-to-date data' as well as that which applies to their specific district and constituents. These are familiar issues with many health data (e.g. most recent available are a few years old, data are only collected at state or county level, etc.) and may not be easily resolved on a legislative timeline. Participants also mentioned their desire for more economic data that would help elucidate costs of programs, problems or policies.

Finally, legislators expressed concern about finding unbiased information. One legislator noted:

> Where can we get an unbiased report? . . . I mean many times we're put in a position to vote on something that can have a negative

> impact, like a ripple effect. And it sounds good, that we should be doing these things, but we best serve public opinion, but it's hard to get our hands on scientific research that will justify removing products, as an example, or putting warning labels on products.

What legislators believe researchers could do to improve communication

Legislators were asked how universities might help them locate the scientific information they need when working on health issues. Legislators' ideas included creating a central source of information where they could turn when seeking specific information, having researchers reach out more proactively to legislators about the topics they're studying, and prioritizing oral communication as opposed to sending things in writing.

Several participants discussed how difficult it is to know who is working on what topic, and thus, might have relevant information for them when they're working on a similar topic. As one noted, 'Well of course we can only work with what we're aware of and I wouldn't profess to know nationally where the centers of research proficiencies are.' More specifically, legislators described a single source or contact that a legislator could call and say, 'We're looking for any type of scientific evidence or research that you're doing on [X].' Otherwise, participants expressed being unaware of how to navigate the system of universities and research centers around the country in order to quickly find needed, topic-specific information.

Participants also suggested that researchers regularly contact them to share information about what they're working on, 'opening the lines of communication between . . . legislators and the universities.' This would help address the previously described issue of legislators not finding information to be readily available. Another suggestion was that researchers:

> Zero in on the specific committees, in this case, health issues, public health, to make sure they provide maybe some kind of synopsis, either by e-mail or even by hard copy, to the membership of the committee, and maybe give a synopsis of the different research they're working on. I'm sure we'd get that if we asked for it, but I think sometimes they could do a little bit better job on the front end of making us aware of some of these things that we can look at that we don't think about unless we really dig and look.

These legislator comments strongly suggest the value of researchers communicating with legislators about their work and findings. This can help legislators know where to turn when they have questions and also introduce them to important issues with which they may be unfamiliar.

Participants also issued reminders that the information 'needs to be presented in a way that a busy, part-time legislator . . . is going to take time out to read . . . or consume.' Further, they suggested that communications be very targeted to be most effective: 'they [should] link with our staff, and link with legislators who have special interest in the work they're doing.'

Further, several participants discussed the value of oral communication, including presentations. They described events in which experts had either come to make brief presentations to them about scientific data and issues or how they had scheduled visits at universities and actually toured facilities, indicating that these activities increased their understanding of crucial scientific information. As further encouragement for researchers to communicate with legislators, one participant said:

> I think that it is important that they do share things with us. A lot of times when we, as a law maker, are developing new laws that we want to support, or if we want to seek additional funding in a certain area, it's important that these people who are experts in these fields and in these sciences come and talk to us and share so that we'll get a better understanding so we'll know how important it is.

Discussion

Results from these key-informant interviews offer public health researchers and practitioners insights into the types of information that may be most helpful to legislators, and where they go for information they deem trustworthy. Furthermore, the insights gathered from the state-level legislators holding health committee leadership positions in this sample have the potential to improve the dissemination of research and bridge the gap between knowledge users and knowledge producers.

When determining the format in which to share information with legislators, researchers and practitioners should design targeted information (e.g. policy briefs, 'one-pagers,' handouts) that may include stories and/or statistics, and should be short, utilize bullet points, not exceed one page, and include cost or economic data whenever possible. These findings support those from previous studies offering guidance for effective formatting of health information for policymakers [14, 22, 23].

Notably, when legislators were asked where they turn when they need health information for policy work, many indicated that their searches begin with the Internet. This may include the web-sites of federal, state or local health agencies, offering continued incentive to practitioners managing or informing those sites to maintain a source of the most relevant, current, accurate and accessible information possible.

Legislators also indicated that they are likely to turn to their local health departments, in particular, if they already have relationships with practitioners there. This offers an excellent incentive for intentional relationship development among researchers, local public health practitioners and policymakers. Further, as practitioners make themselves known to policymakers as reliable resources, they can collaborate with researchers to provide the credible and timely data legislators seek. Legislators are going to make decisions based on some information; therefore, public health researchers and practitioners should ensure that the information they have is accurate and unbiased [13]. Similarly, healthcare professionals and those working for non-profit health agencies (e.g. American Cancer Society, American Heart Association) were included as important sources of health information for legislators. Participants' frequent mention of intermediaries (e.g. non-profit and advocacy groups, health departments) as trusted and valued sources of information is echoed in the literature and illustrates the vital role that these groups play in policy development, often serving as a bridge between researchers and policymakers [12, 24–27].

Interestingly, when legislators were asked about their most trusted sources of information, they spoke more about the importance of credibility than about particular sources. Therefore, public health practitioners and researchers should be encouraged to carefully build legislators' images of them, modeling responsiveness, helpfulness, timeliness and always ensuring the credibility of information offered. Further, a deeper study of how legislators define and assess credibility of particular sources and types of information would help researchers and practitioners better understand the types of information they should prepare for legislators and the means in which they should share it.

Legislators expressed a keen desire for current, unbiased, local, economic and easily accessible data. Providing current data is a barrier to policymaker–researcher communication that is widely noted [10] and can be difficult to overcome since the most recent national- and state-level data available are often a few years old. Whenever possible, though, researchers and practitioners should aim to share up-to-date data. This may include providing highlights or snapshots of data that are still being collected or analysed, or simply utilizing the most current data that are publically available. Similarly, local data, tailored to legislators' districts, counties or even states, should be offered over or in comparison to national data [6, 28]. Also, legislators in this sample highlighted their desire for economic data that will help them assess costs of problems and various policy solutions. While public health practitioners note that communicating economic data is one of their biggest challenges, efforts should be made to include cost data in communications with policymakers, possibly through partnership with those skilled in economic evaluation [29].

Lastly, legislators discussed their need for data that are easily accessible when they need them. In response to this request, researchers and practitioners can develop relationships with policymakers, proactively reaching out to them and sharing their work in digestible formats [12]. Communicating regularly with policymakers can allow researchers to have a clear sense of what policymakers are working on and what types of information they may need [13, 15]. In turn, researchers may then be better able to provide policymakers with timely, relevant and easily accessible data.

A few limitations to this study deserve mention. Selection bias is possible, as the sample was limited to those in leadership positions on state legislative committees. As such, general committee members' perspectives may not be represented in this sample. In addition, while state selection was purposive, it was not random. Health committee leaders in state legislatures not represented may have different views than those presented in this sample.

Despite these limitations, this study offers insight into the types of information state-level policymakers may seek when working on health issues, as well as ways in which researchers and practitioners may improve communication of information to policymakers. By producing clear, timely and unbiased data and disseminating it in ways most accessible to policymakers, public health professionals may improve the uptake of evidence into state policymaking.

Funding

This work was supported by Cooperative Agreement Number U48/DP001903 from the Centers for Disease Control and Prevention, Prevention Research Centers Program; the National Cancer Institute at the National Institutes of Health [grant number 1R01CA124404-01]; the National Institute of Diabetes and Digestive and Kidney Diseases [grant number 1P30DK092950]; and Washington University Institute of Clinical and Translational Sciences [grant UL1 TR000448 and KL2 TR000450] from the National Center for Advancing Translational Sciences.

Conflict of interest statement

None declared.

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