Mississippi_Zhang

Birth Defects

The Mississippi State Department of Health's (MSDH) Bureau of Health Data and Research (BHDR), in collaboration with the Office of Child and Adolescent Health's (OCAH) Division of Genetic Services (GS), requests a CDC/CSTE Fellow to focus upon birth defects and developmental disabilities. The State Health Officer presides over all functions of the MSDH, including supervising the Director of Health Services, Daniel R. Bender, MHS. The BHDR and OCAH/ GS are organizationally located in the Health Services section, along with Preventive Health, WIC, and Tobacco Policy and Prevention.

The BHDR Director, primary mentor, oversees all program activities and statistical analyses conducted in the Bureau. The BHDR provides data support to maternal and child health (MCH), chronic disease, injury, and oral health programs at the state and local level. In addition, BHDR assists the other five offices in Health Services with grant development and management. BHDR consists of two divisions. The surveillance division includes the Youth Risk Behavior Surveillance Survey (YRBSS), the Pregnancy Risk Assessment and Monitoring Surveillance (PRAMS), the Youth Tobacco Survey (YTS), the Maternal Infant Mortality Surveillance System, and the Mississippi Asthma Surveillance System. The program development division includes the State Asthma Program, Closing Gap on Infant Mortality, and the State System Development Initiative (SSDI). BHDR also coordinates the Mississippi Preventive Health and Health Services Block Grant and the MCH Block Grant.

The GS includes the Birth Defects Registry, the Sudden Infant Death Syndrome (SIDS) education program, the Childhood Lead Poisoning Prevention program, and the Newborn Screening program. All birth defects among Mississippi residents born on or after January 1, 2000, are monitored by the GS. Birth defects must be reported in children and adolescents from birth through age twenty-one, and in fetuses of at least 20 weeks of gestation or a weight at or above 350 grams. Birth defects are reported primarily by means of designated ICD-9 codes obtained through discharge summaries from hospitals. Reports also come from MSDH registries/data such as the Newborn Screening, Vital Records Birth and Death Registries, and the Newborn Hearing Registry. Doctors and other healthcare workers may report birth defects by completing a birth defects reporting form and sending to the State Registry.

In accordance with the Mississippi Code, Section 41-21-205, MSDH created the Mississippi Birth Defects Registry for surveillance and to further research into the causes of birth defects. The Registry is used to increase awareness of preventive measures that can reduce the risk of defect occurrence. Through the collection and analysis of this data, the MSDH can better understand and prevent birth defects by identifying Mississippi specific risks.

The fellow's anticipated day-to-day activities may include:

•To evaluate birth defects and developmental disabilities data and assess disease prevalence and incidence as related to birth defects.
•Assist with the preparation of reports relating to incidence and prevalence of birth defects and developmental disabilities.
•Engage in identifying risk factors for birth defects.

BHDR employs staff with varied backgrounds including: education, business, biostatistics, epidemiology, public health, health information management, and computer training and application development. These varied perspectives enable staff to collaborate on projects and utilize one another's skills to enhance program outcomes. Interdisciplinary teams are utilized frequently in BHDR, with other MSDH programs, and external partners.

GS has programmatic goals that the fellow's work would directly impact, as follows: 1) To monitor, regularly and systematically, the births of children with defects for changes in incidence or other unusual patterns suggesting preventable causes; 2) To increase reporting to the registry to ensure long term follow up and delivery of service; and, 3) To ensure that children identified with birth defects are placed in a system of care.

There are numerous potential data analysis/ evaluation projects that an epidemiology fellow could become involved in, including:

•The fellow would have opportunities to participate in data analysis which includes GIS mapping of Birth Defects; Hearing Screens; Children with Special Healthcare Needs (CSHCN) data; and Newborn Screening data.
•This assignment involves working with interdisciplinary teams which include staff from the Children with Special Health Needs (CSHCN) and the Early Intervention Services and Newborn Screening Program.
•The GS data collection and analysis is focused on non-infectious conditions affecting child health; therefore, outbreak field investigations are not part of the proposed assignment.

The fellow will address evaluation measures related to these indicators:

•Number of birth defects cases;
•Total number of children with birth defects who are referred to Early Intervention Services or CSHCN;
•Total number of referred children been entered in the registry and are receiving services;
•Data checked for completeness, duplication, and errors.

Conclusions drawn from the evaluation will provide the basis for the focus and approach of program activities and epidemiological reports.

5) Role of fellow in State Emergency Preparedness plan

Mississippi_Zhang

The intern will assist in the development of procedures for surveillance as needed by the state emergency preparedness team.

Assignment Location:	Jackson, Mississippi
Primary Mentor:	Lei Zhang, PhD Lead Biostatistician and Director, Bureau of Health Data and Research, Mississippi State Department of Health
Advanced Degrees:	PhD, University of Mississippi (2006)
Secondary Mentor:	Beryl White Polk, PhD Division Director II, Mississippi Department of Health
Advanced Degrees:	PhD, Jackson State University