Substance Abuse

The Bureau of Epidemiology is expanding its capacity to do substance abuse epidemiology and surveillance. The CSTE Fellow will have opportunities to contribute to this new activity which cuts across multiple areas of public health including communicable and chronic diseases, maternal and child health and injury prevention. He/she will be based in the Epidemiology and Surveillance Section of the Division of Environmental Health (DEH), which provides epidemiology support to programs in Injury Control and specifically in substance abuse. The DEH currently has seven staff with advanced degrees and training in epidemiology; three have doctorates. Drs. Cameron and Miller will provide overall direction and guidance to the Fellow, while Tom Largo, a highly experienced Injury Epidemiologist Specialist, will provide technical support to the Fellow in accessing and manipulating data and in understanding case definition and coding issues. Because of the collaborative structure of the BoE, the Fellow can readily get access and assistance in using data systems managed by other sections such as Chronic Disease Epidemiology and HIV/AIDS. Please visit our website at www.michigan.gov/epi.

Due to the cross-cutting impact of substance abuse in multiple areas, we routinely collaborate with programs outside of the BoE. The Fellow will have the opportunity to work with specialists in the Injury and Violence Prevention Program (IVPP) and the Bureau of Substance Abuse and Addiction Services (BSAAS) and access some of their specialized data sets which are described in subsequent sections.

Day To Day Activities:

Activities will be dictated by the Fellow's goals and interests, but would typically focus on desk work at the office, with some field work, meetings and consultations. On a daily basis, the Fellow will learn to use data sets of varying size and complexity, link data files, edit data and maintain quality control, and manage projects. He/she will participate in the design of studies, in data collection, in the analysis and interpretation of results, and in their dissemination. Academic collaborations exist with experts in drug abuse epidemiology from Michigan State University and the University of Michigan that afford the opportunity to engage in high quality scientific research. The Bureau also works with the BSAAS to develop ongoing public health surveillance of key substance abuse measures to be used to drive prevention planning. BSAAS has federal funding to build prevention capacity through the use of state and local data for prioritizing substance abuse problems and assessing the impact of interventions. To implement the program, BSAAS has organized a State Epidemiology Workgroup (SEW) chaired by Dr. Corinne Miller, assisted by Dr. Lorri Cameron. The SEW has compiled a wealth of data resources that are being used to develop state and community plans for prevention. The Fellow would participate in the SEW and develop in-depth analyses of data sources of interest. Through the SEW the Fellow will have the opportunity to learn about public health practice on the local level by working with Community Epidemiology Workgroups (CEWs). Drs. Cameron and Miller will identify suitable partnerships with the most effective local Prevention Coordinators. In this way the Fellow can gain field experience out of the office in areas such as data collection and health risk communication. The IVPP has been funded by CDC to develop the Michigan Violent Death Reporting System (MiVDRS), which will shortly begin collecting detailed data, including substance use, on violent deaths (homicides, suicides, firearm-related, undetermined) in Michigan. The four primary data sources for the system are death certificates, medical

examiner records, police reports, and crime lab data. The Fellow will have the opportunity to work with the MiVDRS epidemiologist who is located programmatically in Dr. Cameron's section along with the Injury Epidemiologist Specialist. The Fellow is welcome to participate in other Bureau activities as time and interest permits, including communicable disease or environmental field investigations.

Potential Projects:

There are multiple data sources available to address substance abuse issues, including hospital discharge data, death certificate files, statewide Poison Control Centers data, state and local traffic crash death and injury data, and Medical Examiner and Death Review data for selected topics or areas; also behavioral data such as the Behavioral Risk Factor Survey (BRFS) Youth Risk Behaviors Surveillance System (YRBS), Michigan Profile of Healthy Youth (MiPHY), Michigan Youth Tobacco Survey (YTS), the National Survey of Drug Use and Health (NSDUH) and other special surveys of alcohol and drug use behaviors in Michigan. The new MiVDRS surveillance system will also be made available to the Fellow for evaluation and analysis.

Some possible analytic projects include:

1) analysis of the impact of an alcohol excise tax increase on binge drinking;

2) assessment of caloric consumption among binge drinkers;

3) trends in prescription drug misuse, or illegal drug use among different age and ethnic groups in Michigan;

4) examination of co-morbidity using multiple cause or diagnostic fields in deaths or hospital discharges related to substance abuse;

5) assessment of the "burden of disease" in Michigan due to substance abuse using attributable risk models constructed by the National Institute on Drug Abuse and CDC.

6) binge drinking and association with birth defects;

7) trends in preconception binge drinking as reported in the Pregnancy Risk Assessment Monitoring System (PRAMS) data for Michigan;

8) comparison of rates of drug and alcohol use, and mental health issues, reported in various Michigan surveys such as the BRFSS and NDUHS.

9) temporal or demographic analysis of violent deaths in the MiVDRS with evidence of drug or alcohol use by the victim or perpetrator.

The Fellow will be invited to join the CSTE Fatal Drug Overdose Workgroup chaired by Dr. Cameron and will participate in the development of tools, standard case definitions and data to be used to promote surveillance of drug overdose fatalities on a national level Several of the behavioral data surveillance systems would be good subjects for evaluation. One suggestion would be the MiPHY, a new statewide

survey of risky behaviors among middle and high school students developed by the Michigan Department of Education.

Another surveillance system which helped detect drug fatality clusters due to Fentanyl is the statewide Poison Control Center system; this could also be the basis of an evaluation project. An assessment of the legal and policy impediments to the use of the Michigan Automated Prescription System (MAPS) for public health surveillance would be a valuable contribution. The MAPS data are currently used by law enforcement to detect illegal practices in filling prescription for controlled substances.

Emergency Preparedness Role:

The Fellow is encouraged to participate in trainings and exercises through the DEH's Chemical Terrorism and Emergency Preparedness Section, which provides support to the MDCH Office of Public Health Preparedness for chemical and radiological events.

Location:	Lansing, Michigan
Primary Mentor:	Lorraine Cameron, PhD, MPH
	Epidemiologist Manager
Secondary Mentor:	Corinne Miller, DDS, PhD
	State Epidemiologist