Maternal and Child Health

Assignment Description

The Office of Data Translation (ODT) serves as the internal information center for the Bureau of Family Health and Nutrition (BFHN) of the Massachusetts Department of Public Health (MDPH). The Bureau is the state Title V agency, and ODT uses data collection and analysis to inform maternal and child health (MCH) program and policy decisions. ODT is interested in recruiting a CSTE fellow to participate in a variety of activities in perinatal, maternal and child health. ODT will tailor the fellow's experience based on past experiences and preferences to ensure a professionally enriching experience. ODT offers a variety of opportunities for fellows to conduct data collection, analyses, program evaluation, and surveillance. ODT oversees two main data projects: the Pregnancy to Early Life Longitudinal (PELL) Data System and the Pregnancy Risk Assessment Monitoring System (PRAMS) project.

The PELL Data System is one of the few longitudinal MCH data systems in the country, created to utilize a broad range of public health data sources to examine the impact of the prenatal environment and experiences on postnatal child and maternal health. PRAMS is a surveillance system that collects state-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy. The Fellow would have the opportunity to conduct analyses using PELL and PRAMS to identify groups of women and infants at high risk for health problems, to monitor changes in health status, and to measure progress towards goals in improving the health of mothers and infants.

Other data sources available within MDPH include vital statistics data (birth certificates and fetal, infant and maternal death certificates), the Behavioral Risk Factor Surveillance System (BRFSS), and various programmatic data systems including data from the Massachusetts Home Visiting Initiative, the Women, Infants, and Children (WIC) Nutrition program and the Early Intervention program. There are also opportunities to conduct cross-cutting research with other divisions within the Bureau of Family Health and Nutrition as well as with other bureaus within MDPH including Communicable Disease Control, Environmental and Occupational Health, and Community Health and Prevention. The Fellow would have the opportunity for collaboration with partners from Boston-area academic institutions such as Harvard School of Public Health, Tufts University and the Boston University School of Public Health. The fellow would be encouraged to present their work to programs within MDPH, at national meetings, and publish in peer-reviewed journals.

The fellow would evaluate at least one existing surveillance system using evaluation guidelines developed by the Centers for Disease Control and Prevention. Potential systems to be evaluated include Birth Defects Surveillance, WIC, fetal death reporting, Early Intervention, and PRAMS.

Day-to-Day Activities

The Fellow's anticipated day-to-day activities would include work on long-term analytic projects and acute outbreak investigations (suggested projects below). Other routine activities would include:

- Literature reviews
- Data cleaning and analysis
- Project management
- Planning and running meetings
- Attending meetings and webinars
- Communicating with mentors and key partners regarding projects' status
- Developing IRB applications as needed
- Reviewing and editing of reports and manuscripts
- Strategic planning
- Database development management
- Preparing and delivering presentations
- Assisting with mentoring student interns

Potential Projects

There is flexibility built into the program such that the Fellow will have the option of pursuing specific projects of interest. Typical potential projects include:

Title V MCH Block Grant 5-Year Needs Assessment - State Maternal and Child Health agencies apply for and receive a Title V MCH formula grant each year. In addition to the submission of a yearly application and annual report, State Title V programs are also required to conduct a State-wide, comprehensive Needs Assessment every five years. Based on the findings of the five-year Needs Assessment, each State selects priority needs for their population and establishes State Performance Measures (SPM) to measure progress toward meeting the identified priority needs. States and jurisdictions report annually on SPMs and assess their progress in achieving established performance targets for these priority areas. This 5-year Needs Assessment is an important tool in documenting the needs of the maternal and child health populations in Massachusetts. A CSTE Fellow could play an important role in planning and conducting the next 5-year Needs Assessment for Massachusetts.

Evaluating surveillance of birth defects using Massachusetts birth certificates - In 2005, the Massachusetts Birth Defects Monitoring Program (MBDMP) conducted an analysis of Massachusetts birth certificate data to assess the quality of birth defects information on birth certificates, focusing on heart defects and an additional nine birth defects considered identifiable at birth. That analysis demonstrated that that overall, reporting of birth defects on the MA birth certificate did not match diagnoses ascertained by MBDMP. In 2011, Massachusetts adopted the revised 2003 national birth certificate. Since that transition, an analysis of the validity of birth defects data on the new birth certificates has not been conducted. The Fellow could conduct an analysis of birth defects surveillance on the revised birth certificate using MBDMP data as the gold standard.

PRAMS: Conduct analyses of quantitative and qualitative data gathered by PRAMS to examine issues faced by new mothers in the early postpartum period. This might include examining disparities in maternal and child health indictors by specific ethnic subgroup among Asian mothers; analyzing experiences of racism among new mothers in Massachusetts; assessing variations in seasonal influenza vaccination coverage among pregnant women and barriers to receiving vaccination; or analyzing PRAMS data linked with the PELL data system. Some project ideas using the PRAMS-PELL linkage include examining differences in length of delivery hospital stay, complications of labor and delivery, costs of delivery hospitalization by pre-pregnancy body mass index category and method of delivery, and infant health outcomes (e.g., macrosomia, respiratory complications, preterm birth, SGA/LGA); or the frequency of and reasons for pre-pregnancy and intrapregnancy hospital utilization for women with and without selected social risk factors (e.g., domestic violence, homelessness).

Childhood Obesity: During the last 5-year Title V MCH Block Grant Needs Assessment, one of the 10 priority areas selected for Massachusetts was "Promote healthy weight across the life-span." A state-developed performance measure was chosen to promote the use of data to guide and inform activities in this area: SPM #6 "Data-driven promotion of healthy weight, physical activity and nutrition for 3 populations: children aged 0-5 years, children and youth aged 6-17 years, and women of reproductive age." The Fellow would have the opportunity to lead an assessment of program on this state performance measure by using data from PRAMS, BRFSS and the National Survey of Children's Health.

Outbreak Investigation: The Fellow will collaborate with colleagues in the Bureau of Communicable Disease Control to lead an outbreak investigation.

Preparedness Role

The Fellow will work with the Division of Children and Youth with Special Health Care Needs and the Bureau of Emergency Preparedness to assess emergency preparedness surveillance systems following natural disasters, with a particular focus on MCH populations including children and youth with special health needs.

Assignment Location:	Massachusetts Department of Public Health Boston, Massachusetts
Primary Mentor:	Susan Manning, MD, MPH CDC MCH Epidemiology Program Assignee
Secondary Mentor:	Hafsatou Diop, MD, MPH State MCH Epidemiologist