Journal of Physical Activity and Health, 2010, 7(Suppl 1), S99-S107

Communicating Prevention Messages to Policy Makers: The Role of Stories in Promoting Physical Activity

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Background: While effective interventions to promote physical activity have been identified, efforts to translate these interventions into policy have lagged behind. To improve the translation of evidence into policy, researchers and public health practitioners need to consider new ways for communicating health promoting messages to state and local policymakers. ***Methods:*** In this article, we describe issues related to the translation of evidence supporting physical activity promotion, and offer some communication approaches and tools that are likely to be beneficial in translating research to policy. ***Results:*** We discuss the use of narrative (ie, stories) and describe its potential role in improving communication of research in policy-making settings. In addition, we provide an outline for the development and design of policy briefs on physical activity, and for how to target these briefs effectively to policy-oriented audiences. ***Conclusions:*** Improvements in researchers' and practitioners' abilities to translate the evidence they generate into high-quality materials for policy makers can greatly enhance efforts to enact policies that promote physical activity.

Keywords: narrative communication, policy, translation, dissemination

Prevention policy to improve health is predominantly set at the state and local government level in the U.S. State and local governments are largely the regulators, financers, administrators, and providers of public health policies and services.[1] Even when the federal government is a primary source of information and research (such as through the CDC and NIH, and external funding through these and other agencies), this research is channeled to state and local governments for translation, communication, and implementation. This suggests that when researchers identify evidence-based approaches for promoting physical activity there is a need to identify effective methods for communicating prevention messages to state and local policymakers (including legislative and agency staff, and executives).

A range of policy issues relevant to the promotion of physical activity largely derive from research in urban planning and travel behavior.[2–4] To identify effective policy approaches for promoting physical activity, researchers have examined the relation between community design variables and walking or cycling for transportation. There have been dramatic changes in the urban landscape over the past 50 years.[4] This trend also contributed to the advent of the suburban ring, and the accompanying freeway segments, which now girdle most central cities in the United States. The migration to suburban environments is closely linked with the evolution of zoning policies over the past century.[5] For example, landmark cases such as *Euclid vs. Amber Realty* (1926),[6] established the importance of local zoning laws in shaping the patterns of growth in urban areas.

Effective policy interventions to promote physical activity have been identified in the Guide to Community Preventive Services (the "Community Guide") through urban planning and policy.[7] The first set of strategies involves street-scale changes—urban design and land use policies that support physical activity in small geographic areas, generally limited to a few blocks. Another closely related group of interventions focus on community-scale changes that are similar to street-scale changes but involve a much larger geographic area (eg, an entire community).

A challenge to public health practice and policy is how to translate these science-based interventions into actions that will improve health (eg, revised zoning, building codes, infrastructure improvements). For effective interventions to reach their potential (ie, evidence-based policy,[8] they need to be applied at various policy loci (federal, state, local). In this article, we describe communication approaches and tools that are likely to be beneficial in translating research to policy. In particular, we discuss the use of narrative (ie, stories) in improving communication of research to policy makers and stakeholders.

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Reenvisioning Communication Between Public Health Research and Policy Makers

Despite the importance of policy enactment in physical activity promotion efforts, communication between public health researchers and policy makers has been largely lacking.[9] To improve communication, the research world may take a cue from groups who have been successful at persuasive communication in policy settings, with lobbyists offering a prime example.[10] As Milbrath[11] concluded after interviewing a large proportion of lobbyists in Washington D.C., lobbyists have long known that a combination of well-expressed facts, arguments, and power serves as an effective triumvirate for swaying the opinions of policy makers. In the research world, all too often researchers expect the data ("facts") resulting from their investigations to tell a compelling story ("argue") about the potential impact ("power") of the results in the population.[12] In reality, research results don't speak for themselves outside of the research community and must be made appropriate for consumption in policy settings and among the public.

While there are many factors that distinguish the research and policy arenas,[13,14] among the key challenges to improved communication lies with the reliance on quantitative evidence in research. Quantitative research results are presented in aggregate, numerical form, as statistics such as percentages or rates, allowing for the quantified expression of the extent of the problem in the population. Such data presentations, while the norm for communicating evidence in research settings, are limited in their ability to persuade policy makers who are largely untrained in data analysis and interpretation.[15] McCann[16] gives the example of a legislator quietly asking a fellow attendee what the symbol "n =" means during a research presentation meeting. Furthermore, in order for researchers to make a compelling argument to policy makers, policy makers also have to make a persuasive case to their own constituency and other stakeholders. Basing the argument solely on quantitative data may create a weak link in the chain of communication if those unaccustomed to interpreting data find themselves with no ammunition other than data to disseminate to garner support for a particular health policy. On the other hand, a story that humanizes the evidence and places it in a real-world context can "transport" the audience into the narrative world, motivating action and serving as a powerfully persuasive tool.[17]

Narratives have been tested to a limited extent in efforts to develop and improve communication of health promotion messages in the general population, in areas such as tanning bed use, alcohol use, nutrition, and breast cancer screening. An evaluation of skin tanning prevention messages[18] compared narrative, statistical and no message (control group) formats of the material and found that narrative and statistical messages were similar in their impact on intentions to tan. Other work[19] indicates that narrative messages may have a stronger persuasive impact than statistical messages when the message is incongruent with the recipient's own values (regarding the harmfulness of alcohol use). Results from studies that have compared the impact of different characteristics of narrative communication indicate that some of the factors that may affect the impact of narrative messages include type of narrative (ie, conversational, testimonial, newsletter-style),[20] and level of identification with the story.[21] There is sparse research showing whether these findings from community samples can be extended to policy maker audiences.

Role of Evidence-Based Stories in Updating Communication Content

For better or worse, stories (aka, narratives) have been frequently employed in the past as effective rhetorical devices in legislative settings.[22] As Hyman[23] stated when contemplating the misuses of personal narrative in policy debates: "We should . . . insist that those proffering narratives provide persuasive evidence of typicality and completeness before we attach any weight to their stories. To do otherwise is an invitation to disaster (p. 1154)." McDonough[22] also adds that "narrative should be to policy making what suitable case study is to empirical research . . . contextually appropriate stories used in the policy environment can identify important, neglected policy problems. . . . Stories assist policymakers in thinking about the consequences of rival policy choices. . . . But using narrative to make policy requires the same standards of validity as those applied to case study."

Obviously, it would not be sensible for researchers to argue for replacing solid quantitative data with anecdotal stories. However, the suggestion that stories well-based in evidence can be used to help bridge the communication gap between the health research and policy worlds is increasingly supported.[24] A review of findings from the few empirical studies that have tested the persuasive impact of qualitative and quantitative evidence found the 2 types of evidence combined to be more persuasive than either alone.[25,26] Even so, it may be difficult for researchers to embrace the use of stories due to their subjective nature, potential for bias, and the lack of training on how to construct an effective narrative.

Fortunately, previous work in the areas of health policy promotion and health communication offer some direction to guide a more systematic approach to using stories (Table 1). Steiner[27] proposes some attributes of representative stories that may guide their use in bolstering the communication of research evidence, which include: expression of an important theme arising from the research, location on the underlying distribution of stories (ie, cases), verifiability, acknowledgment of uncertainties in the research, and having a basis in a compelling narrative. For example, to locate the story on the underlying distribution would involve indicating in the narrative how common or representative is the case in the story relative to the population of cases. For policy makers, choice of the story protagonist should reflect

Table 1 Attributes of Evidence-Based Stories

Attribute	Description of example story element(s)
Expresses an important theme	Revolves around a person (or group of people) at-risk for the negative consequences resulting from physical inactivity
Located on underlying distribution of stories	Based on a common case, with respect to physical activity level, barriers, and potential impact of an intervention
Verifiable	Based on a real-life example (or is at least representative of real-life examples)
Acknowledges uncertainties in research	Policy interventions described in the story acknowledge the strength of the level of evidence in support of the intervention
Based on compelling narrative*	Narrative is designed so that intended audience (policy maker) is compelled to share the story with others

Note. Adapted from Steiner.[27]

* Kreuter et al[28] describe attributes of quality narrative in terms of elements such as: coherence of story sequence, character development, story structure, emotional intensity, cultural appropriateness, and production value.

an important constituency that could benefit from the proposed policy change. Kreuter et al[28] described various forms of narrative communication (including storytelling) and noted the importance of "quality" narratives and moderating factors that can impact (either enhance or diminish) the effect of a narrative. Based on lessons learned from the success of WISEWOMAN dissemination efforts, Lewis et al[29] suggest that weaving a narrative out of an intervention success story can demonstrate the value of programs to policy makers.

Key Considerations for Promoting Physical Activity Policy Via Stories

Given that physical inactivity is one of the leading modifiable causes of death in the US and globally,[30,31] and since the increasing prevalence of obesity will only grow in importance for public health efforts, it would seem an easy job to communicate the urgency of the issue to policy makers and thus facilitate the passing of policies to promote physical activity. This is not, however, the case. Despite strong evidence for the widespread health benefits that could result from behavioral modifications in the population, doubts remain in some political circles as to the proper role of government in setting policy for individuals' behaviors.[32]

There are numerous reasons as to why strong evidence may not be enough to catalyze a strong policy response to promote healthy behaviors such as physical activity.[33] In answer to the question of why relatively little public money is invested in health promotion as opposed to health care in the US, McGinnis[34] suggests that some important reasons include: the difficulty in demonstrating short-term cost-effectiveness, the complexity of interventions and the broad policy arena needed to enact them, the diffusion of responsibility for population health muddling interest-group dynamics, and the perception that behaviors are mostly based on preference. Of these potential barriers to policy enactment, the perception of the nature of behavior itself may be the one that is most amenable to a well-crafted message. Risk communication research shows us that individuals perceive a disproportionately higher risk associated with "involuntary" risk factors such as exposure to residential radon or electromagnetic fields over so-called "voluntary," or behavioral, risk factors (eg, smoking, physical inactivity).[12] The perception that "behavioral" equates with "voluntary," or "preferred choice," must be countered if public health efforts are to garner widespread political support.

Messages to promote physical activity to policy makers may therefore benefit from focusing on elements that take the emphasis off of the perceived voluntary aspect of the behavior. The successes of tobacco control policy efforts offer a lesson in this regard. One of the key factors in facilitating tobacco control legislation was establishing a strong link between second-hand smoke and chronic disease risk, thus removing the voluntary aspect of exposure to cigarette smoke as the sole driving factor behind tobacco-related illness.[35,36] In the physical activity arena, identifying barriers in the built environment (eg, lack of sidewalks) that make it nearly impossible for some kids to walk to school have prompted local action to create safe routes for walking.[37] Emphasizing the importance of environmental and structural barriers in determining physical activity levels may help remove the focus from individual-level determinants, and thus, the onus associated with potentially voluntary behaviors. This is particularly important when making reference to the problem of obesity, since the term may have derogatory connotations and could contribute to negative stereotypes of slothful and undisciplined individuals as the root cause of the problem.[38] Highlighting the need to reduce disparities—by socioeconomic position, race/ethnicity, neighborhood, insurance status—may also help address the issue of volition, but only if the factor describing the disparity is widely accepted to be outside of an individual's control (otherwise, there is a risk of placing blame on the so-called "choices" of certain groups).[39] For example, rather than make the stand-alone statement that "African-American women in State X are X times

more likely than white women to be obese," also include information that provides a context for this disparity, such as "African-American women are more likely than whites to live in communities with fewer opportunities and greater barriers to physical activity and good nutrition." A well-crafted narrative may paint a better picture of the circumstances in which people live than data alone, and help emphasize the need for policy-related changes.

A better understanding of local political processes and public opinion can also help frame messages intended for policy makers. Survey results that indicate widespread political support for policy interventions to promote physical activity may counter political reticence to set policy for individual behaviors, particularly when specific to localities that represent identifiable constituencies. For example, the results of a population-based study in the Missouri Ozarks, a rural area with high rates of obesity and cardiovascular risk behaviors, indicated that a majority of those surveyed would support policy interventions to promote physical activity.[40] Salvesen et al[41] recently reviewed the factors related to the successful implementation of physical activity policies in Montgomery County, Maryland, the most important being knowledge and awareness, commitment and capacity, intergovernmental coordination, the presence of a policy champion, and resolving conflict among stakeholders.

Finally, after consideration of the numerous factors involved in policy making, the decision to implement a particular policy will always involve assessment of cost and in some cases a formal cost-effectiveness analysis.[42,43] This is a particular challenge when making a case for the health benefits of physical activity interventions, since costs are immediate but long-term health benefits are not and hard to measure.[33] Researchers need to consider the various ways of quantifying economic costs and benefits associated with an intervention,[44] and include measures of intermediate benefits resulting from policy interventions that precede longer term health improvements. Stories can be a useful solution to this problem, because they can be used to provide examples of benefits that may result from recommended interventions, particularly where benefits may be difficult to quantify and assign monetary value.

While improved communication of research evidence may not have a strong influence on all of the potential barriers to policy enactment (eg, intergovernmental coordination), we suggest that a well-executed, evidence-based story may improve the translation of research evidence into policy by

- Increasing knowledge and awareness by enhancing the understanding of quantitative evidence that describes the extent of the problem of physical inactivity and the impact of policy interventions on promoting health in the population, with an emphasis on involuntary aspects of physical activity behaviors (eg, structural barriers, environmental determinants)
- Humanizing or anchoring the problem in real-life examples of individuals representative of a constituency, thereby promoting commitment to solving the problem
- Packaging the evidence in a mode of communication that is familiar to policy makers, so they may in turn easily communicate to constituents and other stakeholders
- Bolstering advocates and policy champions by improving content of messages and materials used for communicating with policy makers.

Given the complexities inherent in communicating physical activity policy solutions, stories offer a way to help frame the evidence to emphasize the most salient points for policy makers and to avoid some of the potential pitfalls described above. As discussed earlier, data alone may be unlikely to make a compelling argument to policy makers, particularly when the argument is complex. The sections below describe some strategies for improving communication materials for policy maker audiences, including the incorporation of stories.

Improving Communication Materials

Knowledge alone is insufficient to change policy.[45] The knowledge should be packaged in a way that is persuasive to policy makers. Among these forms, written information can be an important method for communicating research to policy makers. When considering how to communicate with policy makers, it is important to understand what research tells us about communicating to policymakers.

Information on physical activity for policy makers is not adequately targeted. Information that is highly research-oriented and commonly used among public health experts may not be useful to policy audiences.[13] In a study of 265 directors of applied research organizations in Canada, 67% of organizations reported targeting policy makers with their research knowledge,[46] yet only 49% tailored materials to specific policy audiences. A recent survey of 292 US state level policy makers (executive and legislative branches) suggested that officials are overwhelmed with the volume of information they receive and they have a strong preference for data that are concise and more relevant to current debates.[47] For example, respondents reported that they read 27% of what they receive for detail, skim 53% for general content, and "never get to" 35% of the material.[47]

Building a Better Policy Brief. Building on what we know about policy makers' use of written data, it is important to package information in a way that will be readable and persuasive.[48] Written communications can come in several forms (Table 2). Policy analyses tend to be longer, more technical, and for more specialized audiences. Recent research has shown that the most effective form of delivery to legislators and their staff is often in the form of policy briefs.[49] Policy briefs (the focus of this section) are shorter, less technical, and more appropriate for a broad range of policy makers. While other decision makers appreciate systematic reviews, they also appreciate short summaries (eg, policy briefs) that include the "bottom line."[50]

A policy brief seeks to convince the target audience of the urgency of a specific problem and the need to adopt

Table 2 Key Characteristics of Policy Analyses and Policy Briefs[a]

Characteristic	Policy analysis	Policy brief
Major objective	Analyzing and presenting alternatives available for solving public health problems	Presenting alternatives available for solving public health problems in an easily-digestible form
Primary audience	Decision makers/staffers/"specialists"	Decision makers/ policy makers/staffers/ advocates/"generalists"
Focus	Investigator and audience-driven	Audience-driven
Methods	Synthesis of existing research and theory to estimate consequences of alternative decisions	No primary research, descriptive review of published literature (eg, systematic reviews)
Ideas/language	More technical	More simple
Length	Up to 20 pages	Up to 6 pages

[a] Adapted from Weimer.[43]

one of several viable alternatives. An effective policy brief should do the following:[51]

- Make the evidence concise and understandable
- Explain why the evidence is significant
- When appropriate,[a] describe evidence-informed policy options as suitable actions.

Elements of a Policy Brief. Although there is considerable variation in how a policy brief is constructed, there are several essential elements that we will briefly describe.

1. *Title of the brief.* The title should be catchy and informative and should encourage the audience to read on.
2. *A compelling story.* As previously described in more detail, narrative communication (story telling) is an effective tool for communicating with policy audiences because narrative communication has long been used in political communication, where politicians find that policy-oriented stories can trump statistical data.[22]
3. *Scale/importance of the problem*. Often, this section covers the descriptive epidemiology of a health problem (eg, the number of women who died of lung cancer in Texas in 2007 and rates are increasing). It is often useful to highlight certain populations (eg, racial/ethnic minorities) who are experiencing health disparities. Whenever possible, data should be localized.
4. *Benefits of intervention*. The focus is on public health prevention and the impact(s) of a particular public health intervention (eg, the number of cases of lung cancer that could be prevented if tobacco use was eliminated in Texas via epidemiologic measures such as PAR, banning smoking in public spaces reduces tobacco use).
5. *Overview of evidence-based policy option(s)*. Often, policy briefs are very useful introductions to important evidence on a public health topic, and serve as links to further extensive evidence on the subject for the interested reader. For this reason, one of the most important elements of policy briefs are references to key summaries of the literature, such as systematic reviews or similar authoritative sources (eg, the Community Guide[52]). The policy options should be as evidence-based as possible and evidence will vary in strength based on quality of study design and study execution. Data on cost-effectiveness, when available, can be useful.
6. *Policy recommendations, the "bottom line."* When the choice is clear, some briefs propose a specific policy solution, whereas others summarize a range of viable options (#5 above). The choice to provide a policy recommendation or whether to remain neutral or nonpartisan depends on the authors' perception of the audience of the brief, as well as the authors' role in the process.
7. *Sources consulted or recommended*. One of the most important uses of policy briefs for legislators and their staff is as an introduction to the scientific sources and websites they can access to obtain more information or model legislation on the topic covered in the policy brief. Thus, while policy briefs are shorter than policy analyses (and often can refer to longer policy analyses linked to the brief), the utility of the brief is that they can provide an interested staffer or agency researcher with additional resources.

Design Issues. In constructing a policy brief several design issues should be considered. Writing should be reviewed for length and complexity of sentences, grammar, vocabulary, tone, and voice. Most adults in the United States read at an 8th- to 9th-grade level, so reading level should be assessed (eg, with the SMOG Readability Formula[53]). The audience of the brief should also be considered when determining the writing level of the brief. The brief should have a professional look via use of color, photographs, logos, or quotes. Since briefs are often reproduced, colors should be appropriate for

black and white copying. Several useful checklists are available[54–56] to guide graphics and layout of policy briefs to enhance their attractiveness and understandability.

In Figure 1, we present the first page of a sample (model) policy brief that highlights the importance of promoting physical activity in the state of New Jersey (contact first author for a copy of the full brief). It frames effective interventions, in particular those related to access to places for physical activity. The brief also describes 2 short stories to make the issue more real and personal.

Other modes of communication may also be effective in policy-making settings. For example, oral testimony and briefing by constituents and stake holders have a large potential for influencing the policy making process, particularly if the person delivering the message is considered to be highly credible.[57] When communicating with elected officials, regardless of the specific mode of communication, having the message delivered by a trusted expert who is also in the legislator's voting district will likely lend credibility to the message.[9] For the sake of this paper, we have focused on the policy brief because it is a common form of communication from research to the policy community and often used to accompany oral briefings and testimony.

Our article has focused primarily on the importance of communicating prevention messages to policy makers and the tools to enhance the translation of research to policy (eg, policy briefs). Other practical guidelines are available for researchers to use when undertaking efforts to communicate with policy makers[9] and building capacity to increase dissemination of research findings.[49] It should be noted that there are many other processes involved in enhancing policy uptake,[58] including the role of transdisciplinary partnerships, the need to engage communication experts in delivering messages, and the need to build policy advocacy skills among practitioners through training programs.

Conclusion

Researchers need to be more proactive in thinking about the applications of physical activity evidence in policy making, particularly toward improving the content of communication materials. Improvements in researchers' and practitioners' abilities to translate the evidence they generate into high-quality materials for policy makers can greatly enhance efforts to enact policies that promote physical activity. This is an important consideration in identifying and seeking ways to enhance dissemination efforts from project development through the completion of final research reports. While this paper offers some suggestions for ways to make improvements in communication approaches, we recognize that there is much more to learn about how best to disseminate research to policymakers. Future efforts to further improve our understanding in this area could be focused on some of the following areas: conducting more research on how to construct stories most effectively for various audiences (eg, legislators, staffers, level of government), developing local-level data for policy materials, implementing training programs on how to construct and disseminate policy briefs, developing a "story bank" where stories could be held in public access, developing more partnerships between those doing policy research, advocacy, and health communication efforts. Attention to these issues is likely to accelerate the translation of scientific information on promotion of physical activity to a variety of policy audiences.

Notes

[1] In some cases, policy options may be limited or the purpose of a policy brief may be to highlight or describe an issue before policy action.

Acknowledgments

This work was funded through the National Institutes of Health grant NCI 1R01CA124404-01, the Centers for Disease Control and Prevention contract U48/DP000060 (Prevention Research Centers Program), the Siteman Cancer Center Support Grant (CA091842), and the Barnes-Jewish Hospital Foundation The authors would like to thank Elizabeth Dodson, Heather Jacobsen, Chris Casey, and Sam Pettyjohn for their work in the development of the policy brief accompanying this article.

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Figure 1 — A sample policy brief.

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