

CHAPTER 13

ENVIRONMENTAL HEALTH

BOARD OF HEALTH ROLE AT A GLANCE

- Investigate all environmental health complaints.
- Request toxicological and epidemiological community health assessments in response to complaints of environmental exposures.
- Request information regarding local hazardous waste sites and potential community exposure to contaminants.
- Request assistance to address concerns of indoor air quality in public buildings such as schools.
- Refer complaints that require public health emergency response concerning chemicals.

OVERVIEW

Bureau of Environmental Health (BEH) of the Department of Public Health (DPH), has a broad mission of protecting the public health from a variety of environmental exposures. BEH responds to environmental health concerns and provides health agents and concerned communities with epidemiologic and toxicological health assessments. It also follows up on potential problems identified through surveillance data, generated by the Massachusetts Cancer Registry. Its most recent and growing area is the study of health effects of poor indoor air quality which requires a multi-disciplinary response uniquely available within Bureau staff.

The Bureau is comprised of nine major program areas, including Community Assessment, Environmental Toxicology, Environmental Epidemiology, Emergency Response and Indoor Air Quality, and Environmental Health Education and Outreach. BEH staff includes physicians, epidemiologists, toxicologists, environmental engineering computer programming staff, statisticians, environmental scientists and a variety of public health research staff.

During the past several years, public awareness and concern over the potential effects resulting from environmental exposure has heightened. There are currently 31 National Priority List (NPL) or federal "Superfund" sites, 1 proposed NPL site and over 400 additional Comprehensive Environmental Response, Compensation and Liability Information Systems (CERCLIS) sites designated by the Environmental Protection Agency under investigation in Massachusetts. There are also 750 Brownfields sites, 29 RCRA Corrective Action facilities, and approximately 19,000 RCRA facilities. Further,

the Massachusetts Department of Environmental Protection currently has more than 4000 hazardous waste sites ("21E" or state superfund) under investigation in Massachusetts.

Concerns over the environment and other areas suspected to be contaminated, result in numerous requests to BEH for toxicological and epidemiological community health assessments. These requests are made by local boards of health, citizen groups, state legislators, health agents, the media, as well as other state agencies.

A cooperative agreement with the federal Agency for Toxic Substances and Disease Registry (ATSDR) has allowed the BEH to assist ATSDR in complying with federal timelines for Public Health Assessments at NPL sites as mandated by the Superfund Amendment and Reauthorization Act (SARA).

BOARD OF HEALTH RESPONSIBILITIES

Environmental health mandates for Boards of Health are less defined than in other areas of public health. Frequently, after receipt and investigation of a complaint by the local board of health (BOH), the Department of Public Health is contacted for procedural assistance. DPH provides local boards of health with guidance and information through Bureau of Environmental Health (BEH) regarding elevations in disease occurrence, indoor air quality issues, hazardous waste sites, and environmental health hazards. The following are examples of possible situations that a local BOH would refer to BEH:

- The high school principal contacts the BOH because she has received complaints from many teachers who describe having experienced symptoms of headaches and nausea at work over a three day period. The BOH should notify BEH since this may be a potential indoor air quality problem.
- A town resident calls the BOH to inquire if there is a link between the power lines on his street and three neighbors with cancer. The local BOH should refer this information to BEH for a potential community health assessment for that neighborhood.

STATE RESPONSIBILITIES

The BEH triages these types of requests for testing, study or immediate response to appropriate state governmental agencies. The **Environmental Toxicology Program** (ETP) provides exposure based health assessments through the evaluation of chemical and other contaminants detected in environmental media and through the analysis of human bio-monitoring data. The ETP provides staff support related to pesticide and fish toxics issues, and works closely with the Bureau's Radiation Control Program to conduct environmental monitoring in Massachusetts communities that fall within the three Emergency Planning Zones of nuclear power plants in and near Massachusetts. The program also takes the Bureau's lead on evaluating health effects associated with climate change and conducting Health Impact Assessments (HIAs). ETP also regulates beach water quality monitoring and performs toxicological assessments of environmental data provided by the MA Department of Environmental Protection, the U.S. EPA, and others in response to environmental exposure concerns.

BEH's goals are to assess health impacts suspected of being related to environmental exposures and to educate the public and health professionals regarding the potential relationship of human health effects and the environment. Its mission is to perform efficient and appropriate preliminary analyses of reports of suspected elevations in disease occurrence.

The **Community Assessment Program** provides first line responses to citizens and others regarding environmental health issues. It provides reports and preliminary analyses of suspected elevations in disease occurrence potentially linked to the environment. Community Assessment also produces more extensive community health assessments and health consultations related to hazardous waste sites.

The **Environmental Toxicology Program** provides to communities toxicological assessments of environmental data provided by the Massachusetts Department of Environmental Protection and the U.S. Environmental Protection Agency. In addition, the Environmental Toxicology Unit maintains support, in collaboration with DPH Division of Food and Drugs, for the programs of toxins affecting fish and pesticide use.

The Toxicology Program also provides extensive indoor air quality investigations that represent a growing concern as more is learned about potential indoor contaminants. DPH generally has jurisdiction over studies done in state buildings, and buildings rented by the state for employee occupancy. Local health departments, who have jurisdiction over public schools, buildings that the general public enter, and municipal buildings, often request assistance from the BEH.

The **Environmental Epidemiology Program** provides follow-up and in depth research based on problems identified by the Community Assessment and Environmental Toxicology Programs. Its staff of epidemiologists takes the lead in designing follow-up studies, many times funded by state (M.G.L. c. 21E) or federal Superfund mandates (SARA).

The **Indoor Air Quality Program** works closely with Environmental Toxicology to produce health hazard evaluations and provides information regarding emergency response. This unit also maintains the Massachusetts Substance List and assures overall public health compliance pursuant to state Right-to-Know Laws (M.G.L. c. 111F) and the federal Emergency Planning and Community Right-to-Know Act (EPCRA). Regulations concerning the maintenance of air quality in indoor ice skating rinks, 105 CMR 675.000 are administered by the Community Sanitation program.

The program of **Environmental Health Education and Outreach**, partially funded by the ATSDR, provides information, education and services to health professionals and citizens regarding the adverse human effects of non-workplace environmental health hazards. The objective of this project is to increase the awareness and understanding of health effects identified at NPL or Superfund sites. The Program designs hospital-based Grand Rounds and conferences for physicians and provides site-specific fact sheets about environmental exposures and health effects. Environmental Health Education and Outreach endeavors to provide practical approaches that are useful to Massachusetts physicians and other health professionals.

RESOURCES

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