A Qualitative Analysis of Maternal and Child Health Public Health Leadership Institute (MCH PHLI) Leaders: Assessing the Application of Leadership Skills at the "Others" and "Wider Community" Levels of the MCH Leadership Competencies 4.0

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Abstract

Objectives To gain insight into how participants in the Maternal and Child Health Public Health Leadership Institute (MCH PHLI) report applying the leadership skills gained through the program at the "Others" and "Wider Community" levels of the MCH Leadership Competencies 4.0.

Methods 111 mid- to senior-level MCH leaders participating in the MCH PHLI gave < 5 min oral presentations detailing the impacts resulting from implementation of the skills gained through the leadership development training. Presentations were recorded and transcribed then qualitatively analyzed in reference to the MCH Leadership Competencies 4.0. Impacts were stratified by the "Others" and "Wider Community" levels.

Results Analysis resulted in 1510 separate coded examples, 948 of which were coded as aligning with the MCH Leadership Competency 4.0 areas of "Others", "Wider Community" and with an additional emerging competency. In many examples Participants estimated the numbers of people affected by these leadership activities, which totaled more than 80,773 people across the US.

Conclusions for Practice This analysis suggests that mid-to-senior level intensive leadership development strategies benefit organizations, communities, and systems quite broadly through a virtual "ripple effect" of training. Capturing qualitative data can help elucidate the return on investment for leader development programs in terms of impacts on communities and systems.

Keywords Leadership · MCH PHLI · Workforce development · Implementation science · MCH Leadership Competencies 4.0

Significance Statement

What is already known on this subject? Effective leadership development programs can improve capacity and job performance among public health professionals and are an important part of continuing education of leaders in professional areas.
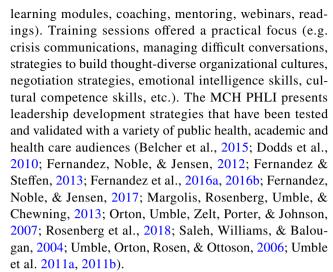
What does this study add? While the benefits of leadership development at the individual level are well documented, less is known about the broader impacts of leadership programs at the community and state level. This study explores a deeper picture of the type of return on investment gained from developing mid-to-senior level leaders in MCH, including impacts on organizations, communities, and systems.

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Introduction

An MCH leader is defined as someone who "inspires and brings people together to achieve sustainable results to improve the lives of the MCH population" (MCH Leadership Competencies Workgroup, 2009). While literature exists which documents the effectiveness of leadership development programs at the individual or personal skills level in physicians (Fassiotto, Maldonado, & Hopkins, 2018; Fernandez, Peterson, Holmström & Connolly 2012; Fernandez, Noble, Jensen, & Chapin, 2016a; Frich, Brewster, Cherlin, & Bradley, 2015; Geerts, Goodall, & Agius, 2020; Throgmorton, Mitchell, Morley, & Snyder, 2016), maternal and child health professionals (Fernandez, Noble, Jensen, & Steffen, 2014), academic leaders (Fernandez, Noble, Jensen, Martin, & Stewart, 2016b) and public health groups (Fernandez & Steffen, 2013; Umble, Baker, & Woltring, 2011a) it is vital to gain insight into how developing individual leaders leads to impacts in organizations, communities, and systems (Umble et al., 2011b). Stressors such as growing health inequities, budgetary concerns, and challenges to political collaboration create an even greater need for MCH workforce training in evidence-based leadership skills that translate into meaningful, cost-effective impacts on the children and families in the communities in which they work (Kavanagh, 2015; Kavanagh, Menser, Pooler, Mathis, & Ramos, 2015). Such challenges require leaders to be equipped with a variety of skills that transcend any particular discipline in order to effectively lead their organizations as boundary spanning leaders and make impact across systems.

To support the development of effective leadership programs, the MCH Leadership Competencies (MCH LC) (Health Resources and Services Administration, 2018; Kavanagh et al., 2015; Mouradian & Huebner, 2007) were developed to describe the complex, multidimensional needs of today's MCH leaders. Consistent with these competencies, MCH training programs are diverse and inter-professional in nature (Dodds et al., 2010; Rosenberg, Zuver, Kermon, Fernandez, & Margolis, 2018; Fernandez, Kavanagh, & Walker, 2015; Belcher et al., 2015) and focus on equipping leaders with a variety of essential skills with the end goal of creating lasting positive impacts on the MCH population. The Maternal and Child Health Public Health Leadership Institute (MCH PHLI) was one such program and addressed the complex needs of mid- to senior-level MCH leaders by using an intensive evidence-based multidisciplinary/interprofessional approach grounded in the MCH LCs. Offered from 2009 to 2014, the program enrolled up to 30 Fellows annually for 13 days (82.5 h) of in-person training coupled with a robust distance-based component (online learning modules, coaching, mentoring, webinars, readings). Training sessions offered a practical focus (e.g. crisis communications, managing difficult conversations, strategies to build thought-diverse organizational cultures, negotiation strategies, emotional intelligence skills, cultural competence skills, etc.). The MCH PHLI presents leadership development strategies that have been tested and validated with a variety of public health, academic and health care audiences (Belcher et al., 2015; Dodds et al., 2010; Fernandez, Noble, & Jensen, 2012; Fernandez & Steffen, 2013; Fernandez et al., 2016a, 2016b; Fernandez, Noble, & Jensen, 2017; Margolis, Rosenberg, Umble, & Chewning, 2013; Orton, Umble, Zelt, Porter, & Johnson, 2007; Rosenberg et al., 2018; Saleh, Williams, & Balougan, 2004; Umble, Orton, Rosen, & Ottoson, 2006; Umble et al. 2011a, 2011b).

This study examines how 111 participating MCH PHLI leaders qualitatively characterized their implementation of leadership skills focused on the MCH LC Competencies 4.0 addressing the "Others" and "Wider Community" levels. The goal was to gain greater understanding of how participants' personal leadership development resulted in implementing actions that created impacts in their organizations, communities, and wider systems within which they worked. The program was supported in full by Project T04 MC12783 from the Maternal and Child Health Bureau (Title V, Social Security Act), Health Resources and Services Administration, Department of Health and Human Services.

Methods

Design

A qualitative case study design was utilized to understand how MCH PHLI participants implemented learning from the program to effect subsequent impacts in their organizations or their wider community, using Kirkpatrick's conceptual model as a guide (Kirkpatrick & Kirkpatrick, 2006; Kirkpatrick & Kirkpatrick, 2007). For the purpose of this study, an *impact* is an activity the Fellow described where they implemented skills developed through the MCH PHLI, that resulted in a quantifiable consequence (for example, building team capacity, developing a new program, changing local or state policies, etc.). The Consolidated Criteria for Reporting Qualitative Studies (Tong, Sainsbury, & Craig, 2007) is utilized to guide reporting of findings in this manuscript.

Participants

Of the 113 participants who enrolled in MCH PHLI and signed an informed consent for use of their data, 112 successfully completed the program and 111 (98.2%) completed

this communications exercise. Participants represented 46 states and territories. MCH PHLI Fellows ranged in ages from 28 to 64 years and were overwhelmingly female (97%). Additional demographic information is available in Table 1. All participants worked in organizations focused on maternal, child, and adolescent health; most served at the mid- to senior levels of management or leadership. Some participants were both family leaders and Title V employees. "Family leaders" refers to parents and other family members of children and youth with special health care needs (CYSHCN) and disabilities who advocate to provide support to families of CYSHCN. In addition to the special focus brought to the program by the Family Leaders, participants represented a wide range of disciplines including medicine, social work, law, nursing, nutrition, public administration, business, marketing, maternal and child health, public health, and psychology.

Data Collection and Analysis

As part of a graduation communications exercise, participants were asked to reflect upon their training and prepare a 4- to 5-min oral presentation answering the questions: "What is your *Ripple Effect?* How did your experience in the MCH PHLI help you to impact or touch the lives of others?" Participants were instructed to consider the individuals, organizations, or communities they reached as a result of using the skills gained from the training. Intentionally broad instructions were given in order to allow participants to determine which activities had the most impact. Illustrative examples were provided upon request. The brief timeframe required

participants to be purposefully succinct and make critical decisions about what information to share. Presentations were made to fellow participants and program staff, and were audio and video recorded. Recordings of presentations were transcribed for analysis. This study was reviewed by the UNC Institutional Review Board and determined to be exempt (UNC IRB Study # 11-0715.)

Three investigators independently coded the presentation transcripts for themes related to the research question (Fernandez, Noble, & Garman, 2021). Coding was guided by the eight Maternal and Child Health Leadership Competencies at the "Others" and "Wider Community" levels (Health Resources and Services Administration, 2018). One new code emerged during the process (Organizational Development—see Table 2). Each reported activity was assigned at least one code. Some leadership activities were coded multiple times if applicable to more than one competency. However, codes were applied in only those instances in which the skills were specifically mentioned; as opposed to when the skill was implied by the actions taken by the participants. Activities were also analyzed for *number of people impacted* at the Others and the Wider Community levels of the MCH LCs. Transcripts were then cross-checked. Any discrepancies in selected codes were discussed and final codes were only assigned to activities for which all three coders were in agreement. The research team then tallied the number of times each code was assigned. To protect participant anonymity, all identifying information was redacted from the transcripts prior to analysis.

Results

A total of 1510 examples of "ripple effects" were coded in the transcripts, of which 948 were coded with the MCH LCs at the "Others" Level, the "Wider Community Level, or under a new code that emerged in the analysis ("Organizational Development"—see Table 2). Personal Level examples are presented elsewhere (Fernandez et al. 2021). Table 2 illustrates how these codes align with the MCH LCs in the Others and Wider Community levels in order of most frequently cited impacts. Illustrative data is presented for each of the competencies, with an exemplar quotation provided in Table 3.

"Others" Level Leadership Impacts

Overall, participants cited an average of 6.95 examples each (771 total) that were coded as at the MCH LC "Others" Level, or as the newly emerging competency of Organizational Development. The following are listed in descending order of frequency.

Table 1 Demographic profile of MCH PHLI participants

	$N = 113$
Gender	
Female	110 (97%)
Male	3 (3%)
Race	
White/Caucasian	76 (67%)
Black/African American	28 (25%)
Asian/Pacific Islander	3 (2.5%)
American Indian/Alaska Native	2 (2%)
Biracial or Multiracial	4 (3.5%)
Ethnicity	
Hispanic or Latinx	8 (7%)
Neither Hispanic nor Latinx	105 (93%)
Organization type	
Title V	66 (58%)
Family leaders	23 (20%)
Professional organizations serving MCH	9 (8%)
Other (federal system, county agencies, etc.)	15 (13%)

Table 2 Frequency of assigned codes by MCH Leadership Competencies 4.0 "Others" and "Wider Community" levels and one newly emerging code

Number	MCH Leadership Competency	Code frequency	% of all codes (1510)
9	*Developing others through teaching, coaching, and mentoring Teaching* involves designing the learning environment, which includes developing learning objectives and curricula; providing resources and training opportunities; modeling the process of effective learning; and evaluating whether learning occurred. *Coaching* provides the guidance and structure needed for people to capably examine their assumptions, set realistic goals, take appropriate actions, and reflect on their actions. *Mentoring* is influencing the career development and professional growth of another by acting as an advocate, teacher, guide, role model, benevolent authority, door opener, resource, cheerful critic, or career enthusiast (HRSA, 2018)	205	13.6
New	*Organizational development* Activities that lead to increased capacity in the organization or agency in which the Fellow works, manages, and leads. These include establishing relationships between the mission, vision, and goals of an organization and its strategic planning, operations, and performance measures. These also include leadership practices that assist in moving the organization to higher levels of effectiveness, greater engagement of employees, increased influence, and stronger dedication to vision, among others	183	12.1
5	*Communication Communication* is the verbal, nonverbal, and written sharing of information. The communication process consists of a sender who develops and presents the message and the receiver who works to understand the message. Communication involves both the message (what is being said) and the delivery method (how the message is presented). Health communication is vital for influencing behavior that can lead to improved health (HRSA, 2018)	164	10.9
11	*Working with communities and systems* Recognizes complexity and examines the linkages and interactions among components—norms, laws, resources, infrastructure, and individual behaviors—that influence outcomes. Systems thinking addresses how these components interact at multiple levels, including individual organizations; the collective stakeholders; and the communities where the children, youth, and families reside. The achievement of MCH goals requires leadership within the community and among organizations to advance the collective impact of stakeholders that constitute the larger system (HRSA, 2018)	143	9.5
10	*Interdisciplinary/interprofessional (ID/IP) team building ID/IP* practice provides a supportive environment in which the skills and expertise of team members from different disciplines, including a variety of professionals, MCH populations, and community partners, are acknowledged and seen as essential and synergistic. Input from each team member is elicited and valued in making collaborative, outcome-driven decisions to address individual, community-level, or systems-level problems (HRSA, 2018)	82	5.4
8	*Family professional partnerships* Ensure the health and wellbeing of children, including those with special health care needs, and their families through respectful family-professional collaboration and shared decision making. Partnerships with family-run organizations and with families and individuals from the target population honor the strengths, culture, traditions, and expertise that everyone brings to the relationship when engaged in program planning, program implementation, and policy activities in leadership roles in a developmentally respectful manner (HRSA, 2018)	69	4.6
6	*Negotiation and conflict resolution Negotiation* is a cooperative process where participants try to find a solution that meets the legitimate interests of involved parties; it is a discussion intended to produce an agreement *Conflict resolution* is the process of resolving or managing a dispute by sharing each party's points of view and adequately addressing their interests so that they are satisfied with the outcome (HRSA, 2018)	54	3.6
12	*Policy* It is important for MCH leaders to possess policy skills, particularly in changing and competitive economic and political environments. MCH leaders understand the resources necessary to improve health and well-being for children, youth, families, and communities, and the need to be able to articulate those needs in the context of policy development and implementation (HRSA, 2018)	34	2.3
7	*Cultural competence* A developmental process that occurs along a continuum and evolves over an extended period. It broadly represents knowledge and skills necessary to communicate and interact effectively with people regardless of differences, helping to ensure that the needs of all people and communities are met in a respectful and responsive way in an effort to decrease health disparities and lead to health equity. Becoming culturally competent is an ongoing and fluid process (HRSA, 2018)	14	0.9
	Total	948	62.8

Table 3 Exemplar quotes for each coded competency

Competency	Exemplar quote
Developing others through teaching and mentoring (MCH LC #9)	At the Metro Health Department, we have a formal mentor/mentee program in place for the 507 Metro Health Department employees and the forty something Gen-Xers who are very much like me, who are hungry for someone to invest the time and the skills and the energy into them. I would not have been able to do that this year without having been in this program in particular
Newly emerged competency/concept: organizational development	For my leadership it was transitional in bringing a whole agency to a whole other level. What impacted me the most was the adaptive leadership. I found that that book was very, very helpful. And in fact, after we had our call, I went and did a class for the [city name redacted] Dept. of Public Health under [mayor]'s administration about the book, and now they're using that book as a leadership training
Communication (MCH LC #5)	The ripple effects were immediate because I came home with the 27-9-3 rule and other communication templates. I went back and looked at my trainings and my brochures and redid them
Immediately on our evaluations we were scoring at the maximum and we were able in the last year…[We were able to] assist 300 families with reflective listening, peer coaching, with one-to-one assistance; 3500 families and professionals through workshops, trainings, materials that were disseminated
Interdisciplinary team building (MCH LC #10)	We've also increased partnerships and using the skills of collaboration, looking at group think, adaptive challenge…looking at adaptive leadership and engendering those tools we've been able to [inform] my colleagues about the importance of partnerships and also they've then moved forward and forged new partnerships themselves
Family centered care (MCH LC #8)	Being in this class with representative family leaders, the best possible thing. I have such a different appreciation for family leaders. My role, in involving them in the process, and, because of that, has improved 1000% the relationship in [state name redacted] between Public Health, specifically MCH, and family leaders
Negotiation and conflict resolution (MCH LC #6)	Organizationally, based on the learning that we've received here [I've been able] to really give back to my organization and to utilize the skills that I've developed here…from being able to hold difficult conversations, to understanding myself long enough and understand what my default styles are, conflict and negotiation to trying to get out of those kind of ruts, and being able to use some different skills to address…very complex problems even within our organization. I think by doing that we've been able to become a little bit more efficient and a little bit more effective in what we do at [organization name redacted]
Cultural competency (MCH LC # 7)	[There are now] new opportunities for the parent voice and to highlight what it is to be a parent with a child and youth with special healthcare needs, and every story is different and now we have a diverse group—South Asian, Latino—that can really share their story and their culture. We're all the same and we're all different but we have a unique story to tell
Working with communities and systems (MCH LC #11)	One of the greatest ripple effects I've had is really changing that advisory council. Since being a leader within the [program name], Department of Health, I really made that council become more interactive and I think I have really engaged the folks. And all these folks are leaders themselves, they're coming from other departments, from other cities and counties where they maybe supervise staff or may be responsible for putting programs into effect. In every council meeting now we have an interactive strategic planning piece where I go up and force people into conversation and work through our actual problems. So it's not just us presenting. We're actually trying to get input from others. … we make sure to then put up the conclusions from these strategic planning sessions to the rest of the group so we can have some input from the rest of the folks that are less likely to talk up…We bring in folks from outside organizations to work on collaboration and these folks present on what they do, whether they be from Housing or other fields, or the solutions allowed for the problems of lead poisoning in [program name redacted]

Table 3 (continued)

Competency	Exemplar quote
Policy (MCH LC #12)	We ended up…crafting a department bill that addressed in our statute where we were in terms of what kind of language we had, what did we need, where did we need to go. So we used our policy and advocacy skills that we—I, and now we, had learned here—and we talked a lot about communication and how important it was, because it was really a lightning rod issue for us. We wanted to look at how we could maximize the amount of money we had, while still being able to serve people; because we knew there was some of that money that wasn't being well spent. I testified in front of the Health and Human Services Committee about this bill and it came out of committee with an "ought to pass". Went through the legislative process and was signed by the Governor. So we're feeling like we're in a real solid position now in places that it's appropriate for people who intentionally misuse funds to be able to pull those back and use them into the system for people that can use our benefits

Developing Others Through Teaching, Coaching, and Mentoring (MCH LC #9)

Eighty-nine participants (80% of all participants) cited 205 instances of impacts in the area of developing others through teaching and mentoring. In particular, receiving mentoring was cited as beneficial, in addition to serving as a mentor to staff, family leaders, and through other opportunities outside of their organization. Skills learned in the MCH PHLI were also used to develop others in the organizational setting. Participants reported that skills and resources were utilized and shared with others within their organizations. For example, 55 participants (50%) discussed the benefits of sharing MCH PHLI materials, including books and leadership articles, with staff in their organizations. Forty-six participants (41% of the Cohorts) indicated their involvement in the MCH PHLI inspired them to create increased leadership growth opportunities for staff within their home organizations. Participants cited positive impacts in the way they manage and lead others in their home organizations, which led to greater engagement and development of skills in their team.

Newly Emerged Competency/Concept: Organizational Development

Eighty-seven participants (78%) reported 183 instances of impacts in the area of organizational development, including increased competence in program/project management, improved management skills, increased competence and implementation of visioning and strategic planning within their home organizations, increased attention to team development (as separate from interprofessional team development), and increased ability to lead in the midst of increased challenges, among others. Fellows reported that skills learned through the MCH PHLI had positive impacts in hiring practices at participants' organizations. In particular, Behavioral Event Interviewing (Fernandez, 2010) was incorporated at multiple organizations, and participants indicated this skill equipped them to be more effective in hiring staff who were a better fit for their organization. Participants also reported use of learned skills and their Personal Leadership Projects as helping bring far-reaching improvements to their organizations and agencies, creating more positive organizational cultures resulting in succession planning and retention of valuable staff.

Communication (MCH LC #5)

Eighty-three participants (75%) cited 164 instances of using the leadership competency of communication. Participants described utilizing communication skills taught by MCH PHLI in verbal, written, and electronic communication. Participants reported that increased competency in communication led to the development of new programs, increased and improved advocacy and policy actions, and increased ability to articulate organizational vision and mission. Participants described using the skills learned from the MCH PHLI to improve communication outside of their organization via press releases, newsletters, and memos. Participants also reported the use of listening skills learned through the MCH PHLI. Participants reported being able to listen to and receive feedback from leadership and staff and being able to better listen to constituents of their programs. Enhanced communications skills were credited with allowing participants to build trust in their organizations, be more strategic in how they communicate information about their programs and organizations and improve their ability to advocate and work on policy.

Interdisciplinary/Interprofessional Team Building (MCH LC #10)

Fifty-three participants (48%) reported 82 instances of impacts in the area of interdisciplinary/interprofessional team building. Development of their Personal Leadership Projects and partnerships often required interdisciplinary and inter-professional teamwork, not only between their

home organization and families, but with other agencies working in maternal and child health (e.g. school systems, hospitals, universities, etc.). Six participants discussed bridging "silos" in the MCH field in order to make services more effective and efficient.

Family Professional Partnerships (MCH LC #8)

Thirty-seven participants (33%) cited 69 instances of impacts in family professional partnerships. Participants reported seven instances of development and expansion of family mentoring and leadership training programs. Some reported teaching specific MCH PHLI tools and assessments in programming with families and using the format of the MCH PHLI as a framework for development of their family/parent training programs. An important finding reported by participants is that the inclusion of family leaders as participants in the MCH PHLI training led to increased appreciation for and understanding of the importance of family leaders.

Negotiation and Conflict Resolution (MCH LC #6)

Forty-two participants (38%) shared 54 instances of the use of negotiation and conflict resolution skills. Participants reported that skills learned in the MCH PHLI were regularly used in difficult conversations with staff, coworkers, and partners, and that their use of conflict resolution skills helped participants improve relationships within organizations, across stakeholder groups, and on personal levels. Skills were also used in negotiation of job transitions and new positions obtained by participants.

Cultural Competency (MCH LC # 7)

Twelve participants (11%) presented 14 instances of impacts in cultural competency, including serving as cultural brokers, helping families navigate cultural differences, increasing representation of historically marginalized populations within their home organizations. One Fellow described how the cultural competency resources taught in the MCH PHLI were adopted for use throughout her home state.

Wider Community Leadership Impacts

Overall, participants cited an average of 1.59 examples each (177 total) that were coded as at the MCH LC "Wider Community" Level. The following are listed in descending order of frequency within this level.

Working with Communities and Systems (MCH LC #11)

Eighty-four participants (76% of all participants) reported 143 examples of activities in the area of working with communities and systems. Participants discussed 42 instances of increased involvement in the communities in which they work as a result of being an MCH PHLI Fellow. Examples of these efforts include new community-based programs, investing in local communities, program expansion into surrounding counties, expanded community leadership opportunities, empowering community members to play integral roles in solving community challenges, and bridging the gap between the local community and MCH workforce members at the state level.

Skills learned in the MCH PHLI helped participants impact systems level issues in maternal and child health, early childhood, mental health, medical, public school, higher education, and social work systems, among others. A theme that emerged in participants' discussion of systems level impacts is that the MCH PHLI helped them understand the "bigger-picture" systems view of the issues they confront in their organizations.

Policy (MCH LC #12)

Twenty-six participants (23%) reported 34 instances of impacts in the area of Policy. MCH PHLI participants used skills gained through the training to influence changes on behalf of MCH populations in multiple venues, including state and federal legislators, state-level MCH departments, local advisory boards, and state school systems, among others. For example, one Fellow indicated that the skills and confidence she gained in the MCH PHLI enabled her to lead a successful effort to enact a new law in her home state that regulates teenage mothers' ability to give consent for their own healthcare decisions, despite the fact that they were considered minors—a change in policy that impacted over 1000 teens and their babies on an annual basis. Participants also reported using the policy and advocacy skills learned through the MCH PHLI to inform training for the MCH populations that they serve, including parent advocacy training.

Reported Numbers Impacted by Participants

In many cases participants quantified the number of people affected by their actions when they gave their "ripple effect" presentation of their dissemination activities (Table 4). While some numbers are estimates, in some cases participants quantified the actual numbers of individuals at their organizations (public health staff) or in their communities (constituents) who were influenced or impacted by how participants implemented skills learned from the MCH PHLI. When combined, participants reported impacting more than

Table 4 Quantification of impact: how MCH PHLI leaders estimate the impact of their leadership in public health organizations and communities

Cohort	Reported number of people influenced/reached	Examples
Cohort 1	9410–10,310[a]	7000 state Health Department employees enrolled in scholarly mentoring program 33 family leaders receiving leadership training books
Cohort 2	61,111	183 people experiencing poverty enrolled in life coaching program 60,000 people served via a new community initiative focusing on social determinants of health
Cohort 3	5085	150 people received technical assistance and new resources as a result of new program 100+ people involved in early childhood collaborative impacted by improved communication strategies
Cohort 4	4267	900 staff receive training and evaluation leadership as a result of new promotion 250 Family and Community Health Services staff trained at new staff conference
Total	79,873–80,773	

[a]One participant provided a range of the number of people influence by their actions/leadership

80,000 stakeholders using the skills learned in the MCH PHLI.

Conclusions for Practice

The MCH PHLI provided a highly practical, skills-focused, evidence-based leadership development approach. Matriculating through the program from 2009 to 2014, participants experienced the economic fallout from the "great recession" of the time, which they reported created complex leadership challenges that impacted their funding, staffing, and ability to meet the needs of the communities they served. These data provide interesting insight into how MCH leaders applied MCH skills and competencies to their myriad responsibilities during a time when significant challenges existed in state and federal budgets. Given that at the time of writing, the COVID-19 pandemic is currently creating another significant economic crisis, these data might provide some evidence for how investing in leadership development could help current MCH leaders navigate the challenges that lay before them over the next several years.

The depth and breadth of impacts described by participants provides illustrations of how leaders implement and apply newly learned skills. One key finding from these data is that the investment in intensive training of MCH leaders (13 days of in-person training) influenced the leaders themselves and led to demonstrable impacts on a much broader population of individuals, professionals, organizations, and communities. Quantifying the numbers of people participants impacted was unanticipated and it surprised us how these 111 mostly mid-level leaders reported such a direct, broad, and unambiguous reach across the populations they serve. Clearly, MCH leaders are critical to the infrastructure for public health in their communities.

These data indicate that participants found relatively immediate and substantial value from their training guided by the MCH LCs, which they could present and quantify as early as program graduation, and suggest that the curriculum was able to show successful results at the Kirkpatrick Levels III (behavior) and IV (results) (Kirkpatrick & Kirkpatrick, 2006, 2007). In describing the impacts resulting from their leadership skill development, many participants referenced activities that were part of their Personal Leadership Projects, providing some evidence for the validity of the information shared.

The analysis provided useful insights for "Working with Communities and Systems", which describes activities involving both "working with communities" and "working with organizational systems," although community and organizational systems can be quite different in practice. The analysis found that instances coded as "Working with Communities and Systems" naturally lent themselves to be identified as either "Working with Communities and Systems (within communities)," (reported 143 times), or "Organizational Development," (reported 183 times). Interestingly, out of the 326 examples reported by participants coded with either of these two competencies, only 56 were cross-coded as both. As such, they stand as separate categories in the analyses.

Leadership activities to influence"communities" or "systems" are quite different. Developing organizations, creating learning organizations, and shaping organizational cultures are crucial skills for leaders today (Geerts et al., 2020; Schein, 2017). The reported frequency of organizational development skills in the presentations indicates the importance of such skills in real-world settings. Similarly, working with systems that impact communities is an essential component of MCH practice and clearly recognized as important by MCH practitioners, as evidenced by the number of instances reported in this study. MCH PHLI participants worked with and within communities and, as such, needed skills to engage and empower those communities. They also required systems-level understanding of the MCH

issues with which they engage. Knowing how to interact within various systems was valuable to them; they work not only within MCH-specific systems but also with the mental health system, school systems, higher education systems, and health care systems, among others. These data suggest that participants implement these skills differently. MCH leaders need the skills to develop organizations (such as staff development, organizational sustainability, succession planning, hiring, developing organizational culture, etc.). Implementing such skills leads to improved organizational functioning and improved services for MCH populations. In a leadership-development setting teaching these concepts as distinctly different aspects of "systems" is less burdensome to faculty and more streamlined for learners.

Despite the considerable impacts described above, there are limitations to this study. Some of the data represent longer-term impacts (changing laws for example), yet it is unknown how many of these impacts remain in effect. Many of the most important changes that resulted from the MCH PHLI training would take place in the years and decades after the conclusion of their participation, and consequently is not captured here. Longer term follow-up of MCH PHLI graduates and participants from other similar types of programs could illuminate potential lasting effects of the intensive leadership training strategy utilized by the MCH PHLI, further clarifying the value of this kind of workforce development investment. Additionally, as is well known with any study utilizing self-report data, a certain level of social desirability bias is to be expected (Furnham, 1986).

Findings from this analysis indicate that MCH PHLI participants gained significant skills which they applied in their organizations and communities, with the ultimate goal of improving the health and well-being of the MCH populations they serve. In this way, MCH PHLI participants create "ripple effects" as they employ and share the specific skills they learn, effectively extending the reach of the development program.

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