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Leadership in Adolescent Health: Developing the Next Generation of Maternal Child Health Leaders Through Mentorship

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Abstract

Leadership development is a core value of Maternal Child Health Bureau training programs. Mentorship, an MCH Leadership Competency, has been shown to positively affect career advancement and research productivity. Improving mentorship opportunities for junior faculty and trainees may increase pursuit of careers in areas such as adolescent health research and facilitate the development of new leaders in the field. Using a framework of Developmental Networks, a

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group of MCH Leadership Education in Adolescent Health training program faculty developed a pilot mentoring program offered at the Society for Adolescent Health and Medicine Annual Meeting (2011–2013). The program matched ten interdisciplinary adolescent health fellows and junior faculty with senior mentors at other institutions with expertise in the mentee's content area of study in 2011. Participants were surveyed over 2 years. Respondents indicated they were “very satisfied” with their mentor match, and all agreed or strongly agreed that the mentoring process in the session was helpful, and that the mentoring relationships resulted in several ongoing collaborations and expanded their Developmental Networks. These results demonstrate that MCH programs can apply innovative strategies to disseminate the MCH Leadership Competencies to groups beyond MCH-funded training programs through programs at scientific meetings. Such innovations may enhance the structure of mentoring, further the development of new leaders in the field, and expand developmental networks to provide support for MCH professionals transitioning to leadership roles.

Keywords

Mentorship; Developmental networks; Adolescent health; Leadership

Purpose

Leadership development is a core value of Maternal Child Health Bureau (MCHB) training programs. The goal of these programs is to foster the next generation of leaders in research, clinical care, teaching, and policy-making and in doing so, improve the health of children, adolescents, and families and address disparities in the workforce and health. The MCHB has created the Maternal and Child Health (MCH) Leadership Competencies to underscore the skills that trainees need to acquire during their course of study [1]. One of these MCH competencies is mentorship. Mentorship has been found to positively affect personal and career development, self-confidence, and research productivity [2–5]. In contrast, lack of mentorship has been shown to be a significant barrier to career advancement [6], particularly in women. Although mentorship is universally applauded as important, there is a limited evidence base identifying the most effective strategies for teaching, applying, or ensuring mentorship. In addition, there are several different models of effective mentoring, such as one-on-one mentoring, project-based mentoring, and Developmental Networks. *Developmental Networks* are a newer framework for career development and mentoring that have been defined and valued by academic business leaders David Thomas, Kathy Kram, Monica Higgins and others [7, 8]. Developmental Networks emphasize the importance of relationships with people who (1) help get the work done, (2) help advance one's career, and/or (3) provide personal support. Emans, Millstein, Seely, and Haas, in collaboration with Kram, adapted the model to be applicable to the career development of academic health faculty, one of the career trajectories of MCH leaders [9]. Developmental Networks for these faculty include traditional scholarly/research mentors, as well as career advisors, co-mentors, peer mentors, e-mentors, colleagues, mentees, family, and friends who can provide access to knowledge, opportunities, and resources across institutions and cultures. These simultaneously held relationships are drawn both from the faculty member's own organization as well as external organizations and communities. Developmental Networks

can thus offer diverse viewpoints, experiences, and two-way learning more readily than those dyadic relationships that draw only on the experience of a single senior faculty member. Health professionals can use a slide presentation and exercise for identifying and mapping the three categories of people in the network, the distance of each relationship, and whether they were intraversus extra-organizational and are encouraged to analyze their Developmental Networks for diversity (How similar or different are these individuals to each other?), redundancy (How much overlap is there in roles?), interconnectivity [How closed is the network (most people know each other)?], strength of connection (What is the spread of people in terms of closeness and distance?), balance (Is one's network balanced or in danger of tipping?), and connections to power and influence (How many would one characterize as influential in the department or hospital or field?) [9, 10]. The exercise has been used for trainees and faculty, which includes Harvard Medical School courses, faculty development workshops, and for a Washington DC Leadership Education in Adolescent Health (LEAH) meeting. Developmental Networks can change in parallel with one's career trajectory and work/life needs and need to be regularly assessed and re-configured. Although individuals may change in one's Developmental Network, maintaining contact, even if it is just an occasional email or phone call, can be an important support.

Description

With the emergence of an enhanced understanding of the potential application of the framework of Developmental Networks in supporting early MCH scientists, LEAH faculty undertook a national pilot project to apply the same principles for postdoctoral trainees and junior faculty with the aims of: (1) disseminating the MCHB mentorship leadership competency more broadly; (2) increasing knowledge about the value of expanding and maintaining Developmental Networks; (3) providing the opportunity for group-based mentorship sessions and individual distance mentoring; and (4) assessing outcomes. The initiative focused on adolescent health research because of the dearth of academic investigators in the field, particularly from under-represented groups [11, 12], and the need for more science-driven policy to address adolescence and early adulthood as critical aspects of the life course. It was hypothesized that the program would increase understanding of Developmental Networks to support career development by helping to address barriers in funding, lack of mentorship, scholarship, and increase intention to pursue a career in adolescent health research. The program was undertaken with the ultimate goal of supporting one important career trajectory of the next generation of MCH adolescent health leadership.

Assessment/Methods

A pilot mentoring program for adolescent health fellows and junior faculty was designed and piloted at an annual society meeting. The program was evaluated using surveys of mentors and mentees both before and at several time points following the program pilot.

Procedures and Implementation

Mid-career and senior adolescent health faculty, with the assistance of a coordinator and a biostatistician, and funding from the William T. Grant Foundation, designed a pilot

mentoring program for interdisciplinary adolescent health fellows and new junior faculty offered at the annual Society for Adolescent Health and Medicine (SAHM) meeting in 2011: the Research Forum and Mentoring Program. Information on the program was distributed to SAHM members in the summer and fall of 2010 via the SAHM membership listserv and newsletter, as well as to all Adolescent Medicine training programs including all of the MCH-funded LEAH programs. Applicants provided a biographical sketch, a personal statement, a proposed project outline, and a recommendation from a home institution research mentor, fellowship training director, or division chief. The applicant was given the option to provide a list of desired mentors. They were also asked to commit to attending the Research Mentoring Forum at the SAHM meeting if selected. Once applicants were selected, mentors with expertise specific to each mentee's project were recruited by the senior team of three faculty who through two conference calls developed a list of productive, expert research faculty based on track record of mentoring, content area for scholarship, PhD/MD, rank, and stated goals of the mentees, with an emphasis on engaging LEAH faculty. Mentors were Associate or full (7/10) Professors and had experience mentoring for a mean of 24 years. All mentees had a Division Chief and a project, and 9/10 had home mentors. All mentors were asked to agree to their match and to confirm their availability to attend the SAHM Meeting in 2011. Selected mentees were notified of their assigned mentor via email in December 2010 and each mentor was sent the biographical sketch of their mentee match at this time. Mentees provided a 3–4 page concept paper or manuscript in progress along with specific questions regarding their project 1 month prior to the Mentoring Forum, and a week later mentors and mentees were sent a brief overview of the program as well as information on mentoring and asked to complete an exercise on mapping a Developmental Network [13], discussed earlier.

Mentoring Forums

Both mentors and mentees were invited to the mentoring forums at the SAHM annual meeting in 2011 and 2012. At each forum, there were presentations by senior researchers on research strategies and mentoring (2011: presentation entitled “Solving the Impossible Research Problem”; 2012: presentation based on “What's your story: using stories to ignite performance and be more successful” [14]). Mentees summarized project aims and research questions in the concept paper in mentor–mentee pairs and small-group discussions which focused on refining research questions, discussing and addressing possible solutions to challenges encountered, the role of Developmental Networks, and plans for next steps. Timelines and action plans for each mentee were developed by the mentee and mentor and collected by the Forum Coordinator. At the conclusion of the forum, mentees were encouraged to contact mentors at least once every 4–6 weeks via phone as well as interval email contact throughout the year. At the 2012 (and subsequent) Forum, returning mentees presented progress reports on projects and changes in their Developmental Network to the entire group and also met with mentors in pairs or small groups.

Evaluation

The mentoring program was evaluated longitudinally via survey and qualitative interview. Surveys included questions on knowledge of Developmental Networks, intention to pursue adolescent health research as a career, facilitators and barriers to progress, academic

progress (number of abstracts, presentations, and publications), as well as basic demographic information. Both mentees and mentors were asked to evaluate the mentoring program as well as success of the mentee–mentor match. Mentees received questionnaires prior to the 2011 Mentoring Forum (T1), immediately following the 2011 Forum (T2), 12 months after the 2011 Forum and immediately following the 2012 Forum (T3), and at 24 months after the 2011 Forum (T4). All mentees and mentors enrolled in the 2011 Mentoring Forum were surveyed at all time-points. Additional open-ended questions were asked 4 months after the 2011 Forum about progress, timeline, contacts, and suggestions for the 2012 forum, and for the mentee, fit of the mentor into the mentee's Developmental Network. The questionnaires were confidential and met the IRB criteria of educational evaluation. Mentors received questionnaires at T2 and T3.

Findings

Mentee Surveys

In response to questions about goals for the mentoring program, all mentees expressed a desire to receive feedback on their current project. In addition, several mentees wished to make professional connections and access expertise outside of their home institution. Ten mentor–mentee dyads participated in the research forum and mentoring program and were followed for 2 years. All of the mentees were female and between the 30 and 37 (mean age 33). The racial distribution of respondents was 44 % White, 33 % Black, and 22 % Asian. Sixty-seven percent of mentee participants were post-doctoral fellows and 22 % were Assistant Professors. Eight were MD's and two were PhD's (in Psychology and Health Behavior, respectively). The research projects were diverse in content and design, included both qualitative and quantitative data collection projects. Most mentees were preparing grant applications or designing projects at the time of the first research forum. The content of the research projects were varied and included: STD/HIV, preventive services, eating disorder and nutrition, contraception, sexuality, and mental health. Of the 10 mentees, 9 responded to the survey at T1, 8 at T2, 6 at T3, and 9 at T4. The mentees had a range of prior publication experience. At T1, 4 (44 %) had no scientific publications, and 2 (22 %) had not submitted abstracts for presentation at scientific meetings, while 3 (33 %) had 6 or more publications and abstracts. By the 1-year follow-up (T3), all 5 respondents to this question had at least one abstract, and 3 had published a manuscript in the past year.

At T1, prior to the forum, all survey respondents rated mentoring to support their career as “somewhat” or “very” important; 5/9 (56 %) rated their understanding of Developmental Networks as “very good” or “excellent”. The participants who completed both the pre-forum and 1 year follow-up surveys had on average an increased rating of mentoring as important to help their careers (0.4 points on a 1–5 scale) as well as an increased understanding of Developmental Networks (0.4 points on a 1–5 scale). At T1, 8 of 9, and at T3, 6 of 6 survey respondents felt they were “somewhat” or “very” likely to pursue a career in adolescent health research; the intention to pursue a career in adolescent health research increased on average 0.4 points (on a 1–5 scale) over the year. Insufficient training on grant writing, insufficient training in research, financial support for research and lack of administrative support were among the most commonly reported barriers cited at all time points.

Mentorship, support from chief, department or institutional support, timely feedback on research design and papers, protected time for research and sufficient training in research were all seen as facilitators to progress. In open-ended questions about barriers and facilitators, almost all mentees indicated they felt supported by their home institution and department, but barriers were noted in finding mentors and collaborators with similar research areas, balancing research and clinical time, gaining grant-writing skills, and identifying and narrowing a research focus.

Immediately following the in-person mentoring session during the SAHM meeting (T2), 7 (of 8) survey respondents indicated they were “very satisfied” with their mentor match and all agreed or strongly agreed that the mentoring process in the session was helpful. At the 1-year follow-up (T3), 5 of 6 respondents indicated they were satisfied with their mentor match, 4 planned to continue with their mentor going forward, and all felt the mentoring process of the program was helpful.

Two years after the program began (T4), 9 mentees responded; 4 of the mentee–mentor dyads are still actively collaborating and in 3, this has led to more formal collaboration. Specifically, two of the mentees have received an NIH-sponsored career development (K-level) award on which the program mentor is the primary mentor on their grant. One other has a pending career development award application with the program mentor. Five (56 %) indicated that the program mentoring relationship made a difference in their career.

Mentor Surveys

The mentors participating in the program were experienced academic researchers. All mentor respondents (7/7) felt mentoring was “very important” in supporting careers, and all had a “good”, “very good” or “excellent” understanding of Developmental Networks.

Responses to Qualitative Questions

Nine mentees and 7 mentors provided responses; all were grateful for the successful pairings, and mentees endorsed the fit into their Developmental Network.

> Mentee: “His feedback is invaluable to my application, my success as a researcher and my overall career development. I feel extremely fortunate to have participated in this program.”
>
> Mentee: “[Mentor] has been a great fit for me. His career and work are very consistent with my interest and his expertise is invaluable. I feel very fortunate to have been linked with [him] through the SAHM Research and Mentoring Forum.”
>
> Mentor: “I have put her in touch with 2 project officers at NIH to discuss her interest areas, and we fully intend to continue this professional relationship well into the future. I think the mentoring mechanism used at SAHM was terrific and we both see this mentoring relationship as mutually beneficial!”
>
> Mentor: “[The mentees] felt that they had support and guidance from outside of their institutions.”
>
> Mentee: “…She fits into my larger/broader network.”

One mentee noted how the mentor expanded her Developmental Network further by introducing her to SAHM and making that her “professional home”.

Limitations

Limitations of this evaluation include a small sample size, lack of comparison group, and limited response rate for some follow-up time-points. The small sample size, however, was necessary given the size and scope of this pilot mentoring program and the small-group format. Phone calls and emails following up on unreturned surveys likely improved response rate at last time-point. Since there was not a comparison group that did not participate in a matched mentoring program, we cannot be sure that the changes seen are a direct result of the program. However, both the survey results and qualitative interviews indicated participants felt the program was helpful, and the matches have resulted in ongoing inter-institutional collaborations that were otherwise unlikely to have occurred. Evaluation of future pairs of mentors and mentees will further an understanding of the effectiveness of this initiative.

Conclusions

Developing adolescent health leaders within the field of MCH requires a clear path from trainee to new faculty member to senior leader, whether in research, clinical care, teaching, and policy-making in academia, clinical service delivery, or public health. The MCH Leadership Competencies provide important first steps for identifying new curricular objectives. Training programs are then challenged to design curricula, implement programs, and assess outcomes. While mentoring is an important competency, the implementation can be vague. This pilot project demonstrated that a structured mentoring program using Developmental Networks as a framework for supporting academic research careers in MCH using a collaboration of a training program and a professional society can result in positive outcomes. Too few MCH professionals stay in the field because of barriers in funding and mentorship and the Developmental Networks offer an additional framework for professionals to get needed external critique and support, build self-confidence and lessen isolation. There were several important elements in the program to overcome these barriers including teaching about the importance of Developmental Networks, matching with senior mentors who also understood this emphasis, and a conceptual framework and expectations. The goal of this project was to focus on one area of MCH leadership in the MCH field—mentorship—to foster scholarly and research careers, and to address the paucity of investigators needed for solving the many unanswered questions important to MCH [13]. Although most participants were at least somewhat interested in adolescent health research upon entering the program, the evaluation found that mentees reported maintained or increased intention to stay in research and an increased understanding of Developmental Networks. Relationships have been long-lasting with four mentees reporting that they were still working with their mentors 2 years after the initial match. Three mentees have written career development grants with their SAHM mentoring program mentors serving as primary mentors; 2 have received K-level funding and the outcome from one is pending. With the paucity of minority investigators, it was heartening to see that that a significant percentage (n = 5) of applicants to the program were from under-represented minority groups. The

partnership with the SAHM Research Committee provided the added convenience of conducting the mentoring forums at the time of the annual society meeting. This timing increased the likelihood that mentors and mentees could meet in person and decreased the demands on time and expense for both since they were likely already planning to attend the meeting. The location of the forums at the society meeting also provided a community of senior leaders from whom to draw support for mentees in the program. Not surprisingly, some mentees found careers in other aspects of MCH leadership from clinical care of the underserved, to teaching and public health.

Implications

In order to address the challenges facing the MCH workforce, a more consistent mechanism for developing leaders in the broad field of MCH is necessary. Increasing the attainment of MCH Leadership Competencies is a crucial step in this process. Developing successful mentoring relationships is one such MCH Leadership Competency which plays an important role in the development of leaders in adolescent health and MCH. Not only do successful mentoring relationships and Developmental Networks further the professional development of current trainees and junior faculty, but positive mentee–mentor relationship also increases the likelihood that current mentees will become future mentors, and advocates for the framework of Developmental Networks, continuing the cycle of MCH leadership development. MCH-related research programs such as the LEAH SAHM Research Forum and Mentoring Program, which build on Developmental Networks, demonstrate the impact of an MCH training program on the field by providing leadership and innovation in partnership with a professional society. This model could be adopted by other professional societies within the MCH community thus developing a larger network of MCH professionals with adequate resources for coordination and committed senior faculty who know they are part of a larger network. For this pilot project, MCH trainees who selected non-research careers benefited from expanding their networks and realistically appraising skills and resources. The mapping exercise can also be an important part of orientation of new MCH trainees with reevaluation at the end of training and for MCH professionals as they take on new responsibilities. Such initiatives, guided by MCH principles and Leadership Competencies, may improve the structure of formal mentoring and aid in the creation of a network to provide support for MCH professionals' transition to leadership roles.

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