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Integrating Family as a Discipline by Providing Parent Led Curricula: Impact on LEND Trainees' Leadership Competency

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Abstract *Background* While the MCH Leadership Competencies and family as a discipline have been required elements of Leadership Education in Neurodevelopmental and related Disabilities (LEND) programs for over a decade, little research has been published on the efficacy of either programmatic component in the development of the next generation of leaders who can advocate and care for Maternal and Child Health (MCH) populations. *Objective* To test the effectiveness of integrating the family discipline through implementation of parent led curricula on trainees' content knowledge, skills, and leadership development in family-centered care, according to the MCH Leadership Competencies. *Methods* One hundred and two long-term (≥300 h) LEND trainees completed a clinical and leadership training program which featured intensive parent led curricula supported by a full-time family faculty member. Trainees rated themselves on the five Basic and Advanced skill items that comprise *MCH Leadership Competency 8: Family-centered Care* at the beginning and conclusion of their LEND traineeship. *Results* When compared to their initial scores, trainees rated themselves significantly higher across all family-centered leadership competency items at the completion of their LEND traineeship. *Conclusions* The intentional engagement of a full-time family faculty member and parent led curricula that include didactic and experiential components are associated with greater identification and adoption by trainees of family-centered attitudes, skills, and practices. However, the use of the MCH Leadership Competencies as a quantifiable measure of program evaluation, particularly leadership development, is limited.

Keywords LEND program curriculum · Parent led curricula · MCH leadership competencies · Developmental disabilities · Leadership development · Family discipline

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Significance

This study expands our understanding of MCH training program outcomes by using an MCH leadership competency to directly measure the effectiveness of the LEND family discipline and parent led curricula in facilitating trainee leadership development in family-centered care.

Introduction

Leadership Education in Neurodevelopmental and related Disabilities (LEND) programs are funded by the Maternal and Child Health (MCH) Bureau to "improve the health of children who have, or are at risk for, neurodevelopmental or related disabilities" (HRSA 2010). A common feature of all LEND programs is the enrollment of trainees who are university students, typically at the graduate level of study. At present, 52 LEND programs across 44 states compose the interdisciplinary training network for future leaders who will work with and on behalf of children with disabilities and their families across a variety of clinical, research,

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teaching, and policy/advocacy settings. Faculty from 14 academic disciplines, including audiology, genetic counseling, health administration, medicine, nursing, nutrition, occupational and physical therapy, pediatric dentistry, psychology, public health, social work, special education, and speech-language pathology prepare these trainees.

MCH Leadership Competencies and Measuring Leadership Development

Historically, leadership development has been encouraged across MCH interdisciplinary training programs. Prior to 2000, however, there was no uniform definition or metric to measure leadership development (Richardson et al. 1988). A shift to a competency-based curriculum with a focus on self-development occurred to help ensure that professionals-in-training would develop the necessary leadership skills to meet the growing demands of the MCH population (Maternal and Child Health Bureau 2009). By 2004, the MCHB, in collaboration with MCH training programs and practitioners, had codified important elements of leadership development by publishing the MCH Leadership Competencies (Mouradian and Huebner 2007) and required that all MCH-funded training programs report on a leadership development performance measure. The MCH Leadership Competencies (currently version 3.0) were developed through an iterative process of expert consensus (Reed 2009) by the MCH Leadership Competencies Workgroup and released by MCHB's Division of Research, Training, and Education in 2009. The workgroup asserted that leadership in MCH is both contextual and developmental in nature and requires the acquisition of specific content knowledge, skill areas, personal characteristics, and values (Maternal and Child Health Bureau 2009).

Since that time, LEND programs have been required to include the MCH Leadership Competencies in curriculum and program development (HRSA 2010). The competencies provide a conceptual framework by which training objectives can be established, curricula can be enhanced, and leadership development can be measured and evaluated (Humphreys et al. 2015). The current version of the Competencies encompasses 72 items clustered into 12 competency domains: (1) MCH Knowledge Base; (2) Self-Reflection; (3) Ethics & Professionalism; (4) Critical Thinking; (5) Communication; (6) Negotiation & Conflict; (7) Cultural Competency; (8) Family-centered Care; (9) Developing Others Through Teaching & Mentoring; (10) Interdisciplinary Team Building; (11) Working with Communities & Systems; and (12) Policy & Advocacy. Each of the 12 leadership competencies includes a definition of the competency, knowledge areas, and Basic and Advanced skills for that competency. In addition, the competencies are ordered in a progression from *Self* (Competencies 1–4) to *Others* (Competencies 5–10) to the *Wider Community* (Competencies 11–12) that demonstrates the "widening contacts, broadening interests, and growing influence that an MCH leader can experience over a professional lifetime (Maternal and Child Health Bureau 2009)".

Only recently, Kavanagh et al. (2015) conducted the first large retrospective analysis of cross-sectional data to investigate select training outcomes across *all* MCH Training Programs, including LENDs. The majority of long-term trainees ($\geq$300 contact hours) who completed MCH Training Programs between 2007 and 2011 reported that they currently demonstrate leadership in the field (84.4%), work in an interdisciplinary manner to serve the MCH population (78.2%), and work with underserved or vulnerable populations (83.0%). While these findings support the continued investment in MCH Training Programs to ensure an ongoing pipeline of health professionals to care for these populations, this study did not use the MCH Leadership Competencies to measure training outcomes; the degree to which these trainees have developed specific knowledge, skills, and leadership competencies, if at all, was not a part of this study.

Family-centered Care as an MCH Leadership Competency

Family-centered Care is one of the twelve MCH Competencies that guide LEND leadership training. The inclusion of family in all aspects of training and practice is believed to be critical in the personnel preparation of health care providers (Kuhlthau et al. 2011). MCHB defined family-centered care in 2005 as "ensur[ing] the health and well-being of children and their families through a respectful family-professional partnership that includes shared decision making. It honors the strengths, cultures, traditions, and expertise that everyone brings to this relationship" (Maternal and Child Health Bureau 2009). In the conceptual framework of the MCH Leadership Competencies, Family-centered Care is classified as one of six leadership competencies extending to and influencing the lives of *Others*.

Family as a LEND Discipline and Parent Led Curricula

More recently, alongside the 14 academic disciplines, parents and family members of children with neurodevelopmental disabilities have been included as members of the interdisciplinary faculty team. MCHB mandated the inclusion of family as a formal discipline within LEND programs in 2005 (Association of University Centers on Disabilities 2006a). This was, in part, in response to the lack of emphasis on family-centered care across many medical and allied health education programs (Crais et al. 2006; Strickland et al. 2009). A family-centered perspective in

the provision of health care has been shown to have positive health outcomes for MCH populations (Kuhlthau et al. 2011; Kuo et al. 2011). This perspective acknowledges the family as the foundation and one of the few, typical constants in the child's life and, as such, a crucial member of a collaborative health team (Johnson and Kastner 2005). For health care to be delivered in an effective manner, MCH professionals must develop a close relationship with the family so they can collaborate with each other and with other professionals in providing effective care for Children with Special Health Care Needs (CSHCN), realizing that satisfaction and health outcomes are greatest if joint parent-professional involvement in treating the child occurs (American Academy of Pediatrics 2002; Rossignol 2015).

The Boling Center for Developmental Disabilities has continuously employed a full-time family member as part of the interdisciplinary LEND faculty since 2001. The chief of the family discipline, the Family Faculty Coordinator, has a variety of roles with long-term LEND trainees, including consultation during diagnostic and evaluation clinics, assessment of the family's resource needs, and provision of family-centered and culturally competent approaches to patient care. Periodic noon didactics, training panels, Individualized Education Program school meetings with trainees, and discipline-specific seminars routinely include the Family Faculty Coordinator and other family representatives. In addition, trainees are invited to attend support/information groups and local disability board meetings with family members as learning experiences. Most notably, the Family Faculty Coordinator oversees a didactic and experiential Family Mentorship program for LEND trainees (Association of University Centers on Disabilities 2006b). A cadre of approximately 25 volunteer families of persons with disabilities who are at least two years post diagnosis participate by being matched with trainees for a series of activities and learning experiences. Common chronic health and disability conditions represented within families include Autism Spectrum Disorder, Intellectual Disability, Down syndrome, ADHD, Specific Learning Disorder, Spina Bifida, and Cerebral Palsy.

The Family Mentorship experience provides the opportunity for all long-term LEND trainees to explore their personal goals as they relate to family life for a family experiencing the disability or chronic health condition of a child. There are several components to this experience, including spending 8–12 h with the mentoring family, journaling those experiences, and participating in monthly interdisciplinary conversations which focus on a variety of current issues in disability. Trainees are presented with a list of participating families, a description of their children, and are assisted in identifying personal learning goals and choosing a mentoring family. At the first of six interdisciplinary meetings led by the Family Faculty Coordinator, trainees are introduced to the MCH Leadership Competencies as they relate to family experiences and asked about their personal experiences with disability. Each trainee is asked to consider these issues as they may pertain to their chosen mentoring family. Examples of trainee experiences with the family include: mealtime in the home, routine activities of daily living, observing the child in school or on the playground, attending a therapy session, or shopping for groceries with the family. Monthly meetings are initially led by the Family Faculty Coordinator; as the year progresses, however, the LEND family trainee(s) participates as the discussion leader and contributes his or her own personal experiences. Examples of discussion topics at the interdisciplinary meetings include: *The Financial Impact of a Child with a Disability; Cultural Aspects of Self-Determination*; and *Long-Term Supports: Who Takes Over When the Parents are Gone*? The overall desired outcome is that LEND trainees have increased family-centered competence, including an awareness of multiple issues faced by families and a growing appreciation for a diverse cross-section of family structures.

Evaluation of the Family Discipline and Parent Led Curricula

Evaluation of the family discipline and parent led curricula in the field of neurodevelopmental disabilities has been very limited. No research has examined the efficacy of including family members with long-term trainees, or students from allied health disciplines, in a LEND Program. There is, however, a limited amount of research that supports the use of a parent led curriculum with medium-term (40–299 program hours) medicine trainees in such programs. An evaluation of the immediate outcomes of a parent led curriculum in a sample of medical residents upon completion of their month-long rotation demonstrated a high degree of satisfaction with the experience (Kube et al. 2013). Further, participation in this parent led curriculum during medical residency had a lasting impact on physicians' relationships with families when surveyed two to ten years later (Keisling et al. 2017). These findings are consistent with the few, smaller studies that exist in the literature and support the assertion that parent led training programs can have a positive impact not only for residents (Wysocki et al. 1987) but also for mixed groups of medical students and residents (Blasco et al. 1999).

Current Study

While the formal inclusion of family as a discipline in 2005 and the revision of the MCH Leadership Competencies in 2009 are both thought to be enhancements to LEND programs, there is no available research that evaluates the

training impact of the former or the measurement sensitivity of the latter. The aim of the present study was to evaluate one MCH competency, *Family-centered Care*, to determine if high involvement by a full-time family faculty member and robust parent led curricula in neurodevelopmental disabilities were associated with meaningful, measurable change in this construct. It was hypothesized that trainees would rate their own knowledge, skills, and leadership development in family-centered care as significantly higher after completion of a LEND program which prominently featured high interdisciplinary involvement with family faculty and parent led curricula.

Methods

Design

This study employed a mixed methods design, consisting of an analysis of repeated quantitative measures and a qualitative component. Pairwise comparisons of pre- and post-test scores were analyzed to explore the extent to which the LEND family discipline and parent led curricula were associated with the development of trainee leadership in family-centered care. Trainees were also asked to provide written comments about the family discipline and parent led curricula as an integrated part of their LEND experience to complement the quantitative measure of program evaluation.

Participants

Trainees who completed 300 or more contact hours in the LEND program at the Boling Center for Developmental Disabilities between 2009 and 2015 were eligible participants for the study. Depending on trainees' academic discipline and degree program of study, traineeships lasted from four months to two years. Of the 127 eligible trainees during this time period, 102 graduate students (80.3%) completed the MCH Leadership Competencies (version 3.0) as a pre- and post-test assessment of their knowledge, skills, and leadership development across the twelve competency domains. Twenty-one trainees did not complete either the pre- or post-test assessment and, as such, their data were not included in the study. Four additional pre- and post-test assessments were submitted with one or more competency items left incomplete and, therefore, were not included in the sample.

The age of the 102 LEND trainees ranged from 22 to 55 years ($M = 29.2$, $SD = 6.09$) and women encompassed the vast majority of the sample (95.1%). A wide variety of MCH disciplines were represented, including psychology (46.1%), speech-language pathology (19.6%), audiology (8.8%), nutrition (11.8%), social work (4.9%), nursing (4.9%), and family (2.9%). Forty percent of the trainees were pursuing a master's degree while 48.0% were in doctoral programs of study. A minority of the sample (10.8%) was completing a post-doctoral fellowship in psychology. Forty-seven (46.1%) of the trainees reported having a personal relationship with disabilities (e.g., parent or family member of a person with a disability or special health care need). The mean number of hours trainees completed during the LEND program was 821.4 ($SD = 755.8$, range = 300–3,803).

Measures

At the outset and completion of their LEND experience, trainees were asked to voluntarily rate themselves along the MCH Leadership Competencies (version 3.0) as a pre- and post-test. A 5-point Likert scale was included with the publication of version 3.0 so that trainees could rate themselves from 1 (low) to 5 (high) across each of the Basic and Advanced skill items which comprise the twelve competencies. Point anchors describing the level of knowledge, skill, and leadership competency associated with each score along the Likert scale were clearly defined (see Table 1). Of particular interest to this study were the five items—two Basic skills and three Advanced skills—that comprise *Competency 8: Family-centered Care* as the dependent measures of interest. Table 2 presents the definition and knowledge outcomes of this MCH competency that were considered by the trainees when they completed the questionnaire. The National Information Reporting System (NIRS) database was used to collect select demographic information about the sample of LEND trainees, including age, academic discipline, degree-seeking status, personal relationship with disability, and total training hours.

Procedure

Trainees were provided a paper copy of the MCH Leadership Competencies, including the Likert scale point anchors (Table 1) and Family-centered Care competency definition (Table 2) for reference. They were instructed to rate themselves before their LEND program began and again at the end of the training experience. After rating the Basic and Advanced skills items associated with each competency, there was a section on the form where trainees could provide written comments about their experiences in that competency area. There was no compensation for their participation in the study. Ratings were reviewed with clinical supervisors at the outset of training to aid in the development of personalized learning goals and, at the conclusion of the LEND program, as a point for self-reflection. When questionnaires were not returned at the end of a trainee's LEND program, the training coordinator made

Table 1 MCH leadership competencies: LEND trainee Likert ratings scale

Demonstrates a *lack* of leadership competency	1	Lacks strength/competency in this area. Learning experiences needed
Demonstrates *marginal* leadership competency	2	Emerging skill and awareness of issues. Marginal competency in this area. Continuing to need learning experiences
Demonstrates *some* leadership competency	3	Able to contribute to own profession and related disciplines in this area. Has basic knowledge of issues, demonstrates clinical skills and resources to continue professional growth. Effective with patients and colleagues with some guidance
Demonstrates leadership competency *intermittently*	4	Strong knowledge base in intellectual and developmental disabilities. Competency consistently demonstrated. Able to professionally act and contribute both collaboratively and individually. Expertise demonstrated working with individuals of all ages and their families. Learning is put into practice independently
Demonstrates leadership competency *consistently*	5	Extensive working knowledge, networking, and resourcefulness demonstrated. Demonstrates leadership in advocacy, program development, implementation, and evaluation to enhance the lives of persons with intellectual and developmental disabilities and their families. Engages in research

Table 2 MCH leadership competency 8: Family-centered care

DEFINITION
Family-centered care ensures the health and well-being of children and their families through a respectful family-professional partnership that includes shared decision-making. It honors the strengths, cultures, traditions, and expertise that everyone brings to this relationship
Historically, in the field of MCH, the concept of family-centered care was developed within the community of parents, advocates, and health professionals concerned for Children with Special Health Care Needs (CSHCN)
KNOWLEDGE
Through participation in this program, a participant will know: • The definition of family-centered care and the origin of the family-centered perspective • At least one example of the principles of family-centered care in MCH policies, programs, or clinical practice (e.g., a medical home model of primary care)

two additional follow-up attempts to have those trainees complete their self-ratings of the MCH Leadership Competencies. The training coordinator at the Boling Center for Developmental Disabilities collected and compiled all questionnaire data. The project met criteria for an expedited review through the university institutional review board and was approved.

Results

All trainees rated themselves as either having maintained or gained competency across the five Basic and Advanced skills items of the Family-centered Care competency. Table 3 outlines the descriptive statistics associated with each of the five skill items. The mean Likert point increase for any single item on the competency measure ranged from 1.28 to 1.45 (*SD* from 0.78 to 0.98). Collapsed across all five items of the competency measure, the grand mean post-test Likert point increase was 6.78 ($SD = 3.44$). Across pre- and post-test administrations, the five items of the Family-centered Care competency measure were all significantly correlated with each other ($r = 0.41$ to 0.69, all $p < .001$). LEND trainees' comments at the conclusion of the experience reflected the positive influence of family faculty and parent led curricula: "My beliefs have been challenged about families of children with disabilities. I'm really encouraged to listen to families, advocate for them, and show parents that I want the best for their children, too."

As is common with ordinal (e.g., Likert) scales of measurement, the pre- and post-test scores across all five items of the Family-centered Care competency were not normally distributed (Kolmogorov–Smirnov $p < .001$). As such, the nonparametric Wilcoxon Paired Signed-Rank Test was used to evaluate whether differences between trainees' pre- and post-test ratings were statistically significant (Siegel 1956). Pairwise comparisons revealed that, across all five items, trainees rated themselves as significantly more competent ($p < .001$) at the conclusion of their LEND traineeship when compared to their self-perception at the outset of the program. The majority of trainees rated themselves as having gained competency across *all* items at the conclusion of LEND training (i.e., positively ranked themselves) while a smaller number in the sample described themselves as having maintained their competency skill set (i.e., tied their pre-test score) on select items. No trainees rated themselves lower on any items at the conclusion of the LEND

Table 3 Descriptive statistics across family-centered care competency items (N = 102)

Basic skills. Through participation in this program, a participant will:	Pre-test scores			Post-test scores		
	M	*SD*	Range	*M*	*SD*	Range
Solicit and use family input in a meaningful way in the design or delivery of clinical services, program planning, and evaluation	3.03	1.01	1–5	4.32	0.67	2–5
Operationalize the "family-centered care" philosophical constructs (e.g., families and professionals share decision making; professionals use a strengths-based approach when working with families) and use these constructs to critique and strengthen practices, programs, or policies that affect MCH population groups	2.72	1.00	1–5	4.18	0.79	2–5
Advanced skills. With more experience and building on the Basic skills, MCH leaders will:	Pre-test scores			Post-test scores		
	M	*SD*	Range	*M*	*SD*	Range
Ensure that family perspectives play a pivotal role in MCH research, clinical practice, programs, or policy (e.g., in community needs assessments, processes to establish priorities for new initiatives or research agenda, or the development of clinical guidelines)	2.51	1.07	1–5	3.91	0.92	1–5
Assist primary care providers, organizations, and/or health plans to develop, implement, and/or evaluate models of family-centered care	2.26	1.10	1–5	3.58	1.12	1–5
Incorporate family-centered and medical home models of health care delivery into health professions and continuing education curricula and assess the effect of this training on professional skills, health programs, or policies	2.15	1.03	1–5	3.47	1.06	1–5

program (i.e., negatively ranked themselves). This pattern held across both trainees' ratings of Basic skills in knowledge and skill acquisition (see Table 4) and Advanced skills in leadership development (see Table 5) in Family-centered Care. Trainee comments reflected this uniform trend: "It was an incredible opportunity to see discussions through the eyes of mothers who have children with special needs. They always provided a unique perspective, which I would have never seen without their participation. Through their ongoing insights, I learned about the strengths and struggles of a family impacted by disability. This new knowledge will help guide me in my practice by allowing me to consider the family as a whole and not just the child with special needs."

While all post-program ratings of the Family-centered Care competencies were statistically significant, a minority of trainees rated themselves as unchanged (i.e., tied) across some items, particularly in the Advanced skills domain. Trainee comments reflected a desire to obtain more family-centered experiences as they relate to broader systems change: "While we received ample clinical training with and for families, there were few activities relating to policy." No significant changes among pre- and post-test scores were revealed when trainees' ratings were compared to each other based on their academic discipline, degree program of study, age, or total hours of LEND training.

Discussion

This study was designed to determine, using an MCH leadership competency as an outcome measure, whether

Table 4 Pre/post ratings of MCH competency 8—family-centered care: Basic skills[a]

Basic skills. Through participation in this program, a participant will:	Type of ranks	N	Mean rank	Sum of ranks	Z	p-value (2-tail)
Solicit and use family input in a meaningful way in the design or delivery of clinical services, program planning, and evaluation	Negative ranks	0	0.00	0.00	−8.316[b]	< 0.001
	Positive ranks	87	44.00	3828.00		
	Ties	15				
	Total	102				
Operationalize the "family-centered care" philosophical constructs (e.g., families and professionals share decision making; professionals use a strengths-based approach when working with families) and use these constructs to critique and strengthen practices, programs, or policies that affect MCH population groups	Negative ranks	0	0.00	0.00	−8.623[b]	< 0.001
	Positive ranks	94	47.50	4465.00		
	Ties	8				
	Total	102				

[a]Wilcoxon signed ranks test

[b]Based on negative ranks

Table 5 Pre/post ratings of MCH competency 8—family-centered care: Advanced skills[a]

Advanced skills. With more experience and building on the Basic skills, MCH leaders will:	Type of ranks	N	Mean rank	Sum of ranks	Z	p-value (2-tail)
Ensure that family perspectives play a pivotal role in MCH research, clinical practice, programs, or policy (e.g., in community needs assessments, processes to establish priorities for new initiatives or research agenda, or the development of clinical guidelines)	Negative ranks	0	0.00	0.00	−8.426[b]	<0.001
	Positive ranks	90	45.50	4095.00		
	Ties	12				
	Total	102				
Assist primary care providers, organizations, and/or health plans to develop, implement, and/or evaluate models of family-centered care	Negative ranks	0	0.00	0.00	−8.043[b]	<0.001
	Positive ranks	82	41.50	3403.00		
	Ties	20				
	Total	102				
Incorporate family-centered and medical home models of health care delivery into health professions and continuing education curricula and assess the effect of this training on professional skills, health programs, or policies	Negative ranks	0	0.00	0.00	−8.245[b]	<0.001
	Positive ranks	86	43.50	3741.00		
	Ties	16				
	Total	102				

[a]Wilcoxon signed ranks test

[b]Based on negative ranks

a LEND program that includes a full-time family faculty member and intensive parent led curricula can demonstrate an increase in perceived knowledge, skills, and leadership development in family-centered care. The results uniformly demonstrate that graduate trainees who participated in parent led curricula rated themselves as more knowledgeable about what constitutes family-centered care and more supportive of a family-professional partnership at the conclusion of their LEND traineeship.

Parents and families possess a unique perspective on the experience of living with a child with a neurodevelopmental disability, including particular stressors and the need for advocacy across systems. In support of those life experiences, LEND trainees reported being more likely to engage in the Basic skill of soliciting input from families in the design and delivery of services and more committed to ensuring that family perspectives have a significant role in clinical practices, programs, and policy. Additionally, trainees affirmed the important role that the family discipline had in their training and the heightened family-centered awareness it brought to their current leadership development: "The family mentorship experience was an amazing opportunity to gain a better understanding of various cultures, including the family culture and the disability culture. This understanding has influenced how I work with families."

While all post-program ratings of the Family-centered Care competency items were statistically significant, one Advanced item had a notable number of trainees (20 or 19.6% of the sample) reporting no change in their perceived competence score over the course of the training program. This Advanced item pertained to assisting primary care providers, organizations, and/or health plans to develop, implement, and/or evaluate models of family-centered care. There is recognition that sociocultural, economic, and political contexts may include non-supportive and destructive factors that can influence families' lives. Professionals are responsible for assisting families in understanding and negotiating these influences in ways that give families more control. The lack of perceived change for some trainees in the sample may be due to the limited opportunity that many LEND trainees have to engage in this type of higher-level advocacy and program evaluation. As one of the six competency areas that fall within the conceptual framework of *Other*, these activities may also require more time post-graduation to develop these leadership competency skills. If leadership is conceptualized as a developmental progression of increasing influence over time beyond one's self (Maternal and Child Health Bureau 2009), then future studies should examine the degree of change across the *Self, Others*, and *Wider Community* spheres of the MCH Leadership Competencies as a function of former trainees' years of professional service.

It is interesting to note that even though many of the trainees in this sample entered the LEND program already having a personal connection with disability, many still reported a significant, positive change in their family-centered care beliefs and practices at the conclusion of the training program. Exit interview comments help to capture this shift in perspective: "Having first hand experience, hearing their stories, how it has impacted their lives, how it has shaped their career choices, what advocacy means to them – all of these things have been shared at the Boling Center and through the Family Mentorship program. It has been truly eye opening and a wonderful learning experience for me. I have family with disabilities, but they do not

talk about it openly as we do here at the Boling Center. My experience here has given me the confidence and resources to work with any individual with a disability that I may encounter in my future as a clinician."

There are some limitations to this study. Obtained data were based on trainee self-report, which is subject to response bias and may not necessarily reflect changes in observable practice (David et al. 2006). The validity of trainees' ratings on the Family-centered Care competency could be improved upon with a multi-informant assessment system; for example, asking supervisors to separately rate the trainee on the same measure for the purpose of comparison. In addition, this sample was only drawn from one LEND program over a period of six years; establishing a standardized means to use the MCH Leadership Competencies as an assessment measure across the network of LEND programs would yield even more robust and generalizable findings.

The MCH Leadership Competencies have been criticized as being limited in their validity as an outcome measure (Humphreys et al. 2015). The need to update the competencies to include concepts such as quality improvement and health equity has been noted (Kavanagh 2015). The 44-item Core Competency Measure (Leff et al. 2015) has been recently published as a pre-program, self-report assessment tool with six subscales and appears to be a reliable and valid measure of MCHB core competency constructs (e.g., clinical work, research, advocacy, culturally-competent care) that have some alignment to the 12 domains defined in the MCH Leadership Competencies.

Finally, one cannot firmly conclude that the self-reported gains in family-centered care in leadership development reported by the trainees derived exclusively from their interdisciplinary interactions with the family discipline and participation in parent led curricula or were the result of some others aspects of clinical or didactic experience within the LEND Program. While these limitations are worth considering, the data in this study provide the first empirical support through the conceptual framework of the MCH Leadership Competencies for the effectiveness of the LEND family discipline and parent led curricula in promoting leadership development in family-centered care.

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