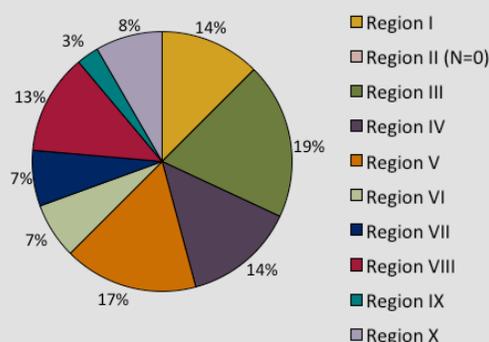




ISSUE BRIEF

MCH Epidemiology Methods and Practice Assessment

MCH Professionals by Region (N=72)



Years in Current Position by Position Type (N=72)



Assessing Methods and Practice

The Association of Maternal & Child Health Programs (AMCHP) and CityMatCH partnered with the MCH Epi Group to conduct an assessment of the experiences, methods, approaches, and resources that strengthen and support the work of maternal and child health (MCH) epidemiologists and the field of MCH epidemiology (MCH epi). Eighty-three epidemiologists from state, county and city agencies responded to a comprehensive survey distributed via the MCH Epi Group listserv and forwarded to colleagues and partners at the discretion of the recipients. This snowball sampling design, while not sampled to be representative of all local and state MCH epidemiologists, allowed the assessment to reach those who may not consider themselves MCH epidemiologists but, through their activities, do practice MCH epi. Of the total 83 respondents, 87 percent work for state/territory agencies, 10 percent for county agencies, 2 percent for city agencies, and 1 percent for other agencies (medical university). Due to the limited representation of county, city and other agencies, this report only summarizes findings from responses of the 72 MCH epidemiology (MCH epi) professionals who work for state/territory agencies.

Background and Experience of Respondents

MCH epi professionals from the assessment represent 42 of the 56 states and territories (75 percent) that make up 10 regional divisions identified by the U.S. Department of Health and Human Services. Region II is the only region that does not have an MCH epi professional represented in the assessment. The majority of respondents work in Region III (19 percent), Region V (17 percent) and Region IV (14 percent); while Region IX (3 percent) had the fewest respondents.

Current Position

This assessment attempted to gather information from various MCH epi professionals based on their contributed work to MCH epi. When asked about their current position, 78 percent self identified as epidemiologists/analysts while 22 percent self identified as managers/administrators. Epidemiologists/analysts include epidemiologists, senior epidemiologists, analysts, epidemiology post-doctoral fellows, and demographers. Managers/administrators include epidemiology managers, program managers, administrators, data analysis supervisors, and chiefs for public health statistics.

The amount of time each MCH epi professional has spent in their current position varies widely. The experience in their current position ranged from less than two years (29 percent), two to four years (18 percent), five to nine years (33 percent), to 10 or more years (20 percent). The graph to the left details the percent of MCH epi professionals broken down by current position type and the number of years spent in that position.

In their current position, 81 percent of MCH epi professionals indicated they spend more than 75 percent of their time working in MCH. The remaining 19 percent indicated they spend more than half up to 75 percent (4 percent), half (10 percent), or less than one quarter (5 percent) of their time working in MCH.

Previous Experience

Many of the MCH epi professionals are well experienced in the fields of public health and epidemiology. Fifty-five percent of MCH epi professionals have 10 or more years of experience and 31 percent have five-nine years of experience working in public health. Forty-six percent of MCH epi professionals have 10 or more years of experience working in epidemiology and 26 percent have five-nine years of experience. It is understandable that a greater number of MCH epi professionals have more years experience with public health than epidemiology because epidemiology is generally a focused area within the field of public health. However, the close proximity of the percentages of MCH epi professionals who are well experienced in public health (55 percent) and epidemiology (46 percent) suggests that these MCH epi professionals begin their careers in epidemiology soon after, if not simultaneously as, they enter the field of public health.

There are many educational avenues MCH epi professionals can take to reach their current position. It is important to recognize the educational background of these MCH epi professionals to understand the perspective they bring to their current position and contributions they make to MCH epi. The highest level of educational attainment for the majority of these professionals was either MPH/MSPH/other master (54 percent), or PhD/DrPH/other doctoral (35 percent). The remaining MCH epi professionals have either an MD/DO (1 percent), DMV/VMD (1 percent), BA/BS/BSN/other bachelor (1 percent); or other multiple degrees as their highest level of educational attainment. The combinations include: MD/DO – MPH/MSPH/other master (4 percent), MD/DO – PhD/DrPH/other doctoral (1 percent), or DMV/VMD – MPH/MSPH/other master (1 percent). For professionals with a degree specifically in epidemiology (46 percent), the majority were masters prepared (71 percent), 26 percent received doctoral training, and 3 percent have a dual degree in epidemiology.

While some MCH epi professionals do not have a degree in epidemiology, there are still many ways they could have received training. For those who indicated they do not have a degree in epidemiology (54 percent), 26 percent have an MPH, MSPH or other master with a focus in epidemiology; 21 percent completed some coursework in epidemiology; 15 percent have a PhD, DrPH, or other

doctoral with a focus in epidemiology; 15 percent received on the job training in epidemiology; 8 percent completed the Centers for Disease Control and Prevention (CDC) epidemiology in action training; 8 percent completed a formal training program in epidemiology; and only 8 percent have no formal training in epidemiology.

The Title V MCH Services Block Grant and MCH Epidemiology Projects

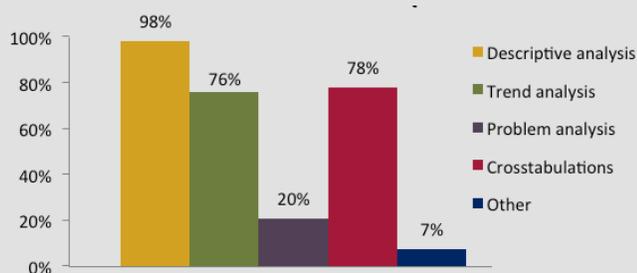
Beyond the basics of learning about the background, training and experience that MCH epi professionals bring to their positions, we wanted to learn more about what they do and how they support the MCH programs in their states. This next section describes how MCH epi professionals apply their skills towards supporting Title V and how MCH epi projects are identified and carried out.

Title V MCH Services Block Grant

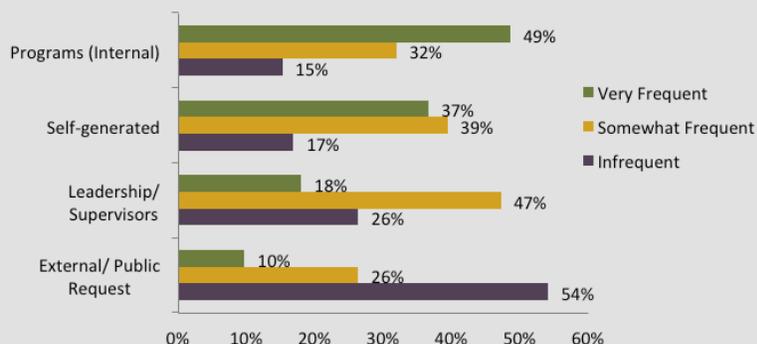
Among the 76 percent of respondents (N=54) that participate in reporting for the Title V Block Grant, the most common analytic techniques used when preparing data are descriptive analysis (98 percent), crosstabulations (78 percent), and trend analysis (76 percent). Problem analysis was less common (20 percent); other analytic techniques (7 percent) mentioned include qualitative methods, data linkages, chi square, and decision tree analysis.

There are many methods to develop performance objectives or targets for purposes such as measuring progress on the Title V Block Grant. We asked MCH epi professionals to indicate how they determine annual performance objectives for their state Title V Block Grant performance measures. Forty-seven percent of respondents use program input to make an “educated guess” or rough estimate of what their performance goals should be; 42 percent review trends in data (without conducting a statistical analysis) and make an educated guess; 42 percent indicate objectives are an ideal based on a known goal (Healthy People 2020, state priority, etc.); 40 percent are not involved in determining the annual performance objectives; and 36 percent use trend analysis to generate a projection.

Analytic Techniques by Use for MCH Block Grant (N=54)



Frequency of Requests for MCH Epi Projects by Source (N=72)





Elements included in Formal Analysis Plans	Percent of MCH Epidemiology Professionals (N=72)
Methods	94%
Data sources	94%
Background/topic area for analysis	90%
Study questions	90%
Top 4 areas (Methods, Data sources, Background/topic area for analysis, Study questions)	78%
Risk factors	74%
Demographic characteristics	69%
Target population	67%
Potential audiences	64%
Expected final products	63%
Timeline	60%
Public health implications	56%
Dissemination plan/potential publication types	53%
Shell table for expected results	47%
Comparison with Healthy People goals	44%
Comparison with other states	42%
Justification of the project	36%
Additional resources for analytic capability	29%
Policy for review of reports, manuscripts, and presentations	28%
Other elements	6%

indicated they always use analysis plans, while 71 percent sometimes develop a formal analysis plan before starting a project. The table to the left demonstrates the percent of MCH epi professionals that include specific elements in their formal analysis plans. Methods, data sources, background or topic areas for analysis, and study questions are the most common elements included in formal analysis plans; 78 percent of MCH epi professionals include all four elements together in their formal analysis plans. Approximately 6 percent of respondents listed other elements they include in formal analysis plans, which include risk factors, evaluation and design feasibility, cost benefits and program implementation.

Linking or Matching Datasets

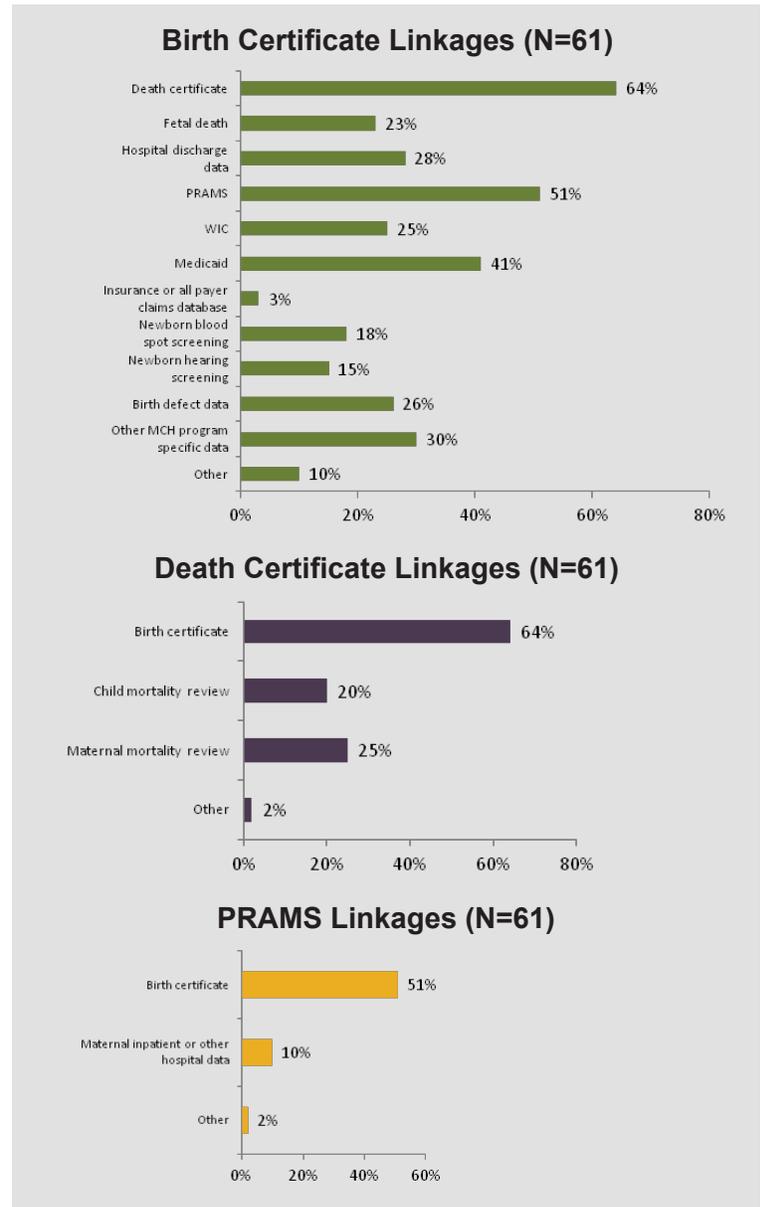
Linking or matching datasets is a critical component for identifying trends in MCH data. Approximately 88 percent of MCH epi professionals either link datasets or work with datasets that are made

MCH Epidemiology Analytic Projects

We asked MCH epi professionals to tell us how analytic projects come about. The most popular way to identify MCH epi projects is through MCH or other types of needs assessments (indicated by 89 percent of MCH epi professionals); 81 percent use grant requirements; 76 percent use organizational strategic plans or priority areas; 67 percent use legislative requests or mandates; 54 percent use evaluation activities; and 13 percent use other ways of identifying MCH epi projects. It is common for MCH epi professionals to use several methods to identify MCH epi projects; 40 percent used all the listed methods, 21 percent used four of the five listed methods, and 20 percent used three of the five listed methods.

Requests for MCH epi projects can originate from numerous sources and those sources may be dependent on the type of organization, the professional relationships and network, or the focused interests specific to each MCH epi professional. The graph on page 2 below illustrates the frequency of requests for MCH epi projects. The majority of MCH epi professionals (49 percent) indicated project requests from programs internal to their health department or organization occur very frequently; 39 percent indicated project requests that are self-generated occur somewhat frequently; 47 percent indicated project requests from their organizational leadership or supervisors occur somewhat frequently; and 54 percent indicated project requests from public sources or other health departments and external organizations occur infrequently. MCH epi professionals also had the opportunity to list other sources that provide project requests. A few MCH epi professionals indicated thesis reviews from graduate students and requests from the legislature were infrequent.

All MCH epi professionals confirmed they develop formal analysis plans; what varied was how often these are used. Twenty-nine percent



up of linked data. The majority of dataset linkages that MCH epi professionals work with involve birth certificates linked with another dataset. Birth certificates linked with death certificates are used by 64 percent of MCH epi professionals; 51 percent use birth certificates linked with Pregnancy Risk Assessment Monitoring System (PRAMS) data; and 41 percent use birth certificates linked with Medicaid data. The three graphs on the previous page show all data linkages used by MCH epi professionals, grouped by linkages that include birth certificates, death certificates, or PRAMS data.

Areas for Skills Development and Training

All MCH epi professionals, no matter what level they are at in their educational and professional careers, expressed the importance of continued learning, enhancement of existing skills and developing new skills to become better epidemiologists. The assessment provided a list of skills for which respondents would like additional training or development. The most common areas for skills development and training were to understand weighting methods (63 percent), conduct multilevel modeling (61 percent), use statistical software for MCH epi analyses (58 percent), imputation methods for replacing missing or implausible values (58 percent), and conduct small area analysis (57 percent). Even when MCH epi professionals have experience in these areas, they may not feel fully equipped to perform them accurately and efficiently. For example, 86 percent of MCH epi professionals reported their work involves determining outlier and implausible values, but almost half feel they could use additional training or would like to develop skills in this area.

Preferred Resources on MCH Epidemiology Practices

This assessment determined 93 percent of respondents are interested in using websites designed specifically for MCH epidemiologists (like mchepi.org) in order to find out more about MCH epi practices. Respondents also indicated interest in: recommended literature (74 percent); listserv involvement for sending and receiving questions and responses with a large group of epidemiologists via email (65 percent); the MCH epi forum on the Center for State & Territorial

Epidemiologists (CSTE) website for posting questions and starting discussion (62 percent); involvement in regional discussion groups (43 percent); and involvement in periodic conference calls (33 percent). A few MCH epi professionals (6 percent) listed other resources they are interested in using to find out more about MCH epi practices such as annual MCH epi workshops, trainings or webinars, and community organizational websites like phconnect.org.

Visit the following links to learn more about information provided from the identified preferred resources on MCH epidemiology practices:

- Listserv: cdc.gov/reproductivehealth/MCHEpi/index.htm#c
- Recommended literature: mchlibrary.info/
- MCH Epi forum on CSTE website: cste.org/group/MCH
- MCH Epi websites: mchepi.org/
- Other: amchp.org/programsandtopics/data-assessment/Pages/MCHEPIConferenceDataTrainings.aspx, mchnavigator.org, phconnect.org

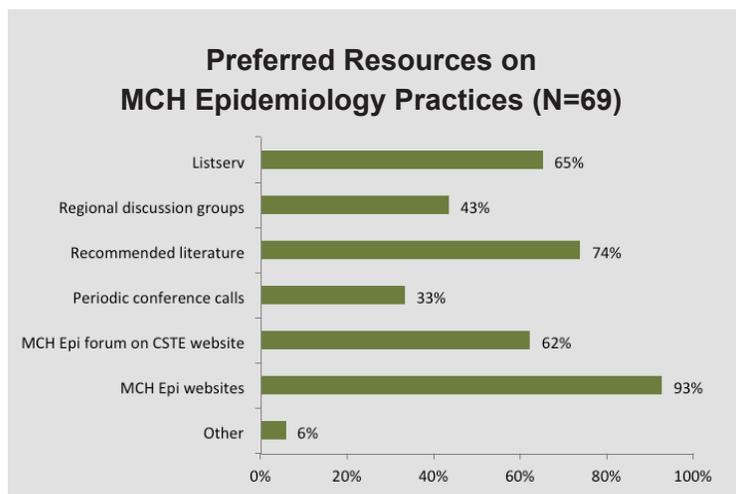
MCH epi professionals currently find a variety of sources useful for learning more about MCH epi practices and these sources are spread across a variety of organizations, colleagues and textbooks. The CDC was identified by 88 percent of MCH professionals as a useful source of information for addressing MCH epi practice questions.

Summary

Although MCH epi capacity has been studied in a formal way by our colleagues at CSTE and the University of Illinois Chicago (UIC), few formal assessments of MCH epidemiologic methods and practices have been conducted. This assessment adds to our knowledge on the practices and approaches used by MCH epi professionals in their day-to-day work. MCH epi is a broad discipline and MCH epi professionals gain skill in the practice of epidemiology through a variety of paths. This assessment explores some of the complexity of assessing epidemiologic methods and practices as well as the need for further exploration to identify skill areas for professional development. AMCHP is committed to providing opportunities for skills-building training, technical assistance, and peer-supported learning to assist MCH epi professionals in filling their epidemiology toolboxes.

Acknowledgements

This assessment is the culmination of many hours of work of a group of MCH epidemiologists who formed as a result of discussions at the 2007 MCH EPI Conference with CSTE, AMCHP and CityMatCH. The MCH Epi Group, whose mission is to promote the use of data to guide public health practice and improve maternal and child health, works to accomplish its mission by supporting the use of effective public health surveillance and epidemiologic practice through training, capacity development, and peer consultation; developing standards for practice; and advocating for resources and scientifically based policy. For more information about the MCH Epi Group, please visit MCHepi.org.



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