# Chapter 5

## Roles of State and Local Health Departments

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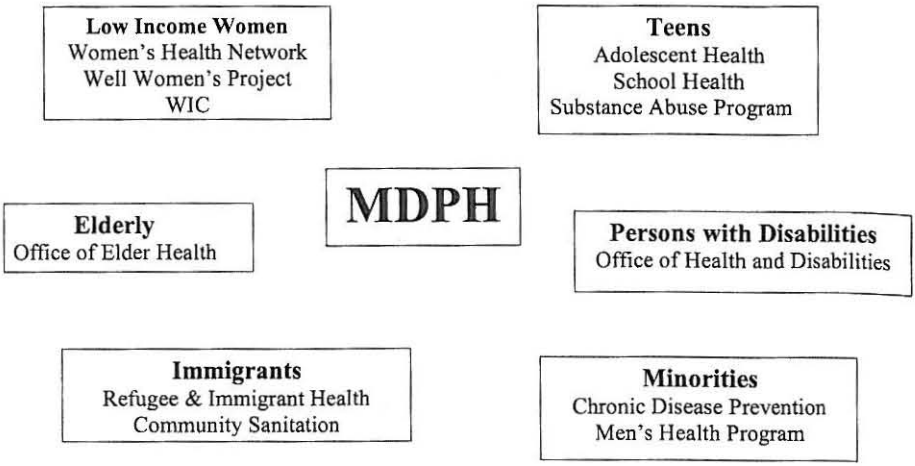
Since the passage of the Occupational Health and Safety Act in 1970, OSHA and state labor departments that enforce workplace health and safety standards have come to be seen by the public as the government agencies with primary responsibility for worker safety and health at the state and local levels. These regulatory agencies play a central and essential function in protecting worker health. However, enforcement of workplace safety and health regulations is only one component of a comprehensive public health approach to workplace health and safety (Table 1). State public health agencies have a critical, complementary role to play in conducting surveillance of work-related diseases and injuries, investigating occupational health problems in the community, and implementing prevention activities to protect workers' health.

There are many opportunities for integrating occupational health into mainstream public health practice at the state and local levels. Public health has always focused on addressing the health concerns of those most in need. Many public health programs target specific underserved populations such as women, adolescents, minorities, immigrants, migrants, and those with disabilities. These are the same populations that comprise special worker populations whose occupational health needs have not been well addressed through conventional approaches to occupational safety and health. Consequently, the public health infrastructure provides numerous points of access for reaching special worker populations (Figure 1). Because public health agencies have regulatory responsibilities in the health care and food service industries, they also serve as a point of access to workers and employers in these industries.

There are also numerous points of convergence in public health practice, where the health concerns of workers and the general public intersect. Many health hazards, such as poor indoor air in schools and latex exposures in hospitals, threaten the health of workers as well as the general public and require solutions that protect all those at risk. For numerous contemporary public

*The author acknowledges Janet Johnston and Elise Pechter, who contributed substantially to the work on which this chapter is based.*

**Figure 1. Examples of Public Health Programs Serving Special Worker Populations[a], Massachusetts Department of Public Health (MDPH) , 2001**




[a] National Institute for Occupational Safety and Health.[NIOSH] *National Occupational Research Agenda.* Washington, DC: U.S Department of Health and Human Services, Centers for Disease Control and Prevention, NIOSH, April 1996.

health problems, such as asthma, cardiovascular disease, and violence, occupational risk factors are among multiple contributing factors. Comprehensive approaches to these problems require collaborations between occupational health practitioners and colleagues in other fields of public health. Likewise many policy issues regarding emerging infectious diseases, such as SARS, and biological and chemical terrorism preparedness are also worker health issues, and decision-makers need the expertise of a public health team that includes experts in occupational health and worker representatives.

State public health agencies vary widely in their ability to identify and address occupational health concerns. While relatively few state public health agencies have comprehensive occupational health programs, a growing number are working to build occupational health capacity, many with support from NIOSH. The local public health infrastructure differs markedly among states and communities; local boards of health have varying degrees of responsibility for addressing occupational health concerns and usually do so within the context of broader public health mandates.

## Surveillance of Work-Related Diseases and Injuries

Public health surveillance (public health tracking) is the ongoing systematic collection, analysis, and interpretation of health data coupled with the

timely dissemination of information to those who need to know. It is the cornerstone of public health practice and essential for planning, implementation, and evaluation of public health activities. State public health agencies, which are vested with legal authority to require disease reporting and to collect health data, play a central role in surveillance. Although historically state health agencies focused on surveillance of communicable diseases, today they conduct surveillance of a full range of health outcomes and their determinants, including, for example, chronic diseases, injuries, and health behaviors.

The most widely cited statistics on occupational injuries and illness are generated largely outside of the public health infrastructure and are dependent on data recorded by employers, specifically on OHSA logs and in workers' compensation records. Yet state public health agencies, which have access to a wide variety of health data systems and epidemiological capacity, have an important complementary role to play in surveillance of occupational diseases and injuries, and their determinants. They are in a unique position to provide critically needed data on occupational diseases, which are known to be substantially undercounted in data based on OSHA logs and workers' compensation records. They can also use public health data sources, such as hospital discharge records and newly developing emergency department data systems, to generate information to augment and evaluate the conventional sources of occupational injury data. Public health population surveys, such as the Behavioral Risk Factor Surveillance System, can be used to collect information not only about occupational health conditions, but also the prevalence of workplace risk factors in the state.

As shown in Table 2, state health agencies are using a variety of public health data sets for tracking work-related diseases and injuries. A number of state health departments conduct case-based surveillance of occupational diseases, such as silicosis, work-related asthma, and pesticide-related disease, based on mandatory reporting by health care providers, hospitals, and, for some conditions, clinical laboratories. The mandatory reporting requirements vary from state to state. These case-based surveillance systems, like those used to track communicable diseases, involve collecting personally identifiable data on individuals that allow the state health agencies to conduct timely case follow-up and intervene in specific workplaces to protect other workers at risk. States also use existing population-based data sets, such as death certificates, to monitor occupational injury and illness trends by variables such as occupation, industry, age, and locale. Population-based cancer registries have also been used to generate hypotheses about possible links between occupation and cancer, leading to further etiologic research. Many state occupational health surveillance systems, such as those developed for adult lead poisoning, both allow for individual case follow-up and generate summary data that can be used to guide the development of broad-based prevention activities focusing on particular industries, hazards, or populations.

## Surveillance of Occupational Lead Poisoning

Over 30 state health departments (and some state departments of labor and other agencies) have adult lead registries based on mandatory reporting of blood lead test results among adults by clinical laboratories. Over 80% of individuals reported to these registries have been exposed to lead at work. State health departments conduct follow-up of individual cases with high blood lead levels to obtain more information about sources of exposure and may intervene directly or refer workplaces to other agencies to reduce lead hazards at specific worksites. Summary data are used to identify high-risk industries, occupations, and populations. For example, Hispanic workers have been found to be overrepresented among those with elevated blood lead levels in some states, prompting outreach to the Spanish-speaking community about lead hazards in the workplace. Findings from these state lead registries are reported to the Adult Blood Lead Evaluation and Surveillance (ABLES) System at NIOSH and reported periodically in the CDC's *Morbidity and Mortality Weekly Report.*

Surveillance, to be meaningful, must be linked to intervention, which is, in large measure, local. Intervention involves interacting with individuals, businesses, and organizations in the community. State health agencies are well poised to actively link surveillance findings with intervention and prevention activities at the state and local levels.

## Investigating Occupational Health Problems in the Community

### *Worksite Investigations*

The occurrence of an occupational disease or injury can be considered a sentinel health event that serves as a warning sign that the prevention system has failed and other workers may be at risk. Many public health agencies have working relationships with federal or state OSHA offices and mechanisms in place for referring hazardous worksites identified through surveillance or public complaints to these agencies for investigation. Some state public health agencies also use their own in-house experts or partner with local health agencies to conduct nonregulatory investigations of workplaces where affected workers were exposed to hazards. In situations where there is no imminent or life-threatening danger, state health agencies often take a nonregulatory approach as a first step. The seriousness of the potential hazard, statutory authority of the agency, patient confidentiality, and health care provider recommendations are among the complex set of issues considered in determining the most appropriate worksite follow-up.

Research-oriented investigations conducted by health agencies go beyond assessing compliance with existing health and safety standards to identify other contributing factors, such as poorly designed equipment and

work processes as well as lack of worker health and safety training. The health agencies not only provide feedback to specific employers and workers involved. They also can take the lessons learned in individual workplaces (or across similar workplaces) and translate them into educational materials to be disseminated broadly throughout the community—to employers, unions, community organizations, safety experts, health care providers, and local boards of health that serve the affected worker populations. Findings from these case follow-up investigations can also be used to generate anonymous cases studies to complement surveillance statistics. The combination of local statistics and compelling case studies that put faces on the numbers can be a powerful tool in influencing state and local decision-makers.

### *Investigating Fatal Occupational Injuries*

In 2004, 15 states participated in the NIOSH Fatality Assessment Control Evaluation program (FACE). Through FACE, state safety experts conduct research-oriented investigations of targeted workplace fatalities to identify factors leading to the incidents. Examples of the types of occupational fatalities that have been targeted by FACE include machine-related deaths, falls, electrocutions, and deaths of youth under age 18. The FACE investigator visits the incident site and conducts interviews to collect information about what happened just before, during, and right after the fatal injury. For each investigation, a FACE report is prepared that describes the incident and includes recommendations to prevent similar deaths. These reports are distributed to those involved in the incident and others in the state who are in a position to act on the recommendations—employers in the industry, unions, advocacy organizations, equipment manufacturers, and policymakers. Summary information from multiple FACE investigations is also used to identify research needs and gaps in existing health and safety standards.

### *Investigating Disease Clusters in the Workplace*

State epidemiologists have responsibility for conducting investigations of infectious disease outbreaks in the workplace. Occupational health experts may work together with the infectious disease epidemiologists in these investigations. State public health epidemiologists may also investigate unusual clusters of chronic diseases in the workplace, although there is considerable controversy about how many state resources should be devoted to cluster investigations involving small numbers of cases and limited historical exposure information. Some states have well-established protocols for responding to community concerns about unusual disease patterns that take into account the feasibility of conducting meaningful research. The NIOSH Health Hazard Evaluation (HHE) program is an important resource for state health agencies trying to resolve concerns about unusual disease patterns in specific work-

places. Partnerships with experts in local academic institutions can also enhance expertise available to state health agencies in conducting these investigations.

## Preventing Occupational Disease and Injury

State public health agencies also have an important role to play in carrying out broad-based prevention efforts to protect worker health. Surveillance can identify specific industries, occupations, and populations at risk, and in some cases, local communities, where occupational health and safety problems need to be addressed. There are always competing prevention needs. Among the constellation of factors that ultimately shape prevention priorities are the seriousness and magnitude of the identified problem, feasibility of intervention, vulnerability of the population affected and its access to other occupational health resources, public concern, and political will. The full gamut of public health prevention strategies are available to the occupational health practitioner. These include, for example, information dissemination and education that empower people to take action, development of policies and plans that promote occupational health, and mobilizing new partnerships to solve state and local occupational health problems. State health agencies can also play an active part in assuring access to clinical occupational health services.

Occupational health practitioners in public health agencies can maximize limited prevention resources by building on the existing public health infrastructure in carrying out prevention efforts. Existing public health networks and programs serve as important points of access for reaching special populations of workers with information about health and safety risks, control strategies, occupational health services in the state, and legal rights. These access points are two-way streets that can be used not only to provide information, but also to obtain information from community members about their health and safety needs and experiences. Following are several examples of how occupational health practitioners in state health agencies have partnered with colleagues in other public health programs in conducting outreach to workers and employers. Occupational health programs have:

- Worked through school-based health and adolescent health programs to provide young workers with information about workplace health and safety and child labor laws;
- Collaborated with state-funded community health centers (CHCs) to document occupational health concerns of low-income, immigrant, and minority workers and to provide health and safety information to the CHC patient population;
- Enlisted local food safety specialists who conduct restaurant inspections in disseminating information about burn prevention strategies

to employers in the restaurant industry;
- Partnered with the child care safety programs to obtain information about latex glove use in day care centers; and
- Worked with public health bureaus responsible for hospital licensing and state epidemiologists to educate employee heath and infection control staff in hospitals about sharps injury surveillance and prevention.

Occupational health professionals working within the public health infrastructure also have a valuable opportunity to learn from colleagues experienced in working with underserved populations, who are familiar with issues of linguistic and cultural competency and passionate about serving their constituencies.

Public health agencies also serve as a critical point of access to the health care community, including both health care facilities and individual health care providers. Public health agencies are responsible for licensing health care facilities and assuring quality of patient care. While quality assurance activities are focused on the patient, they can have implications for health care workers as well. Massachusetts, for example, has passed requirements for hospitals to report sharps injuries among hospital workers to the state public health department, under its hospital licensing authority. State health agencies routinely interface with health care providers directly and through state professional organizations, and can play an active role in educating health care providers about diagnosis and treatment of occupational diseases. Many state health departments do so by participating in local meetings of health professionals, occupational health newsletters and alerts, and other educational outreach efforts. Several state health agencies have state mandates to provide clinical occupational health service and manage networks of occupational health clinics.

Many public health hazards are shared hazards, affecting workers and general public alike; policies to protect the public often have direct implications for workers' health. For example, a state public health policy to ban latex gloves in food services, driven by concern for consumers, affords protection to those working in the food service industry. Efforts to improve air quality in schools, prompted by concern for students, also impact favorably on school personnel. Occupational health practitioners often have important technical expertise that can contribute to development of public health policies to protect the public at large, with secondary gains for worker safety and health. In states with OSHA state plans (where the state is responsible for setting and enforcing workplace health and safety standards), public health agencies can have a direct influence on the development of workplace health and safety policies.

Public health practice needs to move beyond the "silo mentality," prompted, in part, by categorical funding, to develop comprehensive

approaches to public health problems that bring together experts from various public health disciplines and include stakeholders in the process. Occupational health practitioners must be engaged in these efforts. Comprehensive public health programs to address health concerns, such as asthma, cardiovascular disease, violence, and bioterrorism, require collaboration among occupational health experts and colleagues in other public health domains. It is not possible, for example, to have a comprehensive state plan to reduce the burden of asthma without addressing work-related asthma, which is believed to account for 15% to 25% of asthma cases among adults. Many state health agencies today are working, with joint support from NIOSH and the National Center for Environmental Health, to include work-related asthma in their comprehensive asthma prevention plans. Similar collaborations are needed in other public health domains.

## Conclusion

Most adults and many adolescents spend much of their waking lives at work. It is essential to consider the impact of work on health in the overall effort to protect the health of the public. At the turn of the 19th century, the health of workers was a central concern of the social reform movement to improve public health. Working conditions and other determinants of health, such as housing and sanitation, were seen as inextricably linked. In the 20th century, occupational health fell off the public health agency agenda in many states. The passage of the federal Occupational Safety and Health Act in 1970 was a public health victory, but regulation and enforcement is only one component of a comprehensive public health approach to worker safety and health. In the 21st century, we must integrate occupational health into mainstream public health practice at the state and local levels, by building occupational health capacity within state agencies, as well as new partnerships among health agencies and occupational health experts and advocates in the community.

## Further Reading

Council of State and Territorial Epidemiologists. *The Role of the States in a Nationwide, Comprehensive Surveillance System for Work-Related Diseases, Injuries and Hazards.* A Report to NIOSH from the NIOSH States Surveillance Planning Work Group, 2001. Washington, DC: CSTE, 2001.

Maizlish N (Ed.). *Workplace Health Surveillance, An Action-Oriented Approach.* New York: Oxford University Press, 2000.

Stanbury M, Rosenman KD, Anderson HA. *Guidelines for Minimum and Comprehensive State-Based Activities in Occupational Safety and Health* (DHHS [NIOSH] Publication No. 95-10). Washington, DC: NIOSH, 1995.

## Table 1. Public Health Core Functions[a] and Essential Public Health Services[b]

| Public Health Core Function | Essential Public Health Services |
|---|---|
| Assessment | Monitor health status to identify community problems |
| | Diagnose and investigate health problems and health hazards in the community |
| | Evaluate effectiveness, accessibility, and quality of health services |
| Policy Development | Mobilize community partnerships and action to solve health problems |
| | Develop polices and plans that support individual and community health efforts |
| | Research new insights and innovative solutions to health |
| Assurance | Inform, educate, and empower people about health issues |
| | Enforce laws and regulations that protect health and ensure safety |
| | Link people to needed personal health services and ensure the provision of health care when otherwise unavailable |
| | Assure an expert public health workforce |

[a] Institute of Medicine. T*he Future of Public Health.* Washington, DC: National Academy Press, 1988.

[b] Harrell JA, Baker EL. The essential services of public health. *Leadership in Public Health* 1994; 3:27-31.

## Table 2. State Health Data Sources Used for Occupational Health Surveillance *

| Data Source | Health Outcomes | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Asthma | Silicosis | Teen work injuries | Amputations | illnesses | loss | poisoning | Dermatitis | Carpal tunnel syndrome | Burns | Agricultural injuries | Cancers | Lead/cadmium exposures |
| Case Reporting Sources | | | | | | | | | | | | | |
| Physician and nurse reports | x | x | | | x | x | x | x | x | | x | | |
| Emergency department logs | | | x | | x | | x | | | | x | | |
| Hyperbaric chamber reports | | | | | | | x | | | | | | |
| Poison control reports | | | | | x | | | | | | | | |
| Department of Agriculture reports | | | | | x | | | | | | x | | |
| State burn registry reports | | | x | | | | | | | x | | | |
| | | | | | | | | | | | | | |
| Data Systems | | | | | | | | | | | | | |
| Hospital discharge data | x | x | x | | | x | | | | x | | | |
| Outpatient observation data | | | | | | | | | x | x | | | |
| Emergency department data | x | | x | | | | | | | x | | | |
| Workers' compensation records | x | x | x | x | | x | | x | x | x | | | |
| State trauma registry | | | | x | | | | | | | | | |
| Clinical laboratory reports | | | | | | | | | | | | | x |
| Death certificates | | x | x | | x | | | | | | x | x | |
| Behavioral Risk Factor Surveillance | x | | | | | | | x | | | | | |
| Cancer registry | | | | | | | | | | | | x | |

*Partial listing. Table adapted from CSTE. *The Role of the States in a Nationwide Comprehensive Surveillance System for Work-Related Diseases, Injuries and Hazards* (see Further Reading)

# Preventing Occupational Disease and Injury Second Edition

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Cover photographs by Earl Dotter illustrate airborne, ergonomic, safety, and physical hazards at work, all of which are preventable.

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Printed and bound in the United States of America
Set In: Palatino and Helvetica Condensed
Interior Design and Typesetting: Terence Mulligan
Cover Design: Michele Pryor
Printing and Binding by Automated Graphic Systems, Inc., White Plains, MD

ISBN 0-87553-043-5
2M 11/04