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Insights Into the National Institute for Occupational Safety and Health's Emergency Preparedness and Response Program

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Editor's Note:

NEHA strives to provide up-to-date and relevant information on environmental health and to build partnerships in the profession. In pursuit of these goals, we feature this column on environmental health services from the Centers for Disease Control and Prevention (CDC) in every issue of the *Journal*.

In these columns, authors from CDC's Water, Food, and Environmental Health Services Branch, as well as guest authors, will share insights and information about environmental health programs, trends, issues, and resources. The conclusions in these columns are those of the author(s) and do not necessarily represent the official position of CDC.

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Introduction

Emergency response and recovery workers might be exposed to multiple hazardous conditions and stressful work environments when responding to a public health emergency. Previous emergency events have demonstrated that significant gaps and deficiencies in responder health and safety continue to exist (Michaels & Howard 2012, Newman, 2012). Ensuring the health and safety of emergency response and recovery workers who might be exposed to hazardous conditions and stressful work environments when responding to a public health emergency should remain a top priority (Kitt et al., 2011). The National

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Response Framework contains a Worker Safety and Health Annex detailing responsibilities for safety and health during major emergencies, including roles for the National Institute for Occupational Safety and Health (NIOSH) such as exposure assessment and personal protective equipment determination.

The NIOSH Emergency Preparedness and Response (EPR) Program was created in 2002 following the events of 9/11, which included attacks on the World Trade Center and Pentagon, and the anthrax letter terrorist attacks. The goal of the NIOSH EPR Program is to coordinate emergency preparedness and response within NIOSH and improve NIOSH's ability to respond to future emergencies and disasters. The NIOSH EPR Program protects the health and safety of emergency response and recovery workers through the advancement of research and collaborations to prevent diseases, injuries, and fatalities in anticipation of and during responses to natural and human-induced disasters and novel emergent events.

The NIOSH EPR Program participates in response planning at the local, state, national, and international levels to ensure the timely identification of health hazards associated with emergency responses and implementation of adequate protection measures; support the Centers for Disease Control and Prevention's (CDC) emergency response efforts; and use the Disaster Science Responder Research Program to identify research needs to protect emergency response and recovery workers while identifying solutions to rapidly support research during emergencies. Training for emergency response and recovery workers is an integral part of the NIOSH EPR Program. This column highlights the NIOSH EPR Program training opportunities and activities.

Training Opportunities and Activities

The NIOSH EPR Program has trained over 1,000 public health professionals and emergency responders through its Emergency Responder Health Monitoring and Surveillance (ERHMS) training courses from 2015–2018 (Table 1). ERHMS is a health monitoring and surveillance framework that includes recommendations and tools specific to protect emergency responders during all phases of a response—predeployment, deployment, and postdeployment (Shugart, 2017). The goals of ERHMS are to prevent short- and long-term illness and injury in emergency responders and to ensure workers can respond safely and effectively to future emergencies. ERHMS principles are scalable to both small and large events, including federal-, state-, local-, tribal-, and territorial-level responses (Figure 1).

In addition to ERHMS, the NIOSH EPR Program also created a responder health and safety training module for CDC's Environmental Health Training in Emergency Response and Public Health Readiness Certificate Program courses. These courses are offered to CDC staff, as well as to other federal, state, and local health agencies, and have trained over 450 public health professionals from 2015–2018 (Table 1). The responder safety and health training module highlights the importance of critical personnel, equipment, training, and other resources needed to ensure that all workers are protected from all hazards during a public health emergency. While space is limited to attend these in-person trainings, anyone wishing to attend this course can contact CDC's School of Preparedness and Emergency Response.

The NIOSH EPR Program also developed a number of free courses that are offered on NIOSH's website. Recognizing that many response and recovery workers are required to work long hours during responses, NIOSH developed the Interim NIOSH Training for Emergency Responders: Reducing Risks Associated With Long Work Hours to describe personal strategies to promote good sleep and other safe work practices during a public health emergency. Additionally, the NIOSH EPR Program developed the Anthrax: Instructor Training in 2014. The training is a collection of train-the-trainer resources including a slide presentation, videos, and handouts to teach responders how to collect, decontaminate, and ship samples. Sampling procedures taught in the training follow CDC's recommended gold-standard surface sampling procedures for *Bacillus anthracis* spores (Photo 1).

Through course feedback and program evaluation, the NIOSH EPR Program continues to refine and update its trainings and preparedness activities for the next generation of public health professionals and emergency responders. The program also actively works with other federal agencies such as the Federal Emergency Management Agency, as well as state and local health agencies and other stakeholders, to integrate key components of responder health and safety into new and existing trainings and provide technical assistance to these agencies. More information about the NIOSH EPR Program can be found on its website (see Quick Links).

References

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Quick Links

- National Institute for Occupational Safety and Health's (NIOSH) Emergency Preparedness and Response Program: www.cdc.gov/niosh/programs/epr/default.html
- Emergency Responder Health Monitoring and Surveillance: www.cdc.gov/niosh/erhms/default.html
- Interim NIOSH Training for Emergency Responders: Reducing Risks Associated With Long Work Hours: www.cdc.gov/niosh/emres/longhourstraining
- Anthrax: Instructor Training: www.cdc.gov/niosh/topics/anthrax/training.html



FIGURE 1. Overview of the Emergency Responder Health Monitoring and Surveillance Info Manager software tool developed by the National Institute for Occupational Safety and Health's Emergency Preparedness and Response Program



Photo 1.
The National Institute for Occupational Safety and Health's (NIOSH) Emergency Preparedness and Response Program staff demonstrate how to sample for *Bacillus anthracis* spores. Photo courtesy of NIOSH.

Number of Public Health Professionals Who Completed the ERHMS and Responder Health and Safety Training Modules for EHTER and PHRCP Courses, 2015–2018

TABLE 1

Year	ERHMS	EHTER	PHRCP	Total
2015	255	19	—	274
2016	255	85	61	401
2017	225	70	83	378
2018	210	72	59	341
Total	945	246	203	1,394

ERHMS = Emergency Responder Health Monitoring and Surveillance; EHTER = Environmental Health Training in Emergency Response; PHRCP = Public Health Readiness Certificate Program.