

# Introduction to Occupational Health in Public Health Practice



BERNARD J. HEALEY AND KENNETH T. WALKER



INTRODUCTION  
TO OCCUPATIONAL  
HEALTH IN PUBLIC  
HEALTH PRACTICE



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**BERNARD J. HEALEY  
KENNETH T. WALKER**

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# INTRODUCTION

In the United States the workplace can be hazardous to one's health through injuries and disease. Although the average worker spends more than forty hours every week in the workplace, many workers are unaware of the potential dangers present in their home away from home.

When young men or women begin their first job, usually at a young age, they are not aware that they have entered a world of potential health problems. This can be a very dangerous period in their lives because they are now exposed both to the possibility of workplace injuries and to the possibility of developing chronic diseases later in life from health behaviors developed or supported in the workplace environment.

According to the Bureau of Labor Statistics (2007), a worker is injured every five seconds and every ten seconds a worker is temporarily or permanently disabled. Individuals usually spend a majority of their lives in the places where they work, and these years in the workplace are the same years when they may be incubating chronic diseases or experiencing serious injuries that often cause disabilities and poor health later in life.

## HEALTH IN AMERICA

Length of life has definitely improved in the United States since the early 1900s, and most people can expect to live well into their eighth decade of life. The majority of this increase in life expectancy can be directly attributed to the many public health accomplishments made possible by dedicated workers in the field of public health in this country. The reduction in tobacco use, better nutrition, more physical activity, proper immunizations, and effective health education programs are just a few of the initiatives developed and implemented by public health departments during the past hundred years. Unfortunately, too many Americans still experience premature death, disability, or poor quality of life.

The *healthy people* concept, which was introduced by the U.S. Surgeon General's Office a few decades ago, has helped us continue our progress in helping Americans to achieve good health for themselves and their family members. The most recent report, *Healthy People 2010* (U.S. Department of Health and Human Services, 2000), has established even more aggressive but achievable goals and objectives to improve the health of all Americans.

It is now time to expand this public health success story to the workplace. There is a captive audience in the workplace who want to be healthier and an employer who wants to keep employees healthy and productive. All that is required is leadership to make the workplace a healthy place to earn a living and experience healthy aging.

## WORKPLACE HEALTH

Twenty years ago injury was a leading cause of death in the United States, with 143,000 fatalities in 1983. Today over four hundred deaths a day result from injuries, including injuries happening in the workplace. Injuries are the second leading cause of death in this country before the age of seventy-five. The large numbers of injuries that occur on a daily basis lend themselves very well to a public health model of prevention. According to Finkelstein, Corso, and Miller (2006), an injured worker misses an average of 11.1 days of work and the productivity losses associated with the injury are the value of the goods never produced because of the injury.

Chronic diseases—such as heart disease, cancer, and diabetes—are the leading causes of death and disability in the United States. As the burden of chronic diseases in the United States increases, greater efforts will be made to identify and implement interventions that successfully reduce disease risk, especially in the workplace. These diseases account for seven of every ten deaths and affect the quality of life of ninety million Americans. Although chronic diseases are among the most common and costly health problems, they are also among the most preventable. McGinnis and Foege (1993) point out that daily habits such as smoking, inactivity, eating a poor diet, and using alcohol and their consequences contribute to the development of virtually all morbidity and mortality in industrial nations. Adopting healthy behaviors such as eating nutritious foods, being physically active, and avoiding tobacco use can prevent or control the devastating effects of these diseases.

Employers are becoming more interested in dealing with the economic losses suffered each year as a result of injuries and illness suffered in the workplace. These losses include higher health insurance costs for the employer and loss of employee productivity. Employers are faced with a real need to reduce costs associated with producing a product and the need to have healthy employees who come to work rather than using sick leave to tend to illness and injuries that may have been acquired in the workplace.

## GOVERNMENT INVOLVEMENT

The federal government became deeply involved in occupational safety and health after the passage of the Occupational Safety and Health Act in 1970. This act created the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) to protect American workers from dangers to their health in the workplace.

OSHA is housed in the Department of Labor; it is responsible for creating standards and using those standards to protect the American worker from injury, illness, and death in the workplace. NIOSH is headquartered at the Centers for Disease Control and Prevention, because of its investigative role. It is the research component of the Occupational Safety and Health Act and through the use of the science of epidemiology has helped to discover the causes of injury and disease in the workplace. Through the use of public health expertise, researchers are then able to develop programs to reduce or eliminate workplace injuries and disease.

Despite the success of OSHA and NIOSH over the last few decades, there are still those who dislike any form of business regulation. The conservative governance of the last several years in this country has cut OSHA and NIOSH budgets, experimented with reorganizations and taken away some of these agencies' power, and even tried to abolish these agencies.

There could be a leadership role for OSHA and NIOSH in bringing together partnerships between the businesses they regulate and public health agencies. Such collaborations will be necessary if we are to improve the overall health status of the American worker. In order to make a difference in workers' health we have to go beyond the talent and resources found in any one agency. Because there is a very large difference between what is known about injury and illness prevention in the workplace and what is actually being done to prevent these important health problems, we can accomplish a great deal through collaboration among multiple stakeholders.

## **PUBLIC HEALTH OPPORTUNITIES**

Public health efforts in this country are carried out by numerous agencies with a mandate to improve the health of the population. These agencies have produced remarkable success stories on very limited budgets. In addition they are receiving more new challenges to deal with, including bioterrorism preparedness, emerging infections, the AIDS pandemic, and now avian and swine influenza.

Moreover, in recent years public health agencies have shifted their focus from communicable diseases to the behaviorally caused chronic diseases. These diseases have a very long incubation period and cannot be cured, only treated or prevented from ever starting. Even though chronic diseases and injury prevention programs have high costs at the start, they do very well when cost-benefit analysis is applied to the outcomes associated with them.

The public health success with identifying the causes of chronic diseases needs to be expanded into an effort of preventing the occurrence of these diseases or at the very least postponing their complications until later in life. This knowledge should be of great value to corporate America in reducing chronic and noncommunicable disease costs. Public health has a tremendous opportunity to help businesses reduce the costs of health insurance and keep their employees healthy and productive. The return to the public health field could be the availability of resources from businesses and a captive audience of employees who are practicing prevention techniques and whose results can be documented.

## **ROLE OF PREVENTION**

The Institute of Medicine report titled *The Future of the Public's Health in the 21st Century* (2003) recommends that the corporate community and public health agencies work together to strengthen health promotion and disease prevention programs for employees and their communities. The results of the Framingham study (discussed in Chapter One) have given us guidance for reducing the incidence and damage caused

by chronic diseases such as cancer, diabetes, heart disease, and arthritis among all members of society. The answers produced in the Framingham study need to be given to employers to help them develop programs to prevent chronic disease occurrences in the workplace.

This book was written to discuss the many health problems facing the American worker as he or she ages in the workplace. The authors' premise is that a number of these health problems can be prevented if public health skills are applied in the workplace. The opportunity to eliminate or reduce injuries and many illnesses in the workplace is within reach of employers, employees, and public health officials. Now is the time to learn about this wonderful opportunity that has presented itself and to do the right things to make the workplace safe and healthy.

This book begins with a discussion of the history of public health in the United States, paying particular attention to the many successes of public health programs in the last century. This leads to a discussion concerning the need for public health expertise to understand and reduce occupational illness and injury occurrences. The reader is also introduced to the many uses of epidemiology in developing injury and illness surveillance systems that can help all concerned to better define occupational health problems.

A discussion of occupational safety and health history and the importance in protecting workers from morbidity and mortality follows, and a discussion of OSHA and NIOSH helps the reader understand the various problems faced by workers as they earn a living. Special attention is given to the types of injuries and illnesses that occur in the workplace and the role of legislation in reducing these occurrences.

The text then moves to a discussion of specific public health problems and their potential solutions, paying particular attention to public health prevention strategies for the workplace. The topics in this section of the book include workplace stress, drug and alcohol abuse, worker exposure to toxins, workplace wellness programs, and emergency planning and bioterrorism in the workplace. This book also looks at ergonomics, communicable diseases, vision and hearing problems, and health disparities as they affect the employer and employee. Additional topics include the economics of public health prevention activities in the workplace, the need for program evaluation, and a discussion of leadership and partnerships in keeping the American worker safe, healthy, and productive.

# ACKNOWLEDGMENTS

We would like to begin by acknowledging the dedicated people who work in public health and who, despite limited resources, have accomplished so much in making the United States a better place to lead a healthy life. This is really a book about their success stories and their attempt to bring the healthy people concept to the places where people work to earn a living. Once you are bitten by the bug of serving others by making the world a safer place to live, you can never stop being a public health person.

During the process of writing this book we met many dedicated people who demanded professionalism in everything they tried to accomplish. One such person was John P. Sestito, surveillance program coordinator in the Division of Surveillance, Hazard Evaluations and Field Studies, National Institute for Occupational Safety and Health. He was there to help Bernard Healey with the chapter on injuries in the workplace. He shared his work and went out of his way to make this chapter the best that it could be.

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During the entire research and writing of this book we were surrounded by intelligent, caring individuals who cared only about making our ideas better. We are very fortunate individuals to have the opportunity to write a book for a national publisher but equally fortunate to have been able to work with such talent.



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PART

**1**

**PUBLIC HEALTH  
PREVENTION FOCUS**



# CHAPTER

# 1

## HISTORY AND IMPORTANCE OF PUBLIC HEALTH

After reading this chapter, you should be able to

- Understand the use of the skills of public health in the prevention of workplace illness and injuries.
- Understand what public health departments do and how they accomplish their goals.
- Discuss the advantages of partnerships between workplaces and public health departments.
- Explain the evolution of public health responsibilities in the United States.

## 4 History and Importance of Public Health

It is difficult for most people to understand what public health does because they very rarely if ever have to deal with a public health department. Public health agencies become visible only when a health problem receives extensive media coverage. Yet the work that has been completed by public health over the last century is one of the main reasons for the long life expectancy of most Americans.

One way to understand public health is to compare a physician and a public health professional. The physician is most concerned with the health of his or her individual patient whereas the public health professional is concerned with the health of the community. More broadly, the medical care system in our country focuses attention and resources on the individual and the cure of disease whereas the public health system is concerned with the population and the prevention of disease.

Shi and Singh (2008) point out that many people believe that public health is nothing more than a massive welfare system. The agency responsible for the good health of Americans is not a welfare program but a separate agency of government that is supplemented by many nonprofit public health agencies. Every organization should have an interest in the important programs that protect and promote the health of all citizens. It is unfortunate that most people do not come to really understand public health until there is an emergency and that they forget about public health after the emergency ends.

Schneider (2006) believes that public health is concerned with the prevention of disease and the promotion of health. This definition places public health in the area of primary care. McKenzie, Pinger, and Kotecki (2005) argue that public health involves governmental actions to promote, protect, and preserve the health of a population. However, public health activities are also performed by nongovernmental agencies. The perception of public health agencies as responders to health emergencies prevents even health policy experts from understanding the contribution that could be made by public health departments in solving the current health care problems in this country. These departments do many things that prevent disease but that are never publicized and therefore are not known by the average person.

The public health system is always working at making good health available for all individuals. It is usually seen as a silent component of health services, one that demands few resources and still produces immense value for all of our citizens in terms of better health for all. This system employs some of the most dedicated health professionals to be found in any part of this country's health care system. These individuals have special skills that could be extremely useful in helping employers keep their workforces healthy and free from disease and injury.

### **A BRIEF HISTORY OF U.S. PUBLIC HEALTH**

As just described, the valuable contribution made by public health professionals year after year is largely taken for granted. People think of public health and public health departments only when an emergency threatens their health and they need guidance and answers from public health officials and the various governmental agencies that