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Framing research for state policymakers who place a priority on cancer

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Abstract

Purpose—Despite the potential for reducing the cancer burden via state policy change, few data exist on how best to disseminate research information to influence state legislators' policy choices. We explored: 1) the relative importance of core framing issues (source, presentation, timeliness) among policymakers who prioritize cancer and those who do not prioritize cancer and 2) the predictors of use of research in policymaking.

Methods—Cross-sectional data were collected from US state policymakers (i.e., legislators elected to state Houses or Senates) from January through October 2012 (n=862). One-way analysis of variance was performed to investigate the association of the priority of cancer variable with outcome variables. Multivariate logistic regression models examined predictors of the influence of research information.

Results—Legislators who prioritized cancer tended to rate characteristics that make research information useful higher than those who did not prioritize cancer. Among differences that were statistically significant were three items in the “source” domain (relevance, delivered by someone respected, supports one's own position), one item in the “presentation” domain (telling a story related to constituents), and two items in the “timeliness” domain (high current state priority, feasible when information is received). Participants who prioritized cancer risk factors were 80% more likely to rate research information as one of their top reasons for choosing an issue on which to work.

Conclusions—Our results suggest the importance of narrative forms of communication and that research information needs to be relevant to the policymakers' constituents in a brief, concise format.

Keywords

cancer control; evidence; health policy; policy making; research

Introduction

Policy change is a powerful vehicle for reducing the burden of cancer [1–8], with a wide array of effective policy approaches available [9–13]. These strategies span the cancer control continuum [14] from primary prevention to improved quality of life and extended survival. In the United States, many of the opportunities for cancer control policy change exist at the state level. This state-level focus relates, in part, to the constitutional doctrine of reserved powers, where the 50 states retain enormous authority to protect the public's health [15].

The impact of policy related measures can be observed across numerous cancer-related risk factors [16]. There are many examples where progress in cancer control has been achieved due to state-level policy. State laws and regulations require the reporting of cancer cases, which are recorded in state cancer registries [17–19]. For primary prevention of cancer, state-level policies (e.g., the California Tobacco Program which included a strong emphasis on smokefree environments) are effective and cost-effective [20]. In addition, state mandates requiring insurance coverage of colorectal cancer screening are associated with a higher rate of recent endoscopy [21].

Despite this potential for alleviating the cancer burden via state policies, few data exist on how best to disseminate research information to influence state legislators' policy choices (i.e., the “framing” of evidence-based policy) [22–26]. State policy makers face a diverse set of issues and priorities [27]. And they can be on the receiving end of sometimes disconnected, random, and chaotic information [28,29]. While state policymakers generally report being receptive to shaping policy based on research evidence [30], it is likely that the ability to develop evidence-based cancer policy involves several characteristics including how the message being delivered is perceived (unbiased, credible), how to deliver the message (appropriately packaged, understandable), and timing (available when needed) [31,23,32,33].

To better understand these issues, the current study seeks to understand: 1) the relative importance of core framing issues (source, presentation, timeliness) among policymakers who prioritize cancer and those who do not prioritize cancer; and 2) predictors of use of research evidence in policymaking.

Methods

Design/setting

The study used cross-sectional survey methods and was conducted in the United States.

Sample and data collection

The study population included US state policymakers (i.e., legislators elected to state Houses or Senates). The team partnered with the National Conference of State Legislatures to identify a population of 7,525 state legislators from all 50 states and three US territories (Puerto Rico, Guam, and the US Virgin Islands). From the list of 7,525, a random sample of 1,880 legislators was selected. From this group, 862 individuals completed the full survey,

161 completed part of the survey, and 857 declined participation. This resulted in a 45.6% response rate (862/1880). Interviews were conducted by telephone from January through October 2012 (15–20 minutes in length). Each legislator was contacted up to 10 times. Interviews were confidential but not anonymous.

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

Measures

The core survey items were originally developed by Bogenschieder and Coorbett [31], with additional testing among state-level policymakers [34,35].

Covariates and stratifying variables

Sociodemographic and political variables: Data were collected on participants' gender, age, and educational attainment. Political variables included: legislative chamber (house or senate), political party membership, and whether participants self-identified as liberal, moderate, or conservative on social and fiscal issues [26,36].

Priority of cancer: Participants were asked two questions about their legislative priorities. An open-ended question asked “What issues are your legislative priorities?” A second question asked participants to choose their most important health issues from a list of 19 items (“mental health,” “prescription drug abuse,” “access to healthcare,” “aging,” “cancer,” “diabetes,” “diet/nutrition,” “heart disease,” “HIV/AIDS,” “infectious diseases,” “injury prevention,” “Medicare/Medicaid,” “obesity,” “physical activity,” “quality of healthcare,” “the environment,” “tobacco use/cessation,” “universal coverage,” “violence prevention”). If cancer or cancer risk factors (tobacco use, physical activity, diet/nutrition, obesity) was selected for either of these two questions, then a priority for cancer was recorded for that participant (column headings in Table 1). Based in part on a previous study of state legislators [36], the items on the priority of cancer were adapted by the authors for this study.

Dependent variables

Predictors of research usefulness: A 5-point scale was used to have participants prioritize 12 statements regarding what makes research information useful to them (with 1 meaning low priority and 5 meaning high priority). These statements addressed three domains (i.e., source, presentation, timeliness (row headings in Table 2)).

Influence of research information: From a list of 7 items (“legislation being proposed by your colleagues,” “personal interest,” “research information,” “constituents' needs and opinions,” “data on impact in my local area,” “interaction with lobbyists,” “economic issues”), participants selected their top 2 factors that influence the choice of issues on which they work. A dependent variable was developed for those who selected “research information” as one of the items.

Analyses

Descriptive statistics were computed for legislators' characteristics and patterns in dependent variables. One-way analysis of variance (ANOVA) was performed to investigate the association of the priority of cancer variable with outcome variables. Multivariate logistic regression models were used to estimate adjusted odds ratios (aORs) for variables that predict the influence of research information. Covariates were allowed to enter the multivariate model at $p = 0.10$.

Results

Table 1 summarizes participant characteristics. While the majority of legislators (74%) were males, female participants were more likely to select cancer as a legislative priority ($p=0.03$). The characteristics that make research information useful to policymakers varied across the three groups of legislators (Table 2). Legislators who prioritized cancer or cancer risk factors rated characteristics that make research information useful higher than those who did not prioritize cancer or cancer risk factors. Statistically significant differences were noted for the following:

- 3 of 4 items in the “source” domain (relevance, delivered by someone respected, supports one's own position);
- 1 of 5 items in the “presentation” domain (telling a story related to constituents); and
- 2 of 3 items in the “timeliness” domain (high current state priority, feasible when information is received).

After testing each covariate separately (all variables in Table 1), participants who prioritized cancer risk factors were more likely to rate the influence of research information as one of their top reasons for choosing an issue to work on (aOR=1.80; 95% confidence interval =1.17, 2.80) (final model was adjusted for chamber and political party).

Discussion

This study presents data comparing the characteristics affecting research use and usefulness among state-level policymakers for whom cancer or cancer risk factors is a policy priority. While previous data have shown the need for relevant and timely evidence for policy making [32,37], sparse data are available regarding what makes research information useful and how policymakers interested in cancer-related issues may differ from other legislators with respect to the extent they value research evidence. Based on our data, state policymakers who prioritize cancer control place a higher value on scientific evidence than legislators who prioritize other issues. These are hopeful findings for applied researchers and cancer control advocates who seek to increase the use and usefulness of research in the policy process [23].

Similar to findings from Oliver and colleagues [37], timely access to relevant research information appears to be a key facilitator for successfully translating scientific evidence into policy. As noted elsewhere [38], scientific studies are not always conducted at the right time to influence policy decisions. This need for timely research evidence was highlighted in

the current study as one of the most important variables among 12 characteristics that predict usefulness of science in the policy process. Timeliness is likely to operate in two different ways—timely research information may pique the interest of a legislator or a legislator has already made a decision to act and may be quickly seeking evidence to support such action.

Related to the “presentation” domain among state legislators who prioritize cancer and cancer risk factors, our data suggest the importance of narrative forms of communication (e.g., telling a story of relevance to constituents) [39–43]. Narrative is a basic mode of human interaction and a fundamental way of acquiring knowledge [39,40]. A narrative is “any representation of a sequence of connected events and characters that has an identifiable structure, is bounded in space and time, and contains implicit or explicit messages about the topic addressed” [44]. Narrative communication has long been recognized in political communication, where elected officials report that policy-oriented stories can trump statistical data in part because statistics can be seen as too complicated or boring [45,46,26].

Our data also reinforce that research information needs to be relevant to the policymakers' constituents in a brief, concise format [43]. This suggests the notion of “making data talk” [47] is well suited for cancer control policymaker audiences. This may involve knowing the characteristics of the target audience and expressing data in meaningful ways (so-called “social math”[48]) [49]. The use of infographics to present data in accessible and appealing formats can also be a useful tool for more effectively packaging policy-relevant information [50,35].

Tabak and colleagues published similar data on characteristics that make research information useful among 77 state-level advocates [51]. Data among advocates were largely congruent with the current findings. However, for a few items (e.g., the need to have research information delivered by a trusted individual) state policymakers rated the characteristic higher than advocates [51].

A few limitations should be noted. Given that the survey came from a university, there may have been social desirability bias (e.g., a general “up-rating” for items related to research evidence). In addition, the questionnaire response rate was lower than is typical of other population-based surveys [52], but higher than rates in numerous other policy-related studies, where response rates are as low as 10% [53,54,26]. Another potential limitation involves the lack of data on legislative staff members, who are often the gatekeepers and opinion shapers for many health-related issues [38].

The knowledge base for controlling cancer through policy approaches is now substantial [1–4]. To increase the use of research information in the cancer control policy process, our study provides promising leverage points.

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Table 1

Characteristics of participants in the study of research use and usefulness in state policymakers, United States, 2012

	Total sample (n = 862)	Cancer policy priority (n=115)	Cancer risk factors* priority (n=122)	Cancer not policy priority (n=625)	
Characteristic	n (%)	n (%)	n (%)	n (%)	P †
Gender					7.19 (0.03)
Male	642 (74)	74 (64)	92 (76)	476 (76)	
Female	220 (26)	41 (36)	30 (24)	149 (24)	
Age (years)					4.71 (0.788)
18–29	7 (0.8)	1 (0.9)	0 (0)	6 (1.0)	
30–39	29 (3.4)	6 (5.2)	2 (1.6)	21 (3.4)	
40–49	86 (10.0)	15 (13.0)	13 (10.7)	58 (9.3)	
50–59	153 (17.7)	19 (16.5)	24 (19.7)	110 (17.6)	
60+	343 (39.8)	47 (40.9)	53 (43.4)	243 (38.9)	
Chamber					0.047 (0.977)
House	661 (77)	89 (77)	93 (76)	479 (77)	
Senate	201 (23)	26 (23)	29 (24)	146 (23)	
Political Party					2.41 (0.661)
Democrat	392 (45.5)	58 (50.4)	56 (45.9)	278 (44.5)	
Republican	453 (52.6)	55 (47.8)	65 (53.3)	333 (53.3)	
Other	17 (2)	2 (1.7)	1 (0.8)	14 (2.2)	
Social Issues					3.44 (0.488)
Liberal	239 (27.7)	28 (24.6)	42 (37.4)	169 (27.9)	
Moderate	171 (19.8)	24 (21.1)	21 (17.4)	126 (20.8)	
Conservative	430 (49.9)	62 (54.4)	58 (47.9)	310 (51.2)	
Fiscal Issues					2.27 (0.687)
Liberal	89 (10.3)	12 (10.5)	13 (10.7)	64 (10.4)	
Moderate	175 (20.3)	21 (18.4)	31 (25.4)	123 (20.1)	
Conservative	585 (67.9)	81 (71.1)	78 (63.9)	426 (69.5)	
Region					2.28 (0.892)
Northeast	203 (23.5)	32 (27.8)	29 (23.8)	142 (22.7)	
Midwest	219 (25.4)	27 (23.5)	34 (27.9)	158 (25.3)	
South	276 (32.0)	37 (32.2)	38 (31.1)	201 (32.2)	
West	155 (18.0)	18 (15.7)	20 (16.4)	117 (18.7)	

* Cancer risk factors = tobacco use, physical activity, diet/nutrition, obesity.

† Two-sided χ^2 test.

Table 2

Characteristics that make research information useful to state policymakers, United States, 2012

	Cancer policy priority (n=115) Mean* (SD)	Cancer risk factors priority** (n=122) Mean (SD)	Cancer not policy priority (n=625) Mean (SD)	P †
Source				
Research information is unbiased	4.33 (0.98)	4.46 (0.96)	4.37 (1.05)	0.589
Research information is relevant to my constituents	4.31 (0.74)	4.41 (0.89)	4.18 (0.89)	0.014
Research information is delivered to me by someone I know or respect	4.11 (0.81)	4.36 (0.89)	4.08 (0.92)	0.007
Research information supports a position I hold	3.68 (1.01)	3.62 (1.17)	3.43 (1.21)	0.042
Summary for domain	4.11 (0.49)	4.21 (0.62)	4.01 (0.61)	0.002
Presentation				
Research information is understandably written	4.46 (0.68)	4.55 (0.74)	4.44 (0.84)	0.384
Research information is presented in a brief, concise way	4.35 (0.85)	4.49 (0.79)	4.34 (0.90)	0.205
Research information provides data on the cost-effectiveness of a policy	4.28 (0.80)	4.34 (0.87)	4.31 (0.85)	0.872
Research information tells a story of how a health issue affects my constituents	4.08 (0.89)	4.29 (0.90)	4.03 (0.98)	0.025
Research information provides policy options	4.07 (0.90)	4.27 (0.91)	4.07 (0.97)	0.091
Summary for domain	4.25 (0.52)	4.39 (0.60)	4.24 (0.61)	0.037
Timeliness				
Research information is available at the time decisions are being made	4.37 (0.83)	4.56 (0.79)	4.42 (0.88)	0.189
Research information deals with an issue that I think is a high priority for state legislative policy action	4.29 (0.85)	4.50 (0.81)	4.30 (0.84)	0.044
Research implications are politically feasible at the time I receive them	3.33 (1.23)	3.71 (1.29)	3.47 (1.28)	0.057
Summary for domain	3.99 (0.74)	4.26 (0.73)	4.06 (0.73)	0.011

* Mean based on a 5-point scale with 1 meaning low priority and 5 meaning high priority.

** Cancer risk factors = tobacco use, physical activity, diet/nutrition, obesity.

† Estimated by ANOVA.