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COMMENTARY

The Future of MCH Nutrition Services: A Commentary on the Importance of Supporting Leadership Training to Strengthen the Nutrition Workforce

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Introduction/Background

With roots dating back to the early 20th century, nutrition services and training in the US developed alongside MCH services and training [1]. Federal responsibility for both, especially since the passage of the Title V legislation in 1935, has been that of the MCHB, currently part of the Health Resources and Services Administration of the US Department of Health and Human Services (DHHS) and its predecessors.[1]

This commentary will briefly recap the milestones of this history, and focus on the importance of the investment of the MCHB in promoting and supporting the development of MCH nutrition services as well as leadership training for public health nutrition professionals. The authors also address recent challenges to maintaining Title V nutrition services, the need to increase MCH nutrition leadership due to changes in the health care system as the Affordable Care Act (ACA) is implemented, as well as the need to address nutrition conditions such as pediatric obesity and those associated with children with special health care needs. It is expected that these challenges, coupled with the MCHB paradigm shift to strategic implementation of the life course perspective, will lead to a concomitant shift toward an emphasis on upstream disease prevention and health promotion where nutrition will play a significant role.

Importance of Nutrition

Over a century ago, the parallel development of MCH services and nutrition services was a natural outgrowth of the fact that nutrition is key to optimal growth and development, beginning with pre-conception and affected by the nutritional status of prior generations [2]. This was recognized well before we clearly understood the underlying mechanisms related to nutrition and early development, which are still the focus of intense research and have contributed to the concept of life course health development. In the late 1800s

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[1] It is recognized that the MCHB had organizational precursors at the federal level, starting with the Children's Bureau. However, to simplify, the authors will use MCHB throughout the paper.

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and the beginning of the 20th century, good early nutrition was known to be critical for infants and children, with one of the first public health efforts being the "milk stations" of Rochester, NY in 1897 [3]. Today, in addition to the nutrition concerns engendered by the obesity epidemic and the persistence of associated chronic diseases, there are indications of a renewed interest in nutrition due to scientific advances that have begun to elucidate the biochemical and physiological mechanisms, and the underlying genetics, by which nutrients, and other components of food, promote health and prevent disease. A number of new medical textbooks highlight the importance of nutrition in health and development [4, 5]. The Life Course Perspective provides a new framework with which to view these largely epigenetic phenomena and their intergenerational transmission [6]. For example, the biochemical mechanisms by which the vitamin folate is protective of neural tube defects are now at least partially understood to be epigenetic. Also, preliminary findings from a "natural experiment" in The Gambia, suggest that maternal diet during the preconception period can permanently alter the function of a child's genes [7]. Further research may define these nutrition-related, preventable, phenomena, some of which may contribute to the etiology of neurodevelopmental disabilities.

The Development of MCH Nutrition Services and Training

MCH Nutrition Services

In the beginning of the 1900s, nutrition services for mothers and children were largely the purview of voluntary organizations, with the notable exception of one federal agency, the Children's Bureau, established in 1912. The Sheppard-Towner Act of 1921 led to federal support for development of MCH entities in state health agencies. With the passage of Title V of the Social Security Act in 1935, and federal grants to the states to provide MCH services, a major source of funding for nutrition services was secured, and by 1945 the vast majority of states had employed one or more nutrition consultants [1]. In the 1960s, with the advent of the Maternal and Infant and Children and Youth projects, nutritionists moved into the direct delivery of nutrition services, and nutritionist pioneers in MCHB-funded interdisciplinary training programs took the lead in developing clinical protocols to address the nutritional needs of children with more complex nutrition needs in special populations [1].

As described by Mary Egan, MS, MPH, RD (former Associate Director and Chief Nutritionist at MCHB), during the 1960s and 1970s other significant sources of federal funding were initiated as part of the War on Poverty (Head Start, Medicaid), the Individuals with Disabilities Education Act (US Department of Education), and the Special Supplemental Food (now Nutrition) Program for Women, Infants and Children[2] (WIC) (US Department of Agriculture) [1]. However, the implementation of the WIC program and its documented success in improving birth outcomes [8] has led to unintended consequences for the provision of MCH population-based nutrition services more broadly speaking, as we discuss below.

MCH Nutrition and Leadership Training

Historically, training in public health nutrition has also been linked to the development of MCH. Dating back to the Children's Bureau, training of professionals of all MCH-related disciplines, including nutrition, has been an integral part of the MCH vision, and so it remains today in the current (2012–2020) Strategic Plan of the Division of MCH Workforce Development (DMCHWD) [9]. Federal funds through the Sheppard-Towner Act of 1921 and Title V in 1935 allowed states to use grant funds to train nutritionists [1], and the Children's Bureau hired the first nutrition consultant in 1936 [10]. Additional support for the training of MCH nutritionists came in 1943 from Title V, and in 1963 from Title VII of the Public Health Service Act (Health Professions Education), created in response to a shortage of health care providers in underserved communities [1, 11, 12]. Nutrition consultants from the central and regional MCHB agencies took the lead, working with universities and professional organizations to develop graduate training programs. To this day, MCHB's investment in nutrition training through the MCH Nutrition Leadership Training grants, and for nutrition as a discipline receiving support through other MCH-funded interdisciplinary training grants,[3] constitutes the majority of federal funding for pre-service training in MCH nutrition and specialty training for nutritionists in pediatrics and neonatal centers.

In addition to supporting graduate level nutrition training, the six currently-funded MCH Nutrition Leadership Training Grantees conduct on-going leadership continuing education for public health nutritionists in states across the nation. Examples include the Western MCH Nutrition

[2] WIC: The Supplemental Nutrition Program for Women, Infants and Children (WIC) is federally funded to provide supplemental food to low-income, eligible pregnant and breastfeeding/postpartum women and children up to age five, breastfeeding promotion and support, nutrition education, and coordinated referrals.

[3] Leadership Education in Neurodevelopmental and Related Disabilities (LEND); Pediatric Pulmonary Centers (PPC); Leadership Education in Adolescent Health (LEAH); Schools of Public Health (SPH) MCH Leadership Training Grants.

Leadership Network [13] and the Emerging Leaders in MCH Nutrition Training Institute [14].

Leadership Challenges and Opportunities for MCH Nutrition

While the leadership challenges for continuing to provide service and training in MCH nutrition are many and multi-faceted, the following three groupings cover the major issues and opportunities faced today. A more detailed description of the critical need for federal to local Title V programs to continue to support the development and maintenance of MCH nutrition services, as well as the training and leadership development of the MCH nutrition workforce, is outlined in a brief developed by the MCH Nutrition Council of the Association of State Public Health Nutritionists (ASPHN) [15].

The MCH Nutrition Workforce is Decreasing

In spite of the current rates of pediatric and adult obesity, arguably the number one preventable public health problem in the US, and the growing understanding of the importance of nutrition for optimal development, the last 10–15 years has seen a decrease in public health nutrition services and personnel in state Title V programs. The 2006–2007 ASPHN census enumeration of all public health nutrition personnel in the US, who worked in public health nutrition programs or services funded or contracted by official health agencies, found that US DHHS funded fewer than 5 % of full-time equivalent nutritionist positions (FTEs) and of these, the Title V MCH block grant funded only 1.6 %. In contrast, USDA funded 83 % of all nutritionist FTEs, demonstrating the dominance of the WIC program [16]. Given the reduction in the MCH nutrition workforce funded by Title V, we can assume that Title V directors, facing overall reductions in block grant funding, are choosing other funding priorities. Influencing this decision is the widespread, but false, assumption that WIC, and other USDA-funded nutrition services can replace those of Title V [15]. While the WIC program is certainly important, it has a limited mandate to provide nutrition education, referrals to health care, breastfeeding promotion and support, and benefits to purchase foods prescribed to correct identified nutrition risks [17]. The WIC program serves only low-income pregnant, post-partum and breastfeeding women; infants, and children through 5 years. What happens after children reach five and are of school-age? What services are available for the intra-partum woman, and for pre-conception care? How does WIC address the needs of special populations? What about the role of MCH nutrition in adolescent health, or in supporting a positive life course approach, especially during key developmental periods? The much broader Title V mandate, enabled through more flexible block grant funding, is to address infrastructure and population-based comprehensive MCH nutrition services at a state level [18].

More importantly, WIC was never intended to perform all primary prevention or public health functions known to be important in the provision of MCH services [15, 19]. Over two-thirds of the WIC workforce provides direct client services at least 75 % of their time, while 52 % of the non-WIC workforce spends less than 25 % of their time in this way [16]. Although a number of publicly-funded nutrition programs (USDA, CDC) also focus on the MCH population, none covers it entirely.

Finally, there also appears to be a lack of understanding of the unique role of public health nutrition, leading to a belief that other professionals can fully address the MCH nutrition needs and nutrition-related performance measures; this has reduced the visibility of nutrition within MCH programs [15]. Sometimes there is a perception that public health nutritionists only have expertise in nutrition, without understanding that they also have unique and diverse skills in public health, food and food systems, planning and collaboration, and the professional relationships to work with partners in other publically-funded nutrition programs [20]. In some cases, other health professionals, particularly physicians and nurses, may feel qualified to address nutrition issues due to their own personal experience, interest and/or limited coursework [15]. Public health nutritionists have unique and valuable knowledge and skills, including the biological and social determinants of health, primary prevention and population-based environmental and policy interventions, life course initiatives, and the linking of epidemiology with public health practice [6]. As an example, obesity may be seen by some as simply a question of energy imbalance, rather than a complex issue that includes food insecurity, poverty, and even suboptimal nutrition as well as possible underlying metabolic causes and their intergenerational and genetic/epigenetic impacts [21, 22]. Without this full understanding, policies, programs and surveillance can be flawed.

Recommendations

- Maintain/create MCH nutrition services at the state and local level by considering new models, for example blending WIC and Title V funding streams as has been done in Oregon (to fund a full FTE in nutrition working in both programs) and California (to support data collection) [23]. This also would create new partnerships between agencies focused on MCH.
- Maintain/increase MCHB's investment in the leadership training of nutritionists as future MCH leaders,

public health experts, advocates for MCH nutrition, policy makers, service providers, researchers, and teachers.
- Support training of additional public health nutritionists to meet the emerging need for population-based preventive services. Training funds could be made available under Title VII of the Public Service Act as well as Title V.

MCH Nutrition Leadership Roles at All Levels Are Being Eroded, Potentially Curtailing the Historically Strong Advocacy for MCH Nutrition Initiatives

The threat to MCH nutrition leadership is further aggravated by the anticipated retirement of a large proportion of the experienced public health nutrition workforce. The 2006–2007 ASPHN workforce census found that of those 45 years and older who participated in the census, nearly half (47 %) intended to retire within 10 years [24].

As the number of state MCH nutrition consultants has eroded over the years, MCHB nutrition consultants have provided leadership at the federal and regional levels, often working with nutrition faculty in the MCHB-funded leadership training programs. One example of this leadership is the sponsorship of a national workshop held in December, 1990, entitled *Call to Action: Better Nutrition for Mothers, Children and Families* [25], resulting from the vision of Mary Egan, then a consultant to the National Center for Education in Maternal and Child Health. A collaborative approach was used in the creation of the MCH Interorganizational Nutrition Group (MCHING), consisting of representatives from nine organizations,[4] to identify needs, build consensus around priorities, and recommend strategies to improve the nutritional status of children, including those with special needs and their families [26]. Many of these strategies are still relevant today. For example, recommendation #6 "Increase awareness of the importance of preconceptional care…." (p.19, reference 25) has an even stronger evidence base today [7]. More recently, the MCHB nutritionists, were instrumental in obtaining funding to support the development of "*Cornerstones of a Healthy Lifestyle: Blueprint for Nutrition and Physical Activity*" [21, 22], working in collaboration with ASPHN and the MCH-funded nutrition leadership training grantees.

[4] ADA—American Dietetic Association; APHA—American Public Health Association; AMCHP—Association of Maternal and Child Health Programs; ASTPHND—Association of State and Territorial Public Health Nutrition Directors; AGFPHN—Association of Graduate Faculty in Public Health Nutrition; NAWD—National Association of WIC Directors; SNE—Society for Nutrition Education; MCHB—Maternal and Child Health Bureau; NCEMCH—National Center for Education in Maternal and Child Health.

Since the 1990s, federal MCHB nutrition positions, as well as those of other MCH disciplines at the federal and regional levels, have been eliminated, and the remaining nutritionists are being phased out due to retirements. Seeing these changes, the current federal MCHB nutrition leaders have been working to move their advocacy role more and more to professional organizations such as ASPHN [15], where a MCH Nutrition Council has recently formed. It is worth noting that all five chairs of this MCH Nutrition Council have benefited from leadership training, either pre-service, continuing education, or both, provided by one of the MCHB nutrition leadership grantees.

Recommendations

- Re-establish the role of MCHB nutrition professionals, or make an effort to recruit public health professionals with a nutrition background, in both the central and regional offices. These individuals have proven, through the successful implementation of collaborative national nutrition initiatives, to be essential in providing needed leadership at the federal level.
- Encourage, through Title V Block Grant Guidance, the reestablishment of MCH/CSHCN nutrition consultant positions at the state level.

Although Both the Affordable Care Act (ACA) and the Life Course Approach Adopted by MCHB Highlight the Need for Nutritionists as Team Members in Health Care and Public Health Settings, Nutritionists are Often not "at the Table" to Participate in Addressing These Challenges

In August, 2014, ASPHN, informed by the MCH Nutrition Council, submitted public comments to MCHB concerning the upcoming Guidance for the Title V Block Grant to States, in which they presented arguments against the decision not to include nutrition, or obesity prevention, within the performance measures proposed, and noted that "over time there has been erosion in public health nutrition's ability to engage in population-based activities to improve the health of women and children" [26]. Why is this happening, given the epidemic rates of pediatric obesity, due to a number of causes [21, 22] that clearly call for an interdisciplinary approach to solutions, as do the mandates and new opportunities afforded by the ACA? Instead, with the declining MCH nutrition workforce and leadership, it becomes more difficult to address both existing and emerging mandates.

Unique to nutrition as a discipline, is the important role of nutrition in both treatment and prevention of obesity and chronic disease as well as promotion of health across the

life course, coupled with the small number of trained professionals relative to the magnitude of these issues. And, nutrition professionals, not all of whom are trained to be leaders who can operate in both health care and public health settings, are many times not able, available, or invited to participate in strategic planning and policy-making activities. One of the reasons for this omission has already been mentioned—the belief that nutritionists are not "needed" to plan for, or provide, nutrition services. Another reason is that that up until recently, the national professional organization (Academy of Nutrition and Dietetics, formerly the American Dietetic Association) was focused on "medical nutrition therapy" in health care rather than the emerging need for preventive services. Another is the "silo-ing" of many health professionals, including nutritionists, which results in a failure in others to recognize their unique, as well as broad-based, skills. The MCHING collaboration, for example, involved mainly nutritionists (26/30 participants). Since that time, and recognized by the MCHING participants, was the need for interdisciplinary leadership training, beginning early, so that developing leaders see themselves as members of the "team" [25]. There is also the need to make nutrition "everyone's business" by increasing the awareness and relevance of nutrition issues through public health planning. The interdisciplinary and disciplinary leadership training of nutritionists in MCHB-funded programs has been key to developing nutritionists who can perform in higher-level positions, applying both clinical and public health leadership skills in a broader context, and influencing the direction taken by policy-makers. However, with small numbers trained and fewer MCH nutritionists in key positions at the state and federal levels, the leadership gap is getting wider.

On a policy and systems level, the ACA presents opportunities and challenges related to nutrition services which can be linked to all ten Essential Health Benefits, outlined in the legislation [27]. With the establishment of clear reimbursement streams, Registered Dietitian Nutritionists (RDN) play a critical role on interdisciplinary intervention teams for CSHCN and patient-centered medical homes [28]. The ACA also establishes Preventive Services and Community Preventive Services Task Forces, which should include nutritionists, and contains language regarding nutrition education and services, such as in the provisions for school-based health clinics, medical homes and home health care. Although RDN are mentioned as possible providers, rarely is there more than a recommendation for these professionals to be included in the mandated teams [27, 29], nor have many state-level nutritionists been involved in ACA planning in their states [30]. Currently, the MCHB DMCHWD, MCH Public Health and Nutrition Leadership Training Program grantees are working together to assure that appropriate nutrition services be provided as part of the Essential Health Benefits and integrated into health delivery systems [31].

The MCH leadership issue is confused by the split in federal responsibility and funding for "MCH" nutrition between the DHHS (CDC, Medicaid, MCHB-Title V) and the USDA, and even the Department of Education. One of the Surgeon General's National Prevention Strategies is *Healthy Eating* [32], and the ACA—mandated Community Transformation Grants awarded by the CDC target, among other strategies, increasing access to healthy foods by supporting local farmers and developing neighborhood grocery stores [33]. The USDA and DHHS develop the US Dietary Guidelines every 5 years; this has functioned as the cornerstone of US nutrition policy, providing guidance for all Americans ages two and older; guidelines from birth to age two are currently being developed [34]. There are other efforts to improve health by changing our dietary patterns and improving our access to healthy food, of course, but these are examples of the current "shot-gun" approach. Ideally these efforts would work together to develop a comprehensive "nutrition policy" for the US which crosses departmental boundaries seamlessly. As the key agency, historically, for assuring public health nutrition services and training nutritionists in MCH, MCHB could play a critical role in developing such a policy.

Recommendations

- Continue or expand MCHB's successful partnership with the ASPHN's MCH Nutrition Council to increase the visibility of MCH nutrition.
- Include a stronger emphasis on interdisciplinary collaboration, and policy/advocacy training in all nutrition leadership training programs in order to raise the level of awareness of the importance of nutrition and nutrition services across all health professions.
- Work within the professional nutrition organizations to increase the emphasis on prevention in the training of nutritionists/dietitians to prepare them for the changes engendered by the ACA.
- Provide comprehensive MCH nutrition services in state Title V Block grant funding, especially as the health care system moves toward an increased emphasis on prevention under the ACA.
- Ensure inclusion of nutritionists on the ACA-mandated Preventive Services and Community Preventive Services Task Forces.
- Utilize primary prevention programs through community and public health agencies funded by the ACA to support nutritionists and nutrition programs nationally.

- Develop policies to ensure that the several governmental agencies responsible for the nutritional health of the population, particularly the most vulnerable, work together in a seamless fashion for the most effective impact on the populations they serve.

The nutrition leaders being trained today will be the ones identifying training needs for the future workforce, and guiding/supporting interdisciplinary training programs to assure that nutrition is included in curricula for all health professionals, with additional nutrition expertise for those serving CSHCN. The leadership challenge for MCHB will be to continue the ongoing efforts to help ensure a nutrition workforce for diverse clinical, community and public health settings to match the demographics of, and to meet the emerging nutrition needs of the entire MCH population.

Conclusion

This commentary has briefly shown the historical importance of leadership from the MCHB federal and regional offices both in training nutritionists and providing nutrition services through state Title V programs as an important component of population-based public health services. Today, there is an erosion of that national leadership, and a decline in the public health nutrition workforce in Title V programs, at a time when the need to increase efforts in planning for and providing nutrition services, as well as training MCH nutritionists, both future and current is increasing. Arguably, the erosion in the national leadership could be one of the root causes of the decline, along with others outlined under the last issue above.

Finally, this commentary, and the recommendations for the challenges being faced, is based not solely on a review of the literature and currently-available public documents. It echoes the voices of other experts in MCH and nutrition who have recently repeated a "Call to Action" [6, 15, 27] and also represents the collective experience of the authors, each of whom has benefited from MCHB leadership training and/or support during serial and multiple roles as long-term nutrition trainees, MCH Nutrition Leadership training program directors, LEND directors, and state Title V MCH nutrition consultants.[5]

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[5] MCHB Nutrition (ABH, RWS), and LEND (ABH, RWS) trainees, MCH Nutrition Training Program directors (MTB, BH) and faculty (ABH), State MCH Nutrition (and now also WIC) Consultant (RWS), and directors of LEND Programs (MTB, ABH).

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