

“The mission of occupational health nursing is to assist individuals and workplaces in achieving higher levels of personal and workplace health and safety.”

(Guzik, 2005)

Nursing professionals have long been important assets in various aspects of healthcare, including hospitals, public and community health settings, military and educational settings, and in industrial and workplace settings. Occupational health nursing was originally known as “industrial nursing,” evolving during the Industrial Revolution. Throughout the years, occupational health nursing has taken on a variety of roles, and the scope of practice has expanded considerably, giving rise to opportunities for nurses to care for workers in various workplace settings.

Occupational health is a small healthcare specialty that was initially devoted to the prevention and management of occupational and environmental injury, illness, and disability. The specialty has grown to encompass other dimensions of healthcare, including the promotion of health and productivity along with the support for a safe workplace. The specialty of occupational health is focused on policy and issues relevant to health and safety by devoting attention to individuals and groups in the workplace.

Occupational health nursing is the nursing practice that provides for and delivers clinical service to workers and workplaces. Occupational health nurses (OHNs) also provide health education, case management, and safety programs. The practice of occupational health is focused on promotion and restoration of health, prevention of illness and injury, and protection from work-related hazards.

Registered nurses provide an array of services to business and industry and fill diverse roles in occupational health, including those of clinician, educator, case manager, corporate director, and consultant (AAOHN, 2007).

The first record of occupational health nursing in the United States dates back to 1888. The profession has since evolved with the growth of industry and service and today provides a valued role in the workplace. According to the findings from the 2008 National Sample Survey of Registered Nurses Health Resources and Services Administration of the U.S. Department of Health and Human Services (2010), approximately 7.8% of all licensed registered nurses are working in public and community health, including occupational health.

The use of healthcare professionals has long been supported, and these professionals have demonstrated value in supporting the health and safety of the workplace and the workforce. With today's workforce becoming increasingly diverse, these demographic changes result in new safety and health issues. As a result, workers are more likely to have increased risks of work-related diseases and injuries. With the shift from industrial to service-related occupations, changes are occurring in the way work is organized and accomplished. This may result in the need for longer work shifts, more hours worked than in the typical workweek, workweeks with longer days but fewer days per week, increased need for shift work, and increased use of part-time and temporary workers. In addition, new chemicals, materials, processes, and equipment are being implemented that may pose new and additional risks to worker health (U.S. Department of Labor, 2010).

OCCUPATIONAL HEALTHCARE PROFESSIONALS

Many types of healthcare professionals work in occupational health. The physician specialty of occupational medicine dates back to the 1500s when the dangers of mining and diseases of miners were of great concern (Gochfeld, 2005). The specialty of occupational health has continued to evolve and is now focused on the recognition and prevention of injury and disease and the promotion of health. Occupational medicine arises from the principles of general medicine yet adds three dimensions of expertise: industrial hygiene, epidemiology, and toxicology (Gochfeld, 2005).

According to the American College of Occupational and Environmental Medicine (ACOEM, 2011), physicians working in occupational health "enhance the health of workers through preventive medicine, clinical care, disability management, research, and education." In recent years, the role of the physician continues to change as greater emphasis is placed on health promotion and wellness in the workplace. The role of the physician has expanded, contributing new scientific research and new clinical guidelines for healthcare, and public health initiatives focused on the workforce and on the health of the environment (ACOEM, 2011).

In large businesses, physicians may hold administrative roles, and they are involved with developing company-based healthcare policy and

procedures. These physicians may also provide oversight for company health, safety, and disability programs. Physicians in occupational health may work in private practice, offering clinical services such as physical examinations, drug testing, injury management, and medical monitoring services. Private physicians may also provide consultative services to workplaces to assist in the design and development of health and safety policies and procedures.

Occupational health physicians may also be employed by government agencies or in academic settings that focus on research, consultation, or education related to occupational health.

The physician's assistant (PA) also has a role in occupational health. The PA working in occupational health, supervised by a physician, and is able to provide a broad range of healthcare services, such as diagnosis, treatment, and health promotion activity. The scope of practice for the PA is determined by the medical practice statutes specific to the state in which the PA is practicing (AAPAOM, 2010). The PA is able to practice autonomously within the scope of practice and authority delegated by the supervising physician.

The licensed practical nurse (LPN) also may hold a role in occupational health. LPNs are educated at the technical or vocational level, and their functions are generally performed under the direction of a registered nurse, a licensed physician, or a licensed osteopathic physician. The LPNs' duties must fall within the scope of practice of the state in which they are licensed to practice.

The role of the LPN in occupational health may include first aid response and the administration of treatments and medications. AAOHN recommends that LPNs be assigned only those duties and responsibilities that their skills, knowledge, and competencies warrant as defined within their state licensure and that LPNs work exclusively in health organizations under the supervision of a registered professional OHN who can provide professional supervision (AAOHN, 2003). By using professional judgment, the registered nurse must determine the appropriate activities to delegate and must consider the associated professional responsibility and liability when overseeing the activities of assistive personnel.

The registered professional nurse holds a predominant position in occupational health in a variety of roles. The American Nurses Association's Nursing's Social Policy Statement (2003) states that the profession of nursing encompasses the "protection, promotion, and optimization of health and abilities, prevention of illness and injury, alleviation of suffering through the diagnosis and treatment of human response, and advocacy in the care of individuals, families, communities, and populations." This definition encompasses the scope of practice for the role of the OHN. Figure 1.1 depicts the relationship of the OHN within the company and within the community.

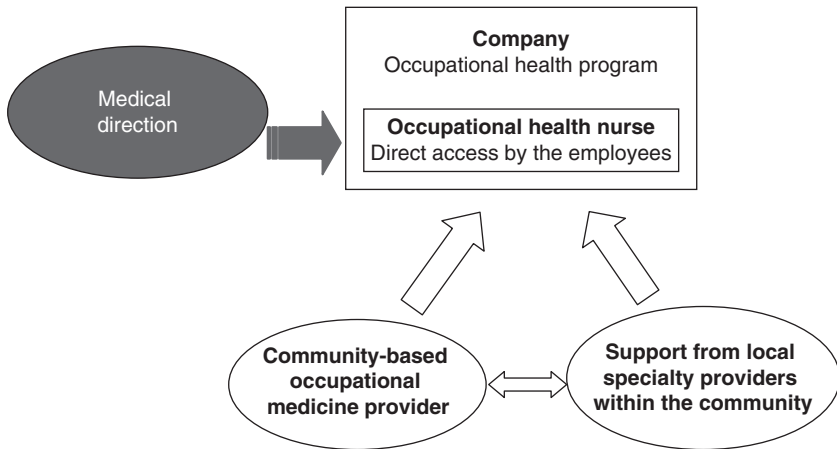


Figure 1.1 Occupational health services program.

Case in Point

The fire alarm sounds. “Code red” is announced over the speaker system, indicating a fire in the research and development department of the plant. The emergency response team is deployed to the area, and 911 is called. Evacuation procedures begin. The OHN retrieves the emergency response kit, arrives at the scene, and establishes a triage area for assessment of injured workers. The emergency response team assists with evacuation of workers to a safe area, providing a quick assessment of any worker who has incurred an injury. These workers are directed to the OHN. The OHN assesses each individual and identifies emergency or first aid needs. The OHN is assisted by members of the emergency response team to attend to the immediate needs of the injured workers. Oxygen is applied to those with respiratory symptoms. First aid is rendered for those who have abrasions, burns, or other physical injuries.

Firefighters and EMS services arrive at the scene. Firefighters are deployed to contain and obliterate the fire within the structure. EMS workers take over the assessment, treatment, and transfer of the injured workers. It is time for the OHN to intervene at a different level.

The nature of the work in this facility involves hazardous chemicals. The OHN gathers material safety data sheets (MSDS) in order to appropriately identify the involved chemicals. However, after a discussion with a facility manager, it is noted that additional risk may be posed due to the fact that this is a government research and development facility. As a result, the nature of the chemicals under development involve unknown factors. There is now additional risk considered in relation to potential exposures that may lead to both short-term and long-term health effects.

The OHN places a call to the consultant medical director who specializes in occupational health. The medical director, working at the community-based occupational health clinic, also serves as the primary treating provider and referral

resource for the company's occupational injuries and illnesses. A plan is established for evaluation of exposed workers based on the nature of the chemicals and associated health risks. This is determined by review of the MSDS, taking into consideration the other chemicals under development. The concern now is not only for the workers that were in the plant at the time of the explosion, but also for other types of workers who responded to the scene, including EMS and firefighters.

The plan includes a consistent evaluation of each affected worker, addressing immediate needs, but also considers the potential for future health effects from the associated chemical exposure. Other health team members, including nurse practitioners, physician assistants, and licensed practical nurses employed by the clinic, become involved. Medical evaluation and appropriate testing is conducted at the clinic and includes chest x-rays, pulmonary function tests, and laboratory testing for the specific chemicals or toxins involved. The OHN from the affected company works closely with the occupational health team members at the clinic to review the findings of the health evaluations of their workers. Each case is managed appropriate to the level of exposure, the physical findings, and health needs of each individual worker. The OHN manages each case until it is brought to closure, facilitating a return to work for each worker.

The occupational health physician and clinic are involved to a greater extent, considering the health effects of a multitude of workers and the surrounding community. A coordinated effort is undertaken with both company and public health officials to assess the level of risk associated with this event. The occupational health physician is now not only concerned about the health of the individual workers at the affected company, but also with the health of the community. A public health initiative is developed that will consistently address potential health risks to individuals in the community.

As a part of the disaster debriefing efforts, the company's OHN and medical director work with company officials to address the major contributing cause of the disaster. In addition, attention is focused on prevention of future occurrences that would have an impact on the health and safety of the work place. The OHN plays a key role in this initiative.

THE OCCUPATIONAL HEALTH NURSE

The American Association of Occupational Health Nurses (AAOHN) specifies the following qualifications for the OHN: (1) graduation from an accredited professional nursing program; (2) current license to practice as a registered professional nurse in the state(s) of employment; (3) minimum of 2 years' experience in a primary care setting, such as public/community health or ambulatory, emergency, or critical care; and (4) bachelor's degree as the preferred educational preparation (AAOHN, 2012a).

The role of the OHN includes health teaching and counseling, safety education, the promotion of wellness and education in regard to the maintenance of health, and prevention of illness. The greatest number of OHNs work as clinicians, in clinical roles, and are involved with direct worker contact. In addition, OHNs hold administrative roles as program managers and disability managers within their employer organization. Another subset of OHNs work as case

managers and consultants. Some may work for worker's compensation or disability insurance companies, healthcare consulting companies, or as a self-employed independent contractors. A smaller subset of OHNs work in education or research (Thompson, 2010).

Clinician

The duties of the OHN may include first aid and emergency response, along with the administration of medications and treatments as prescribed or authorized by a duly licensed practitioner authorized under the laws of his or her respective state of practice. The role of the OHN may also include the supervision and teaching of other personnel in the performance of any of the above acts. These personnel may include licensed practical nurses and emergency response team members.

As a clinician in occupational health, the OHN not only assesses the health of individuals, but also holds a significant role in assessing the health of the work environment and the health of workers as a group. The responsibilities of this role are conducted through health assessments, physical examinations, medical monitoring, and through direct nursing care. The OHN also strives to deliver health promotion programs that focus on the needs of groups within the workplace. Based on the identification of need, therapeutic plans for intervention are established and implemented with a focus on enhancing the overall health of the worker as well as the workplace.

As a clinician, the OHN also serves as adviser or counselor to individuals in the workplace. The OHN has the ability to address occupational as well as non-occupational health issues, focusing on physical as well as psychosocial needs. The OHN uses a wealth of resources to meet the health needs of the worker and the workforce.

A significant aspect of the role as clinician includes health education. The OHN may prepare health education programs and establish outreach services that support the needs of the worker within the overall health benefits program of the company. The OHN has the opportunity to teach not only workers, but also management about aspects of personal, workplace, and public health and safety.

Manager or Administrator

There is a role for the OHN as a business leader. The OHN has the opportunity to implement strategies that will maximize employee productivity and reduce costs for the company. The OHN may serve to educate management on the impact of worker's health issues, absences, and disability that adversely effect production, staffing, budgeting, and profitability. The OHN plays a key role in assisting with the development of corporate policies and procedures that may have a positive impact on worker health, safety, and productivity, thus maximizing the bottom line (Randolph, 2004).

According to the AAOHN Position Statement on Delivery of Occupational and Environmental Health Services, OHNs should strive to develop and

implement a comprehensive health program that promotes better employee health, decreases health-related cost, improves employee morale, increases productivity, decreases absenteeism, and facilitates continuity of care (AAOHN, 2004). Therefore, the OHN's primary responsibilities should focus on the following:

- Promoting a safe and healthy workforce and workplace
- Identifying health problems and hazards in the workplace and developing health and safety programs, benefits, and interventions focused on reducing risk and hazard
- Assuring that health and safety programs are in compliance with federal, state, and local regulations
- Assessing and monitoring health status and interventional outcomes for employees
- Serving as a resource for employees and for the employer regarding the selection of appropriate and cost-effective healthcare resources
- Monitoring outcomes as a measure of effectiveness

Case Manager

The OHN routinely coordinates and manages the healthcare of workers. The role of case manager initially began when OHNs managed the care and treatment of workers injured on the job, coordinating the treatment, follow-up, referrals, and emergency care for injuries and illnesses. The role has since become more comprehensive with the coordination, management, and consultation regarding nonoccupational issues, which encompasses aspects related to group health, medical leaves of absence, and disability benefits. In addition, the OHN manages services related to rehabilitation, return-to-work, and disability management. These functions are “key to employers’ healthcare quality and cost containment strategies” (Randolph, 2004).

As a case manager, the OHN coordinates healthcare services for a worker from beginning of injury or illness to return to work or optimal outcome. The goal of case management is to strive for the delivery of quality care in a cost-efficient manner. Since case management may be used for both occupational and nonoccupational health situations, the activities of case management can be conducted on-site in the workplace or by telephone.

The OHN also acts as consultant, advising on the process for evaluating and developing health and safety services in the workplace. A key role of the OHN as manager or administrator is to develop program assessment tools and conduct evaluations of the occupational health and safety program. The OHN should gather this information, identify opportunities for improvement, communicate findings to company officials, and assist in the development of future programs and services. The OHN may also act as or provide significant support to safety and industrial hygiene managers, risk managers, benefits managers, and human resources professionals.

Table 1.1 Percentage of time spent occupational health nursing.

Role Category	Percent of Time
Direct Care	
COHN	31%
COHN-S	25%
Manager/Coordinator	
COHN	23%
COHN-S	28%
Case Manager	
COHN	21%
COHN-S	19%
Educator/Advisor	
COHN	14%
COHN-S	13%
Consultant	
COHN	6%
COHN-S	10%
Other	
COHN	5%
COHN-S	5%

Source: COHN, Certified Occupational Health Nurse; COHN-S, Certified Occupational Health Nurse Specialist.

Roles and activities vary significantly based on company needs and the environment in which the OHN practices. A 2004 Practice Analysis Report (Strasser et. al., 2006) indicated the percentage of time spent by OHNs in each of five general role categories. The results of the study indicated that direct care accounted for the largest percentage of the OHN's time, and that the greatest focus of activity was on safety. See Table 1.1.

THE ADVANCED PRACTICE REGISTERED NURSE IN OCCUPATIONAL HEALTH

According to the Consensus Model for APRN Regulation: Licensure, Accreditation, Certification & Education (NCSBN,2008), "Advanced Practice Registered Nurses (Nurse Practitioners) have expanded in numbers and capabilities over the past several decades with Nurse Practitioners being highly valued and an integral part of the healthcare system."

As in the practice of registered professional nursing, the performance of advanced practice registered nursing acts are approved by each state board of nursing, which also defines the specialized education, training, and experience appropriate to the scope of practice. Nurse practitioners generally may perform acts of medical diagnosis and treatment, prescribing, and procedures based on their education and experience.

Although most of the medical care in the clinical arena in occupational health has traditionally been delivered by physicians, nurse practitioners are now filling valuable roles as clinicians. In the earliest literature addressing nurse practitioners in the occupational health setting, Grimes and Garcia (1997) analyzed the new role for nurse practitioners who applied principles of primary care in the occupational setting. The Occupational Health and Safety Administration (OSHA) first addressed the role of the nurse practitioner in the occupational health setting in 1999 in a publication that addressed the qualifications of occupational health professionals (OSHA, 1999). In this publication there was an indication that nurse practitioners, certified in occupational health as a specialty area, are capable of independently performing many health evaluation and care activities traditionally provided by physicians.

The nurse practitioner role in the occupational health setting was first addressed by AAOHN in an advisory report in 1999. The advisory report, updated in 2004 (AAOHN, 2007), addresses the various roles of the advanced practice registered nurse in the occupational health setting, including the role of healthcare provider. Opportunities for nurse practitioners have since evolved within the occupational health setting, yet little research is found in which this nurse practitioner role has been evaluated (Guzik et al., 2009).

THE DOMAIN OF OCCUPATIONAL HEALTH

Occupational health is founded on a variety of scientific principles, including public health, medicine, nursing, epidemiology, toxicology, industrial hygiene, safety, and social and behavioral sciences. As a result, it is an interdisciplinary practice. The U.S. civilian workforce employed approximately 140 million people in 2009 (U.S. DOL, 2010). Workers spend up to 50% of their waking lives at work; therefore, the workplace provides a captive audience for the promotion of health and wellness. Despite improvements in occupational safety and health over the last several decades, workers continue to suffer work-related deaths, injuries, and illnesses. The workplace, therefore, provides a unique sub-sector for sustaining public health initiatives.

In 1979, the U.S. Surgeon General initiated efforts to address the health of the U.S. population and published a report titled *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*. Since that time, the U.S. Department of Health and Human Services had led a science-based initiative defining 10-year national objectives for promoting health and preventing disease. The initiative is referred to as "Healthy People."

The *Healthy People* report establishes public health initiatives based on data from the past decade, along with current data, trends, and advances. The Healthy People 2020 goals and objectives are based on current "risks to health and wellness, changing public health priorities, and emerging issues related to our nation's health preparedness and prevention" (U.S. Department of Health and Human Services, 2010).

The goals include improving access to comprehensive, quality healthcare services. On-site occupational health programs staffed with an OHN support this goal by providing workers efficient access to a healthcare professional at their worksite. The OHN promotes the health and safety of people at work through prevention, early intervention, and directed referrals. With a focus on environmental health, the OHN addresses physical workplace risks and exposures, such as the use of hazardous chemicals and the potential of injury or illness, in order to reduce occupational deaths and needless disability. While supporting this Healthy People initiative, the OHN also supports the productivity of the workforce. Other goals and objectives of Healthy People call for an increase in comprehensive worksite health promotion programs, including educational programs and strategies for substance abuse and stress.

The strategies of occupational health nursing are based on the principles of evaluation, protection, promotion, and restoration of health, thus leading to an enhanced quality of life. Table 1.2 outlines the essential services of the occupational health professional in relation to public health initiatives.

The OHN is “central to the management and coordination of occupational health activities” (Rogers, 2003). The OHN must recognize the need to draw knowledge, experience, and resources from a variety of aspects and disciplines and be committed to continuing education to develop knowledge and skills within the domain of occupational health nursing. This includes basic nursing principles, clinical competence, and knowledge of the legal, regulatory, and ethical aspects impacting occupational health. Because the OHN typically practices in workplaces outside the traditional clinical venue of the healthcare environment, OHNs must also augment their value by holding a basic knowledge of management concepts and principles.

Occupational health professionals work with a variety of workers and work populations in a multitude of various work environments. This variety brings into play not only physical issues, but also social, cultural, organizational, economic, political, and interpersonal issues. The OHN must develop competence in performing activities customized to workers as well as the occupational and business environment. The OHN must develop an awareness of the impact of actions and interventions not only with the worker, but also within the greater context of the business environment.

The OHN will interact with a variety of other professionals in the work setting. These professionals include human resources and benefits professionals, safety and environmental specialists, business managers, and executive staff, including finance and legal professionals. It is therefore important that the OHN develop an understanding of the variety of perspectives that impact decisions in the workplace.

Safety and health promotion provide the foundation of an effective occupational health program. Occupational health nursing has evolved well beyond first aid treatment of injuries and emergencies to include comprehen-

Table 1.2 Essential services.

Essential Public Health Services	Essential Occupational Health Services
Monitor health status to identify community health problems.	Monitor health status of the workforce.
Diagnose and investigate health problems and health hazards in the community.	Assess health risks and hazards in the workforce and workplace.
Inform, educate, and empower people about health issues.	Increase awareness and educate workers about health and safety issues.
Mobilize community partnerships to identify and self-health problems.	Establish community partnerships for health and safety interventions.
Developed policies and plans that support individual and community health efforts.	Develop health and safety policies and procedures.
Enforce laws and regulations that protect health and ensure safety.	Ensure compliance with applicable regulations related to health and safety.
Link people to needed personal health services and ensure the provision of healthcare when otherwise unavailable.	Improve access to and facilitate the delivery health services.
Assure a competent public health and personal healthcare workforce.	Support optimum health of the workforce.
Evaluate effectiveness, accessibility, and quality of personal and population-based health services.	Evaluate the effectiveness of safety and health interventions, benefits, and services.
Research for new insights and innovative solutions to health problems.	Identify continued opportunities for improvement and enhancement of health and safety in the workplace.

Source: Public Health Functions Steering Committee. *Public Health in America*, Fall 1994. <http://www.health.gov/phfunctions/public.htm> (December 17, 2010).

sive health and safety programs that are focused on promotion of worker health, increased productivity, and decreased health-related cost to the employer.

“Health” is not only related to the individual worker, but also should encompass a philosophy related to healthy populations and healthy work environments. It is therefore critical that the OHN support a solid foundation for an occupational health program that supports this philosophy.

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