Environmental Health

The Fellow will be assigned to the Environmental and Occupational Epidemiology Unit, and have the opportunity to work in other BEOH programs including asthma prevention (childhood, adult, and occupational), lead poisoning prevention (childhood and occupational), occupational epidemiology, bioterrorism preparedness, and hazardous waste site assessments. There are also a number of opportunities to collaborate with other programs within the Department of Health Services such as the Bureau of Communicable Diseases, with the state's environmental agencies, and with the University of Wisconsin, where a number of BEOH employees have adjunct faculty appointments, including the primary and secondary mentors.

Staff in the Wisconsin Bureau of Environmental and Occupational Health (BEOH), Environmental and Occupational Epidemiology Unit are currently engaged in a number of CDC funded programs. The general purpose is to improve state and national capacity for linking health concerns with environmental and occupational hazards. Priority areas of interest include cancer, asthma, myocardial infarctions, lead poisoning, birth defects, air quality, and drinking water quality. Current efforts are focused on improving surveillance for these individual environmental health factors and potential linkages between them, as well as making data and information accessible via the state's comprehensive Public Health Information Network.

The Fellow will have access to a wide range of datasets including, but not limited to:

- Cancer Registry
- Behavioral Risk Factor Surveillance
- Birth Defects Registry
- Vital Statistics-birth and death certificates
- Ambient air contamination
- Drinking water contamination
- Agricultural pesticide use
- Land use
- Hospital discharge
- Emergency department visits
- Adult and childhood lead poisoning
- Wisconsin Poison Center

The program will provide opportunities to develop and improve skills using statistical software to analyze epidemiologic data and graphical software to create visual representations, evaluating and interpreting epidemiologic research, writing reports including peer-reviewed publications, delivering professional oral presentations including poster presentations, and working within policies such as

HIPPA and Institutional Review Board reviews. Developing a surveillance program and evaluating a surveillance system will also be core activities for the fellow.

Some specific activities to choose from include, but are not limited to:

• Accompany staff from other programs, such as Indoor Air Quality or Hazardous Site Assessments, on field investigations and aid in preparing formal field investigation reports.

• Interpret scholarly data to assist in prioritizing efforts to investigate linkages between environmental exposures and health outcomes (ex: ozone and asthma, pesticides and birth defects, air toxics and cancer).

• Develop analytical techniques for linking environmental exposures with health outcomes

(e.g.: ozone and asthma, pesticides and birth defects, air toxics and cancer).

• Design a work-related asthma surveillance program.

• Explore development of an improved system for tracking school absenteeism rates among school age children with asthma.

• Conduct Head Start based asthma surveillance.

• Look at current and explore new data sources to further examine asthma among disparately impacted populations.

• Design and evaluate the integration of hospital discharge, birth certificate, and birth defect datasets as a comprehensive surveillance system for birth defects.

• Develop analytical techniques for estimating potential risk of exposure to environmental contaminants such as hazardous air pollutants or pesticides in drinking water.

• Conduct an epidemiologic investigation for priority areas such as ozone and asthma, pesticides and birth defects, or air toxics and cancer.

• Use occupational health surveillance data to develop outreach strategies.

• Assist in development and revision of Environmental Public Health Indicators for the Bureau of Environmental and Occupational Health.

• Assist in development and dissemination of county environmental health profiles including refinement, stakeholder outreach, evaluation and training.

• Develop GIS based map of municipal drinking water boundaries for use in epidemiologic investigations of drinking water contamination and priority health outcomes (childhood cancer and birth outcomes).

• Take part in the development of a state health plan that focuses on the essential public health functions.

• Various bioterrorism preparedness activities are available such as participating in a Tabletop Exercise with a simulated chemical release, Hazard Vulnerability Analysis, or a role in pandemic flu preparedness.

Assignment Location:	Madison, Wisconsin
Primary Mentor:	Henry A. Anderson, MD
	Chief Medical Officer, State Epidemiologist
	Occupational and Environmental Health, Wisconsin Division of Public Health
Advanced Degree:	MD, University of Wisconsin Medical School (1972)
Secondary Mentor:	Marni Bekkedal, PhD
	Research Scientist/Project Manager
	Bureau of Environmental and Occupational Health, Wisconsin Department of Health Services
Advanced Degree:	PhD, Bowling Green State University (1997)