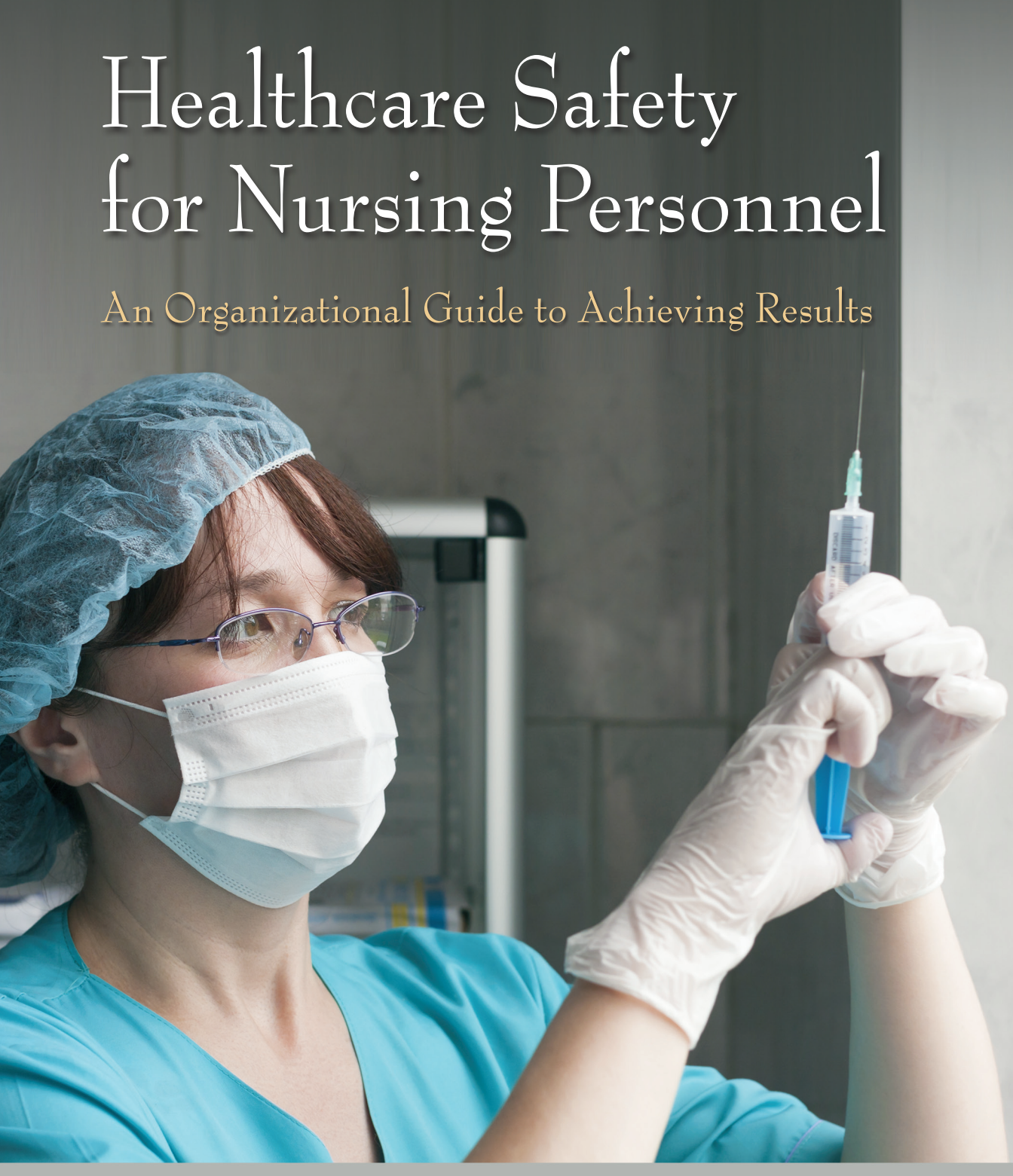
Healthcare Safety for Nursing Personnel

An Organizational Guide to Achieving Results



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MS, CHSP, CPSO, CHEP, CHCM

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Preface

This text provides a survey of key safety issues, risks, and hazards confronting nurses on a daily basis. Much of the text uses the active voice to present information more succinctly and in fewer words. The text focuses on preventing accidents and controlling hazards in hospitals and other healthcare settings and provides an overview of safety management concepts as they relate to real-world challenges facing nursing personnel. The author presents healthcare safety as an organizational function and not just another program. The text focuses on achieving results because safety is more than just meeting accreditation requirements or regulatory compliance. Achieving safety is the right thing to do. This text provides a solid foundation for working nurses. It should serve as a valuable on-the-job resource. It addresses the need for good leadership and management. The author also briefly addresses the importance that practicing human relation and communication skills can have on healthcare hazard control efforts. The text also contains some very helpful appendices and could serve as a text for nursing schools desiring to offer a credit course in healthcare safety.

Acknowledgments

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About the Author

James (Jim) Tweedy has served as the Executive Director for the International Board for Certification of Safety Managers (IBFCSM), which is also known as the Board of Certified Hazard Control Management (BCHCM), since 2007. IBFCSM was founded in 1976 and offers the following personal credentials: Certified Healthcare Safety Professional (CHSP), Certified Patient Safety Officer (CPSO), Certified Hazard Control Manager (CHCM), Certified Healthcare Emergency Professional (CHEP), Certified Product Safety Manager (CPSM), and Certified Hazard Control Manager-Security (CHCM-SEC).

Jim founded TLC Services, a healthcare, hazard control, organizational performance, and educational consulting organization, in 1996. He has more than 25 years of experience with expertise in the areas of credentialing, hazard control, healthcare safety, leadership and team development, education, and compliance. He holds an MS in Safety Management from Central Missouri University and a BS in Liberal Studies from Excelsior College. He holds Master Level designations as a CHCM, CPSO, CPSM, CHSP, and CHEP. He also holds a Professional Membership in the American Society of Safety Engineers (ASSE) and is a member of the American Society of Healthcare Engineering (ASHE).

Jim is a polished speaker who presents safety-related topics at seminars, conferences, and in the workplace. He taught more than six years at the college level and is an experienced curriculum developer. He has developed and presented original training programs at locations in more than 40 states. He is a recognized leader in the area of healthcare safety and hazard control management. You may contact Jim at IBFCSM, 173 Tucker Road, Suite 202, P.O. Box 515, Helena, AL 35080. The Board phone number is 205-664-8412 and the website can be accessed at www.ibfcsm.org. You may email the Board at info@ibfcsm.org.

1 Nursing Safety

I. INTRODUCTION

Nursing personnel serve as an integral part of any healthcare or medical delivery organization. Nurses not only work to keep patients safe, but also encounter a number of safety and health risks. The Occupational Safety and Health Administration (OSHA) classifies healthcare safety risks in five hazard categories: biological, chemical, physical, ergonomic-environmental, and psychosocial. Registered nurses, licensed vocation or practical nurses, certified medical technicians, and certified nursing assistants provide patient care and support a variety of healthcare and medical settings. Nurses can experience safety and health risks while performing duties such as monitoring patients, accomplishing direct care tasks, assessing and recording symptoms, assisting physicians with treatments, administering medications, and moving or positioning patients.

In December 2007, the Environmental Working Group published an online survey that looked at the health issues of nurses, their respective areas of work, and the amount of exposure to common chemicals and hazardous materials. The results were alarming. The survey looked at 1,500 nurses and their exposure to 11 different common healthcare hazards, including chemo drugs, radiation, sterilizing agents, housekeeping chemicals, anesthetic agents, and certain other therapeutic drugs. While some of these hazards are known to have immediate adverse reactions allergic reactions, others have a more compounded effect over longer periods of time. The survey defined long-term exposure as being at least weekly for 10 years or more. Reported health conditions among the nurses ranged from asthma and cancer to birth defects in their children after exposure during pregnancy. Chemotherapeutic agents have been widely known to be toxic and require special precautions during preparation and administration. Nurses who worked with chemo agents for long periods of time reported 42 higher rates of cancer when compared to other nurses. Of those who reported working frequently with radiation, there was a 16 percent higher incidence of cancer.

Senior healthcare leaders must learn to promote hazard control and safety as an organizational value. Hazard control effectiveness impacts both the overt and covert cultures of any healthcare organization. The safety culture of healthcare organizations must be recognizable by those served. Healthcare organizations seeking to maintain revenues, minimize losses, serve their communities, and meet regulatory or accreditation requirements need effective safety functions. Healthcare is one of the fastest growing sectors of the U.S. economy, employing over 12 million workers with women representing about 80 percent of the healthcare work force. Nursing professions make up a large portion of the medical and healthcare organizational workforce. Rates of occupational injury to healthcare workers continued to rise over the past decade. Hazards facing nursing professionals include needle sticks, back injuries, slips and falls, laser hazards, chemical exposure, biological hazards, and workplace violence. Home health nursing personnel must also face community safety issues. An increased emphasis on topics such as emergency management, indoor air quality, and patient safety indicates that safety will remain a key function in healthcare organizations. Advances in medical technology and clinical treatment techniques expose workers and patients to a variety of potential hazards. See Tables 1.1 and 1.2 for information about OSHA incidence rates and top citations for healthcare.

TABLE 1.1
OSHA Comparative (Nonfatal) Incidence Rates for 2011

Industry	Rate
Private Industry	3.5
Construction	3.9
Manufacturing	4.4
Health Services	8.2
Hospitals	8.5
Nursing Facilities	12.7

Source: OSHA
Note: Incidence rates are per 100 employees.

BOX 1.1 TOP 10 OSHA CITATIONS FOR 2011–2012

Health Services Industries (All Categories)

- Bloodborne Pathogens (1910.1030)
- Hazard Communication (1910.1200)
- Formaldehyde (1910.1200)
- Recordkeeping Forms (1904.0029)
- Medical Services and First Aid (1910.0151)
- Maintenance, Safeguards, and Operational Features for Exit Routes (1910.0037)
- Electrical Systems Design, General Requirements (1910.0303)
- Electrical Wiring Methods and Components (1910.0305)
- Personal Protective Equipment, General Requirements (1910.0132)
- Annual Illness/Injury Summary (1904.0032)

A. ANA Nurse Health & Safety Survey Results

The latest health and safety survey from the American Nurses Association (ANA) makes it clear that the efforts to protect nurses from occupational injuries remain a crusade-in-progress. The survey indicated that hospitals appear to be safer workplaces today than 10 years ago, when the last ANA survey was conducted. Safe needle devices and patient-lifting equipment are more available today than a decade ago. However, responses of more than 4500 RNs that participated in the ANA *2011 Health and Safety Survey* indicated the same top three concerns were identified by the 2001 participants and in slightly higher percentages:

- 74 percent cited the effects of stress and overwork (versus 70 percent in 2001).
- 62 percent cited disabling musculoskeletal injury (versus 59 percent in 2001).
- 43 percent cited contracting an infectious disease (versus 37 percent in 2001).

The 2011 survey revealed that 64 percent of RNs work for hospitals that provide patient assist devices. Fifty-six percent of 2011 respondents indicated they experienced musculoskeletal pain related to or made worse by their jobs. Eighty percent worked despite musculoskeletal pain. Slightly less than 15 percent reported suffering three or more work related injuries within a year. Just 21 percent of respondents in 2011 listed fear of contracting HIV or hepatitis from a needle-stick event, down from more than 40 percent from the 2001 survey. Only six percent of 2011 respondents

indicated concern about latex allergies, as glove alternatives are more available than in 2001. Ten percent of 2011 respondents voiced concern about their exposure to hazardous drugs and other toxic substances. Awareness of hazards appears to be the key reason for increased concerns. Eleven percent of respondents reported a physical assault within the past year, which was down from 17 percent in 2001. However, more respondents ranked assault risks as a top three nursing concern in 2011 than in 2001.

B. Safe Patient Handling and Mobility: Interprofessional National Standards

The ANA, in collaboration with a national working group and other professional organizations, recently released Safe Patient Handling and Mobility: Interprofessional National Standards. The 40-page outline contains eight evidence-based standards to prevent injury. The standard should provide a foundation for establishing a culture of safety for all caregivers and patients. An interprofessional work group established the standards that apply in any healthcare setting. The standards call for establishing a culture of safety, which includes ensuring safe levels of staffing, creating a nonpunitive reporting environment, and developing a system for communication and collaboration. Other standards address (1) implementing a safe patient handling and mobility program, (2) using ergonomic design principles to provide a safe environment of care, (3) obtaining safe patient handling technology, (4) creating processes for educating, training, and maintaining personal competence, (5) integrating patient-centered assessments, care planning, and technology, (6) requiring safe patient handling while considering reasonable accommodations and post-injury return to work policies, and (7) establishing a comprehensive evaluation system. The publication also includes a glossary of terms and appendices containing tools and resources.

Nurses play a critical role in ensuring patient safety by monitoring patients for clinical deterioration, detecting errors and near misses, understanding care processes and weaknesses inherent in some systems, and performing countless other tasks to ensure patients receive high-quality care. Nurse vigilance at the bedside must remain the key element in ensuring safety. Assigning nurses an increasing numbers of patients eventually compromises nurses' ability to provide safe care. Several seminal studies have demonstrated the link between nurse staffing ratios and patient safety. The nurse-to-patient ratio is only one aspect of the relationship between nursing workload and patient safety. Overall nursing workload is likely linked to patient outcomes as well. Determining adequate nurse staffing is a very complex process that changes on a shift-by-shift basis, and requires close coordination between management and nursing based on patient acuity and turnover, availability of support staff and skill mix, and many other factors.

C. New Patient Safety Survey: Few Nurses Call Their Hospitals Safe

A recently conducted survey indicated a large number of American, British, and Chinese nurses feel that hospitals are falling short in keeping patients safe, according to a recent survey of 900 nurses from the three countries. Although nearly all nurses said that their hospitals had programs in place that promote patient safety, they questioned their impact. About 40 percent of nurses described their hospital as safe and less than 60 percent believed that patient safety efforts in their hospital were effective. They said access to technology, heavy workload, communication with patients and doctors, and punitive systems for reporting errors were at the core of the problem. The survey was conducted by GE Healthcare and the American Nurses Association. Some 90 percent said they felt most responsible for patient safety. A large majority of nurses see data, technology, and innovation as key to identifying early warning signs and alerting staff. Many nurses said that there was a lack of feedback between patient safety data and the nursing staff. The results also suggest that moving away from a culture of punishment for poor practice could help to improve matters. About 40 percent of nurses rated their hospital as excellent at communication with the patient. Only about 30 percent indicated their hospital was excellent at communication between staff.

D. International Board for Certification of Safety Managers

The International Board for Certification of Safety Managers (IBFCSM) was founded in 1976 as a not-for-profit credentialing organization, and operated for some time as the Board of Certified Hazard Control Management (BCHCM). The Board offers qualified working healthcare professionals including nurses the opportunity to earn their Certified Healthcare Safety Professional (CHSP), Certified Healthcare Emergency Professional (CHEP), or Certified Patient Safety Officer (CPSO) credential. Many healthcare professionals hold more than one credential. The Board offers CHSP and CHEP credential holders the opportunity to add the healthcare Fire Safety Management (FSM) designation to their primary certification. The IBFCSM motto, *Individual Credentials—The Key to Upgrading the Profession,* reflects the impact that individual certifications have on improving organizational safety and hazard control functions.

II. FUNCTION OF SAFETY

Safety must focus on developing processes or systems that can help prevent harm and loss. An uncorrected hazard or hazardous situation could contribute to an event resulting in property damage, job interruption, personal harm, or adverse health effects. The process of controlling hazards may require development of written policies, plans, or procedures. Never consider safety as a program but as a function of the organization. The safety function must connect with organizational structures and operational philosophies.

BOX 1.2 BASIC SAFETY PRINCIPLES

- Correcting causal factors results in better use of human and material resources.
- Placing individual blame leads to organizational problems being ignored.
- Data collection provides the foundation for effective analysis of hazards.
- Safety efforts must address poor and hazardous behaviors.
- Communication and human relation skills remain key to achieving safety results.
- Hazard control focuses on accomplishing the job with safety.
- Hazard control functions as a quality tool when integrated into all job functions.
- Good hazard control and efficiency function as partners within an organization.

BOX 1.3 SEVEN VALUES OF EFFECTIVE SAFETY

- Never-Ending Process
- People Focused
- Leadership Driven
- Operational Priority
- Benefits Everyone
- Reduces Organizational Losses
- Prevents Human Harm

The term "program" is derived from the French word "programme," which means agenda or public notice. We can also refer to the Greek word "graphein," which means to write. When used with the prefix "pro" it became "prographein," which means to write before. Many organizations develop written safety programs to satisfy organizational mandates or to demonstrate visual compliance with regulatory requirements. Written plans, policies, and procedures should direct the hazard control function. The word "function," first used in the early 16th century, denotes the concept of performance or execution. A function can relate to people, things, and institutions. A function

can refer to serving a designated or defined role in some manner. A function can also relate to participation in an ongoing cultural or social system. Considering hazard control as a function of the organization elevates its priority in the minds of everyone.

BOX 1.4 REASONS FOR INEFFECTIVE SAFETY EFFORTS

- Safety efforts focus on activities instead of behavioral elements.
- Safety problems and issues are not addressed using a systems approach.
- Senior leadership fails to define the organizational safety philosophy.
- The organization focuses primarily on compliance and accreditation issues.
- Physicians in many situations do not participate in safety efforts and become an obstacle.
- Safety education and training programs focus too much on simply documenting attendance.
- Performance- and objective-based training and education are rarely provided.
- Competition is allowed to exist among safety program elements (e.g., patient vs. worker safety).
- Leaders many times fail to address or deal with turf kings and queens with their own agendas.
- Lack of good coordination results in poor "buy-in" by organizational leaders.
- Senior leadership does not communicate goals and objectives to all levels.
- Effective accident investigation techniques are not implemented.
- Root cause analysis methods are used only for patient safety, not all safety events.
- The facility believes a "one-size-fits-all" safety program approach will work.

A. Safety Responsibilities

Many healthcare and medical organizations fail to outline specific safety and hazard control responsibilities in their plans, procedures, directives, and job descriptions. The concept of responsibility relates to a person's obligation to carry out assigned duties in an efficient, effective, and safe manner. Senior leaders must ensure that managers, supervisors, and frontline nursing personnel understand the importance of their assigned safety responsibilities. Senior leaders must ensure that job descriptions address safety responsibilities inherent with each job position. Safety efforts will yield results when leaders encourage participation and hold key managers accountable. Senior leaders and hazard control managers must learn to focus on the hazards, behaviors, and risks that pose the most potential harm.

BOX 1.5 SENIOR MANAGEMENT RESPONSIBILITIES

- Develop, sign, and publish an organizational safety policy statement
- Describe key expectations related to accomplishing safety-related objectives
- Ensure that all organizational members can explain the major objectives
- Develop methods to track progress and provide feedback to all organizational members
- Require managers and supervisors to visibly support established objectives

B. Nursing Supervisor Involvement

Nursing supervisors must possess the knowledge and experience to provide hazard control guidance to those they lead. First-line supervisors occupy a key hazard control position in many organizations. This position of trust can require supervisors to conduct area inspections, provide job training,

ensure timely incident reporting, and accomplish initial accident investigations. Supervisors in many healthcare settings possess little control over factors such as hiring practices, working conditions, and equipment provided to them. Supervisors must understand the role that human factors can play in accident prevention and causation. They must ensure that each person they supervise understands the behavior expectations of the job. Some organizations require employees to sign a safe work agreement. Such an agreement requires the individual to commit to working safely and to adhere to organizational policies or procedures. Supervisors must ensure that frontline personnel can access all safety-related directives, plans, policies, and procedures.

BOX 1.6 NURSING SUPERVISOR RESPONSIBILITIES

- Enforce work rules and correct unsafe or at risk behaviors
- Implement mandated safety policies and procedures for their areas of responsibility
- Provide job- or task-related training and education
- Immediately report and investigate all accidents in their work areas
- Conduct periodic area hazard control and safety inspections
- Ensure proper maintenance and servicing of all equipment and tools
- Lead by example and personally adhere to hazard control requirements
- Conduct safety and hazard control meetings on a regular basis
- Work with organizational hazard control personnel to correct and control hazards
- Ensure all personnel correctly use required personal protective equipment (PPE)

C. Addressing Behaviors

Nursing supervisors must explain work rules and behavioral expectations to all new or transferred employees. Supervisors must never tolerate individuals that encourage others to disregard work rules or established procedures. When disciplining an individual, do so in private, but always document the facts. Senior leaders, managers, and supervisors must set an example for others. They must discourage poor behaviors by reinforcing the importance of acceptable behaviors. Never confuse correcting a behavior with undertaking needed disciplinary action. When correcting an unsafe behavior, always state the facts about the situation but limit personal opinions. Use statements that begin with "I" but never use "they" statements. Take time to recognize good behaviors by using positive reinforcement. Keep in mind that some individuals may not recognize a hazard or hazardous situation. Some may recognize a hazard but not possess the ability to deal with it. Too many injuries occur when a person recognizes a hazard but fails to respect its potential for causing harm.

BOX 1.7 BEHAVIOR CORRECTION PROCESS

- Step 1 – Identify the unsafe action
- Step 2 – State concern for worker's safety
- Step 3 – Demonstrate the correct and safe way
- Step 4 – Ensure the worker understands
- Step 5 – Restate concern for personal safety
- Step 6 – Follow up

D. Employee Engagement

Employee engagement occurs when an individual personally feels their connection to their position or job. This engagement also refers to their personal commitment to the success of the organization.

Employee engagement can contribute to individual satisfaction and personal mental wellness. Engaged employees also help improve the productivity, morale, and motivation of others. Today, many organizations realize the need for balancing work demands with a person's family and other life issues. When off the job, organizational members serve in a variety of roles including as a volunteer, caregiver, and parent. Understanding employee engagement helps leaders and hazard control managers deal with the complexity of human behaviors. Conflicting responsibilities can lead to role misunderstandings and work-related overloads, which can impact organizational objectives, including hazard control efforts.

BOX 1.8 WAYS TO PROMOTE SAFE BEHAVIORS

- Requiring everyone to walk the talk, also known as "modeling"
- Rewarding people when appropriate
- Recognizing people for making good efforts
- Correcting unsafe behaviors in a positive manner
- Learning to deal with behaviors and not attitudes
- Motivating through a focus on promoting trust
- Educating others to increase their understanding
- Presenting the "why" of something
- Encouraging people to become engaged and to participate
- Empowering subordinates to make decisions
- Coaching by promoting teamwork and individual improvement
- Consulting to provide guidance from a short distance away
- Coordinating to allow people to buy in and take ownership
- Leading and motivating others to achieve goals by focusing on the process
- Promoting better listening to learn from others

III. UNDERSTANDING HAZARDS

Classifying and defining hazards can vary greatly depending on a number of factors, including type of industry, process, or operation. For example, mechanical energy hazards can involve components that cut, crush, bend, shear, pinch, wrap, pull, and puncture. Biological hazards can include pandemic, bioterrorism agents, bloodborne pathogens, and infectious waste. Chemical hazards include substances such as solvents, flammable liquids, compressed gases, cleaning agents, and even disinfectants. Physical hazards can include risks posed by fire, radiation, machine operation, and noise. Environmental and ergonomic hazards include slip, trip, and fall hazards, walking and working surfaces, lighting, and tasks with repetitive motions. Psychosocial hazards address issues such as workplace violence, work-related stress, sleep deprivation, mental problems, chemical dependency, alcohol abuse, and horseplay on the job.

A. Hazard Identification

Hazard identification requires the identification of hazards, unsafe conditions, and risky behaviors. Hazard anticipation relies on human intuition, training, common sense, observation, and continuous awareness. To identify hazards, rely on the use of inspections, surveys, analysis, and human recognition reporting. Hazard identification efforts should focus on unsafe conditions, hazards, broken equipment, and human deviations from accepted practices. Require supervisors or unit safety coordinators to conduct periodic area inspections. These individuals should understand hazardous areas and the workers better than anyone. However, supervisors can fall prey to inspection bias, which results in poor survey results. Many supervisors conduct limited ongoing inspections

as part of their daily job duties. Periodic inspections and surveys can focus on critical components of equipment, processes, or systems with a known potential for causing serious injury or illness. Some equipment inspections help meet preventive maintenance requirements or hazard control plan objectives. Safety standards can mandate that qualified persons periodically inspect some types of equipment, such as elevators, boilers, pressure vessels, and fire extinguishers, at regular intervals. Establish the frequency of inspections by considering the scope and type of the hazardous operations. Many hazard control plans fail to provide sufficient guidance about how to conduct hazard surveys, inspections, and audits. Inspections, audits, and hazard surveys can only help identify hazards when conducted properly. Providing a checklist to an untrained person can result in his or her failure to properly identify hazards or unsafe conditions. General checklists serve as tools that guide an inspection process. These documents do not contain information about all potential hazards. The effective use of demand response checklists will also require some type of education or training. Demand response checklists address specific operations and complex job processes such as the operation of robotic systems or the control of hazardous energy.

BOX 1.9 HEALTHCARE OCCUPATIONAL HAZARD CATEGORIES

- Biological hazards include bacteria, viruses, infectious waste, and bloodborne pathogens.
- Chemical hazards can pose a variety of risks due to their physical, chemical, and toxic properties.
- Ergonomic and environmental hazards include repetitive motion, standing, lifting, trips, and falls.
- Physical hazards include things such as radiation, noise, and machine-generated hazards.
- Psychosocial hazards include substance abuse, work-related stress, and workplace violence.

Note: Some hazards may fit in more than one category.

BOX 1.10 SOME COMMON FACTORS INHERENT IN GOOD WORK ENVIRONMENTS

- Good workplace design and proper equipment placement, including guards and controls.
- Equipment inspections and preventive maintenance are conducted as scheduled.
- The organization conducts inspections, audits, and hazard surveys on a regular basis.
- Corrective actions and hazard controls are implemented immediately to eliminate risks.
- Employees formally commit to work safely and maintain hazard-free work areas.
- Work areas are equipped with proper lighting, ventilation, and environmental controls.
- Employees must use PPE when mandated.
- Supervisors conduct job instruction, inspections, and initial accident investigations.

B. Preparing for Inspections

Conduct education and training sessions about how to conduct inspections. Periodic inspections provide opportunities for hazard control personnel, line supervisors, and top managers to listen to the concerns of those doing the work. Inspections should accurately assess all environments,

equipment, and processes. Learn to identify potential hazards by observing individuals accomplish specific job tasks or processes. Learning to identify hazards and recognize unsafe behaviors requires inspectors to use their observation skills. Inspectors must focus on using all five human senses. Look for deviations from accepted work practices and rely on intuition or gut feelings to assist with the identification of hazards. Curiosity can help uncover hidden hazards. Learning to use visualization techniques to connect the dots can create a mind picture of a hazardous situation. Never allow human emotions or personal issues to drive the inspection process. Inspectors should maintain a professional demeanor and rely on logic when assessing tough situations. Inspectors must always point out potential or immediate dangers. They must never operate any equipment unless trained and authorized to do so, and should ask questions about tasks or processes, but refrain from disrupting operations or creating distractions. Well-designed checklists can assist with the documentation of any key findings.

BOX 1.11 SPECIAL INSPECTION SITUATIONS

- When new equipment is installed
- When new operations or procedures are added
- When work or tasks are relocated or revised
- When new construction or remodeling is in progress
- When any special or unusual program arises

Note: Review all contracts to ensure inclusion of safety-related considerations.

BOX 1.12 FUNDAMENTAL ELEMENTS OF HAZARD ANALYSIS

- Understand that hazard analysis deals with the science of and standards relating to hazards
- Evaluate hazard information using a practical approach
- Investigate accidents and near-miss events to discover causes
- Conduct root cause analysis to uncover contributing causes
- Determine worker perceptions about safety in the workplace
- Deal with perceptions (it cannot be avoided)
- Collect sufficient hazard information for analysis
- Remember that effective hazard analysis leads to effective hazard control or correction
- Identify employees at risk of exposure and evaluate control measures
- Establish a baseline to be used throughout a continuous or ongoing process
- Use inspections to identify and assess hazards in each work environment
- Determine potential hazard severity and possible effects on workers
- Evaluate PPE effectiveness
- Develop orderly processes for evaluating frequent and serious hazards

C. Job Hazard Analysis

Job hazard analysis (JHA) permits an examination of job-related tasks and processes for the purpose of discovering and correcting inherent risks and hazards. Supervisors and other experienced personnel can perform the process by working sequentially through the steps of a job process or task (see Table 1.2). Job hazard analysis requires an understanding of potential job hazards, and can

TABLE 1.2
Job Hazard Analysis Steps

Step A	Break the Job Down: Examine each step in the process for hazards or unsafe conditions that could develop during the job process.
Step B	Identify Hazards: Document process hazards, environmental concerns, and any anticipated human issues.
Step C	Evaluate Hazards: Assess identified hazards and behaviors to determine their potential roles in an accident event.
Step D	Develop and Design Hazard Controls: Develop or design the best hazard controls based on evaluating each hazard. Coordinate implementation of all feasible controls.
Step E	Implement Required Controls: Coordinate and obtain management approval for implementation.
Step F	Revise and Publish the Job Hazard Analysis Information: Update the JHA and then communicate implementation actions with the organizational members.

help in assessing the tools, machines, and materials used to perform a job. Personnel conducting the analysis must possess knowledge of hazard control, including use of PPE. A well-developed job hazard analysis can also serve as an effective teaching tool. Organizations should develop a job hazard analysis for all tasks, processes, or phase-related jobs. Conduct and update a job hazard analysis when a process changes or an accident occurs. Recommend that each organization develop standardized procedures and formats for conducting the analysis. An effective analysis provides the basis for developing and implementing appropriate control measures. Post analysis results at appropriate workstations and other job or process locations.

D. Job Design

Creating well-designed jobs, tasks, and processes can help reduce worker fatigue, reduce repetitive motion stress, isolate hazardous tasks, and control human factor hazards. The concept of job design refers primarily to administrative changes that help improve working conditions. The design of safe work areas must address workstation layout, tools and equipment, and the body position needed to accomplish the job. Safe work area design reduces static positions, and minimizes repetitive motions and awkward body positions. Consider the importance of human factor issues when designing work processes.

E. Hazard Control and Risk Management

Risk management in any setting can be described as the probability that a hazard will cause injury or damage. In some organizations, risk management operates separately from the hazard control function. For example, hospitals consider risk management to be a separate function from environmental safety efforts. Some other types of organizations may consider risk management an integral element of hazard control function. Risk management from an insurance and loss control perspective can quickly become a reactive managerial element. Risk management views all losses to the organization and not just human injury. Risk assessment relates to the process by which risk analysis results drive decision-making. Risk control efforts address hazardous events by implementing interventions to reduce severity. Risk management includes not only control efforts, but finance as well. Risk control considers all aspects of system safety, hazard control management, and safety engineering. Risk finance considers insurance, risk pooling, and self-insurance.

F. Hazard Control and Correction

Organizations must use the concept known as *hierarchy of controls* to reduce, eliminate, and control hazards or hazardous processes. Hazard controls can also include actions such as using *enclosure, substitution,* and *attenuation* to reduce human exposure risks. An enclosure keeps a hazard