

Maternal and Child Health Graduate and Continuing Education Needs: A National Assessment

Greg R. Alexander, MPH, ScD,^{1,2} Cathy Chadwick, MPH,¹ Martha Slay, MPH,¹
Donna J. Petersen, MHS, ScD,¹ and MaryAnn Pass, MD, MPH¹

Objectives: The purpose of this report is to describe the methodology and results of a recent national assessment of long-term graduate and short-term continuing education needs of public health and health care professionals who serve or are administratively responsible for the U.S. maternal and child health population and also to offer recommendations for future training initiatives. *Methods:* The target of this needs assessment was all directors of state MCH, CSHCN and Medicaid agencies, as well as a 20% random sample of local public health departments. A 7-page needs assessment form was used to assess the importance of and need for supporting graduate and continuing education training in specific skill and content areas. The needs assessment also addressed barriers to pursuing graduate and continuing education. Respondents ($n = 274$) were asked to indicate the capacity of their agency for providing continuing education as well as their preferred modalities for training. *Results:* Regardless of agency type, i.e., state MCH, CSHCN, Medicaid or local health department, having employees with a graduate education in MCH was perceived to be of benefit by more than 70% of the respondents. Leadership, systems development, management, administration, analytic, policy and advocacy skills, as well as genetics, dentistry, nutrition and nursing, were all identified as critical unmet needs areas for professionals with graduate training. Education costs, loss of income, and time constraints were the identified barriers to graduate education. More than 90% of respondents from each agency viewed continuing education as a benefit for their staff, although the respondents indicated that their agencies have limited capacity to either provide such training or to assess their staff's need for continuing education. Program managers and staff were perceived in greatest need of continuing education and core public health skills, leadership, and administration were among the most frequently listed topics to receive continuing education training support dollars. Time away from work, lack of staff to cover functions, and cost were the top barriers to receiving continuing education. While attending on-site, in-state, small conferences was the continuing education modality of first preference, there was also considerable interest expressed in web-based training. *Conclusions:* Six recommendations were developed on the basis of the findings and address the following areas: the ongoing need for continued support of both graduate and continuing education efforts; the development of a national MCH training policy analysis center; the incorporation of routine assessments of training needs by states as part of their annual needs assessments; the promotion of alternative modalities for training, i.e., web-based; and, the sponsorship of academic/practice partnerships for cross-training.

KEY WORDS: maternal and child health; continuing education; graduate education; epidemiology; leadership; distance learning; public health practice.

¹Department of Maternal and Child Health, School of Public Health, University of Alabama at Birmingham, Birmingham, Alabama.

²Correspondence should be addressed to Dr. Greg R. Alexander,

Department of Maternal and Child Health, School of Public Health, University of Alabama at Birmingham, 320-A Ryals Building, 1665 University Boulevard, Birmingham, Alabama 35294-0022; e-mail: alexandg@uab.edu.

INTRODUCTION

The evolution and growing complexity of the U.S. health care system during the last quarter century has increased the importance of assuring the availability of a well-trained workforce to meet the needs of the maternal and child health (MCH) population in the United States. To address the educational needs of public health and health care professionals who serve or are administratively responsible for U.S. children and their families, the Maternal and Child Health Bureau (MCHB), HRSA, DHHS, has provided ongoing support during this period for a variety of continuing and graduate education efforts. Currently, MCHB allocates approximately \$35.8 million annually for training (1).

Several efforts have been undertaken in the past to assess the need for MCH-related training and to influence the course of federally funded training support and the development of new training initiatives. In 1992, the Association of Maternal and Child Health Programs' (AMCHP) Committee on Professional Education and Staff Development published their assessment of MCH training needs, entitled "*Meeting Needs—Building Capacities: State Perspectives on Graduate Training and Continuing Education Needs of Title V Programs*" (2). The AMCHP survey of state Title V programs indicated an ongoing need for training in both clinical and administrative/management/leadership skill areas and identified nursing and program management staff as particularly in need of graduate and continuing education. At the same time, available training programs were reported to be too few in number and not sufficiently flexible. The survey revealed a number of barriers to training, including limitations on out-of-state travel, restrictions on time allowed to get away for training, state training budget constraints, and a lack of career opportunities for individuals with newly acquired education.

About the same time, the MCH Continuing Education Institute to Increase Leadership Skills, based at San Diego State University issued "*Recommendations for the Future of Continuing Education*" and identified the need for financial support for states to be able to send trainees for continuing education (3). The most critical content areas for continuing education identified by this report were 1) management skills, specifically planning, needs assessment, evaluation, organizational behavior, communication, and negotiation; 2) data skills; and 3) advocacy skills.

In recognition of the numerous and profound changes that have taken place over the last decade in both the health care and public health systems, MCHB recently asked the MCH Leadership Skills Training Institute (MCH-LSTI) at the University of Alabama at Birmingham to conduct a national assessment of long-term graduate and short-term continuing education needs. Responding to this request, an assessment of the importance of and need for different levels of training in specific skill and content areas was conducted in 2000–2001 in order to provide current and critically needed information to help guide future strategic decisions regarding MCHB training initiatives. This assessment further sought to identify training needs for specific types of MCH professionals and to determine preference and capacities for various training modalities. The purpose of this report is to describe the methodology and results of this recent needs assessment and to offer recommendations for future funding initiatives related to supporting graduate and continuing education of MCH professionals.

METHODS

With the guidance of MCHB, the MCH-LSTI assembled an advisory committee for the project and organized a meeting of the committee in December of 1999. The advisory committee was convened to guide the project in 1) determining the target audience(s) for MCH continuing education (CE) and long-term graduate education (GE) and, by extension, this assessment of those needs; 2) planning for and developing needs assessment forms designed to assess the MCH continuing and long-term graduate education needs of each target audience; 3) assessing current MCH-related CE and GE efforts; 4) interpreting the results of the surveys; and 5) developing recommendations for a strategic plan for continuing and long-term graduate education in MCH.

In addition to MCHB representatives, the committee included representatives of public and private agencies, organizations and professional disciplines involved in MCH-related activities at the local, state, and national levels, e.g., AMCHP, NCEMCH, ATMCH, MOD, local and state public health departments, NACCHO, CityMatCH, etc. Representation also reflected managed care and other health care plan organizations, health care providers, advocacy groups, special education, day care, and families/consumers of MCH services.

In consultation with MCHB and the advisory committee, a decision was made to focus the needs

assessment on major employers of MCH professionals, rather than soliciting information from the individual professionals themselves. For this assessment, we chose to target directors of state MCH and Children with Special Health Care Needs (CSHCN) agencies, as well as MCH program directors of state Medicaid and local public health departments. A needs assessment form was developed to assess the importance of and need for supporting training in specific skill and content areas and the preferred modalities for training. To allow for temporal comparisons, questions from the previous 1992 AMCHP survey were incorporated into the needs assessment form. Copies of the needs assessment form are contained in the project's final report (4).

The needs assessment forms were distributed by mail to all State MCH, CSHCN, and Medicaid offices and to a 20% random sample of all local health departments (Local), which was selected by NACCHO, using a method that stratified local departments based on size. Each individual needs assessment form was marked with a unique identifier with the numbers grouped according to agency type, i.e., MCH, CSHCN, etc. All needs assessment forms were mailed in August 2000. To increase the response rate, State MCH, CSHCN, and Medicaid agencies received up to two follow-up calls after 6 and 10 weeks.

RESULTS

Response Rates and Respondents

Response rates to the mailed needs assessment form were as follows. MCH agencies received 58 forms and returned 46 for a response rate of 79%. CSHCN agencies received 53 forms and returned 31 for a response rate of 54%. Local health agencies received 704 forms and returned 167 for a response rate of 24%. Medicaid agencies received 56 forms, and returned 30 for a response rate of 54%. Overall, 274 responses were received.

The majority of State MCH respondents identified themselves as directors (62%); the remaining were program managers (24%), program staff (2.4%), and other (12%). State CSHCN respondents identified themselves as directors (52%), program managers (43%), and other (4.8%). Local health and state Medicaid respondents included directors (55 and 28%), program managers (29 and 41%), program staff (3.6 and 18%), and other (13 and 14%).

Overall Need for Graduate and Continuing Education

Respondents were asked whether there would be any benefit to their agency to having employees with graduate-level education in maternal and child health, either having earned the degree or taking graduate-level courses for academic credit leading to a graduate degree. Respondents were also asked to assess the extent to which members of their staff would benefit from participation in continuing education programs. As displayed in Fig. 1, more than 70% of all the agencies perceived having employees with graduate education as a benefit, with 96% of MCH agencies so responding. More than 90% of respondents from each agency type viewed continuing education as a benefit for their staff.

Need for Employees With Graduate Education

Respondents were provided with a list of graduate-level skills and competencies and asked to rate these in terms of importance. Leadership, systems development, management/administration, analytic, policy and advocacy skills, and public health competencies were all perceived to be relatively important by the respondents from each agency. The proportion of respondents perceiving leadership and

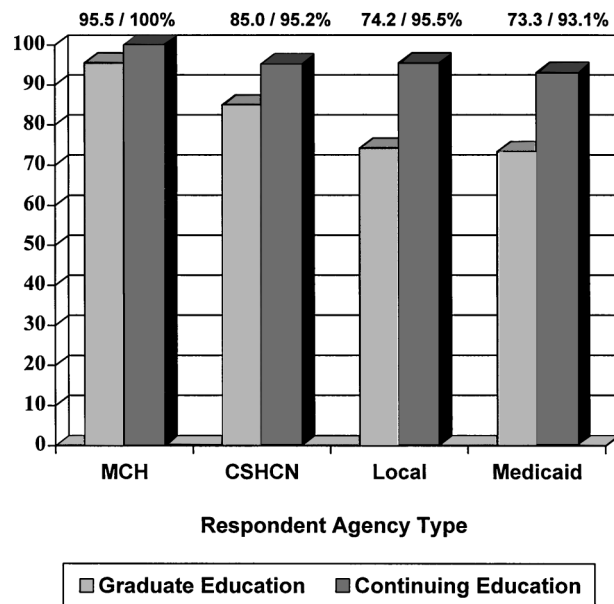


Fig. 1. Proportion of respondents perceiving graduate and continuing education as beneficial by respondent agency type.

Table I. Critical Unmet Need Areas for MCH Graduate Education

Public health professional and skills	State			
	MCH	CSHCN	Local	Medicaid
MCH epidemiology	95.7%	66.6%	55.3%	57.1%
Management, business administration	62.3%	62.5%	40.4%	54.1%
Public administration	53.3%	50.0%	32.3%	48.0%
Health care administration	54.8%	58.8%	40.7%	82.6%
Public policy	72.7%	37.5%	37.9%	58.3%

Note. % is the percentage of respondents indicating either a “4” or a “5” on a scale of 1 (*least critical*) to 5 (*most critical*).

systems development skills to be among the most important needed graduate-level skills ranged from 91% of the MCH respondents to 64% of the Medicaid respondents. The importance of graduate skill training in management and administration ranged from 96% (MCH) to 76% (local), while the importance of policy and advocacy skills ranged from 95% (CSHCN) to 72% (Medicaid).

Respondents were then asked to indicate the degree to which their agency had a critical unmet need for specific types of clinical and public health professionals with graduate education. As summarized in Table I, respondents indicated that having public health trained personnel with graduate-level education in MCH epidemiology was the most critical unmet need area for MCH, CSHCN, and local agencies, whereas for Medicaid agencies, health care administration was indicated as the critical unmet need area. Other top unmet need areas for graduate trained public health professionals included public policy for State MCH, management for State CSHCN, and health care administration for local health agencies.

A comparison between the clinical and public health professional skill areas reveals that public health skill areas tended to be more frequently indicated than clinical skills as being critical unmet need areas for graduate-level trained employees. For MCH agencies, the highest unmet critical need areas for clinicians with graduate education were

genetics (61%), dentistry (48%), health education (45%), nutrition (44%), and nursing (42%). For CSHCN agencies, the most critical unmet clinical need areas were medicine (65%), dentistry (57%), nursing (56%), physical therapy (50%), and early childhood education (50%). Nursing (56%) was the highest clinical area of unmet need for local health agencies, followed by nutrition (46%) and health education (45%). Dentistry (62%), health education (50%), and nursing (45%) were the most prominent unmet clinical need areas for Medicaid agencies. Compared to the three state-level agencies, local health departments indicated the most unmet need for graduate-trained employees with clinical skills.

For each agency type, Table II summarizes the top five critical unmet need areas for professionals with a graduate education. These need areas refer to both the need for new staff and the need for professional development of existing staff. MCH epidemiology ranked among the top five for all agencies. CSHCN and Local agencies reported relatively more critical need for clinical professional skills, whereas MCH and Medicaid respondents reported more need for public health skills related to administration, management, and policy issues. Based on additional written entries made by respondents, graduates with grant writing, contract management, and information technology skills were also needed and were among the most difficult to obtain.

Barriers to Graduate Education

Several factors were reported as preventing staff from pursuing graduate education. Although the proportion of the positive responses varied by agency, the cost of graduate education programs (91–73%), the loss of income while in school (82–60%), and the time required for completion of the program (86–50%) were most often reported to be the prohibitive barriers to graduate education by all responding agencies. Not having the ability to get off work to pursue

Table II. Top Five Critical Unmet Clinical and Public Health Professional Needs Areas for MCH Graduate Education by Respondent Agency Type

Rank	State MCH	State CSHCN	Local	Medicaid
1	MCH epidemiology	MCH epidemiology	Nursing	Health care administration
2	Public policy	Medicine	MCH epidemiology	Dentist
3	Management, business administration	Management, business administration	Nutrition	Public policy
4	Genetic counseling	Health care administration	Health education	MCH epidemiology
5	Health care administration	Dentist	Health care administration	Management, business administration

a graduate education was also frequently cited as a barrier (57–86%).

Need and Capacity for Continuing Education

In addition to the very high level of need generally expressed for continuing education (Fig. 1), state and local agencies report limited capacity to meet the training needs of either their staff or the staff of other agencies. Only 22–34% of respondents by agency type reported having a substantial capacity to train their own staff. Moreover, the number of reported continuing education programs currently being provided is modest and ranged from a mean of nine CE programs per year for MCH agencies to one for Medicaid. Further, the routine assessment of training needs is very limited, which makes it difficult for agencies to accurately document their needs and plan accordingly to meet them. Agencies routinely assessing the training needs of their own staff ranged from 47 to 25% of respondents with local agencies assessing their own training needs most often. Medicaid agency respondents were the most likely to report that their agency routinely assessed the training needs of other agencies (41%) with local health agencies being the least likely (12%). Respondents indicated that it would be useful for MCH personnel at nearly all staff levels and agency types to learn more about the programs, policies and access and referral procedures of Medicaid agencies and for the personnel of those other agencies to learn more about those same items for MCH-related agencies. Co-knowledge of data bases and needs assessments were also viewed as useful.

Program managers (80–58%) and program staff (91–68%) were perceived to be in greatest need of continuing education. Because of limited funding available for CE, respondents were queried about how continuing education dollars should be targeted. When asked which type of staff should receive the first training dollars, respondents across agencies replied fairly consistently (Table III). Agencies reported that they would give the training dollars to program

managers first, followed by program staff or others. “Others” refers largely to clinical staff.

Needed Continuing Education Topics

Program management and administration skill areas were most frequently indicated as important general areas for continuing education for program managers. Specific CE topics for program managers included program planning, development, implementation, management and evaluation, needs assessment, performance management, data analysis and interpretation, personnel management, team building, and policy development. For program staff, the most important CE topics tended to be more direct service and program performance oriented and included cultural competency, family centered care, families as partners, clinical skills, program evaluation, performance, and management. For agency directors, leadership, systems development, and administrative CE themes emerged across all agencies, including health care financing, policy development, interagency and systems-level collaboration, managing change and performance, team building, negotiation, personnel management and working with families, communities, the public, and legislative bodies.

Respondents were asked to indicate which CE topics should received the first training dollars. The core public health skills of assessment, assurance, and policy/advocacy were frequently indicated. Additionally, leadership was among the most often raised items, along with program administration skills, including planning, management, evaluation, and performance monitoring. Personnel management and communication skills were among the next frequently mentioned items. Among the emerging needs for continuing education reported in written, open-ended responses were skills in technical writing (including grant writing), communications, systems development, advanced leadership, cost analysis, and organizational change.

Continuing Education Barrier and Preferred Modality

The reported barriers to seeking CE included time away from work (rated as an important barrier by 84–71% of the four responding groups), lack of staff to cover functions while away (rated as important by 84–59% of the responding groups), and cost (rated as important by 72–59% of the groups). The importance of these barriers did not widely vary by

Table III. Preference for Level of Staff Receiving First Training Dollars

Rank	State MCH	State CSHCN	Local	Medicaid
1	Program manager	Program manager	Others	Program managers
2	Program staff	Others	Program manager	Program staff
3	Others	Director	Directors	Others

Table IV. Percentage Reporting Preference for Continuing Education Modality

Preferred modality	State		Local	Medicaid	Total
	MCH	CSHCN			
In-state conference	83.0	70.0	50.7	69.6	68.3
On-site at the workplace	71.5	55.0	71.5	68.0	66.5
Small conference (<100)	70.7	66.6	60.3	65.2	65.7
Large conference (>100)	29.3	38.9	17.7	18.1	26.0
Out-of-state conference	26.2	31.6	8.7	22.7	22.3
Distance: internet, web-based	67.5	50.0	52.3	52.2	55.5
Distance: satellite/interactive TV	61.4	57.9	69.5	30.4	54.8
Video cassettes	16.7	25.0	37.1	34.7	28.4
Audio, teleconferencing	34.9	40.0	24.2	39.1	34.6
Audio cassettes	19.0	15.0	12.2	0.0	15.4
Self-study/independent study	33.3	25.0	33.6	26.0	29.5
Reading journals/research papers	28.5	20.0	18.5	30.4	24.4
Coursework for credit at college	19.0	15.0	12.2	29.2	15.4

Note. % is the percentage of respondents indicating either a "4" or a "5" on a scale of 1 (*least preference*) to 5 (*most preferred*).

agency type. Other cited barriers were agency travel restrictions, limited geographical access to CE training programs, insufficient capacity in available CE programs, and lack of available CE programs. Travel restrictions were indicated as a barrier more often by respondents from state MCH and CSHCN agencies.

There was also appreciable interest, capacity, and preference for several types of CE modalities. Having in-state, on-site and small conferences as a means for continuing education was of particular interest to the respondents and was the most frequently reported preference (Table IV). Preferences for satellite/interactive TV, Internet and web-based training were also clearly evident. Less interest was indicated for CE training by large or out-of-state conferences and video or audiocassettes.

DISCUSSION

Regardless of agency type, i.e., state MCH, CSHCN, Medicaid or local health department, having employees with a graduate education in a public health or clinical MCH-related field was perceived to be of value and, overall, there is an appreciable need in these state and local agencies for employees with

a MCH-related graduate education. MCH epidemiology, administration, and policy along with genetics, dentistry, nutrition, and nursing were all viewed as critical unmet needs areas for graduate-level training. These findings suggest that there is broad demand for these MCH professionals and a current shortage of these professionals with graduate level training who are available to fill positions in these agencies. The barriers believed to be preventing current staff from pursuing graduate education are related to cost and time constraints that may require multiple approaches to over come.

In spite of numerous state, federal, and professional organization efforts to provide short-term training programs for MCH personnel, there also remains an appreciable unmet need for continuing education in these agencies. The ongoing changes, reorganizations, and turnover within state and local agencies may underlie this persisting need for renewed training of professionals, while at the same time hindering these agencies in both their ability to routinely assess training needs and their capacity to meet training needs of either their staff or the staff of other agencies. Program managers and program staff were perceived to be in greatest need for continuing education and the relatively lower perceived need of directors for CE may reflect the greater availability of or access to CE offerings through AMCHP and other professional groups.

Having in-state, on-site and small CE conferences was the first preference of the respondents and was compatible with the reported barriers to seeking continuing education, e.g., time away from work and cost. There was expressed interest in web-based training and other types of CE modalities and these findings support the use of multiple modalities to address the ongoing need for continuing education in the MCH field. The reported preference for small conferences might reflect a desire for interaction among colleagues and educators as part of continuing education activities. Taken together, these responses may reflect a desire for local training opportunities that allow participants to get out of the office (thereby eliminating constant interruptions), albeit not out-of-town, for short periods of time to learn together.

The following recommendations are based on the findings of this needs assessment, a review of the previous 1992 AMCHP assessment of MCH graduate and continuing education needs, and the authors' experience in providing graduate and continuing education in the MCH field. The recommendations are presented in order of priority.

Recommendation #1: Continue to support MCH graduate education in public health and clinical skill areas, using multiple funding support mechanisms. Given the substantial findings of its perceived need and the value of graduate education as a mechanism to produce professionals that will pursue life-time careers in MCH, it is recommended that MCHB continue to support MCH graduate education in public health and consider making additional dollars available for tuition remission and stipends in order to allow more students to pursue the MPH degree in MCH without excessive cost burdens and significant loss of income. Further, MCHB might explore partnerships with state MCH/CSHCN programs to offer graduate fellowships to current MCH professionals interested in pursuing the MPH, with the condition that graduates return to their home states and programs. This would provide security to employees as well as an incentive to the agency to grant employee educational leave. The MCH Bureau might also offer graduate fellowships to entry-level students. These might also include a required two or more year placement in a MCH/CSHCN-related agency upon graduation.

There also remains a large unmet need for professionals with graduate education in clinical skill areas. Multiple approaches might be considered by MCHB to address these needs, including tuition and stipend support for graduate education and graduate fellowships tied to conditions of working for a specified period in a state or local MCH, CSHCN or related agency. Joint degree programs, e.g., MPH/MD, MPH/MSN, and MPH/MSW, represent another viable approach to increase the availability of clinicians cross-trained to address a broad range of needs of the MCH population.

Recommendation #2: Expand continuing education in the areas of leadership, administration, management, core public health, and clinical skills and support innovative continuing education approaches targeted at program managers and staff using on-site and small conferences. A need for continuing education was reported by more than 90% of respondents from all agencies with program managers and program staff identified as having the greatest unmet need. Many of the emphasized CE topic areas are currently addressed by several MCHB-funded CE efforts, including the MCH Leadership Skills Training Institute, although the demand for training continues to exceed capacity. The ongoing demand for CE in leadership and management topics suggests that current successful efforts be continued and even expanded to allow more staff to participate and that additional,

alternative CE approaches also be explored. As an example of an alternative approach to address current CE needs in the areas of leadership, administration, and management, MCHB might support the further development of regional or state leadership academies and identify groups of experts to provide specific skills training in several states (i.e., a traveling leadership academy). Several states have already organized successful public health leadership academies and more could be designed as certificate programs with MCHB supporting the skeletal structure in an effort to enhance the skills of MCH professionals in a variety of settings within several states.

The major barriers to current employees pursuing continuing education are time away from work, inadequate staffing to cover absence from work, and the cost of CE programs. The preferred modalities for CE were “in-state” and “small conference.” Given these identified barriers and preferred modalities for CE training, MCHB might consider funding several entities or individuals to develop itinerant continuing education programs that could be “taken on the road” and offered locally in multiple states throughout a region. These could be supported along with or in favor of the more traditional CE model of funding one entity to provide one CE conference in one state or one region. Current grantees of CE training funds might be provided incentives to work together on a particular topic, optimizing particular talents that exist across universities rather than setting them up as competitors. For example, given the importance of cultural competence training, it is conceivable that faculties at more than one MCH-funded training program would be interested in jointly developing a traveling continuing education program. Bringing together faculties from different universities and different specialties, e.g., public health and clinical, could further enrich the perspectives brought to training.

Recommendation #3: Explore the development of a national MCH training policy analysis and development center to serve as a focus for assessing training needs on a regular basis, to serve as a clearinghouse for training activity information, and to foster the development of a national or regional MCH CE brokerage model. A comparison of the results of this needs assessment with the 1992 AMCHP assessment indicate that some training needs may have declined (e.g., the extent of need for graduate degree trained nurses), some may have stayed the same (e.g., the need for program development and management training), and some have emerged (e.g., the need for systems development training). These apparent

changes in training needs over time suggest that regular, systematic assessments of training needs and appraisals of the impact of training support efforts are advisable to assure that current training efforts are appropriately targeted and to assess the degree to which trends may partly reflect the effectiveness or insufficiency of past state and national training initiatives. Moreover, the results of these periodic assessments should be routinely analyzed and compiled in such a manner as to facilitate their use in MCHB's strategic planning and performance measurement activities. Accordingly, MCHB might consider establishing and supporting a national MCH graduate and continuing education training policy analysis and development center to advise MCHB on training-related efforts and serve as a training resource for state Title V and related agencies. Such an entity could provide several important and needed services, including the regular national assessment of training needs and the provision of guidance to states and localities on the conduct and analysis of ongoing training needs assessments. Moreover, the proposed center could assist in the evaluation of these efforts and in the promotion of federal/state training partnerships.

Another specific function of this proposed center might be the development and maintenance of a national MCH continuing education clearinghouse that would organize information on existing training programs and offerings funded by MCHB. Such information would include details about graduate and CE programs, including contact information, targeted audience, cost, content, objectives, location, dates, and agenda of each training session. The clearinghouse aspect of the proposed center would support the efforts of existing funded grantees in marketing their educational programs.

To assist MCHB in targeting CE efforts to meet specific state and local needs for desired CE content and preferred CE modalities, while fostering the development of training teams composed of the best trainers from multiple schools and organizations, the proposed center might also be used to explore the development of a national or regional CE brokerage model, whereby a single entity would bear responsibility for identifying experts on selected topics and then deploying them to several states over the course of a year. The broker would handle logistics, including soliciting topic requests from states (beginning with those identified most frequently through this survey); matching experts to topics; and arranging the schedule of CE sessions, topics, and sites. For example, once critical CE topics are selected for a region,

the CE broker would be charged with identifying one or more persons to develop a CE program on each topic. The persons selected would be asked to offer the CE program on-site or in-state in several states over the course of a year for a negotiated package fee. The broker would also arrange the scheduling and pay the travel and expenses of the speakers.

Recommendation #4: Require state Title V agencies to conduct assessments of their needs for graduate education, continuing education, and technical assistance, as part of the 5-year and annual update needs assessments. To assist MCHB in obtaining ongoing and current information to plan for graduate education, continuing education, and technical assistance efforts, State Title V agencies might be encouraged, as part of their comprehensive 5-year and annual update needs assessments, to conduct and report on assessments of the graduate and continuing education needs of their state's MCH/CSHCN professionals both within and outside the agency. This would allow for MCHB to better identify unmet needs, as well as determine when needs have been met, so that resources can be directed at the most pressing problems.

State assessments might reveal needs for more coordinated approaches to technical assistance and continuing education. Such approaches would also be consistent with the results contained in this report that indicate a greater desire for on-site short courses (a step closer to a technical assistance model) versus large national or regional conferences (the typical continuing education approach).

Recommendation #5: Explore and promote alternative graduate and continuing education models, e.g., distance learning. The major barriers to current employees pursuing graduate education are cost of the program, loss of income while completing the program, ability to take time off work, and time to complete the program. Distance to the program followed the above barriers in terms of importance across agencies. To address these barriers, the MCH Bureau should continue and might further expand its promotion of alternative graduate educational models (e.g., weekend, work/school, and partial distance-based programs), ideally with regional access for professionals in all states. Support of on-site or on-line certificate graduate-level programs may also be considered.

Recommendation #6: Sponsor academic/practice partnerships to develop cross training of MCH-related faculty and expand technical assistance and continuing education opportunities. Given the existing need for well-trained MCH professionals with diverse skills, states might benefit from longer-term, on-site

consultation and involvement of MCH-related faculty. This might be accomplished in a manner similar to that used by CDC to assign epidemiologists to states. Graduate training programs (both in the clinical and public health areas) would also benefit from having their faculty gain MCH agency practice experience. The MCH Bureau could consider funding sabbaticals for faculty in MCH programs in Schools of Medicine, Public Health, Dentistry, Nursing, Social Work, and other MCH-related fields in order that these experts could spend time with one or more states.

CONCLUSION

Given the expressed interest of state MCH, CSHCN and Medicaid agencies, and local health departments in graduate and continuing education in MCH, it is critical that MCHB not only continue its historic emphasis on the development of MCH professionals, but that it continue to provide leadership and partnering to encourage other training entities to assist with the address of these persistent training needs. The health of the nation's children and families is too important and the systems that exist to support them are too complex to lose this essential focus on the preparation and continuing development of the MCH workforce.

ACKNOWLEDGMENTS

This work was supported in part by DHHS, HRSA, MCHB Grants 5T76MC00008-19 and 5T7800004-07. We wish to recognize Dr. Ann Drum, Laura Kavanagh, and Diana Rule of MCHB for their helpful comments, thank Cindy Phillips of NACCHO for her help with the local health sample, acknowledge our advisory committee members for their guidance and input and thank the many state and local respondents that made this work possible.

REFERENCES

1. Athey J, Kavanagh L, Bagley K. *The MCH Training Program: An evaluation*. Arlington, VA: National Center for Education in Maternal and Child Health, 2001.
2. Association of Maternal and Child Health Programs. *Meeting Needs—Building Capacities: State Perspectives on Graduate Training and Continuing Education Needs of Title V Programs*. Washington, DC: Association of Maternal and Child Health Programs, October 1992.
3. MCH Continuing Education Institute to Increase Leadership Skills. *Recommendations for the Future of Continuing Education*. San Diego State University, School of Public Health, 1993.
4. Alexander GR, Petersen DJ, Pass MA, Slay M, Chadwick C. *Graduate and continuing education needs in maternal and child health: Report of a national needs assessment, 2000–2001*. Maternal and Child Health Leadership Skills Training Institute Technical Report, Department of Maternal and Child Health, School of Public Health, University of Alabama at Birmingham, 2001. <http://main.uab.edu/show.asp?durki=44738>