POSITION STATEMENT

Worker Health Surveillance in Occupational and Environmental Health

INTRODUCTION

Worker health surveillance, also known as workplace or occupational health surveillance, is the ongoing systematic monitoring of workplace injury and illness trends for the purpose of improving worker safety and health (National Institute for Occupational Safety and Health (NIOSH), 2019). This concept is often confused with medical surveillance, or medical screening, which is generally clinically focused, providing information obtained from the monitoring and analysis of medical surveillance data. Worker health surveillance extends beyond early detection and treatment to include the removal of the causative factors (NIOSH, 2016).

Federal, State and private industry partners regularly collect and provide current data about injuries and illnesses occurring among workers in different jobs and industries. The Occupational Safety and Health Administration (OSHA) mandates worker health surveillance in specific standards for general industry (United States Department of Labor, OSHA, 1970); other agencies, such as the United States Department of Transportation, provide guidance on specific worker health surveillance programs. The National Institute for Occupational Safety and Health (NIOSH) uses collective data to monitor trends in work-related injuries, illnesses, hazards, deaths, and exposures in the United States.

According to NIOSH, worker health surveillance makes a difference in worker safety and health by:

- tracking diseases, injuries and workplace exposures for further study,
- identifying new and emerging problems in the workplace,
- providing evidence used to direct intervention and prevention activities, and
- monitoring the impact of occupational health research.

The fundamental purpose of surveillance is to detect and eliminate underlying causes such as hazards or exposures of any identified trends and thus has a prevention focus (US Department of Labor, OSHA,1970, 2007). Worker health surveillance can also be used for early detection of bioterrorism/terrorism events or disease epidemics. The surveillance may be based on a single case observed over time (a sentinel event) or may result from analysis of health information from a group of employees screened for abnormal trends in health status. The data guides the employer to identify potential problem areas, identify the need for further investigation of health hazards, and evaluate the effectiveness of existing worksite prevention strategies as well as the need for specific interventions to control exposures (Rogers, Randolph & Mastroianni, 2018). Key to the success of a worker health surveillance program is the dissemination and use of the data to improve health (US Department of Labor, OSHA, 2007).

A multidisciplinary team approach is essential to the development of a sound worker health surveillance program (Rogers, et al.). Appropriate health surveillance tests should be implemented based on review of environmental monitoring. A team approach including input from the Occupational Health Nurse (OHN), Physician, Industrial Hygienist, Safety Professional, and Epidemiologist should be utilized to develop site-specific policies and procedures. Referral to other healthcare professionals, high quality documentation, and ongoing, clear communication is necessary to ensure successful interdisciplinary collaboration.

The American Association of Occupational Health Nurses (AAOHN) considers the OHN a key facilitator and member of the interdisciplinary team when developing and implementing a quality worker health surveillance program as part of a comprehensive occupational health and safety program.

RATIONALE

Occupational and environmental health nurses are vital to delivering quality, cost-effective occupational and environmental health programs, supporting the employer's effort to promote workers' safety and optimal health, and preserving the company's valuable human and financial resources. As key members of the interdisciplinary team, the OHN or Occupational Health Nurse Manager is an essential component to developing and implementing a robust worker health surveillance program and relevant policies and procedures to ensure a safe and healthy work environment. As the single largest group of healthcare professionals involved in workplace health, OHNs have established themselves as clinician specialists with a history of occupational health surveillance within their role (WHO, 2001). Their unique expertise, scope of practice, demonstrated competencies, and available resources (i.e., nursing clinical guidelines) enable them to act as indispensable team members when devising and implementing sound worker health surveillance programs. The details of the OHN's scope of practice, expertise, practice resources, and competencies, including the value of employing a board-certified OHN, are available at the AAOHN (2019) and the American Board for Occupational Health Nurses websites (ABOHN, 2016).

Occupational and environmental health nurses are knowledgeable in occupational, biological, and public health sciences, research methods, epidemiology, environmental health, biostatistics, toxicology, safety, industrial hygiene, and ergonomics. They are qualified to design, manage, and supervise the delivery of health care in the occupational setting and can provide screenings and surveillance (i.e., perform and document clinical findings/physical examinations at various stages of employment). They are equipped with communication and leadership skills to work collaboratively with workers, employers, and other members of the interdisciplinary team to implement specific interventions within the scope of their practice and state licensure. This enables them to be proactive in early detection of bioterrorism/terrorism events, epidemics, health trends or health effects prior to achieving advanced disease states (Rogers, et al.).

A sound worker health surveillance program should include evaluation of acute, chronic, or latent health effects, ethical and economic consequences, and individual versus aggregate susceptibility (Rogers, et al.). The OHN is equipped to implement specific interventions to control exposure, target specific high-risk groups defined by workplace assignment and exposure history, and modify relevant policies and procedures to optimize a worker health surveillance program.

The specific interventions that OHNs may implement, in addition to conducting health surveillance, include (Rogers, et al.):

- *Exposure assessment*: Identify potential health hazards by work area, processes, and occupation (including evaluation of worker health complaints/exposures to various agents and exposure levels, and relationship to applicable exposure standards). Conduct health surveillance activities (encouraging workers to report signs or symptoms of illness, performing clinical evaluation, post exposure examinations, and exit examinations, and referring for additional clinical care and diagnostic workup as necessary), and analyze aggregate data to detect patterns, trends, changes and similarities in an effort to identify potential hazards and implement interventions to prevent, eliminate, minimize, or reduce hazards.

- *Selection of tests*: Develop protocols for testing including planning, conducting, supervising, and evaluating worker health surveillance programs. Testing must be safe, easy to conduct, relatively inexpensive, and require a minimal amount of time to conduct. It must also be specific to the exposure of concern or to the detection of a specified disease state.

- *Determination of frequency of testing*: Frequency of testing should be determined by the type and nature of the exposure; may be annual or more often.

- *Identification of employees to be tested*: May be based on job descriptions, health hazard identification, or as a result of environmental measurements such as personal or area sampling.

- *Interpretation of test results*: Results might indicate that the result is "out of the normal range"; the significance of the abnormal result will need interpretation.

- *Actions based on test results:* There must be a mechanism for following up on an abnormal test with further diagnostic tests, as indicated. Other actions might include participating in company-wide strategic planning with workers and other members of the interdisciplinary

team, exposure evaluation and control, developing and maintaining training and education, ensuring compliance with safe handling and disposal of hazardous drugs or materials in the workplace, ensuring mandatory use of personal protective equipment, instituting additional engineering controls to safeguard workers and eliminate hazards, increasing or decreasing the number of employees tested, changing the screening test or frequency of testing, and recommending job modifications/removal from exposure for medical reasons.

- *Notification:* Employees need to be notified in a timely manner of all test results and what they mean. Significant findings should be communicated to the employer, appropriate regulatory agency as required, and employee advocacy group, as applicable, and according to regulatory guidelines, using aggregate level data without personal identifying information.

- *Record storage:* Establishing and maintaining a system of recordkeeping and reporting (ensuring health records are accurate and maintained in a confidential manner), ensuring compliance with agency standards and guidelines for practice and recordkeeping (OSHA), using individual and aggregate data for trend analysis. Records must be retained for the duration of employment plus 30 years.

- *Quality control:* Staff conducting the surveillance tests should be trained in the testing procedure (with documentation of training) and certified with appropriate documentation when required (refer to NIOSH and OSHA for specific relevant requirements). Actively participate in evaluating program effectiveness, taking corrective action as necessary, and participating in the selection, management, and evaluation of any vendor-provided services.

RECOMMENDATIONS

The American Association of Occupational Health Nurses considers the OHN the key to providing a quality worker health surveillance program, whether working in a single nurse unit, as a member of a multi-disciplinary occupational and environmental health team, or as a private consultant. As an occupational and environmental health and safety professional empowered with authority, expertise, and resources to implement and manage worker health surveillance as part of a comprehensive health and safety program, the OHN is a major facilitator to ensure a safe and healthy workplace. This positively impacts the health and safety of workers, worker populations, their families, and the businesses served by ensuring regulatory compliance and a more productive, cost-effective, quality product or service delivery.

REFERENCES

American Association of Occupational Health Nurses (2019). OHN practice. Retrieved from http://aaohn.org/page/ohn-practice

American Board of Occupational Health Nurses (2016). About us. Retrieved from https://www.abohn.org/about-abohn/about-us

National Institute for Occupational Safety and Health (2016). Overview of NIOSH surveillance. Retrieved from https://www.cdc.gov/niosh/topics/surveillance/pdfs/surveillance-briefing-document_8.6.19_508.pdf

National Institute for Occupational Safety and Health. (2019). Worker health *surveillance*. Retrieved from http://www.cdc.gov/niosh/topics/surveillance/

Rogers, B., Randolph, S.A., & Mastroianni, K. (2018). *Occupational health nursing guidelines for primary care clinical conditions* (5th ed.). Beverly Farms, Massachusetts: OEM Press.

U.S. Department of Labor, Occupational Safety and Health Administration. (1970). *Occupational Safety and Health Act of 1970.* Retrieved from http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=OSHACT&p_id=2743

U.S. Department of Labor, Occupational Safety and Health Administration. (2007). *Safety and Health Topics: Medical Screening and Surveillance*. Retrieved from https://www.osha.gov/SLTC/medicalsurveillance/surveillance.html

World Health Organization (2001). The role of occupational health nurse in workplace health management. Retrieved from http://www.who.int/occupational_health/regions/en/oeheurnursing.pdf

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