Maternal and Child Health

Assignment Description

The Fellow will be assigned to the Bureau of Maternal Infant and Reproductive Health (BMIRH) within the New York City Department of Health and Mental Hygiene (NYC DOHMH). BMIRH's work focuses on programs, policies, and research/surveillance related to reproductive health, and the health of mothers, infants and young children in NYC. BMIRH's goals are: to help adolescents make informed decisions about their sexual and reproductive health; to improve the health of low income women and children; and to make breastfeeding the norm. Within BMIRH, the Fellow will be assigned to the Research & Evaluation Unit, and will work directly under the supervision of the Director of Research & Evaluation. The unit is staffed with six analysts from diverse backgrounds including epidemiology, maternal and child health, health economics, international development and public administration. The unit supports BMIRH's program/policy work by: conducting, analyzing and disseminating surveillance and research data; evaluating BMIRH programs/policies; and keeping staff apprised of significant research/evaluation related to BMIRH's goals. The Fellow will contribute to the unit's work in four areas: surveillance, research, evaluation, and strategic planning. The CSTE fellow will work on PRAMS, the Prenatal Risk Assessment Monitoring System, a population-based surveillance survey of new mothers. The Fellow will contribute to both the operational and analytic aspects of this surveillance system, including the development of the new (Phase 7) questionnaire. The Fellow will also have the opportunity to work on one of our ongoing research projects (e.g. teen parenting and school performance; correlates of birth spacing; impact of gestational weight gain on maternal/infant health) and program evaluations (e.g. School-Based Health Center Reproductive Health Project; the Nurse-Family Partnership; the safe sleep program, Cribs for Kids). In both of these areas, the Fellow will gain hands-on experience analyzing and interpreting epidemiologic and maternal, infant and reproductive public health data, have the opportunity to develop technical skills (SAS, STATA, GIS, Excel), and learn to translate data into programmatic and policy action at the local governmental level. The Fellow will also participate in one of BMIRH's strategic planning activities which involves an intensive study of emerging maternal and infant health areas through an examination of the interdisciplinary literature, examination of data, and discussions with colleagues. Two areas that will be explored in the coming years are preconception health and social marketing as a tool of public health. In each of these domains there will be opportunities for the Fellow to identify projects on which s/he can function with more autonomy but under the supervision of a senior member of the staff.

Day-to-Day Activities

The Fellow would be a fully integrated member of the Research & Evaluation Unit within the Bureau of Maternal, Infant and Reproductive Health (BMIRH). The core of the Fellow's activities will be the specific project/s that he/she chooses. These potential projects have been selected to offer opportunities for development of core epidemiologic skills, including database development and management, statistical analysis, data interpretation, and written and oral presentation of data. The work is heavily focused on all aspects of data analysis and will require the use of statistical software, including SAS, STATA and/or SUDAAN. The Fellow will participate in all meetings and discussions regarding the administrative and scientific aspects of the work. These meetings will be with both BMIRH staff and other health department and external partners. The work will also require writing, ranging from memos documenting the work, to interim reports, Power Point presentations, and manuscripts. The work will be done under the day-to-day supervision of a member of the Research & Evaluation Unit. The Fellow will also participate in a range of Research & Evalaution Unit activities designed to address the scientific and empricial underpinnings of BMIRH's work, including Research & Evaluation Unit meetings (monthly), Program-Research meetings devoted to discussions of ongoing research, journal clubs (quarterly) and

invited outside speakers (quarterly). The Fellow will be invited to attend meetings outside the Bureau and outside the Agency in order to gain a fuller view of reproductive and maternal and child health issues in NYC and possible career alternatives. For example, the Family Planning Provider Group meets quarterly to advise on programmatic and policy issues. Training will be an important part of the Fellow's activities, particularly in the beginning of the assignment, and will include training in statistical packages (SAS, STATA, SUDAAN). Trainings in the use of EndNote, GIS, and scientific writing are also available from the Agency.

Potential Projects

1. PRAMS (Pregnancy Risk Assessment Monitoring System) Data Quality Improvement Project: Background: PRAMS is a population-based surveillance system that collects data on the behaviors and experiences of new mothers, and links that information to the birth certificate to create a comprehensive picture of the health of mothers and infants. In NYC over 2,000 new mothers are interviewed annually by mail or telephone. PRAMS data is used to develop and evaluate programs and policies that address health disparities facing new mothers and infants. In recent years PRAMS data have been used to support the work of Bureau of Maternal, Infant and Reproductive Health (BMIRH) around breastfeeding, maternal preconception health and postpartum contraception. Project: Given the centrality of PRAMS to our work, BMIRH and the Bureau of Vital Statistics (BVS) are committed to improving the quality of PRAMS data and birth certificate data. Toward this end the CDC has funded NYC (and one other state) to conduct the PRAMS Data Quality Improvement Project. Data collection began in September 2010. We are reviewing the medical records of over 700 NYC births to validate self-reported PRAMS survey data, and the accuracy of birth certificate data. Data collection will be completed by spring 2011. The medical record review will focus on three categories of variables: pregnancy and health history, health and prenatal care during the current pregnancy, and maternal demographic information. An analytic plan to evaluate the validity of PRAMS and birth certificate data has been outlined and focuses on these variables: maternal BMI and weight gain, assisted reproductive technology, maternal health conditions such as hypertension and diabetes. This project would provide an opportunity for the Fellow to be a member of the team preparing the analytic dataset, conducting data analyses, and writing manuscripts, as well as opportunities to undertake independent analyses. The Fellow would also be centrally involved in recommendations for improvement of the PRAMS data and birth certificate data. Work on this project would be supervised by Candace Mulready Ward, MPH, the PRAMS coordinator in NYC and Principal Investigator for the Data Quality Improvement Project.

2. Analysis of Dataset Linking Teen Births and School Outcomes. Background: In 2008, 8 percent of New York City (NYC) females ages 15-19 became pregnant. Over one-third of these teens gave birth, and an estimated 5,000 births were to school-age mothers. In his 2010 State of the City address, Mayor Michael Bloomberg underlined the need for a comprehensive approach to teen pregnancy, as part of a strategy to ensure that young people receive the support they need to succeed in life. The Mayor also recently rolled out a new initiative targeting teens at risk of dropping out. Over a quarter of students who drop out after 10th grade cite pregnancy or parenting as a reason for leaving school. It is estimated that only 51% of teen mothers will obtain a high school diploma by age 22, compared with 89% of women who were not teen mothers. Pregnant and parenting teens need help to ensure they perform well academically and graduate from high school. NYC teens need better and more information, skills and resources around sexual and reproductive health issues so they can avoid unintended pregnancy. There is scant data in NYC and elsewhere on the school experience of pregnant and parenting teens Research Project: With the cooperation of the Department of Education (DOE) and the Officed of School Health, the Bureau of Maternal Infant and

reproductive Health (BMIRH) is taking the lead to link data from DOE enrollment records to DOHMH birth certificates in order to identify students who have given birth. This is a unique dataset that has the potential to improve DOE instructional services and student support programming for pregnant and parenting teens. The research objectives we will address include: (1) the prevalence of teen births to students in NYC schools; (2) the characteristics of schools with high teen birth rates; (3) the characteristics of students who give birth; (4) how pregnant and parenting teens perform in school; (5) the timing of student attendance, pregnancy, and birth; (6) factors that improve the probability of graduation among parenting teens. The linked data set will be available by the Fall, 2010. The Fellow would be involved in all aspects of the research including data cleaning, data analysis and interpretation, development of recommendations, writing of reports and manuscripts, and presentations of data. Work on this project would be supervised by Cristina Yunzal-Butler, PhD, Research Scientist in the Research & Evaluation Unit, and co-investigator on this research project.

3. Evaluation of Nurse-Family Partnership Program. Background: The Nurse-Family Partnership (NFP) is a nurse home-visiting program for high risk, first-time mothers, their infants, and their families. The program goals are to: improve pregnancy outcomes by helping women engage in good preventive health practices; improve child health and development by helping parents learn to provide responsible care; improve the economic self-sufficiency of the family by helping parents plan for their future. Each mother served is partnered with a registered nurse early in her pregnancy and receives ongoing visits that continue through her child's second birthday. The NYC NFP is the largest in the United States, and currently serves 2,300 families. Research Project: Since NYC's adaptation and delivery of NFP does not allow for randomization, BMIRH is using a nonexperimental evaluation design to compare NFP participants and a comparable group of non-participating NFP mothers and infants in NYC with respect to three outcomes. The evaluation will draw on a dataset that links NFP client data to their NYC birth certificate record. The identification of the comparable non-NFP client group will be made through propensity score matching to ensure that the NFP clients are compared to mothers with similar demographic and geographic characteristics. The three outcomes that will be studied are: inter pregnancy interval (birth spacing), pregnancy-induced hypertension and smoking during pregnancy. All three outcomes are associated with improved infant outcomes. Other opportunities to link the NFP client database with other administrative databases are being considered as well, including a match to the Department of Education records to examine the impact of NFP on maternal high school graduation rates. The Fellow would be involved in all aspects of the research including data cleaning, data analysis and interpretation, writing of reports and manuscripts, and presentations of data. Work on this project would be supervised by Lindsay Senter, Research Scientist in the Research & Evaluation Unit, and Research Coordinator for NFP.

4. Maternal BMI, gestational weight gain and public health messaging. Background: Both maternal obesity and excessive gestational weight gain (GWG) are associated with an increased risk of adverse maternal and infant health outcomes. Maternal obesity is associated with an increased risk of Cesarean-section delivery, macrosomia, and preeclampsia/eclampsia. In the short term, excess GWG is an independent risk factor for Cesarean-section delivery and macrosomia. The long-term sequelae of excess gestational weight gain are also potentially consequential, contributing to lifelong problems of overweight/obesity in women. The prenatal period is not an opportunity to address weight loss, though it is a window of opportunity to help women attain a healthy weight gain since most have sustained contact with the health care system during pregnancy. In general, adherence to the guidelines for optimum GWG is low, with approximately one-third or more gaining excessive weight. Project: The project has three goals: first, to fully describe patterns of maternal BMI and GWG in New York City mothers; second, to conduct a literature review of the consequences

of obesity and excessive GWG for maternal and infant health; and third, to collaborate with the Bureau of Chronic Disease to develop appropriate messages around these issues to women. Data from PRAMS (Pregnancy Risk Assessment Monitoring System) and the NYC birth certificate will be used for the descriptive epidemiology of obesity and GWG in pregnant women. PRAMS data are available from 2004-2008; NYC birth certificate data are limited to births from 2008 forward. The role of poverty, age, race/ethnicity and neighborhood will be explored in relation to obesity and GWG. The literature review will focus on the impact of obesity and excessive GWG on maternal and infant health, and will provide the basis for the medical/epidemiological information that will part of the messaging. The most challenging part of this project will be to collaborate with the Bureau of Chronic Disease, which oversees a large portfolio of activities around obesity prevention, to insure that the needs of pregnant women and women of childbearing age are addressed.

Preparedness Role

All employees are assigned to an Incident Command System Section for purposes of planning for and responding to emergencies. The NYC DOHMH has responded to a number of citywide and national emergencies in the last few years including the response to the terrorist attacks and anthrax investigation in 2001, and most recently the H1N1 flu outbreak. The Fellow would be assigned to the Clinical Services section and will be expected to participate in the DOHMH response in the event of an emergency, as well as all drills, meetings and point of distribution (POD) trainings and exercises required by the unit.

Assignment Location:	New York, NY
Primary Mentor:	Judith Sackoff, PhD Director, Research New York Department of Health and Mental Hygiene
Secondary Mentor:	Lindsay Senter, MPH Research Coordinator, Nurse Family Partnership New York Department of Health and Mental Hygiene