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Using obesity research to shape obesity policy in Minnesota: Stakeholder insights and feasibility of recommendations

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Abstract

Objective—Preventing childhood obesity is an requires innovative, evidence-based policy approaches. This study examines the use of research evidence by obesity policy stakeholders in Minnesota and develops pilot tools for communicating timely evidence to policymakers.

Design, Setting, and Participants—From November 2012–January 2013, semi-structured interviews were conducted with 51 Minnesota stakeholders in childhood obesity prevention. Interviewees included 16 state legislators and staff; 16 personnel from the Minnesota Departments of Education (MDE), Health (MDH), and Transportation (MNDOT); and 19 advocates for and against childhood obesity prevention legislation (response rate = 71%).

Main Outcome Measures—Participants were asked their views on three themes: 1) Whether and how they used research evidence in their current decision-making processes; 2) barriers to using research evidence for policymaking; and 3) suggestions for improving the evidence translation process. All interviews were audio-recorded and transcribed. A team approach to qualitative analysis was used to summarize themes, compare findings across interviewees' professional roles, and highlight unexpected findings, areas of tension, or illuminating quotes.

Results—Stakeholders used research evidence to support policy decisions, educate the public, and overcome value-based arguments. Common challenges included the amount and complexity of research produced and limited relationships between researchers and decision-makers. Responding to interviewee recommendations, we developed and assessed two pilot tools: a directory of research experts and a series of research webinars on topics related to childhood obesity. Stakeholders found these materials relevant and high-quality, but expressed uncertainty about using them in making policy decisions.

Conflicts of Interest and Sources of Funding

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Conclusions—Stakeholders believe that research evidence should inform the design of programs and policies for childhood obesity prevention; however, many lack the time and resources to consult research consistently. Future efforts to facilitate evidence-based policymaking should emphasize approaches to designing and presenting research that better meet the needs of policy and programmatic decision-makers.

Keywords

public health policy; obesity; child health; prevention; qualitative research

INTRODUCTION

Childhood obesity is a public health priority in the United States and worldwide. Nearly one-fifth of U.S. children ages 2–19 (17.0%) had obesity in 2011–14, and obesity rates among adolescents (relative to younger children) show no signs of slowing.¹ Childhood obesity is associated with increased risk of high blood pressure and cholesterol, insulin resistance and type 2 diabetes, psychological stress and low self-esteem, and other physical and psychological health consequences.^{2–4} Children with obesity are at higher risk for obesity in adulthood, leading to downstream consequences such as cardiovascular disease, stroke, osteoarthritis, and some cancers, as well as incurring national medical care costs estimated at \$147 billion in 2008.^{5–7}

Policymakers have implemented measures aimed at preventing childhood obesity, including changes to the physical and built environment, such as safer sidewalks and healthy vending options; school-based strategies to promote healthy eating and physical activity, such as Safe Routes to School Programs; and educational efforts, such as farm-to-school initiatives.^{8,9} However, challenges remain in building prevention efforts on the best available evidence in terms of feasibility and efficacy. Faced with competing demands and pressures, decision-makers may rely on information that is not research-based or scientifically sound, such as sources used by lobbyists or industry-funded research, as well as non-evidence-based beliefs, thereby potentially reducing the chances of yielding desired outcomes.^{10,11}

One obstacle to effectively using research evidence in policymaking for childhood obesity prevention is the absence of an effective system for communicating timely, relevant research evidence to policymakers. Increasingly, public health experts devote attention to the process of knowledge transfer, or research translation, as an essential basis for evidence-based decision-making. Defined by the World Health Organization as “the synthesis, exchange, and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people’s health,” knowledge translation bridges divides between the creators, disseminators, and users of research information.^{12,13} Theories of knowledge transfer posit that the process is non-linear and multi-directional: producers of research evidence seek to disseminate their findings to relevant decision-makers, while decision-makers seek relevant evidence to solve imminent policy problems.^{14,15} Central to the translation process are the relationships and avenues for communication between relevant actors.¹⁶

Knowledge transfer literature suggests that effective translation depends upon the particulars of the issue and the jurisdiction of policymaking.¹⁷ Despite growing interest, however, few existing studies aim to understand and intervene on the knowledge translation process within a specific policy context. One systematic review of knowledge transfer among health policy stakeholders highlighted the importance of establishing rapport and building strong working relationships between the producers and users of research, especially via face-to-face exchanges.¹⁸ Knowledge transfer tends toward success when research evidence is actively communicated and tailored to different audiences in terms of content and format.^{18,19} Common challenges include shortages in individual and organizational capacity; lack of “actionable” research findings; and differences in priorities between the producers and users of research evidence.²⁰ While barriers to effective knowledge transfer are well-documented, few studies, to date, have proposed systems to overcome these gaps.

Building on this work, we examine the process of evidence translation from the perspectives of key stakeholders in the obesity policy community in the U.S. state of Minnesota. Through qualitative interviews with stakeholders in legislative, advocacy and public agency roles, we sought to understand the role that research evidence played in their decision-making processes, the challenges they faced in effectively using research evidence, and their recommendations for building a system that better facilitates knowledge transfer. Their responses formed the basis of two pilot tools designed to improve the process of using research to support evidence-based policymaking for childhood obesity prevention.

METHODS

Design and sample

From November 2012 to January 2013, interviews were conducted with policy stakeholders in the area of childhood obesity prevention in Minnesota. Interviewees were recruited through suggestions from the study team, which included Minnesota state legislators, state agency staff members, child health advocates, policy experts, and university researchers, as well as snowball sampling. Recruitment was conducted with the aim of even distribution across legislative, agency, and advocacy roles, as well as interviewees’ previous stances on obesity-related legislation. Seventy-two participants were invited and 51 interviews ultimately scheduled and completed. The final study sample consisted of 16 legislators, legislative researchers, and legislative aides/staff; 16 personnel from three state agencies—the Minnesota Departments of Health (MDH), Education (MDE), and Transportation (MNDOT); and 19 advocates for and against childhood obesity prevention legislation. The majority of interviews were in-person, with 13 conducted via telephone.

Analysis

We developed a semi-structured interview protocol addressing three main themes: whether and how interviewees currently used research evidence, barriers to the effective use of evidence, and recommendations for systems-level improvements to the process of translating research evidence into policy decisions. Interviews lasted 60 minutes on average and were audio-recorded and transcribed.

Team members read a pilot set of 8 transcripts, identified and documented major themes, and developed a coding instrument using an iterative process. The instrument, which consisted of 9 major concepts, or nodes, was then applied to the full set of transcripts. Two study team members then analyzed each node, conducting validity checks on each others' work. Tables for each node were created to compare responses across interviewees' roles, using Miles and Huberman's comparative matrix method.²¹ Team members then summarized the materials under each theme and highlighted any unexpected findings, areas of tension, and illuminating quotes. All analyses were conducted using NVivo v.10 (QSR International).

Responding to interviewees' recommendations for improving the evidence translation process, we created two pilot tools designed to deliver research evidence more effectively to decision-makers. First, we compiled a directory of local research experts on topics related to healthy eating and physical activity. Experts were identified through study team suggestion and snowball sampling, then contacted via email and asked permission for inclusion in the directory, areas of expertise, preferred contact information, and willingness to testify in the state legislature. The final directory included 52 experts from six non-partisan, non-advocacy organizations throughout Minnesota.

Second, we organized a series of 15-minute research webinars on five school-based obesity prevention efforts in Minnesota: physical activity programs, vending practices, food marketing, wellness policies, and program evaluation. Both resources were placed on a designated University of Minnesota website entitled "Resources for Decision Makers."²² The link was distributed via email to our 51 interviewees; the research experts listed in our directory; and all Minnesota state legislators and staff affiliated with the House or Senate health, education, or transportation committees in Spring 2014. A 12-item survey was hosted on the site, asking respondents to rate the quality, usefulness, and relevance of the materials they viewed on a 5-point Likert scale, with "1" indicating "Strongly Disagree" and "5" indicating "Strongly Agree" (Appendix 1).

This study was granted exemption from review by the University of Minnesota Institutional Review Board (Study Number 1107E0176).

RESULTS

We completed interviews with 51 key stakeholders in the area of childhood obesity prevention in Minnesota (response rate = 71%) (Appendix 2). Of the 16 interviewees in legislative roles, seven were state legislators (four from the Democratic-Farmer-Labor Party and three from the Republican Party), five were legislative researchers, and four were legislative staff or aides. The 16 state agency staff members were mostly from MDH (n=10), with three each from MDE and MNDOT. The final 19 interviewees were in advocacy roles, with 15 advocates having documented stances for previous childhood obesity prevention legislation and four against.

Current use of research evidence

Interviewees in all three stakeholder groups emphasized the importance of evidence-based policymaking; however, they varied considerably in their current use of research evidence for decision-making, as well as the types of information they found useful (Table 1). Stakeholders in legislative roles tended to combine research evidence with other types of persuasive information, such as personal narratives and public opinion polls, when making policy decisions. While most legislative stakeholders acknowledged the importance of balancing anecdotes with research evidence, personal narratives tended to have the most immediate impact in legislative proceedings. Conversely, stakeholders in advocacy roles often used research evidence to counteract persuasive arguments based on personal values or anecdotes.

Interviewees in legislative, state agency, and advocacy roles alike noted the importance of consulting evaluation research to assess whether a program or policy is effective and sustainable long-term. Additionally, research evidence was often used to determine best practices or motivate programmatic efforts, especially by state agency staff, who saw themselves as bridging the divide between legislators and advocates by “be[ing] the neutral voice at the table that talks about the science” (MDH staff). Agency staff were also more likely to have closer ties with researchers, often via collaborations with university faculty on federal grants and pilot studies.

Barriers to effectively using research evidence

Interviewees identified three main obstacles to using research evidence effectively for decision-making: challenges associated with the characteristics of research evidence, political and organizational deterrents to evidence use, and barriers related to communication (Table 2). While interviewees appreciated the comprehensiveness of research around the causes, prevalence, and health consequences of childhood obesity, they also found it difficult to sift through the “flood of information” generated (Opponent advocate). The research that decision-makers did consult was often ill-timed or difficult to parse. Due to publication timelines and embargoes, evidence was often unavailable when needed for legislative hearings or programmatic decisions. Interviewees also spoke of mismatches between the types of evidence produced by researchers and those needed by decision-makers. The latter preferred practical evaluations of existing policies and evidence supporting policy solutions, but rarely encountered these types of evidence, making it difficult for practitioners to “leap from the results of research to...chang[ing] our practices or processes” (MNDOT staff).

Political and organizational deterrents also prevented consistent use of research evidence in policy decisions. State agency personnel were especially concerned with organizational limitations, given their need to remain non-partisan. Receptiveness to research evidence could vary, as one MDH staff member explained:

“We can easily access the information, but actually utilizing it is always a question of the current politics.... So we just keep relying on our scientific evidence and hope that the political environment...is open to what makes most sense for improving health.”

Finally, interviewees across the three groups described barriers related to communication. Legislative stakeholders felt strongly that “researchers are out of touch with the legislators” (Legislator, DFL), which resulted in a lack of mutual trust and understanding. Despite existing collaborations between researchers and decision-makers, the latter were often excluded from early-stage discussions regarding study design and objectives, populations, and outcomes. Agency staff were also frustrated by their inability to access academic research disseminated behind paywalls, noting that easily-accessible information (such as that produced by lobbyists) may not meet standards of quality and objectivity.

Recommendations for improving evidence translation processes

Suggestions for improving access to research evidence included 1) producing more policy-relevant research, 2) finding more engaging ways to communicate information, and 3) creating a more robust infrastructure for disseminating research to broad audiences (Table 3). Each stakeholder group found different types of information policy-relevant. Legislators and legislative staff strongly preferred data from local contexts, noting that demographic, economic, and cultural differences made data from other geographic regions less relevant. State agency staff were most concerned with outcome data for existing programs and community impact evaluations. Interviewees in all three roles believed that additional data on cost-effectiveness and return on investment would provide compelling support for proposed legislation.

Presentation of research evidence was a dominant theme across the three groups. Interviewees in legislative roles were particularly vocal about needing materials that were “short and to the point” (Legislator, R). Interviewees also suggested avoiding technical jargon, opting instead for “layman’s terms” (Legislator, DFL). Single-page research briefs, executive summaries, and visual presentations of data were strongly recommended.

Communication also emerged as a major theme, with most interviewees advocating for stronger relationships between policymakers and researchers, improved coordination of existing efforts, and targeted delivery of information. Policymakers preferred to rely on research from trusted sources of expertise, making it crucial for researchers and/or dedicated intermediaries to build connections with policymakers and staff via formal and informal collaborations. Interviewees also suggested making more efficient use of existing research- and policy-related resources by promoting communication among stakeholders and eliminating duplicative efforts. A final recommendation was to tailor the communication of research evidence to the audience at hand. As a proponent advocate summarized:

“If you want someone to do something, they have to understand why it’s important for them, not why it’s important for you. The arguments differ depending on what the legislator’s background is and what their passions are.”

Recommendations for infrastructure included a clearinghouse of research findings, akin to a “research Craigslist” (Legislative researcher); a “research hotline” or list of research experts available for consultation by policymakers (Proponent advocate); online webinars on relevant research topics; and conferences for research and policy stakeholders. Legislators and legislative staff tended to prefer systems allowing access to research evidence or experts when needed, e.g., via expert hotlines or online webinars. Conversely, advocates and state

agency personnel favored infrastructure that promotes long-term working relations among stakeholders, such as email listservs and stakeholder coalitions or conventions.

Pilot vehicles for improving knowledge transfer processes

Of the 220 stakeholders to whom we sent our pilot materials, 17 completed the evaluation survey. Five self-identified as working for state agencies, four worked for non-profit organizations, three worked in academic settings, three worked in the state legislature, and two worked for other governmental organizations such as city councils.

Overall, respondents agreed with the statements “the information was presented in a clear and understandable manner” (100% strongly agree/agree; 4.47 average), “I will recommend these resources to my colleagues” (94%; 4.18), “the information met my expectation of quality (88%; 4.24), and “the information provided was relevant to me” (82%; 4.06).

However, they were unsure about the usefulness of the materials, with only 59% agreeing or strongly agreeing with “I will use the resources provided” (3.65 average) and 53% with “the resources will change the way I seek out evidence for policy and program decisions” (3.47 average). Suggestions for improving the materials included abbreviating the webinars and making the expert directory searchable electronically.

DISCUSSION

In this study, we extended existing knowledge transfer frameworks^{23,24} to a public health issue in a specific state policy context: childhood obesity policymaking in Minnesota. We found that Minnesota policy stakeholders view the translation of research evidence into policy decisions as a complex and dynamic process. Consistent with existing research on knowledge transfer in public health, stakeholders in legislative, agency, and advocacy roles described persistent barriers to the effective use of research evidence, including sporadic communication and the difficulty of building strong working relationships between the producers and users of research.^{19,25,26} Contrary to prior findings,^{11,20} however, our interviewees unanimously recognized the value of research and the need for evidence-based policymaking, voicing their desire to incorporate more evidence into their decision-making processes. To enable this, they recommended several ways to improve the formulation and presentation of research evidence, open channels of communication between researchers and policymakers, and make research information more accessible to key decision-makers.

Unlike other knowledge transfer studies that examine only one type of end-user community,^{27–29} our research reveals notable differences across stakeholder type. Interviewees in legislative roles cited limited time and resources as a significant barrier in using research evidence consistently to inform policy decisions. Accordingly, their recommendations centered on ways to expedite the communication of information. Interviewees in state agency roles were concerned with organizational barriers, such as limits on lobbying by state personnel, that prevent knowledge transfer between different expert groups. Their recommendations thus emphasized networking between researchers and external stakeholders and producing research with non-partisan, programmatic implications. For interviewees in advocacy roles, differences in the values and expectations of researchers and policymakers made it challenging to enlist the latter in prioritizing research evidence over

non-research information when making policy decisions. Their recommendations urged researchers to bridge this divide by performing outreach activities and considering broader policy implications when designing research objectives.

Responding to these diverse recommendations, we developed two pilot knowledge transfer tools: a directory of research experts and a series of short research webinars on topics related to childhood obesity. While stakeholders who viewed these materials admired their quality and clarity, opinions were mixed on their usefulness in a policymaking context. Creating such locally-matched and evidence-supported tools and evaluating them on a larger scale is a priority for future research. Future efforts should also aim to identify promising strategies, incentives, and partnerships that will allow these tools to be maintained and improved over time.

IMPLICATIONS FOR POLICY AND PRACTICE

Our findings have important implications for policy and practice. As stakeholders recognize the ubiquity of high-quality research on the etiology and prevalence of childhood obesity, additional efforts to promote evidence-based policymaking should focus on building stronger working relationships between the producers and consumers of research. In particular, consulting with relevant decision-makers at each stage of the research process may lead researchers to formulate more policy-relevant research designs.^{30,31} Regular interaction between researchers and policymakers, such as presenting ongoing research to the policy community or providing expert testimony at legislative hearings, allows interested stakeholders to recognize active researchers and their areas of expertise. Other suggestions for better aligning the priorities of researchers and policymakers include removing logistical barriers to the sharing of research information, such as publication embargoes and paywalls, and providing researchers with more professional incentives for engaging with the policy community. More broadly, producers and disseminators of research may need to tailor their strategies to different audiences, as resources deemed useful by one type of stakeholder may not be relevant to other groups. More work is needed to better understand how to make resources maximally useful for different target audiences.

In order to build sustainable evidence translation practices, dissemination efforts need to be incorporated more fully into the research process. While our interviewees did not include researchers, they did suggest that researchers' priorities can be misaligned with activities that would facilitate effective knowledge transfer, such as providing legislative testimony and engaging with the popular media. This aligns with previous literature indicating time cost to be a significant barrier for researchers wishing to engage with the policymaking process.¹¹ Greater institutional and financial support from research organizations and funders, as well as flexibility in research budgets, may help offset the time and resource costs of undertaking these activities.^{17,19} Even with support, however, researchers may lack expertise needed to produce dissemination materials, such as policy briefs and webinars for non-technical audiences. Partnering with "knowledge brokers" who have expertise in communicating with both research and policy communities may help researchers become more effective in reaching out to policymakers.²⁵

Study findings should be considered in light of their limitations. Our interviewees consisted of key stakeholders in the obesity policy community in Minnesota, which may limit their generalizability to other regions, especially those with different legislative processes and political climates. Additionally, our pilot vehicles were disseminated and evaluated on a small scale, with very few members of the target population responding to our request to evaluate. Future efforts to create and evaluate tools aimed at facilitating the knowledge transfer process are needed and should involve more formal development and testing, including through randomized controlled trials or interventions.³²

CONCLUSION

Across legislative, state agency, and advocacy roles, key stakeholders in Minnesota agree on the importance of basing policies and programs for preventing childhood obesity on the best available research evidence. Translating timely, relevant research findings into evidence-based policy will require targeted efforts aimed at aligning priorities, building connections, and improving communication between researchers and policymakers.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Current use of research evidence: Most common themes by stakeholder type

Theme	Quote
<i>Legislators, legislative researchers, and legislative staff</i>	
1. To support other types of persuasive information	“The golden, ‘money’ package is when a constituent presents a message that has data and anecdotes. I’ve seen it; you see the members’ faces perk up.” —Legislative aide
2. To understand the effects of a policy, program, or child obesity	“We don’t have the ability to synthesize the research into implications and then into actual policy ideas. So if researchers could take their research, talk about the policy implications, have somebody do the analysis of the current laws and where their research fits into it, their research will get disseminated a lot faster, because we know what to do with it.” —Legislator, R
3. To determine whether a policy or program is sustainable	“With long-term investments, the legislature wants to see correlation between [the investment] and the fruit of that money in a certain amount of time.” —Legislative researcher
<i>State agency staff</i>	
1. To determine best practices	“Everything we do here has to be couched in either research or best practices. It doesn’t matter if we’re writing a grant or teaching a class or doing fact sheets—we have to cite our references.” —MDH staff
2. To motivate support or action	“People believe what they do because they’ve believed it for so long, and breaking the mold on that could be done by having the proper scientific research.” —MDE staff
3. To determine whether a policy or program is sustainable	“We need models on how to project behavior changes to longer-term health care savings or... improvements in quality of life, because what we’re looking at with prevention has a very long-term return.” —MDH staff
<i>Advocates for and against child obesity prevention legislation</i>	
1. To shift attention away from value- or non-evidence-based persuasive arguments	“We like to base our platforms and our efforts on research so that there’s validity inherent in the stances that we make at the legislature.” —Opponent advocate
2. To determine whether a policy or program is sustainable	“Public health initiatives increasingly are having to answer the question of, have we seen a behavior change. So any evidence that can support the idea that investment in broader, population-wide initiatives changes behaviors...is really important.” —Proponent advocate
3. To educate legislators and community members	“We know the importance of getting to know the legislators and educating them on...obesity and the causes behind it.” —Proponent advocate

Table 2

Barriers to the effective use of research evidence: Illustrative quotes

Theme	Quote
<i>Legislators, legislative researchers, and legislative staff</i>	
1. Insufficient time to process large quantities of information	We get so much information, and it's really good information—you glance through it and you think, 'Oh, I'll look at that again later.' Well, the reality is, later never comes." —Legislator, DFL
2. Failing to make better use of existing research, e.g., from local universities	"The University is full of good research, fantastic amounts of research that often never gets used in legislative debates, and in part that is because as a state, we're not able to say much in terms of funding for programs that are [administered] by the federal government." —Legislative researcher
3. Difficulty finding or accessing research information and experts	"You have to understand how little real research I have at my fingertips. If I had research at my fingertips, I would use it in all cases, because I think it's compelling." —Legislator, DFL
<i>State agency staff</i>	
1. Inconsistent or weak communication among different stakeholder groups	"Many public health researchers tend to just report their little slice of the world and don't think about how it fits into the overall work...and it's not very helpful." —MDH staff
2. Lack of strong working relationships with researchers and decision-makers	"State agencies cannot send information over to the legislature unless it is requested, and while we... can testify as to facts, we can't do the passionate, emotional kind of stuff that influences individual legislators and committees much more." —DOT staff
3. Difficulty finding or accessing research information and experts	"The library that we had in the Department of Health closed a few years ago, and each of our offices and divisions pays for our professional journal subscription...but it's not as vast as the university libraries because of costs." —MDH staff
<i>Advocates for and against child obesity prevention legislation</i>	
1. Differences in priorities and terminology between stakeholder groups	"You need to determine what the research is and how that fits in with the values of the populace at any given time, and specifically with your legislator. When the research aligns with [a decision-maker's] value structure—then it resonates and can change a mind." —Opponent advocate
2. Research on obesity is complex and difficult to communicate	"With obesity in particular, there's mixed messaging in terms of, when are health behaviors actually starting to impact your child negatively. So you've got to get the messaging clear...and it's a harder issue, it's more complex than anything we've dealt with as a country, collectively for policy." —Proponent advocate
3. Mismatches between research evidence that is available versus what is needed	"[Researchers] need to go from just talking about prevalence and indicators, what's happening, to making policy recommendations." —Proponent advocate

Table 3

Recommendations for improving the evidence translation process: Illustrative quotes

Theme	Quote
<i>Legislators, legislative researchers, and legislative staff</i>	
1. Clearinghouse website that summarizes existing research	“If we were to kind of link all those resources together in...maybe a website that lists all the different topics and can connect people with more information, then people could do a search...” —Legislative aide
2. Telephone directory or hotline of research experts	“Having a database of individuals at the University [of Minnesota] with particular expertise might be good. If the University as an institution wanted to make it easier to connect with the expertise at the U, I can see a database being useful.” —Legislative researcher
3. Regularly-scheduled conferences or webinars targeted to legislative audiences	“A thirty minute webinar on the latest data concerning a particular topic...would be worth a try.” —Legislator, DFL
<i>State agency staff</i>	
1. Clearinghouse website that summarizes existing research	“There are lots of different sources for research about walking and biking, but it’s kind of overwhelming...so something like some kind of clearinghouse for research that’s permanent would be helpful.” —DOT staff
2. Online listserv or email list that connects stakeholders in each policy area	“Anything that opens up communication, lines of communication between different agencies and different advocacy groups’ work—maybe it’s a listserv, maybe there’s already a listserv, but opening it up and expanding it—is very helpful.” —MDE staff
3. More active sharing of agency research expertise to legislators and advocates	“My role is to provide the information that is scientifically supported related to promoting physical activity, and I can tell [legislators] what policies support that and why the evidence says that’s important.” —MDH staff
<i>Advocates for and against child obesity prevention legislation</i>	
1. Clearinghouse website that summarizes existing research	“If we can set up a one-stop source that has the key performance indicators of childhood obesity, we can track some of those measurable results over time and we can figure out what works and what doesn’t. That would be enormously useful...” —Proponent advocate
2. Regular conferences or meetings to connect researchers and decision-makers	“Forming better partnerships with...communicators either at the university-level or at the department-level is the way to go.” —Proponent advocate
3. Activities and infrastructure that build networks among key stakeholders	“To me, it’s all about interaction, whether it be face-to-face, a phone call, or an e-mail...it’s relationship building, relationship building, relationship building.” —Opponent advocate