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Evaluation of Public Health Professionals' Capacity to Implement Environmental Changes Supportive of Healthy Weight

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Abstract

Community-based interventions to promote healthy weights by making environmental and policy changes in communities may be an important strategy in reversing the obesity epidemic. However, challenges faced by local public health professionals in facilitating effective environmental and policy change need to be better understood and addressed. To better understand capacity-building needs, this study evaluated the efforts of the Healthy Start Partnership, a university-community project to promote healthy weights in young families in a rural eight-county area of upstate New York. Qualitative interviews (n = 30) and pre/post surveys (n = 31) were conducted over three years of the intervention. Challenges faced by partners significantly slowed progress of environmental interventions in some communities. First, many partners did not feel their "regular" jobs afforded them sufficient time to do community work. Second, many partners did not feel they had the personal political power to work on broader environmental, policy, or system change issues. Third, facilitating and policy change and reaching out to non-traditional partners, like businesses, required developing a new set of public health skills. Fourth, the long-time frame of environmental and policy work meant that many efforts would exceed the grant period. Building local public health leaders for environmental and policy change necessitates that these challenges are acknowledged and addressed.

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Keywords

Food environments; building capacity; public health professionals

Introduction

Ecological frameworks of obesity emphasize the multi-sectoral nature of the obesity epidemic and presume that changes in many settings will be necessary to create environments conducive to healthy lifestyles (Wells and Olson, 2006; Kumanyika et al, 2002; Haire and Nanney, 2002; Hill and Peters, 2008; French et al, 2001; Papas et al, 2007; Black et al, 2008). At the community level, community-wide interventions that bring together a variety of stakeholders in coalitions are increasingly common (and required for some funding opportunities) because of their ability to organize and activate stakeholders from many parts of the ecological framework (Dobson and Gilroy, 2009, Sallis and Glanz, 2009; Prevention Institute, 2004; Butterfoss, 2007; McLeroy et al, 1988). In this paper coalitions are defined as “a formal alliance of organizations that come together to work for a common goal” (Butterfoss, 2007, pg 30), and the term is used synonymously with partnerships. Yet to what extent do these coalitions have the capacity to create environmental and policy change to promote healthier weights? Do local public health professionals have the skills, organizational capacity, and interest to create environmental and policy changes?

Environmental and policy approaches to prevent obesity assume that the context in which people make food and physical activity decisions is important in influencing their behavior. The Center for Disease Control has defined the “environment” as everything external to the individual (CDC, 2007). This can include built environments (e.g. number of fast food outlets in a neighborhood), social environments (e.g. social norms and social networks), and policy environments (e.g. local laws and workplaces policies). While intervention research to create healthier nutrition and physical activity environments is only just beginning, some recent examples of community partnerships have had positive results. Portland’s Active Living By Design partnership brought together partners from a wide range government, university, and community-based organizations to influence regional and statewide comprehensive and transportation policy plans, introduced parks, gardens, and walking trails in communities with limited physical activity infrastructure, and initiated walking programs (Dobson and Gilroy, 2009). In addition, the Shape Up Somerville Program brought together parents, teachers school food service staff, restaurant owners, policy makers, health care providers and others to create changes in the food and activity environments within schools and in the broader community of Somerville, MA that would encourage healthy choices and reduce obesity in elementary school-aged children (Economos et al 2007). Compared to similar control communities after 3 years, BMI z-scores were lower in children from the intervention community.

However, the efficacy of partnerships to bring about health-related changes in a community is not consistent, particularly when those partnerships are challenged to address issues of higher-level environmental and policy change like altering community structures or creating

new public policy (Zacoks and Edwards, 2006). Kreuter et al (2000) found in their review of community-based coalitions for health promotion, that the majority of activities accomplished by community-based coalitions are focused on awareness raising and education, as opposed to broader system or policy change. Likewise Kadushin et al (2005) found that coalitions are more often than not ineffective mechanisms to environmental or system level changes. For instance, in their analysis of the Robert Wood Johnson Foundation Fighting Back Initiative, the researchers found that coalitions often broke down because of an inability of organizations to successfully work together due to poor definition of coalition objectives, and decades of organizational and community "baggage" that resulted in initiatives being thrown together more out of happenstance than through a clear tie to community assessment and need. Coalitions that did create successful initiatives tended to work on specific, more narrowly defined projects that lacked a community or population-wide focus, and did not change the way prevention and treatment programs were structured. If local partnerships are to be a major public health mechanism in curtailing the obesity epidemic, and if curtailing the epidemic requires environmental and policy changes, then there needs to be a better understanding the readiness and capacity-building needs of individuals working at the community level in public health (i.e. public health professionals) to plan and implement environmental and policy changes in their community.

There is no consensus on the definition of community capacity building for health promotion in public health (Simmons et al, 2011), although for the purpose of this paper the definition of Chaskin (2001) is applied

> Community capacity-building is the interaction of human capital, organizational resources, and social capital existing within a given community that can be leveraged to solve collective problems, and improve or maintain the well-being of that community.

Hawe et al (2000) has defined three operational levels of capacity-building in the health promotion literature. First, capacity-building in public health promotion programs require that professionals have the knowledge, skills and resources to conduct programs, and that their organizations demonstrate support for these approaches through appropriate policies and expectations. Second, is the need to build partnership and organizational structures that can sustain programs (along with their health effects), whether or not the original initiating organization continues to support the effort. Third, is the need to develop problem-solving capacity among public health professionals and their communities, meaning that as new public health challenges arise, skills developed to address an earlier issue can be transferred to address the new challenge. Not only do professionals learn from each other, but having a network of agencies working together builds support for a program in the community and helps ensure that it continues. Capacity for public health promotion can, therefore, be developed in a number of issue areas, but because skills and resources are transferable to other problems, many public health professionals may already have some of the skills needed to work on emergent public health initiatives like environmental or policy approaches to obesity prevention, while others may require more efforts at capacity-building.

For many public health professionals, working at the broader community level to create environmental or policy changes is a new undertaking for which their own capacity and that of their organization may not be high. Understanding the challenges faced by public health professionals as they work to develop and implement environmental and policy changes is an important part of understanding how capacity for this approach can be built, as well as, examining the feasibility of future interventions to create environmental and policy changes. Therefore the objectives of this paper are to: 1) examine changes in capacity to make environmental and policy changes to promote healthy weight in a coalition of public health professionals, and 2) report on challenges faced in developing and implementing these changes.

Methods

Description of the Healthy Start Partnership (HSP)

The Healthy Start Project (HSP) aimed to promote healthy weight gain during pregnancy and appropriate weight loss post-partum in a population-based sample of women living in a rural eight county area of upstate New York served by a large centralized health care system. Gaining more than the recommended amount of weight during pregnancy has been shown to be associated with higher weights in women several years postpartum (Olson and Stawderman 2003, Schieve et al 1998), and high weight gains during pregnancy may also be associated with higher adult weights for the offspring (Srinivasan et al 2006, Oken 2003, Silverman et al 1998). Thus, interventions that increase the number of women who gain an appropriate amount of weight during pregnancy, and support women in postpartum weight loss can aid in nationwide efforts to curb the obesity epidemic.

The partnership was convened by XXX University after XXX (second author) received a United States Department of Agriculture Cooperative State Research, Education, and Extension Service, National Research Initiative to develop environmental interventions to promote healthy weights in childbearing women and their children. In 2005 university partners invited community organizations in the eight county targeted area who has an interest in women's and children's health to join the HSP and to develop projects to alter the built, social or policy environment. Over 40 different partners were involved with the HSP over the four years of the community intervention portion of the project. Partners were from community-based organizations working in public health, nutrition, and maternal and child health, as well as from area hospitals and community-based organizations working to improve health care delivery. The partners were mostly mid-level professionals in charge of specific county public health programs, and consequently had authority to make decisions about their activities within the broader federal or state guidelines that governed their programs. There were also five higher level professionals (i.e. agency directors) who joined the partnership, and only four lower-level professionals who typically joined with their boss (i.e. a mid-level professional).

The partnership governing structure consisted of a Coordinating Committee (CC) composed of university partners, two "sparkplugs," and representatives from most of the targeted counties. At the start of the partnership the sparkplugs (chosen by the university partners as leaders within their county and in their respective organizations) along with the university

partners, nominated individuals to be members of the CC so as to build a broadly representative governing structure. The CC helped shape the direction of the partnership, identify agenda items for the regional meetings, and make funding decisions about projects seeking HSP funds.

Partners in the HSP were encouraged to work in local (i.e. county level), as well as in a regional partnership. Early on brainstorming for several region-wide initiatives was attempted, however, as the partnership progressed it was difficult to develop and maintain region-wide initiatives. Partners within counties often already had a history of working together, but were less experienced in working across county boundaries. There was also a good deal of county variation at the environmental level (e.g. some counties were more rural than others). For these reasons, approximately a year after the first regional kick-off meeting, emphasis was placed on county-level meetings, which were facilitated by the university partners (faculty, research assistant, and graduate student) to focus on possible interventions in each individual county. After these sessions, several counties initiated local interventions as discussed below. During the first four years of the HSP university partners, with support from the coordinating committee, organized six regional partnerships meetings. They featured invited speakers who were experts in their fields (e.g. weight gain in childbearing women, community design, and convenience stores), and in addition to partner engagement in actual environmental and policy interventions, were one of the major mechanisms to build capacity for the environmental approach.

Environmental and policy interventions implemented by the counties included: a breastfeeding social marketing campaign, changes in the environment of health care clinics to support and encourage breastfeeding moms, creation of better linkages between hospitals and community organizations working to promote breastfeeding, creation and distribution of a map depicting physical activity opportunities in the county, and work with a local convenience store to offer healthier options near the register. Partners from all originally targeted eight counties participated in some way, however, HSP projects were implemented in only five of the counties. In two of these five counties the local partnerships were not formed until the third to fourth years, largely because of the challenge of finding a local leader. Certainly the ability and interest of partners to come together in a partnership has an effect on the functioning of the partnership and consequently its ability to reach its intended goals (Butterfoss 2007, Zakocs et al 2006). The objectives of this paper, however, are not to evaluate overall HSP structure and functioning, except for where these issues clearly had an impact on the ability of the partnership to create capacity among public health professionals to make environmental and policy change.

Data Collection and Analysis

To better understand the challenges faced by public health professionals in implementing environmental and policy interventions data was collected through 3 modes: 1) participant-observation of regional and county level meetings and conference calls; 2) qualitative interviews with HSP partners; 3) self-administered structured questionnaires with HSP partners.

The Principal Investigator and the first author (then a graduate student) attended all the regional HSP meetings (n= 5) and coordinating committee in-person meetings and conference calls (n = 17). The first author attended many of the county-level HSP meetings and trainings either in-person or through conference call (n = 17). This enabled the research team to observe first-hand the interactions of partners and follow the development of interventions from initial brainstorming through evaluation. Fieldnotes (unstructured) of observed meetings were maintained. The first author carried the status of participant-observer in all community meetings and correspondence. This allowed the first author to attend and contribute resources to meetings as needed, but efforts were made not to direct the course of the partnership in any significant way. All partners were made aware of the first author's role.

In addition to attending meetings, 30 semi-structured interviews were conducted with 21 partners in the HSP lasting 45 – 90 minutes. Eight of the most involved partners (e.g. county-level HSP leaders) were interviewed two or three times over the course of the project – either at the start of the partnership, after one to two years, or after three years. At least two partners in each of the five counties that implemented projects were interviewed. Interviewees were chosen to represent a variety of backgrounds, and involvement levels in the HSP and were asked to participate through email or telephone call. Interview questions were designed using guidance provided in Patton (1990) to ensure questions were open-ended and appropriate for qualitative analysis. The interview guide was developed by the first author to investigate two major topics: partnerships and environmental and policy interventions. Questions about partnerships were developed to focus on the nature and depth of past partnership experiences, perceived strengths and weaknesses of working in partnerships, and the functioning of the current HSP. Questions about environmental and policy interventions were developed to focus on past experiences with implementing environmental and policy interventions, current interest in pursuing environmental and policy interventions to promote healthy weights, and successes and challenges faced by partners as they developed and implemented environmental and policy interventions in the HSP. As the partnership progressed interviewees were probed further on how particular projects were chosen to be the focus of their local partnership activities and on their understanding of what projects were considered possible and why (Table 1). Eight interviews (27%) were conducted before significant work began on implementing environmental and policy interventions, and another 22 (73%) were conducted after project implementation had begun.

Interviews were conducted by the first author, tape-recorded, and transcribed verbatim. Fieldnotes were written after each interview to begin analysis on themes and patterns observed and connect ideas to emerging patterns in previous interviews. All interviews were coded for major and minor themes using the constant-comparative method (Glaser and Straus, 1967; Strauss and Corbin, 1990). As themes emerged they were tested for validity in later interviews. In particular, themes related to challenges in designing and implementing environmental interventions were explored further (i.e. ability to use work time to engage in coalition activities; usefulness of regional meetings for building capacity; perceived efficacy, skills, and knowledge to work on environmental and policy interventions; involvement (or lack thereof) of non-traditional stakeholders in HSP meetings and

activities). Interview text was electronically cut and pasted into a word processing document under the appropriate major or minor theme. As needed new themes were created to reflect emerging concepts. After all interviews were coded, they were re-read by the first author and any needed alterations in coding of the text to further clarify the underlying themes were made. The 4 major themes focusing on the challenges faced by interviewees in designing and implementing environmental and policy interventions are the focus of this paper. These challenges were: 1) lack of organizational or workplace support for “community time”; 2) feeling a lack of political power to make environmental and policy changes in their own communities; 3) need to develop special skills and knowledge to work outside of traditional public health roles and reach out to non-traditional partners; and 4) the long-time frame required to develop, implement, and evaluate environmental and policy level interventions.

In addition to the qualitative data, self-administered structured questionnaires focusing on the functioning of the partnership and the partners’ perceived changes in their own knowledge, beliefs, and abilities to implement environmental and policy interventions (i.e. their capacity to do environmental and policy interventions) were completed by partners. One portion of the survey asked participants to rank the extent to which they felt 32 example interventions were useful or feasible. The example interventions were chosen from examples in the literature and were selected to represent a broad range of interventions points (e.g. community education, changes to the built environment, and social and policy change). Examples interventions were grouped into nutrition, physical activity, breastfeeding, and “mixed” categories. Questions on the pre and post surveys were cognitively tested for clarity and understanding with 4 individuals having community-based experience. At the first regional meeting 31 partners filled out a pre-survey, and after 2.5 years of partnership participation 20 people completed the post-survey. However, only 11 of the responders to the post-survey could be matched to the pre-survey. For this reason, and because of the overall small sample size, most analyses were done without matching. Wilcoxan-Mann-Whitney tests were used to compare pre-survey to post-survey results (SAS 9.1; Cary, NC). Surveys were not matched to individual qualitative interviews, so that respondents would feel comfortable giving candid feedback. Data collection for the process evaluation was approved by the University Committee on Human Subjects at Cornell University.

Results

The following sections examine: 1) changes in capacity to make environmental and policy changes to promote healthy weight among public health professionals involved in the HSP, and 2) four challenges faced by these professionals in building and applying this capacity to environmental and policy change initiatives.

Changes in Capacity-to make Environmental and Policy Change

Reflecting on the first stage of Hawe et al’s (2000) capacity building framework, one of the objectives of the HSP was to build the knowledge and skills of the community partners to plan and implement environmental and policy interventions. The major mechanisms in the HSP to build capacity to make environmental and policy change were regional partnerships meetings held about 2 times a year, as well as partner engagement in the actual

environmental and policy interventions. In early interviews all partners were able to list a litany of causes of overweight and obesity in their community, so not surprisingly most partners did not feel that involvement in the HSP had increased their knowledge of the determinants of overweight and obesity. However, where interviewees indicated there was more opportunity for growth was in gaining an understanding of how to address some of the broader ecological causes, and how to integrate these interventions into their ongoing work. Partners reflected that the regional meetings were useful learning opportunities and were effective in raising awareness about how to work on environmental and policy change, but partners still desired more examples of successful environmental and policy interventions, as well as, proven protocols about how to actually create change in their communities.

To help measure changes in perceived capacity to implement environmental and policy interventions, the partners were asked to rate the degree to which they felt a series of example environmental and policy interventions were useful and feasible at the start of the HSP and after 2.5 years of involvement. Select responses are shown in Table 2. Of the 32 example interventions, partners' perceptions of usefulness increased in 12 examples, but decreased in 17 examples. However, on average partners felt that nearly all of the example interventions could be moderately or very useful in decreasing obesity in childbearing women both pre and post.

Feasibility scores were generally much lower than usefulness scores both pre and post, and showed the greatest change. Example interventions that had the lowest overall ratings for feasibility (< 2) in both the pre and post surveys had to do with large structural changes (e.g. increasing the number of supermarkets in rural areas, improving public transportation). Partners' perception of feasibility increased for only eight examples and decreased in 22 examples. The example intervention related to using media to create a more accepting societal attitude toward breastfeeding showed near significant ($p = 0.06$) increases in feasibility. Interestingly, a similar social marketing strategy to increase media promotion of healthful and quick meals showed a significant decrease in feasibility ($p = 0.04$). The other near significant changes also showed decreases in feasibility, and were for projects not attempted by the HSP like providing nutrition information on restaurant menus and promoting public policies that encourage walking for transport and recreation. The other example interventions which did not show a significant change pre to post for either usefulness or feasibility were not projects attempted by the HSP.

The ability to partner and work successfully with other interested organizations to carry-out environmental and policy interventions is also a necessary part of building capacity, particularly as a means to share resources and build sustainability of initiatives in communities (level 2 of Hawe's framework). Capacity development, however, was not even across or within counties. Partners in counties who successfully implemented breastfeeding programs, felt they had learned a great deal about partnering organizations, and about the mechanics of the intervention itself, resulting in new organizational and community capacity. For instance, one county after a successful breastfeeding social marketing campaign, went on to repeat and expand the campaign the following year with plans to maintain and extend the intervention over time (demonstrating sustainability in Hawe et al's (2000) capacity-building framework). Several partners in this county explained that this was

the first time partners in their community had ever come together in such a comprehensive way to promote breastfeeding, which represents a significant systems shift to build a more supportive organizational and community. However, to what extent those skills will be transferred to other kinds environmental and policy change efforts is, the third level of Hawe et al's (2000) capacity-building framework, is yet to be determined.

Time commitment to the partnership was also not even among partners or counties. On average surveyed partners reported spending 53.5 hours in HSP activities in the previous year or about 2.6% of work time assuming a 40 hour work week. Fifteen partners reported being involved in 50 or fewer hours in the previous year (i.e. Least Involved), whereas 5 others reported being involved more than 100 hours (i.e. Most Involved). The Least Involved partners spent on average about the same amount of time in meetings as on implementation (about 12 hours for each), whereas the Most Involved partners spent 6 times more time involved in implementation of HSP interventions (average 122 hours) as in meetings (average 19 hours). The 4 counties engaged in some kind of breastfeeding intervention had at least one person falling into the Most Involved category, probably representing the county leader. If partners are not heavily involved in partnership activities, the ability to build capacity for creating environmental and policy change may be diminished, as will be discussed further in the Discussion.

Challenges of Building Capacity for the Environmental and Policy Approach

In the interviews, the majority of partners felt that working on the environmental and policy causes of overweight and obesity was an effective approach and worth pursuing in the community, however, all the partnerships struggled at least initially (and three partnerships continued to struggle until then end of data collection) to design and implement environmental and policy interventions. Interviews also showed that most did not prioritize environmental and policy interventions in their own work. For instance, when asked how they would spend a hypothetical $20,000 grant on any health intervention of their choice, many partners discussed projects with a strong educational or service delivery focus. In addition, when partners were surveyed about their own interest in applying the environmental approach in their current jobs, interest was moderate among the partners, although it did increase over three years. One a scale from 1 to 6 with 1 representing the least amount of interest, partners average interest increased from 2.9 to 4.2 ($p < 0.001$). The generally high usefulness scores given to example environmental and policy interventions presented in the previous section also suggests that partners felt environmental and policy change in their community may help reduce obesity. So despite a general acknowledgement of most stakeholders that environmental and policy interventions might help promote healthy weights in their community, that interest did not necessarily translate into high priorities for their work, and in some counties partnerships were slow to coalesce. Qualitative interviews revealed the challenges these public health professionals faced in doing more environmental and policy work included: 1) a lack of organizational support and time to work in community partnerships, 2) not feeling empowered to make environmental and policy changes, 3) a general lack of capacity (e.g. knowledge, skills, and efficacy) to work beyond traditional public health roles, and 4) the frustration of the long time frame needed to develop community coalitions and see results.

Theme 1: Organizational Support and Community Time—While only one partner faced outright criticism from her organization for her work on environmental and policy changes, many partners explained that working on environmental and policy change was not a core part of their job description. For instance, one partner explained how she felt she could not get heavily involved in a convenience store project,

> If our whole group were to say ok now we are going to work on the convenience stores, I would really have to pick and choose and say ok, yes this important, yes I want to be involved, but I will take less of this one. […] Other people are taking care of it because it is much more closely aligned to their mission.

The mission of her organization was to facilitate networking and trainings for health professionals related to prenatal care. Another partner explained that she personally had a great deal of interest in creating environments more supportive of healthy eating and exercise, but environmental and policy changes was "*not seen as what I do*" as part of an organization working to improve access to medical care in rural areas. Nonetheless, some partners made work on environmental and policy change fit into their jobs, because it opened up opportunities to network with new individuals, pursue upcoming funding streams, and create new projects. One partner explained why she had re-framed her job to include more environmental and policy change work

> I mean some people could say that [working on environmental interventions] is not part of my job, but what we have found is through this kind of work we have done a lot of networking and some real positive things are happening, spin-offs for trainings and other things. […] I mean those are the kinds of things that are really important. I think the potential is there. We still have to do some of the basic things that the expectations of the grant streams are telling us we have got to do. But the opportunity is there for even more funding of these kinds of environmental approaches.

However, some partners explained that their ability to work on environmental and policy change was encumbered by their general lack of time to work outside their offices in the community. One partner explained that her job officially lacked "*community time*" defined as "*time that you are allowed to not be in the office, that you could work in the community, like on collaboration and stuff like that*," but her boss had always allowed her the ability to work in the community to some degree. She explained this lack of community time can affect potential partners' ability to collaborate, and while she appreciated the insertion of "*community time*" into her own job, it had affected her ability to get core parts of her work accomplished. Another partner explained the challenge of a "*totally voluntary coalition*" is that people are "so busy in their own jobs" that it is

> Hard for them to eke out the time and energy to do something else. Something in addition. And I think like our members have been very happy to do things, but they cannot give as much as maybe it would be nice to ask for, just because of their other commitments.

This led some partners who pursued community or environmental level work to explain they often had to work after hours or weekends.

Theme 2: Power and Politics—Another challenge faced by partners was feeling that they did not have the power in their citizen or professional roles to make environmental and policy change happen in their community. One partner explained, "*I have huge potholes on my road. I can't even get the potholes filled. How am I going to work with that town to do something better to improve a walking path or create something like that?*" This frustration and perceived lack of ability to influence the political process was echoed by another partner who said, "*and I think in most people's minds, the hardest thing to imagine is having the influence over the community to the extent that new sidewalks would be built or whatever*." She goes on to explain that some service providers doubt their power as members of service organizations (i.e. "*What influence would I possibly have?*").

A smaller minority of partners also felt constrained from working on certain kinds of environmental or policy interventions, or community-based work more generally, because of local political ramifications. However, this was regarded as an indirect constraint, rather than something that was actively confronted on a regular basis. For instance, one partner explained that she had never felt such constraints when working on environmental or policy changes to promote physical activity, but recounted the negative pushback from leaders in government agencies and other stakeholders that public health professionals had received when promoting local anti-smoking policies. She went on to explain that she had never really asked her partners to "*do the hard things that other people have asked*," and so stayed out of the political fray that more contentious efforts would produce. The effects of local politics were also manifested in at least one county among agencies reliant on local tax dollars. For instance, one partner received a lot of push-back for her participation in the partnership because it was not considered a priority by local government. Another partner explained that financially her county was "*barely breaking even*" and as a result she observed some public health stakeholders in her community had to be very careful to not "*be seen in anyway as costing county dollars*."

Two partners were able to maneuver around these local political pressures as a result of their decades of experience in the counties and apt political skills. These partners were particularly active in interventions in their community to change the environment (as part of the HSP and as part of other projects). One partner explained, "*I worked for the county for 33 years, so I have had 33 years to learn how to work within that system.*" She goes on to explain how this previous experience has built her political capacity, "*I think I am not intimidated by government because I worked in the bureaucracy for so long.*" Another partner explained how this political capacity to work with government officials is something she has learned over time,

> I was not comfortable with that 15 years ago, but now I interface with legislators and do other things because of where I have been and what I have done. But if you have new people, that may not be a place that they are comfortable with.

Theme 3: Working Outside of Traditional Public Health Roles—As discussed earlier, working in community partnerships on environmental or policy change to promote healthy weights will likely require involvement from a diverse array of stakeholders including "non-traditional" public health partners like businesses, planning department

officials, and county legislators. Some partners felt they lacked significant experience working with non-traditional partners, were unsure of their ability "*to talk the language*," and felt they lacked the skills to facilitate these new partnerships. There was also a sense that people working in these other fields would not be sufficiently motivated by anything the partnership had to offer (e.g. businesses would be more motivated by profit versus a more general public good). One partner explained, "*when I think about getting a convenience store to carry more fruits and vegetables and move them up to the front, that seems hard. I think why would they want to do that for me?*" Instead, she goes on to explain, "*whereas with this breastfeeding stuff, we can do it and we can get other people that we know who want to promote breastfeeding on board with it*."

Core partners in the HSP were generally from "traditional" public health fields related to maternal and child health and nutrition education. The HSP originally set out to involve partners from fields less commonly involved in public health work, for instance transportation planners, parks and recreation officials, grocery store managers, and the like. However, it was perceived by many of the most-involved partners that because these potential partners did not have a public health focus, they would have less time and less interest to devote to regular partnership meetings. As the partnership evolved HSP partners explained that many of these "less traditional" partners could be brought into the partnership on an "*as needed basis*."

The hesitation to partner can work both ways. One partner related receiving very little response trying to start a collaboration to improve opportunities for physical activity between her organization and local municipalities. She felt, however, that over time the municipalities would learn to think more collaboratively and reach out to non-profits, as relationships were gradually built.

One of the biggest challenges partners expressed was building the knowledge and skills required to work with non-traditional partners and actually make environmental or policy changes. One partner explains,

> And quite frankly even that corporate arena is challenging to me. I don't know how to handle that one. They don't operate the same. The bottom line is the whole thing, and I don't know if I have enough training and understanding [to work with them].

Developing these skills that would potentially take them outside their traditional public health role. One partner explained that many of the HSP partners she interacted with had been working in education or service delivery for 20 or 30 years and that it would take a "*quantum leap in thinking*" to move them out of this role. In the meanwhile, she saw them struggle to adopt a more environmental or policy approach, and would frequently go back to "*their comfort zone*" of education.

Some partners also talked of the need to know about, and a desire to enact, environmental or policy interventions that had proven efficacy through scientific research. They appreciated the learning that had occurred in regional meetings, but wanted more examples of what had been tested and evaluated in other locations to use as templates for local action. In addition, nearly all partners emphasized not losing sight of the ongoing need for education about

healthy lifestyles. They explained that ideally environmental or policy changes and education would work hand-in-hand.

Theme 4: Long Time Frame—As has been discussed, developing the partnership took at least the first year and a half because many partners had limited time for the HSP as a result of other job responsibilities. In addition, partners acknowledged that actually observing the effects of environmental or policy change also takes a long time, and thus there needs to be a long-term commitment from partners to keep trying. One partner explains,

> Change is such a long process. You can put out a safe exercise place and maybe 5 people show up the first year and then they tell their friends about it and they get 15 the second year. But it has to be out there in front of the public for a long time before people really internalize it and say, “this is what I want, and this is here for me and I am going to use it, and oh boy, I am so glad we have this.”

Nearly all the partners expressed frustration that in the HSP, as in other externally funded projects, funding runs out before major impacts can be seen.

Discussion

This paper examines some of the challenges faced by a coalition of public health professionals working to build their capacity to create environmental or policy changes supportive of healthy weights in their communities as part of the Healthy Start Partnership (HSP). Partners in the HSP consisted largely of individuals working for education and service delivery programs, and working to create environmental or policy change was an approach new to many members. Among the challenges they faced were organizational environments that did not prioritize community or partnership work, a lack of knowledge and skills to carry-out this approach, and local political constraints that hampered spending time on some projects and reduced feelings of efficacy to maneuver within political systems. It was also acknowledged that creating environmental or policy changes will take the building of multiple, and often new, relationships with non-traditional partners, and that any change is likely to take a long time to implement, and even longer to have an impact. While personal interest and motivation can overcome some of these organizational constraints, as was evidenced by some enthusiastic partners in the HSP, long-term consideration of the ability of the current public health infrastructure to adopt this approach must be considered (Sliwa et al, 2011). Current and upcoming public health professionals may need more training in political and policy-making skills, as well as the efficacy to reach out to partners in the private sector.

The finding that partners actually felt the majority of example interventions were less feasible after participating in the HSP may indicate that partners came to realize just how difficult many changes are once they had some experience thinking and talking about them. A notable exception is the example intervention to use media to create a more accepting societal attitude toward breastfeeding, which showed near significant ($p = 0.06$) increases in feasibility. This might be expected given that three of the counties successfully developed interventions related to this issue, and consequently positive experiences with this type of intervention may have increased partners’ self-efficacy for this type of media campaign

(Godin et al, 2008; Fleuren et al, 2004). It should also be noted that breastfeeding interventions more closely aligned with the missions of many of the public health professionals' organizations (i.e. they worked for organizations with an interest in maternal and child health). Shiriki Kumanyika (2001) describes the readiness of current public health professionals for addressing the obesity epidemic from an ecological perspective using the Transtheoretical Model. She projects that many professionals are in the stage of pre-contemplation where they may feel inefficacious about their likelihood of having a significant impact on the causes of obesity, or in the contemplation stage where they want to have a greater impact but are unsure of how to proceed. Applying this theoretical framework to observations in the HSP, it may be that decreases in feasibility scores indicated as public health professionals moved from precontemplation and contemplation phases to preparation and action phases, they became more acutely aware of the challenges of implementing environmental or policy change. The exception to this trend observed with media promotions of breastfeeding may indicate these challenges can be overcome, when achievable goals are set and reached by public health professionals (i.e. goals already closely aligned with the training and mission of the partners), consequently increasing their self-efficacy. Online programs like the Cornell Nutritionworks Course "Preventing Childhood Obesity: An Ecological Approach" may be a tool to effectively move professionals from precontemplation and contemplation phases into action planning. This course has been shown to increase the knowledge, skills and confidence of participants in environmental or policy interventions (Stark et al, 2008).

Others factors which may have influenced the capacity and efficacy of HSP partners to implement environmental or policy interventions is the extent to which partners were actually involved in designing and implementing environmental or policy interventions, since capacity is less likely to be built if partners are not actively engaged with the work of the partnership (Hawe, 2000). As described earlier, several counties were challenged in building successful partnerships, and within counties there were clearly some partners who were much more involved than others, which is not surprising or inconsistent with the partnership literature (Butterfoss, 2007). This lower level of involvement may have been because of lack of interest among partners in those counties to work on changes in the environment. However, since few of the interviewed partners expressed a very low level of interest, other likely reasons are those that resulted from more external challenges. For instance, some partners discussed a lack of organizational support to engage in community partnerships, a lack of prioritization of environmental or policy approaches in their jobs, or simply not enough time given other job responsibilities, as well as hesitations to work with existing political institutions and non-traditional partners. While not all partners felt constrained by their organizations or unempowered, and certainly some local organizations were very supportive of this work, the combination of these factors weakened the ability of many counties to pull together a core of committed partners.

The experience of the HSP also demonstrated a need to develop and disseminate successful models of communities working collaboratively to create environmental and policy change, especially interventions in areas outside "traditional" public health initiatives. While regional meetings helped inform partners in the HSP to some degree, there was a noted need for more examples of successful projects and protocols describing the "how to" of

environmental and policy change. At the time of the HSP the literature on environmental and policy approaches to prevent overweight and obesity showed few community-based interventions with proven efficacy to prevent or reduce excess weight in any population (Faith et al, 2007; Economos et al, 2007; Cummins et al, 2005; Wang et al, 2008; Kahn et al, 2002). The scientific community is only now testing and validating significant community-wide interventions applicable to these kinds of community-based interventions (Sallis and Glanz, 2009; Brennan et al, 2011). For instance, Philadelphia-based Food Trust is working to bring healthier foods, full-service supermarkets, farmers markets, and nutrition education to underserved neighborhoods, while sharing these efforts for replication in other communities (www.thefoodtrust.org, accessed August 10, 2011).

The experience of the HSP also showed that for many public health organizations a substantial shift would be required to move from an educational or service delivery approach focused on individual behaviors, to one incorporating initiatives working more broadly on community supports for healthy lifestyles. Of course, by partnering with other individuals and organizations who have the training and organizational mission to carry-out environmental and policy change initiatives, public health professionals can extend their reach and influence, even without significant changes in their own organizational missions. The importance of involving stakeholders from non-traditional public health backgrounds, like business owners, members of the agricultural sector, and government policy makers, is evident in existing efforts to change food and physical activity environments and policies discussed above. In the experience of the HSP, in at least some instances, however, these non-traditional partners were not strong partners. HSP partners perceived non-traditional partners not as ongoing contributors to the broader partnership goal of healthy weights, but selective knowledge or resource contributors. The public health professionals in the HSP were also reluctant to reach out to non-traditional partners, at least partly, because they were not sure these non-traditional partners would be interested or motivated to work on obesity as a public health goal. Future work to engage these non-traditional partners may need to focus on ways environmental and policy change can benefit their interests in the long-run (e.g. new sidewalks may increase the number of pedestrians patronizing a store). Some partners also felt uncomfortable reaching out to non-traditional partners because they did not “speak the language” of these other professions. Dobson and colleagues (2009) also found that public health professionals in a community partnership to create community environments conducive to active living felt challenged by the technical language and expertise needed to engage with professionals outside the public health field (e.g. in community and transportation planning). It was observed that public health professionals were valued in these partnerships for their public health expertise, and they need not be experts in everything. Returning to Hawe et al’s (2000) capacity-building framework, building the skills to create environmental or policy change (level 1) must include building the capacity of individuals and organizations to work politically and strategically with multiple decision-makers and policy-makers. However, as experience with healthy community planning increases, it would be expected that the broader expertise of public health professionals would also increase (Dobson et al, 2009). Additional research on how to integrate (and balance the diverse interests) of the variety of stakeholders with a role to play in promoting healthy weights is needed.

The extent to which certain environmental or policy determinants of overweight and obesity are within perceived local community control is also a likely factor contributing to success of environmental and policy change interventions. Partners within the HSP expressed feeling a lack of power and control over certain parts of their environment, like the kinds of foods sold in chain supermarkets and convenience stores (i.e. “corporate America”). However, several partners mentioned that they felt greater control over physical activity opportunities, since the placement, building and upkeep of these structures were often local political or bureaucratic decisions. In addition, in 3 counties partners demonstrated efficacy to change the social environment of their communities, by creating social marketing campaigns to shape opinions on the acceptability of breastfeeding. The topic of breastfeeding promotion in and of itself is a topic familiar to many of the partners who worked in child health and nutrition education fields, and these organizations had publically stated missions to promote breastfeeding. Perhaps, as a result, it should not be surprising that this was a popular intervention. And while certainly some of the factors that contribute to public attitudes and acceptance of breastfeeding are outside of local community control (e.g. federal parental leave policies), disseminating billboards, tv ads, and radio commercials to influence breastfeeding attitudes is feasible with limited funds (especially when validated materials are available inexpensively from federal agencies). But just because a potential initiative is perceived to be familiar, under local control, and feasible, that does not necessarily mean it is a high impact intervention. While most models of the ecological nature of obesity point to causes occurring at all levels in society from the individual to the national and international level, there is very little evidence that local causes (or causes under the control of local professionals) have greater influence on behaviors related to obesity (Brennan et al, 2011). If experience from tobacco prevention efforts are a guide, important education, social marketing, and education campaigns occurred at the local level, but these local approaches were supplemental to strong federal policy regulating the sale and advertisements of tobacco products (Swinburn, 2008). These efforts, taken together, likely contributed to the cultural shift that has led to a decrease in smoking, but federal and state level policy may have been the stronger driving force (Swinburn, 2008). Information about what we can reasonably expect from well-executed locally focused interventions to reduce overweight and obesity is needed (Brennan et al, 2011). We must also question the extent to which resources should be dedicated to creating environmental and policy changes in thousands of local communities over and over, and to what extent changes at higher levels in society might be more effective or efficient.

Further study is also needed of the long-term consequences of engaging local public health professionals in environmental and policy interventions in terms of their future perspective and support for social movements attempting to make broader environmental and policy changes at the state, national, and international levels. As local professionals and other interested partners form partnerships at the local level, assess their community, deliberate strategies, and execute interventions, they are in fact engaging in a deliberative process that can have real consequences. Participation in a deliberative process has been shown to increase knowledge of the problem and participants’ feelings of internal political efficacy (i.e. feelings of personal capacity to participate and get your voice heard) (Morrell, 1999, Morrell, 2005). As participants become more engaged in the issue of obesity and come to

see its etiology framed from an environmental or policy perspective, the number of voices calling for change may increase, and gradually put pressure on higher social institutions to make changes.

Limitations

This study investigated a regional partnership to promote healthy weights in a primarily rural upstate NY, and as a result may not be generalizable to the exact mix of challenges faced by other community-based partnerships pursuing environmental or policy change in other places. The quantitative portion of this study relied on a small sample, particularly in the post-evaluation, and consequently may have been underpowered. The author collected data only from participants involved in the HSP (e.g. not from people choosing not to participate), and it is possible results are skewed as a result of non-response bias. The current evaluation did not allow for long-term exploration of capacity built after the conclusion of funded HSP efforts, and it would be useful to re-interview later (e.g. 2–3 year or more) to ascertain to the extent to which environmental or policy change activities have continued, the duration of the partnership, and any additional change in capacity.

Conclusions

While more information is needed on potentially efficacious public health models to reduce overweight and obesity, attention must also be paid to the capacity of local public health professionals to implement local interventions, particularly as many public health professionals may have little prior experience with this approach and may work in organizational environments less structured to support environmental and policy change in the community. Future research should work to understand the most efficacious points in the ecology of obesity to intervene and which strategies will be most effective at those levels. These studies should be complemented by research on the best approaches to build the capacity of public health professionals to implement these strategies in the community.

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Christine M. Olson, PhD is a Professor of Nutritional Science at Cornell University. Her work focuses on the nutritional concerns of women, infants, and children and developing effective interventions to address these concerns.

Lessons Learned

As interventions to modify the built, social, and policy environments become more common, and as our scientific understanding of which environmental and policy interventions are likely to have the biggest impact at the grassroots level evolve, the role of community-based public health professionals to carry-out environmental and policy interventions becomes increasingly important. Many public health professionals may have had little training in designing and implementing environmental and policy approaches to obesity prevention, and may feel little efficacy to create changes in those areas, especially when those changes are politically challenging. Professionals may also face structural challenges in their work environment that restrict time and resources for community-based work. Additional trainings promoting capacity development, as well as continued engagement with environmental and policy change projects may aid in building the capacity of public health professionals over time.

Highlights

- Overcoming the obesity epidemic will likely require changes in the built, social, and policy environments.
- Capacity-building needs of local public health professionals to facilitate environmental change need to be understood and addressed.
- This study evaluated the efforts of a local community-based coalition to make environmental changes supportive of healthy weights.
- Partners felt challenged by a lack of organizational support and political empowerment, as well as a short time-frame.
- They also desired to develop more skills to work outside traditional public health roles and with non-traditional partners.

Table 1

Interview Guide Topics

Asked of All Interviewees
Description of their current job
Description of the causes of child overweight in their community
Description of past experience with partnerships
Description of interest in environmental interventions (and past experiences with the approach)
Description of alignment of current work with the mission and strategies of HSP
Description of how interviewee would spend a hypothetical $20,000 grant on a health related intervention in their community
Added Topics as Interventions were Occurring*
Description of how the interviewees county come to work on its chosen HSP intervention(s)
Description of partnership involvement and who else needs to be involved
Description of challenges faced in the HSP in implementing chosen intervention and environmental interventions in general*
Description of new knowledge, skills, or partners resulting from HSP involvement
Interest of interviewee in taking an environmental approach in her future work

* Interviewees who were first interviewed after initiation of interventions were asked both sets of questions.

Table 2

Selected Pre and Post Scores for Usefulness and Feasibility for Example Interventions as Rated by HSP Partners

Example Intervention	Pre* Score (n = 31)	Post* Score (n = 20)	Change	P Value	Pre* Score (n = 31)	Post* Score (n = 20)	Change	P Value
	Useful:				**Feasible:**			
Initiate a public campaign to increase enrollment in Food Stamps for eligible individuals and families.	3.4	4.3	Increase 0.9	0.10	3.2	4.0	Increase 0.8	0.20
Increase local media promotion of breastfeeding to encourage a more accepting societal attitude.	4.8	4.6	Decrease 0.2	0.56	3.3	4.4	Increase 1.1	0.06
Increase local media promotion of healthy foods and quick and healthy recipes (radio, local cable TV).	4.2	4.0	Decrease 0.2	0.39	3.9	3.2	Decrease 0.7	0.04
Provide nutrition information and/or other kinds of healthy meal cues on restaurant menus.	3.9	4.1	Decrease 0.2	0.64	3.3	2.6	Decrease 0.7	0.06
Place signs and other cues in buildings to promote the use of the stairs.	4.4	4.0	Decrease 0.4	0.19	4.3	3.2	Decrease 1.1	0.03
Initiate a program that encourages walking and other forms of exercise in public buildings like school gymnasiums.	4.3	3.9	Decrease 0.4	0.35	3.7	2.0	Decrease 1.7	0.10

*Scale 1 to 5 with 1 being the least useful or feasible and 5 being the most.