SUSTAINABILITY OF POLICY, SYSTEMS, AND ENVIRONMENTAL (PSE) STRATEGIES TO ADVANCE CHANGE AND PUBLIC HEALTH OUTCOMES

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This study examined how 18 local communities sustained policy, systems, and environmental (PSE) change strategies following a grant funding cut in 2014. Existing research lacked an understanding of what factors enabled sustainability of PSE strategies after funding ended and a common conceptual framework. The design was a mixed-method, multicase study using the We Choose Health grantees who lost funding in 2014 to continue PSE strategies. This study presents data from a larger study and generalizes the results specific to municipalities; it also supplies recommendations and action for municipal leaders. Results indicate that sustainability of PSE strategies is about more than funding and requires involvement from nontraditional public health partners, like municipal governments and their entities, to succeed in communities.

INTRODUCTION

The COVID-19 pandemic exacerbated and highlighted the consequences of a diminished infrastructure and lack of capacity (specifically underfunding and short-staffing) of our public health system. The need for a multisector, interdisciplinary, and systems approach to complex public health problems has become more widely understood. Our public health system includes governmental public health (federal, state, and local) and its traditional and nontraditional partners: health care providers, hospitals, first responders, community-based organizations, schools, community centers, faith-based institutions, and other organizations contributing to the economic, social, and environmental conditions that public health professionals call "the social determinants of health," such as food producers and park districts. In Illinois, as in other U.S. states, health departments are most frequently part of county governments, although larger or more resourced municipalities may have their own health departments. In some cases (i.e., in rural areas), two or more counties may jointly support a health department. Municipal leaders thus may partner with health departments in a variety of ways other than direct

supervision; municipal parks, for instance, were frequent members of the coalitions described in the study reported here (Lamb, 2021).

Public health concentrates on the "health of people and communities where they live, work, learn, and play."[1] Public Health 3.0, released in 2017, called for actions of local, county, and municipal government leaders to "partner across multiple sectors and leverage data and capacity to address social, environmental, and economic conditions that affect health and health equity" (DeSalvo et al., 2017). This approach engages multiple sectors and community partners to generate collective impact and improve social determinants of health. Typically, these partners work together in coalition rather than a defined, top-down unified bureaucratic structure. Municipal leaders may be active members of such coalitions themselves or may be supervising others who are. The potential for participation extends beyond those who are health providers or medical experts. Public concern with and funding to address health issues such as diabetes or cardiovascular disease may often motivate multisector participation in coalitions addressing their underlying drivers such as lack of physical recreational spaces or healthy food.

Public Health 3.0 is the latest in multiple iterations of frameworks for public health strategies incorporating cross-sector partnerships and coalitions (starting with the Institute of Medicine's 1988 report). These coalitions typically address problems with long-standing underlying issues such as disparities in access to healthy food or a built environment that does not support physical activity — problems that cannot easily be solved in three years or less. However, many public health initiatives aiming to build healthier communities are funded through temporary grants, including federal funding that comes through states but is granted by agencies such as the Centers for Disease Control and Prevention (CDC). Moreover, the long-term sustainability of public health programs post-funding is not often considered when such programs are developed and implemented. Requests for proposals do not always mandate sustainability plans, and there are few mechanisms to support these initiatives or even document what happens to them after the grant funding ends. This is the case even though policymakers, leaders, and members of the public who invest in public health strategies presumably want to know what happens to their investments and would support continuing them if effectiveness was demonstrated.

The study reported here focused on what processes and practices led to sustainability and long-term impact of public health initiatives involving multiple partners and can provide guidelines for leaders, particularly of municipalities, in the effective use of community resources before, during, and after external funding. Programs that are not sustained do not produce the intended outcomes, resulting in severe costs for the invested organizations (O'Loughlin et al., 1998). Public complaints, morbidity rates, extra costs, disparities, and a lack of access to care are consequences of public health strategies not sustained or insufficiently sustained. Furthermore, because health is linked to the physical and social environment in general, addressing the underlying drivers of health through multisector partnerships pays multiple dividends for building more desirable communities.

POLICY, SYSTEMS, AND ENVIRONMENTAL CHANGE APPROACHES AND WE CHOOSE HEALTH

We Choose Health (WCH)[2] was a CDC-funded Illinois public health initiative to "encourage and support implementation of public health programs" (Illinois Department of Public Health, 2012), through policy, systems, and environmental (PSE) change efforts by local communities where representatives from multiple sectors — such as schools, health providers, social services providers, etc. — came together to address the community factors contributing to obesity, tobacco use, the lack of physical activity, and other longstanding problems resulting in chronic disease and poor health. PSE change has become a recognized strategy in public health to address the upstream causes of prevalent chronic disease and poor health through designing and implementing change in policy at multiple levels, organizational and cross-organizational procedures and processes, and the built environment (Honeycutt et al., 2015). WCH, framed as a PSE change project with a menu of strategies that grantees could pursue, supported 18 grantees and 60 communities from 2011 to 2014. But there was no mandate to address what happened when funding for the initiative ended. Moreover, federal funding for the initiative was discontinued a year earlier than initially proposed. The authors, as independent researchers, have been able to study WCH through a mixed-methods case study with multiple data sources, collecting data five years after the funding ended through an initial survey, interviews, and document review (Creswell, 2003; Yin, 2014). The study aimed to examine what remained from the efforts in these communities, where it was perceived that changes in capacity led to intended outcomes, and what factors

and practices facilitated or impeded that lasting legacy. The study's overarching research question was, "Using a PSE framework, to what extent and how do communities successfully achieve the sustainability of public health PSE strategies after external funding ends?" This study's findings are particularly relevant given the influx of funding because of the American Rescue Plan Act of 2021. How can we ensure that this higher level of funding, which is temporary, will produce long-lasting effects?

The literature reviewed for this study identified a need to address sustainability with multilevel systems research. Despite research on the adoption and implementation of evidence-based public health interventions, there is a dearth of scholarship on the sustainability of interventions (Shelton et al., 2018). A gap in knowledge exists on how to perceive and define sustainability, what is sustained and how, the factors that contribute to sustainability (or not), how interdisciplinary coalitions contribute to enhanced sustainability, and the opportunities that have resulted (Wiltsey Stirman et al., 2012).

WHAT IS SUSTAINABILITY IN RELATION TO PSE?

The literature suggests that a problem with researching sustainability is the absence of a clear or working definition of sustainability. Wiltsey Stirman et al. (2012) cited the high proportion of studies without a working definition of sustainability as an important research limitation. A premise of this study was that sustaining WCH PSE strategies in the community required more than funding. A go-to, practice-based response to enable sustainability and maintain capacity from those directly involved in a program generally links directly to funding. However, funding alone may not cover all the factors crucial to sustaining the efforts or results the funding was intended to support. Evaluating the sustainability of the WCH PSE strategies from the 2014 funding cut to the time of this study required understanding the grantees' definitions of sustainability as well as exploring the factors affecting sustainability.

The WCH program required applicants to submit sustainability plans to "describe the lasting impact of the activities you propose beyond the completion of this grant and how you propose to sustain the work beyond the funding period" (Illinois Department of Public Health, 2012, p. 23). Sustainability was one objective of WCH — more specifically, "ensur[ing] the work done during the funded period can be sustained after the funding is concluded" (p. 23). The public health definition of sustainability is "the capacity to maintain program

services at a level that will provide ongoing prevention and treatment for a health problem after termination of major financial, managerial, and technical assistance from an external donor" (LaPelle et al., 2006, p. 1363). Therefore, in this study, sustainability, translated to the level of systems change, consisted of an active process or the actions of advancing PSE change.

According to the CDC's *A Sustainability Planning Guide for Healthy Communities* (2011), sustainability is the "community's ongoing capacity and resolve to work together to establish, advance, and maintain effective strategies that continuously improve health and quality of life for all" (p. 8). The WCH application did not define sustainability. However, during the WCH project, a WCH Illinois sustainability workshop presented the CDC definition of sustainability. Further, WCH grantee training in September 2014 facilitated by the Public Health Foundation reinforced this working definition:

- Sustainability is not just about funding.
- Sustainability is about creating and building momentum to maintain community-wide change by organizing and maximizing community assets and resources.
- Sustainability means institutionalizing policies and practices within communities and organizations.
- Sustainability also means involving a multiplicity of stakeholders who can develop long-term buy-in and support throughout the community for coalition efforts.

Additionally, practice-based and theoretical support for measuring sustainability is a continuation of the initial strategy as well as an adaptation of the initial strategy due to innovative thinking and the discovery of better or more effective practices (Wiltsey Stirman et al., 2012). Contextual factors and new ideas, improved or different resource use, changed capacity, and the integration of new practices could enable sustaining the initial strategy in the same, partial, or an altogether different way.

WHY SUSTAIN WCH PSE?

Policymakers, as well as federal, state, and municipal leaders plus other stakeholders, are increasingly concerned about devoting resources to public

health programs and interventions without the commitment, planning, and strategy needed to sustain them after the termination of funding. According to Shediac-Rizkallah and Bone (1998), considerable resources are used to develop and implement community-based public health interventions, yet those investments do not always retain their worth after funding termination. Stretched resources and the prioritization of annual budgets, even with many community-based programs initiated as demonstration projects, require long-term sustainability and strategies. There is a need to identify and plan long-term sustainability and strategies in advance and at the time of grantee application. As was the case for the WCH program, the termination of funding before strategies achieve their potential and before the program leaders can evaluate, measure, and reach PSE change remains a common concern. There is a need to match significant resources and startup costs for capacity with diversified and prioritized resources and fund community-wide plans to sustain strategies and achieve the intended goals and outcomes (Shediac-Rizkallah & Bone, 1998).

The sustainability of strategies requires community engagement, partnership, support, and trust in public health programs and their leadership (Shediac-Rizkallah & Bone, 1998). Sustainability requires "creating and building momentum to maintain community-wide change by organizing and maximizing community assets and resources" (National Center on Health, Physical Activity and Disability, 2011, p. 16). When programs abruptly end, public health practitioners are concerned about implementing the next public health program. Community stakeholders should not tolerate diverting valuable resources and capacity toward a new program when history shows the unsustainability of previous programs or initiatives. Furthermore, abruptly ending programs could cause strained community and system partnerships, leading to a lack of community support for public health leaders undertaking new programs. Suddenly ending programs presents significant barriers to addressing public health problems in the community.

CONCEPTUAL FRAMEWORK

This study's conceptual framework consisted of "the system of concepts, assumptions, expectations, beliefs, and theories" of the research (Maxwell, 2013, p. 39). The conceptual framework was based on academic literature, gray literature, data gleaned from environmental scans, and insights from systematic reflection and action learning. The framework evolved over time to visualize

the interaction of sustainability factors with organizational and coalition-led sustainability processes. This initial conceptual framework contained the published frameworks and the process elements of strategy, data, and decision making and the main factors, concepts, and relationships among them. The literature used to inform this research — including the socioecological model (CDC, 2011; Hanson et al., 2005; Durlak & DuPre, 2008), PSE framework (CDC, 2011), sustainability factors (Schell et al., 2013), sustainability processes (Johnson et al., 2004), and integrated sustainability framework (Shelton et al., 2018) — provided the key structure, boundaries, factors, and relationships included in this study's conceptual framework.

The CDC's (2011) socioecological model and the ecological systems framework for implementation (Durlak & DuPre, 2008) are representative of a systems' perspective across the organization, community, and public levels and the contextual factors specific to each level. Furthermore, Durlak and DuPre (2008) illustrated the interactions and interrelationships among the system factors in the implementation processes and practices. Sustainability was the topic of interest in this study; however, the implementation science literature provided a foundation for sustainability and the interaction of practices and processes for outcomes and long-term continuation (i.e., sustainability) (Shelton et al., 2018; Durlak & DuPre, 2008). WCH included PSE, so there was a need to integrate the CDC's PSE framework, which presents coalition building and maintenance as central to the processes for the sustainability of PSE change. The framework shows how the termination of external funding is an opportunity to challenge the system to achieve sustainability without and beyond the initial funding.

Sustainability planning has an iterative cycle (Johnson et al., 2004). More importantly, this study contained the hypothesis that additional processes are necessary components of sustainability, including developed actions and strategy (Mintzberg & Waters, 1985).

Based on the literature and gray literature of sustainability frameworks, the overarching constructs — divided by factors and processes — appear in Appendix A. The overarching constructs align with the outer and inner factors and processes described in the conceptual framework. These identified constructs and their interworking in the conceptual framework show how and why sustainability emerges and how well (or to what extent) it results in improved health outcomes and PSE change. Furthermore, partnership in

a coalition was a requirement of the WCH program; thus, the coalition is a component necessary for sustaining PSE strategies.

FACTORS INFLUENCING SUSTAINABILITY

Myriad factors affecting long-term health promotion and population health outcomes indicate the sustainability of PSE strategies. Therefore, there is a need to understand those influences and the how and why of their impact on sustainability. Typically, public health benefits receive recognition and value when a public health program is sustained in the long term and results in change. Moreover, as is the case of management, Moore (1995) described this to be the skilled deployment of capacity to reach concrete outcomes. Furthermore, planning strategic actions has as much importance as exploiting opportunities. Sustaining a public health program over time requires the presence of capacity and action. According to Wiltsey Stirman et al. (2012), the influences on sustainability relate to "context (outer, e.g., policies and legislation; inner, e.g., structure and culture), innovation (e.g., fit, adaptability, and effectiveness), and processes (e.g., monitoring and evaluation and capacity, such as funding, resources, workforce characteristics and stability, and interpersonal processes)." Schell et al. (2013) created a conceptual framework of the evidence-based sustainability core constructs that enable the long-term sustainability of strategies.

The study provided a unique opportunity to document what efforts, activities, and outcomes were sustained following the cut in CDC funding that provided the major support for these PSE coalitions from 2011 to 2014. Moreover, the COVID-19 pandemic that hit during the period in which the study interviews were conducted (2020) provided an opportunity to see if the relationships built through PSE change related coalition activities affected the capacity of the partners to respond to this new public health challenge.

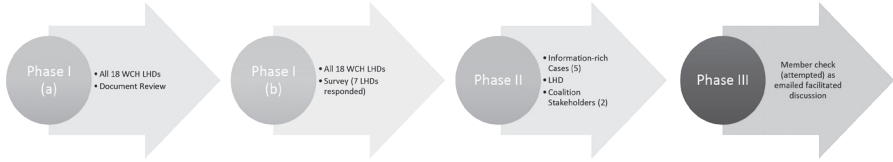
STUDY DESIGN

In a competitive grant application process, WCH allowed applicants to choose which PSE strategies to pursue in their communities; thus, each grantee and associated coalition had a specific selection of strategies and goals from a common menu. Although there were benefits in demonstrating sustainability or its lack thereof five years after the end of funding, there were limits as well in collecting retrospective information because some individuals involved had

moved on or weren't able to recall relevant details. To achieve a balance between breadth and depth of information, a phased multi-case study design was chosen (Figure 1). Surveys were sent to all 18 grantees, and five information-rich cases (cases able to provide information relevant to factors supporting sustainability) were selected for further in-depth study via interview and document review.

FIGURE 1

MULTI-CASE STUDY PHASED APPROACH



Note: LHD – Local Health Department

Phase I(b) consisted of collecting demographic data, measuring the sustainability of each strategy, and rating the factors and processes with an impact on strategy and adaptability in relation to sustainability (see Figure 2 for a breakdown of sustainability ratings). Out of these ratings, cases were selected as "information rich" if they met all the criteria outlined in Figure 2. Instead of exemplar cases, information-rich cases were appropriate based on Phase I data analysis because they had a greater opportunity to provide data. Most importantly, the eligibility required that each selected case show a route to the sustainability of PSE strategies and change and could generate learning and understanding of sustainability (see Patton, 2015).

Purposeful sampling commenced in Phase II to select the individuals who would give information (see Maxwell, 2013; Patton, 2015 and see Figure 3). In Phase II, there were two, two-person interviews per grantee — one interview with the principal investigator and primary program manager and one interview with two partners in the identified coalition or on the grantees' WCH applications. Appendix B shows the interview guide and Figure 3 the targeted interviewees. Analysis of the grantee principal investigators showed that about half remained employed at their respective local health departments (LHD) (IDPH CEMP, 2019). The interviews occurred over Zoom, with all interviews

recorded, transcribed, coded and analyzed per a codebook and validated through a second coder (Padgett, 2011). The second coder coded one LHD interview and one community interview, or 20% of the interviews.

FIGURE 2

"INFORMATION-RICH" CASE SELECTION DECISION TREE

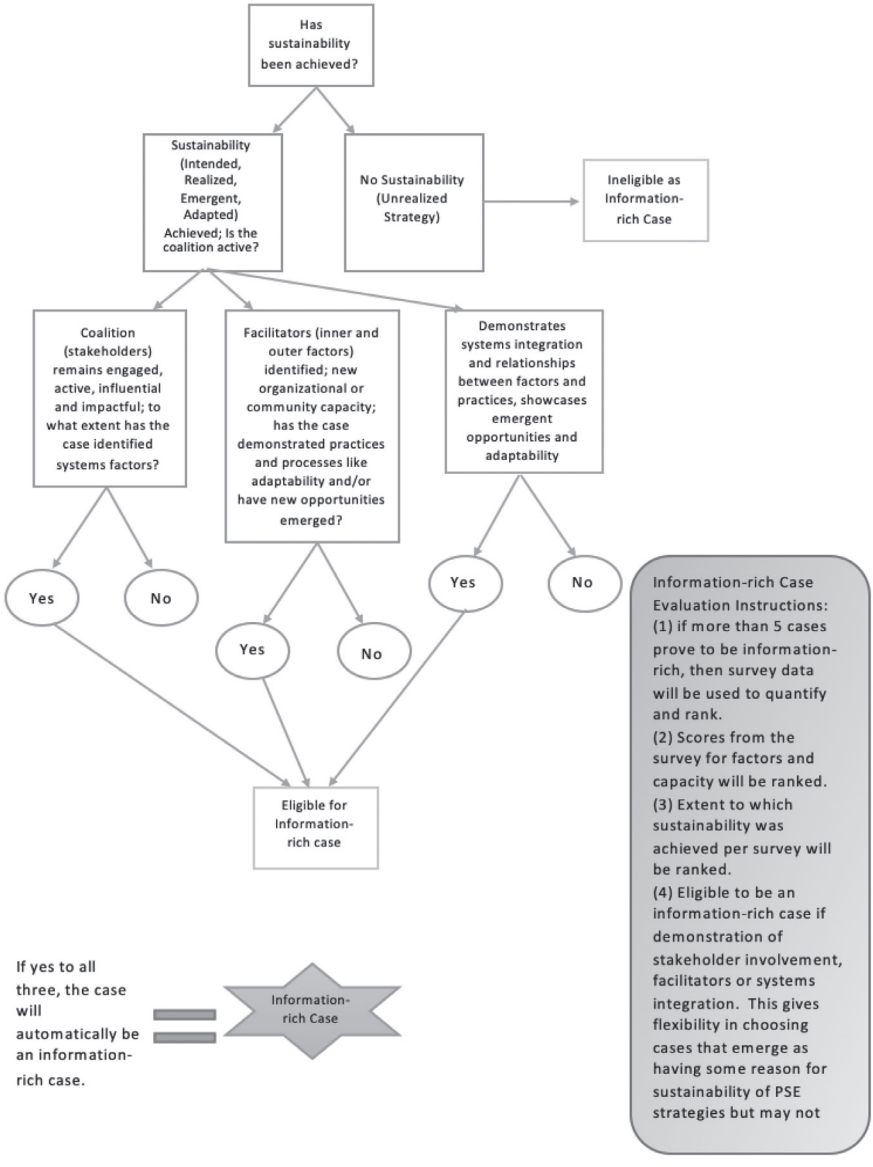
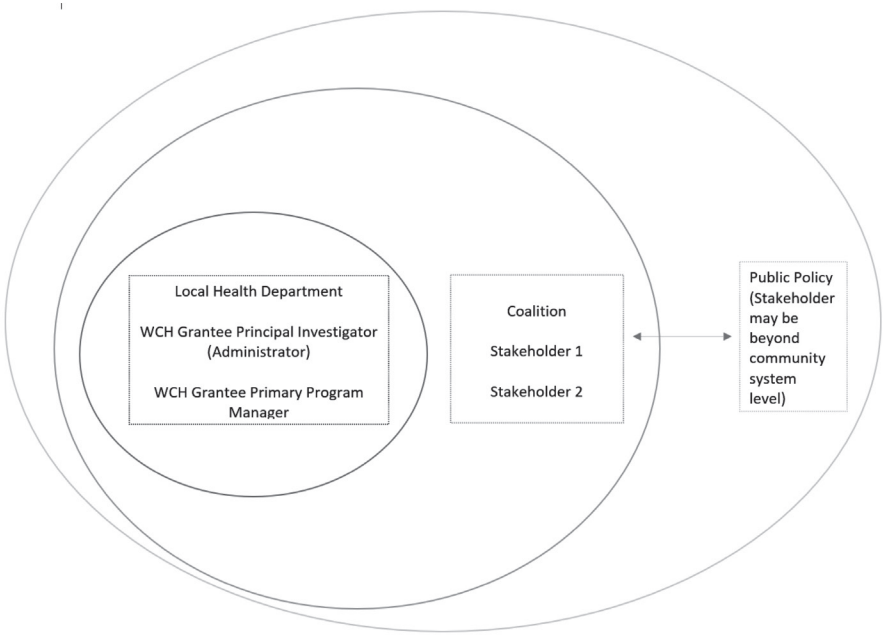


FIGURE 3

PURPOSEFUL SAMPLE



PARTNERS PER CASE

As coalition and partnership engagement were primary factors impacting sustainability, it is important to understand what partners were involved.[3] Table 1 illustrates a summary of coalition partners, inclusive of municipal governments, that were key to PSE implementation and change in each case studied.

TABLE 1

PARTNERS IN COALITION. MUNICIPAL GOVERNMENT RELATED PARTNERS HIGHLIGHTED

CASE	GRANTEE AND COALITION	PARTNERS
Case A	Bi-county Health Department Coalition representing two-county area	Municipalities (local government, elected officials, economic development) Chamber of Commerce County government (public health, planning, board, law enforcement, coroner) Opportunities council and food pantry Health care and hospital Home care Schools Senior center
Case E	Bi-County Health Department part of a network representing 16 counties (including one health department covering seven mostly rural counties) and six coalitions to support healthy communities	Health care facilities and centers Faith-based organizations Academia (junior college, medical school – rural health center) Social service and non-profit organizations (homeless) Rural health planning County government (public health) Regional office of education University of Illinois Extension Several municipalities (park districts)
Case J	County Health Department Healthy Communities Partnership, a standing coalition in support of residents	County government (public health, emergency management) Municipality (city parks)
Case L	County Health Department Mobilizing Action through Planning and Partnership (MAPP) Coalition	Municipalities School districts (administrators and nurse) County government (transportation, public health, planning and development) Park district

CASE	GRANTEE AND COALITION	PARTNERS
Case O	County Health Department Coalition representing 18 municipalities in two counties in two states to help create a healthy community	Municipal Health Initiative (coalition with an executive director) Health departments Municipalities School districts Private businesses like John Deere and Hy-Vee Community health care and health care systems County government and agencies Academia Faith-based organizations Social services organizations (food bank, centers) Non-profits (community foundation, United Way) Media Chamber of Commerce University of Illinois Extension

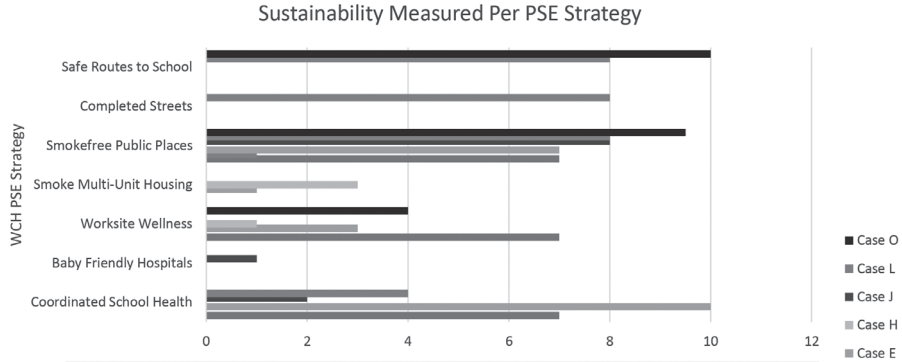
RESULTS

EXTENT OF SUSTAINABILITY OF PSE STRATEGIES

Figure 4 presents the median self-rating of extent of sustainability for each PSE strategy (on a 1-10 scale) for the seven cases (out of 18) responding to the survey. Cases E, L, and O had greater sustainability in safe routes to school, coordinated school health, and smokefree public places. Capacity (funding, skills, and resources), practices (actions taken organizationally or systematically) institutionalized community-wide, and coalition influences enabled sustainability in these cases. Between the strategies and cases, differences existed among partnerships, capacity, policies, and innovation; these differences likely contributed to some PSE strategies having more sustainability than others.

FIGURE 4

SUSTAINABILITY MEASURED PER PSE STRATEGY
VALUES ARE THE MEDIAN PER STRATEGY FOR EACH CASE



	Coordinated School Health	Baby Friendly Hospitals	Worksite Wellness	Smoke Multi-Unit Housing	Smokefree Public Places	Completed Streets	Safe Routes to School
Case O			4		9.5		10
Case L	4				8	8	8
Case J	2	1			8		
Case H			1	3			
Case E	10		3	1	7		
Case C	0	0	0		1		
Case A	7		7		7		

Median Sustainability Measurement

All cases provided evidence and examples of what activities were being sustained, which enabled Phase II to support Phase I sustainability evaluation. Table 2 presents a summary of the findings. Each case, especially from the community interviews, provided evidence of the sustainability of PSE strategies. The evaluated sustainability from the survey compared with coded sustainability resulted in the same conclusion for Cases E, L, and O. Case J had stronger evaluated sustainability from Phase II based on the interview data. Stronger evaluated sustainability likely occurred due to the hospital having responsibility for the PSE strategies and funding after the 2014 funding cut (as opposed to the LHD, whose representative filled out the survey). However, Case A resulted in less evaluated sustainability from Phase II based on interview data. The contrast of Case A and inclusion in this study was important to understand. Case A moderately sustained the PSE strategies, which likely occurred due to prioritization, integration into programming, and focused effort on healthy eating and nutrition. No mention of smokefree public places existed in either interview except in mentioning smoking as an indicator in their community

TABLE 2

TRIANGULATION OF PHASE I AND PHASE II SUSTAINABILITY DATA FOR CASES

CASE	EVALUATED "SUSTAINABLE" AFTER PHASE I (B)	"SUSTAINABLE" CODED (94)	EVALUATED "SUSTAINABLE" AFTER PHASE II (INTERVIEWS)
A	A Great Deal	9% (9)	Moderate
E	Same	22% (21)	A Great Deal
J	Moderate	30% (28)	A Great Deal
L	A Great Deal	18% (17)	A Great Deal
O	A Great Deal	20% (19)	A Great Deal

health needs assessment. Therefore, Case J as well as Cases E, L, and O had "a great deal" of sustainability, and Case A had "moderate" sustainability. The interview findings from Phase II provided more and richer evidence than the LHD-only survey.

FACTORS IN SUSTAINABILITY ACROSS ALL CASES

A primary purpose of this study investigated factors impacting sustainability. In all cases, evidence of the sustainability of activities beyond the funded period existed, and the findings supported the self-reported sustainability in Phase I of this study. Furthermore, coalition functioning, partnership engagement, and community capacity emerged as key common factors. Their interrelatedness with strategy resulted in actions that enabled sustainability of PSE change efforts post-WCH funding in all five cases selected for interviews. This has clear implications for municipal leaders considering whether to support such activities in the jurisdictions of which they are a part.

FACILITATORS AND OPPORTUNITIES AFFECTING SUSTAINABILITY OF WCH STRATEGIES PER CASE

Each information-rich case provided evidence of facilitators and barriers to sustainability. Table 3 highlights some of the key findings for each case,[4] and the discussion that follows will highlight implications for municipal leaders. The coalitions supported through WCH in these communities were able to continue to function after the termination of WCH funding, with municipal leaders from local governments, schools, and park districts emerging as key partners in these efforts. Continued meetings and leveraging of resources involving partners from multiple sectors — and the evaluation and documentation of

TABLE 3

KEY FINDINGS ON FACILITATORS OF SUSTAINED PSE CHANGE STRATEGIES AFTER WCH FUNDING

CASE	COALITION FUNCTIONING	MUNICIPAL LEADERS INVOLVEMENT
A	Complementary skills and expertise leveraged to build capacity Cooperation enabled approval of key policies at city board meetings	Municipal leadership key to success for smoke-free public places Villages gained board approval of ordinances and implementation
E	Training within network supported capacity-building and adaptability Best practices shared across jurisdictions Post-funding, multiple coalitions involved shared resources, stories online Regionalizing enabled action teams, maximizing capacity Joint meetings convened across 16 county area	Municipal parks/park districts involved in smoke-free initiatives Smoke-free public places and worksite wellness involved both municipalities and businesses for implementation
J	Hospital foundation adopted and sustained WCH and coalition post funding cut Coalition worked together to use data to prioritize strategies	Partnerships provided opportunities for growth, specifically in and with schools Effectiveness of municipal parks policy evaluated based on signage, media, public perception, and policy enforcement Partnership with city and its park district translated coordinated school health initiatives (healthy concessions) to movie in the park nights
L	Coalition and partners served as central focus for cross-sector relationships and movement to PSE change Community partners and leaders routinely discuss strategy and evaluated progress; MAPP (public health assessment) partners crucial in maintaining coalition activities Coalition capacity was used for new initiatives and efforts	Smoke-free public places involved all municipal governments in county Creative methods used at municipal level – e.g., village held a community resident contest for tobacco-free park signs Municipal governments provided leadership in building cross-sector relationships in coalition Within a municipality, an active multisector workgroup sustained post WCH funding

	CHANGE IN MINDSET TOWARD CULTURE OF HEALTH
	Cross-coordinating and leveraging resources between two jurisdictions better used capacity and prioritized shared health issues Thinking differently about PSE change, helped to embrace opportunities to advance it
	Innovative approach with mini-grants and policy implementation laid foundation for new ideas Identifying new opportunities to build on current successes, e.g., Medicaid reimbursement for PSE strategies Evaluation of strategies enhanced value by public Partners exchanged ideas across six county area Implementation of strategies evolved (new action teams)
	Greater understanding among partners highlighted need to address multisector determinants of health and included traditional and nontraditional public health partners in addressing issues like built environment Policies gave legal support for sustainable administrative implementation and enforcement and public buy-in, leading to changed behavior Evaluation resulted in collective impact for direction of community action Elected officials supported PSE strategies after WCH funding ended, seeing value Chronic disease and health continued to be a priority

CASE	COALITION FUNCTIONING	MUNICIPAL LEADERS INVOLVEMENT	
O	Strong leadership in the coalition and partnered organizations championed WCH, recognized collaboration, met routinely, created continued interest PSE strategies sustain through collaborative process; structured steering committee with designated groups, bylaws, focus areas, etc.	Resulted in smoke-free policies in municipal government, greater collaboration between municipal government and business with promotion of worksite wellness (promotional brochure distributed) Collaboration supported a municipality to apply for state grant for safe routes to school	
	[…] when I think about capacity, I think about all the partners that were brought to the table. So each of us with our own area of expertise and knowledge could come together and by having multiple partners, then, you know, we're able to do more […] (Case A_Comm)	[…] And so there's been a lasting relationship and partnership with the schools in Logan County. […] So all the students across the whole county and everybody across the county is using the same catch language. […] when we really made it a community catch message, we took it outside the schools and said, you know, for example, we just a couple of weekends ago hosted or sponsored, I should say, an outdoor movie with [the] Park District. And we, instead of serving their concession stands, we provided all the food […] but those concessions were apples and grapes and cheese sticks […] healthy choices instead of […] typical concession stand meals […] (Case J_Comm)	

	CHANGE IN MINDSET TOWARD CULTURE OF HEALTH
	Long-term partnership engagement and multisector relationships resulted in long-standing response and interest in healthy community Partners leveraged complementary resources through capacity-building and evaluation and remained connected Coalitions' shared goal of healthy well-being allowed for shifts in focus based on emerging need, e.g., from smoke-free public places to vaping
	[…] we kind of lean on each other as far as resources. So there are several different organizations within […the coalition]. We do our research and when we apply for grants there's technical assistance with these grants. So the technical assistance person will then funnel resources down to us. For example, the smokefree multi-unit housing has several different resources on how to promote this program. So they would send the team a toolkit […] we knew how to promote the program within the community. (Case E_LHD)

results from these exchanges — contributed to the recognition that working toward a healthier community required participation from all sectors. This supported a shift in mindset to shared goals and a broad "culture of health" with a commitment from the multiple partners involved with joint efforts for PSE change.

KEY FACTORS AFFECTING SUSTAINABILITY ACROSS THE CASES

The factors interrelating with coalition functioning to influence sustainability across the cases were leadership, partnership engagement, and capacity. Leadership emerged as key to facilitating partnerships, creating a shared vision around sustainability of PSE strategies and a culture of health, prioritizing and leveraging capacity, providing guidance and direction, and generating a team approach within the coalition and its network. Learning, growing, and innovating together created opportunities for partners within coalitions to continue to sustain PSE strategies and lean forward.

The key component of coalition functioning that was common across the cases was the building and maintaining of relationships, both new and existing. Partner relations also extended beyond traditional partners to new and different partners — even beyond jurisdictional boundaries. Partnership engagement and connection was variously described through activities showing coordination, collaboration, and networking (categories described in Himmelman (2001) and those who have built on that work) and demonstrated through actions such as routine meetings, regular communication, planning, etc. With strong relationships and engagement, leveraging capacity (resources, funding, skill, and expertise) community-wide defined a key pathway for how coalitions were effective in influencing sustainability in the cases. Furthermore, coalition engagement led to sustainability planning that identified new capacity, innovative ideas, and emergent strategies.

Barriers reported across the cases included time, staffing, and funding — specifically, the time required to develop and implement PSE change, the lack of staff dedicated to WCH goals and implementation following the 2014 cut in WCH funding, and the restrictions and inflexibility of categorical funding. Shorter-term priorities impeded the commitment of various partners, e.g., Case O reported prioritization of economic development and road projects as impeding the participation of municipal partners.

COVID-19 ACROSS THE CASES

The time period of this study provided an opportunity to investigate how changes in mindset around multisector involvement in health and new working relationships affected the way communities and their leaders met a new public health challenge with COVID-19. The coalition (partnerships) and partnership engagement resulting from sustaining relationships built through WCH's earlier PSE change efforts was found to have assisted the local COVID-19 response. Strengthened partnerships and interactions due to WCH contributed to creating a shared space where partners could effectively act together to address COVID-19 challenges through existing relationships, shared knowledge of capacity, preexisting planning, adaptation, and the leveraging of resources. For instance, Case O built on the WCH coalition to address masking throughout all municipalities and two counties and to rejuvenate attention to mental health. Understandably, however, cases reported that existing organizational and community capacity did not always adequately meet both the demands of COVID-19 response and PSE sustainability, and a shifted prioritization occurred. For example, Case A reported that nutrition programs were curtailed due to reallocating resources to COVID-19.

Key factors in continuing PSE efforts and impact after funding ended included:

- Adaptability (changing practices as new information is learned)
- Leveraging and building capacity
- Data and decision making shared among partners to make shared evidence-based decisions possible
- Explicitly planning for sustainability
- Partnership engagement and ongoing regular communication among multisector partners

Opportunities, such as policies, new partnerships, and new grant funding, arose when these factors were in place. Furthermore, leaders who took considered actions and worked through multisector partnerships had a significant impact on the sustainability of PSE strategies. This included municipal leaders — both municipal officials and leaders within municipal institutions such as park districts and schools.

The cases in Phase II indicated the lasting impact of the WCH and provided evidence in support of the Phase I findings. One case respondent reported that the innovation of WCH was an open door to much more in the community:

> *I mean, one thing about We Choose Health is it was very innovative at the time. So that was really good for our community. . . . Like, we're not all rural or not all urban. We just kind of are a mix. And so I think We Choose Health really helped us build some relationships that we didn't previously have. And that's been really successful for us moving forward and helping us to achieve a lot of different things. So, I mean, we're really grateful to have had that grant because I don't think that we would have a lot of things in place that we have now if we didn't have that. (Case L_LHD)*

Another respondent expressed the value of interdisciplinary stakeholders (including municipal leaders) teaming up across the community, leveraging resources, connecting for conversations, and planning and thinking differently with stakeholders beyond typical local strategies and activities:

> *So [XX] health initiative, you know, being this umbrella organization, they did get a CDC grant a couple of years ago, which is called the PICH grant, and that had a lot of funding associated with it for three years. So they did find a substantial grant that helped do a lot more activities that did pay for a lot of those safe routes to school plans. It pays for a lot of healthy lifestyle eating advertisement. They had a whole campaign around healthy eating in the school. So they did leverage that whole grant out of the initial [WCH] work. (Case O_LHD)*

DISCUSSION

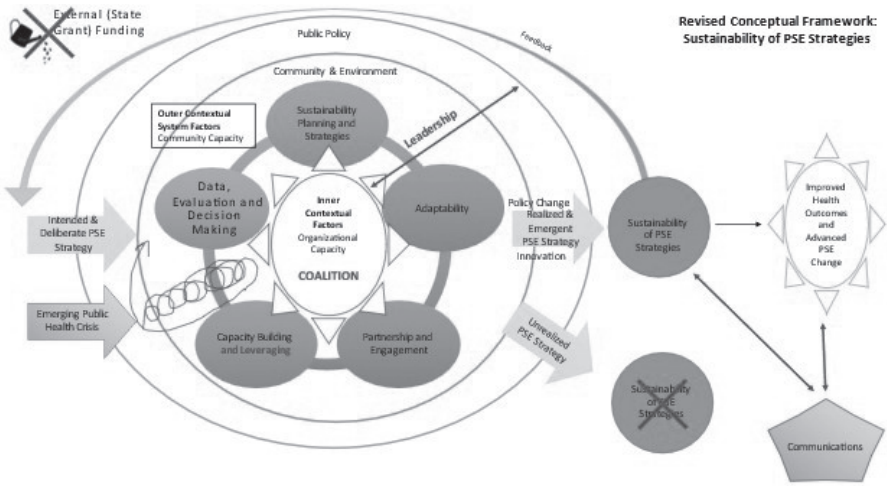
WCH was the first systems change initiative for many local jurisdictions. This study showed the many factors, intangible experiences, and actions that are often undervalued, underrepresented, and underappreciated when considering sustainability. The findings suggest that requiring sustainability planning and evaluation of sustainability post-funding would be a way to increase the long-term impact of initiatives involving PSE strategies.

SUSTAINABILITY CONCEPTUALIZED

The conceptual framework (Figure 5), based on prior literature review but revised following analysis of this study's evidence, shows the coalition as the center of sustainability, with key lead agencies, networks of partners, and leaders crossing multiple levels. The original conceptual framework presented LHDs as organizations central to the factors and processes that impact and facilitate sustainability (see Appendix C). The LHDs were the primary agents of the WCH grant with the expertise and skills needed to lead and promote PSE strategies. However, analyzing the five cases showed that the coalitions — not the LHDs — were responsible for developing and implementing sustainability strategies. The coalitions enabled extended reach, engagement with new and different partners, organizational culture changes, and more broad leveraging of resources. The findings do not align with the idea of the LHD as the lead agent. Increased sustainability occurred in cases with active and engaged coalitions. All cases had coalitions or identified partners at the WCH initiation; however, the varied effectiveness of the coalitions and the relationship between highly functioning coalitions and sustainability (as seen in Cases E and O) suggest that effective coalitions have a significant impact on sustainability.

FIGURE 5

CONCEPTUAL FRAMEWORK[6]



Leadership, as a primary construct of this research, was initially conceptualized from the LHD to the community and built environment but not through the most outer ring of the framework. Strong leadership from the coalition public health and health care leads and other multisector partnership leads in the five information-rich cases correlated more with sustained PSE strategies than the presence of leadership solely from the LHD lead. Facilitated actions from coalition partner leaders promoted heightened connectivity and interaction among coalition partners and fostered processes and practices to sustain PSE strategies. The findings supported leadership moving away from only LHD leads to multisector partner leads of the coalition. Moreover, policy changes and new opportunities emerged as leaders connected partners and garnered the public value of PSE strategies.

Several case respondents described packaging advancements, outcomes, and improvements to the public to sustain PSE strategies and their health priorities. Schell et al. (2013) noted "strategic dissemination of program outcomes to stakeholders and decision-makers" (p. 7) as a significant factor of sustainability. Adding strategic dissemination to the conceptual framework after the sustainability of PSE strategies and evaluation of health outcomes indicates the importance of communications for partners, community members, and members of the public to sustain PSE change.

Capacity-building was a measured construct in this research. The act of leveraging resources was connected to community capacity and organizational capacity across the coalition partners in each information-rich case. The information-rich cases indicated that although capacity-building must endure for sustainability, adaptability and emergent strategies result after leveraging resources. Partnership engagement, data-driven decision making, and sustainability planning contributed to leveraging resources and the best use of the resources and public value in supporting the sustainability of the PSE strategies with the leveraged resources.

All the cases presented adaptability, defined as a modification of a strategy to fit within organizational or community structures, needs, practices, or capacity. For the case respondents, adaptability did not consist of completely changing the PSE strategy, and they focused on ensuring that the PSE strategies remained evidence-based. Also, adaptability did not result in entirely new emergent strategies. Rather, success occurred when using adaptive strategies to build on

and modify initial, realized PSE strategies based on needs, structures, practices, or capacity.

In this study, leadership — measured as championship and guiding and directing the strategies — had a significant impact on adaptability and the emergent strategies for sustainability. As shown in the revised conceptual framework, the leaders in all the information-rich cases worked across the community to understand needs, evaluate practices, assess capacity, and problem-solve to continue the strategies based on the data and partnerships. Multisector partnerships and leadership successfully promoted changes in a mental model around health in all five cases. Leaders in the coalition convened partners, coordinated actions, fostered systematic thinking, communicated a broader vision of health, and involved multisector partners beyond health care and public health.

The link between leadership and a change toward a culture of health was seen in varied degrees in the five cases. Case L, in particular, described a big change toward a community-wide culture of health change due to WCH and PSE strategies. Case L used strategies focused on built environment and brought together more different partners than in previous projects. Such changes resulted in a changed mindset for some partners, such as those from the Department of Transportation, who moved from driving cars to biking and walking and brought health system partners to collaborative funding opportunities. Another example occurred when Case J successfully implemented and sustained coordinated school health across every school district and in every school except one in the county. School administrative leadership built buy-in with staff and parents and helped set forth an expectation of healthier choices, curriculum, learning, and physical activity in all the schools. To a lesser degree, Case A sustained PSE strategies through existing programming and community programs, such as farmers markets. Case A demonstrated building a culture of health in the community facilitated between the LHD and one primary nonpublic health or health care partner lead.

Contextually, this study addressed the challenges of sustaining core services in the public health system; however, all strategies adopted led to improved health outcomes. The framework by Fath et al. (2015) presents how a crisis disrupts normal routines and the actions of returning to normal (or institutionalizing adaptability). The COVID-19 emergent construct measured in this research suggests the need to include crises in the sustainability of the PSE strategies

framework, depicted by the spiral graphic in Figure 5 linking the coalition to the emergent public health crisis. The information-rich case respondents described COVID-19 interruption and how the strategies for COVID-19 overlapped, underwent adaptation, or emerged to sustain and advance change to attain improved health outcomes.

The framework shows multiple opportunities for municipal leaders to be involved. Findings from this study support the fact that LHDs are not the sole lead; rather, multisector leadership must champion efforts across the community and beyond to reach improved health outcomes. Leaders need to be engaged in processes that result in change, such as regular coalition meetings with follow-up actions. Furthermore, resulting change and what led to it needs to be documented and evaluated with consequent planning and implementation adapted accordingly.

This study found that the more effectively coalitions functioned, the greater sustainability of PSE change efforts and results was found in the cases. Coalitions functioned effectively when they built and sustained relationships with partnership engagement and interaction among multisector partners; defined their structure and operating model; implemented with observed routine meetings; incorporated clear communication and planning; incorporated capacity-building; and leveraged resources. High-functioning coalitions did not occur where only one lead agency sustained components of effective functioning. This research indicates the importance of multiple stakeholders in an interdisciplinary team. In this study, the network of partners creating the coalitions differed in each case based on the strategies adopted, adapted, and sustained. The more diverse the partners at the table, the greater the capacity (funding, skill, infrastructure, and resources), idea generation, and momentum.

The availability of flexible, non-disease-specific funding, including support for partners outside of traditional health partners, was key to the initiation of these efforts. Once partners were invested in these efforts, the identification of further resources became possible. Policymakers should note that flexible funding for engaging multisector coalitions to support healthy communities can reap long-standing dividends that last after the original funding expires.

IMPLICATIONS FOR MUNICIPAL LEADERS

Consideration of the relationships shown in this study's conceptual framework is needed to address complex public health issues and sustain desired PSE change across the public health and health care systems and with multisector partners, including municipal leaders. While municipal governments continue to face budgetary and capacity challenges, recommendations for municipal leaders emerging from the analysis of the information-rich cases include:

- Understand the implications of the "social determinants of health" and the power of health issues to mobilize broad swaths of the public to consider factors that affect the well-being of all community members, e.g., access to healthy food, environments supporting safe physical activity, smokefree public areas, etc.
- Become familiar with previous and existing public health efforts to build coalitions and partnerships addressing PSE strategies to improve community health and become involved with them. Investigate how municipal efforts and resources, including through schools and parks, can support the actions of these coalitions.
- Ensure that public health officials involve municipal leaders together with other partners in planning broad PSE strategies.
- Learn from the examples of the sustainable WCH PSE efforts that show community-wide change in desired directions requires:
    - Effective structures for communication and teamwork across sectors; and
    - Adaptability to the new and unexpected as well as the incorporation of innovation, supported through repeated cycles of planning, implementation, documentation of results, evaluation, and consequent revision of structures and processes.
- Participate in creating a culture of health mindset in the community and a health in all policies approach[5] systematically across the community to sustain PSE strategies.

Generally, this research suggests that municipal leaders do have an important role in multisector coalitions involving PSE change and the social determinants

of health. WCH was an innovative grant that resulted in (1) new, different partners and partnerships across the system; (2) formal, system-wide agreements on funding; (3) capacity, leveraged resources, and opportunities for future funding; (4) shared language among multisector partner coalitions; (5) utilization of the community health needs assessment and improvement planning practices; (6) adaptability in the strategies, processes, and coalitions; and, (7) emergent policy to support long-term programming and improved health outcomes. Public health system leaders, including municipal leaders, should adopt such practices to support, evaluate, and sustain PSE strategies and incorporate them into a statewide agenda for the public health system.

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ENDNOTES

[1] https://www.apha.org/what-is-public-health

[2] http://www.idph.state.il.us/wechoosehealth/

[3] https://www.cdc.gov/publichealthgateway/zz-sddev/essentialhealthservices.html

[4] Though not reported in Table 3 key findings, a triangulation of data between all phases of this research occurred separately and as a part of the original research.

[5] Illinois General Assembly - Full Text of Public Act 101-0250 (ilga.gov)

[6] The terms realized, unrealized, deliberate, and emergent strategies come from Mintzberg & Waters (1985) and are represented in the arrows of the conceptual framework. The middle circle depicts the importance of not only LHDs being centered for PSE sustainability but also numerous other partners, including municipal governments, in a coalition. The actions that surround the middle circle demonstrate actions of the coalition and synergies between the coalition and also each action. The rings represent the socioecological model from coalition to public. The feedback arrow from the sustainability circle shows how evaluation of sustainability circles back to the same necessary factors and processes (actions) to sustain PSE strategies. Improved health outcomes were not measured in this study; however, it is important to denote them as the desired end result. Communications emerged in this study as important to educate and increase awareness for change in the community.

Protections, both within Chicago Public Schools. She works collaboratively with these partners to gather evidence to inform policy, systems, environmental, and practice changes in organizations and communities.

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APPENDIX

APPENDIX A

CONSTRUCTS DISCUSSED IN CITED REFERENCES

CONSTRUCT	DEFINITION	INSTRUCTIONS	LITERATURE
Facilitator	A person or thing that makes an action or process easier	Use to identify a factor that assists in allowing sustainability to emerge	These are broad categories in relation to the research questions to assist with thematic and content analysis.
Barrier	An obstacle that prevents completion	Use to identify a factor that prohibits or limits sustainability to occur	
Practices and processes	Actions taken organizationally or systemically routinely	Use for actions or steps that institutionalized organizationally or in the community	
Opportunity	A set of circumstances that makes sustainability possible	Use for innovative methods, emergent strategy, adapted strategy or policy that changes or cause strategy to sustain	
Leadership	Demonstrated ability to guide and direct strategy and apply systems thinking and collaborate across levels and within the community; chief strategist in the organization and inter-organizationally in the community	Use for identified champion at program, organization, or inter-organizational levels with stakeholders	Montgomery, 2008; Schell et al., 2013; Shelton et al., 2018

CONSTRUCT	DEFINITION	INSTRUCTIONS	LITERATURE
Organizational capacity	Funding, skills, and resources Resources (human, financial and informational) Infrastructure Before, during, and after WCH	Use for identified funding, skills, or other resources utilized for PSE strategies within the organization	Schell et al., 2013; Shelton et al., 2018
Data and evidence	Public health data (quantitative or qualitative) that assists in evaluation of PSE strategies to produce evidence for decision making	Use when data is present, generated, collected, and evaluated, and when applied in practices and processes institutionalized organizationally or across with stakeholders	Harris et al., 2017; Jacob et al., 2018
Coalition (partnerships)	Community coalition of stakeholders; diverse group of individuals and organizations working together to achieve specific goals; connection between program and community	Use when stakeholders are identified in organized actions or in leveraging capacity	NCHPAD, 2011; Schell et al., 2013
Community capacity	Funding, skills, and resources across the community Resources (human, financial and informational) Infrastructure Before, during, and after WCH	Use when inter-organizational resources, funding, or skills are leveraged	Schell et al., 2013; Shelton et al., 2018

CONSTRUCT	DEFINITION	INSTRUCTIONS	LITERATURE
Policy systems and environment	PSE strategies are those that shift from organizational level to community level and promote change; policy includes laws, rules, regulations, protocols, and procedures and document a course of action; systems impacts all elements of the organization and inter-organizational coalition or system; environment is infrastructure and change in the economic, social or built environment	Use for identified change as it relates to policy, systems, or environment per definition	CCC, 2011; CDC, 2011; Garney et al., 2018; Lyn et al., 2018
Decision making	General process in which decisions are being made to keep strategies moving forward	Use when demonstration of a decision is being made in relation to the strategy, then sub-code based on evidence-based decision making or shared decision making	Harris & Sandor, 2013
SC: Evidence-based decision-making	Identify and use data to make informed public health practice decisions; process of translating the best available data about effective programming and policies while considering local needs and resources	Use when identified data is evaluated and analyzed to inform decisions and decision makers	Harris et al., 2017; Jacob et al., 2018
SC: Shared decision making	Collaborate with partners to make evidence-based decisions	Use when LHD pulls together stakeholders to make shared decision based on evidence	Hu et al., 2019; Weiss et al., 2019

CONSTRUCT	DEFINITION	INSTRUCTIONS	LITERATURE
Adaptability	Modification to strategy to fit within organizational or community structure, practices, needs, and capacity	Use when strategy has a recognized change or modification from the initial application	Whelan et al., 2014
Partnership engagement	Community coalition of stakeholders working together to achieve goals, conduct decision making, sustainability plan, strategize, and capacity-build	Use when stakeholders are collectively identified, work toward shared strategies with actions demonstrating involvement and connection between community and program	Schell et al., 2013; Shelton et al., 2018
Strategy	Developed actions executed to reach sustainability; responsive to the organization and community, and evolves and adapts as evidence emerges	Use to identify WCH PSE strategy as intended upon WCH application	Mintzberg & Waters, 1985
SC: Emergent strategy	Consistent actions over time that adapt intended, realized strategy to allow evolution and adaptation	Use when intended strategy has been adapted or has changed to allow PSE strategy sustainability and change	Mintzberg & Waters, 1985
SC: Intended, realized strategy	Precise intended actions where collective action occurs with all needed organizational and community players for implementation as planned without any external influences or forces to interfere	Use when the identified strategy sustained is the one initially identified in the WCH application	Mintzberg & Waters, 1985

CONSTRUCT	DEFINITION	INSTRUCTIONS	LITERATURE
Capacity building	Building leadership, identifying and maximizing resources, organizational structures and relationships, skills, and knowledge; building up the infrastructure to deliver the strategy	Use for process actions that increase or enhance resources, funding, or skills	Hawe et al., 1997; Whelan et al., 2014
Sustainability	More than funding, "is about creating and building momentum to maintain community-wide change by organizing and maximizing community assets and resources"; "means institutionalizing policies and practices within communities and organizations"; "also means involving a multiplicity of stakeholders who can develop long-term buy-in and support throughout the community for coalition efforts"	Use when identifying whether or not a PSE strategy has reached sustainability or continuation as initiated or adapted	Britt, 2019; CDC, 2011; LaPelle et al., 2006; NCHPAD, 2011
Sustainability planning	Developed actions that are executed: assess, plan, implement, evaluation, and re-assess/modify	Use for actions that facilitate sustainability of strategies, pulling stakeholders to the table to conduct the sustainability cycle	Johnson et al., 2004

APPENDIX B

PHASE II SEMISTRUCTURED INTERVIEW GUIDE

Interview Guide for Local Health Department

(Information-rich Case Study with Focus on How and Why)
{draft and possible adaptation following analysis of survey data}

Interview Procedures

1. Contact the identified interviewees via email to seek interest and willingness to participate.
   a. Interviewee 1 = Principal Investigator.
   b. Interviewee 2 = Primary Program Manager.
2. Schedule the interview (to occur via telephone unless in person works logistically and with schedules).
3. Conduct the interview.
   a. Record the interview.
   b. Memo insights, nuances, and other intel outside of transcription, along with systematic reflection using objective, reflective, interpretive, decisional (ORID) method following the interview.
   c. Transcribe the interview.
   d. Code the transcription.
4. Thank the interviewees with personal notes.
5. Offer opportunity to check accuracy of findings (member check) through email or facilitated discussion.

Interview Email to Seek Participation

Hi [interviewee(s)],

As you are aware of my dissertation research from your participation in Phase I, I am excited to inform you that I have chosen your local health department (LHD) and community for Phase II of this research study as an information-rich case. To that end, you will participate in a semistructured interview. There will be two interview sessions: (1) LHD principal investigator (or current administrator) and (2) two community coalition stakeholders.

Please complete the Doodle Poll to provide your availability.

Interview Introduction

Hi [interviewee(s)],

In the semistructured interview, I will ask you specific questions about your involvement as a We Choose Health (WCH) grantee in relation to the current sustainability of policy, systems, and environmental (PSE) strategies. The data collection in this interview is a means of building on the data collected during Phase I with the document review and survey.

May I record your interview to complement my notetaking and ensure that I capture your viewpoints accurately? I will transcribe the recording, and I will offer you the opportunity to review the findings to double check for accuracy. No wrong or right answers exist. I appreciate your honesty and openness, and please know that I will de-identify your interview and keep it confidential. The interview consists of 15 questions and will last about 45 minutes.

Interview Questions (with Probes)

Background Questions

1. What has been your contribution to WCH activities since funding ended in 2014?

{RQ#2}

Factors

2. What specific capacity was leveraged organizationally?
    a. Probe: What funding, skills, and resources?
3. How was capacity (funding, skills, and resources) leveraged in your organization?
4. What capacity was leveraged in the community?
    a. Probe: What funding, skills, and resources?
5. How was capacity leveraged in your community?
6. How did leadership contribute to sustainability?
    a. Probe: How did championship of the program have an impact?
    b. Probe: How did public health strategist or leadership impact sustainability?

{RQ#2}

Processes

7. How did local strategic planning align with sustainability planning?
    a. Probe: How did you incorporate sustainability of PSE strategies into your community health assessment (CHA) or community health improvement plan (CHIP)?
    b. Probe: How did your intended PSE strategies align with your Illinois Project for Local Assessment of Needs (IPLAN) priorities?
8. How did the prioritization of activities in relation to WCH occur after funding ended?
    a. Probe: How did this change from 2011 to present?
    b. Probe: How were the activities chosen?
9. How did you use evidence and data in decision-making?
    a. Probe: How were data used to make decisions on strategies to sustain or adapt?
    b. Probe: How were data shared with community coalition members?
10. How did adaptability occur, and how did it impact sustainability?
    a. Probe: What was adapted?
    b. Probe: What evidence was utilized?
    c. Probe: What stakeholders were involved?

{RQ#2}

Community Coalition

11. How did the coalition have an influence on sustainability?
12. How did engagement change after external funding ended?
    a. Probe: How did the stakeholders change involvement after external funding ended?
    b. Probe: How were the stakeholders involved in decision making?

{RQ#3}

Opportunities

13. What opportunities emerged that contributed positively to sustainability?
    a. Probe: How did the strategies change following the funding cut in 2014?
    b. Probe: What exactly was adapted?
    c. Probe: What emergent strategies resulted?
    d. Probe: Why were adapted and emergent strategies significant to sustainability?

   e. Probe: What innovation (new method, new idea, changed process, new product) emerged?
   f. Probe: How did the innovation emerge, or what contributed to the innovation?
   g. Probe: How did policy change support sustainability?
14. Why was adaptability significant to emergent strategy, innovation, or policy change?
15. What still needs to be addressed to achieve public health outcomes and why?

{RQ#4}

Interview Guide for Coalition Members

Interview Procedures

1. Contact the identified interviewees via email to seek interest and willingness to participate.
2. Schedule the interview (to be conducted via phone unless in person works logistically and with schedules).
3. Conduct the interview.
   a. Record the interview.
   b. Memo insights, nuances, and other intel outside of transcription, along with systematic reflection using ORID following the interview.
   c. Transcribe the interview.
   d. Code the transcription.
4. Thank the interviewees in personal thank you notes.
5. Offer opportunity to check accuracy of findings (member check) through email or facilitated discussion.

Interview Introduction (with Probes)

Hi [interviewee(s)], my name is Molly Jo Lamb, and I am a student in the University of Illinois Chicago's Doctorate of Public Health (DrPH) in Leadership program. Currently, I serve as the Deputy Director of the Office of Health Protection at the Illinois Department of Public Health.

For my dissertation research, I have the opportunity to work on a problem statement around sustainability of policy, systems, and environment (PSE) strategies. My research is a mixed methods multiple case study of the We Choose Health initiative from 2011–2014 to learn the extent to which

sustainability has occurred, how and why sustainability was achieved, and the opportunities that emerged. I have identified you for an interview as a result of your involvement in WCH. The study will be an effort to guide leaders, policymakers, and funders in public health investments, bring significance to sustainability to reach health outcomes, and support chronic disease and bright insights to different challenges faced in different jurisdictions. Another ending goal will be continued learning of sustainability in future action research cycles.

May I record your interview to complement my notetaking and ensure that I capture your viewpoints accurately? I will transcribe the recording, and I will offer you the opportunity to review the findings to double check accuracy.

No wrong or right answers exist. I appreciate your honesty and openness, and please know that I will de-identify your interview and keep it confidential. The interview consists of 19 questions and will take about 45 minutes.

Interview Questions (with Probes)

Background Questions

1. Please describe your current position.
    a. What is your current working title?
    b. How long have you been in your position?
    c. How long have you worked with (or collaborated with) the LHD?
    d. What was your position during the 2011–2014 timeframe?
2. What is your primary, current contribution to WCH activities?

Factors

3. What capacity was leveraged in the community?
    a. Probe: What funding, skills, and resources?
4. How was capacity leveraged in your community?
5. How did leadership contribute to sustainability?
    a. Probe: What was the impact of championship of the program?
    b. Probe: How did public health strategist or leadership impact sustainability?

Processes

6. How did your intended strategies become realized?
7. How did local strategic planning align with sustainability planning?

   a. Probe: How did you incorporate sustainability of PSE strategies into your community health assessment or community health improvement plan?
   b. Probe: How did your intended PSE strategies align with your IPLAN priorities?
8. How was prioritization of activities in relation to WCH conducted?
9. How did you use evidence and data in decision making?
10. How did adaptability occur, and how did it impact sustainability?

Community Coalition

11. How did the coalition influence sustainability?
12. How was evaluation data shared with coalition stakeholders?
13. How did engagement change after external funding ended?
14. How did the stakeholders change involvement after external funding ended?

Opportunities

15. What emergent strategies resulted following the funding cut in 2014?
   a. Probe: What types of policy resulted?
   b. Probe: What innovation emerged?
   c. Probe: What social, economic, and built environment changes transpired?
16. How did the emergent strategies occur, and how did they support sustainability?
17. Why were the emergent strategies significant to sustainability?
18. Why was adaptability significant to emergent strategy, innovation, or policy change?
19. What still needs to be addressed to sustain PSE strategies and why?

APPENDIX C

SUSTAINABILITY DEFINITIONS

AUTHOR	SUSTAINABILITY DEFINITION	COMMONALITY (FACTORS)
CDC, 2011	"Community's ongoing capacity and resolve to work together to establish, advance, and maintain effective strategies that continuously improve health and quality of life for all" (p. 8).	Capacity
LaPelle et al., 2006	"The capacity to maintain program services at a level that will provide ongoing prevention and treatment for a health problem after termination of major financial, managerial and technical assistance from an external donor" (p. 1363).	Capacity
Schell et al., 2013	Supports sustainability as "existence of structure and processes that allows a program to leverage resources to effectively implement and maintain evidence-based policies and activities" (p. 2).	Capacity
Shediac-Rizkallah & Bone, 1998	Sustainability of strategies involves community engagement, partnership, support, and trust of public health programs and their leadership.	Capacity Leadership