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Responder Safety and Health
Topic Collection
1/8/2016

ASPR
ASSISTANT SECRETARY FOR
PREPAREDNESS AND RESPONSE

Topic Collection: Responder Safety and Health

Protecting the safety and health of disaster responders is critical for obvious reasons, but a safe and healthy workforce is better able to provide the community with an effective, comprehensive response and recovery. The resources in this Topic Collection focus on safety strategies (e.g., preventing fatigue, ensuring the availability and correct use of personal protective equipment) and maintaining behavioral health (e.g., working through stress and preventing/addressing compassion fatigue).

Each resource in this Topic Collection is placed into one or more of the following categories in alphabetical order by author (click on the category name to be taken directly to that set of resources). Resources marked with an asterisk (*) appear in more than one category.

Must Reads
Behavioral Health and Resilience
Education and Training
Occupational Safety
Personal Protective Equipment
Plans, Tools, and Templates
Responder Fatigue
Select Occupational Safety and Health Standards
Agencies and Organizations

Must Reads

Buczek, D. (2015). Fatigue in First Responder Operations. The CIP Report, January 2015: 11-13.

> The author defines responder fatigue, explains when it becomes a hazard, lists some of the causes, and provides suggestions for mitigating it.

Centers for Disease Control and Prevention. (2011). Capability 14: Responder Safety and Health. Public Health Preparedness Capabilities.

> The Responder Safety and Health capability is one of the 15 capabilities identified in the Centers for Disease Control and Preparedness Public Health Preparedness Capabilities. This capability focuses on the ability to protect emergency medical staff responding to a critical incident, and is comprised of four functions: 1) Identify responder safety and health risks; 2) Identify safety and personal protective needs; 3) Coordinate with partners to facilitate risk-specific safety and health training; and 4) Monitor responder safety and health actions.

Centers for Disease Control and Prevention. (2014). Coping With a Disaster or Traumatic Event.

> This webpage contains links to resources focused on disaster behavioral health. There are resources geared towards individuals, responders, health professionals, and other community members, and some are categorized by hazard. The "Disaster Mental Health for Responders: Key Principles, Issues, and Questions" page focuses on responders.

Centers for Disease Control and Prevention, Emergency Preparedness and Response. (2015). Response Worker Health and Safety.

> This webpage includes links to health and safety topics that pertain to disaster responders. Resources are also categorized by hazard (e.g., flood and hurricane cleanup, extreme heat, electrical safety).

Federal Emergency Management Agency. (n.d.) IS-102.c: Preparing for Federal Disaster Operations: FEMA Response Partners. (Accessed 12/29/2015.)

> Lesson 3 of this course covers accountability, safety, and security. The safety component includes lessons on occupational safety and tips for mitigating hazards frequently encountered in a disaster response situation (e.g., extreme weather, contaminated food/water, injuries, and rashers).

Jackson, B.A., Baker, J.C., Ridgely, S., et al. (2004). Protecting Emergency Responders, Volume 3. (Free to download.) RAND Corporation.

> This report is based on a literature review, interviews with members of the response community, and information gathered at a conference on occupational safety and health. Recommendations for formalizing "an integrated, incident-wide approach to safety management at major disaster response operations" are included.

McCarroll, J., Vineburgh, N., and Ursano, R. (Eds.) (2013). Disaster, Disease and Distress: Resources to Promote Psychological Health and Resilience in Military and Civilian Communities. Center for the Study of Traumatic Stress, Uniformed Services University.

> This is a compilation of 10 years' worth of Center fact sheets on military and disaster health and mental health topics. It is geared towards healthcare providers, government and military leadership, service members, families, and communities and raises awareness of and shares strategies for coping with traumatic exposure.

Murphy, K., and Jewell, S. (2010). Personal Safety and Health for Emergency Responders. (Free registration required.) University at Albany, State University of New York, School of Public Health and Health Professions, Center for Public Health Preparedness.

> The objective of this course is to help emergency responders understand the types of dangers encountered in a disaster setting, as well as the common injuries that are sustained during an emergency response.

* National Fire Protection Association. (2013). [NFPA 1500: Standard on Fire Department Occupational Safety and Health Program](). (Free access to full standard text with registration.)

> This standard provides an overview of the requirements of an occupational medicine program that can reduce risk and promote the health of "fire departments or organizations that provide rescue, fire suppression, emergency medical services, hazardous materials mitigation, special operations, and other emergency services."

National Institute for Occupational Safety and Health. (2010). [Traumatic Incident Stress.]() Centers for Disease Control and Prevention.

> This website highlights the physical, cognitive, emotional, and behavioral symptoms that first responders may experience after a disaster. The Institute provides tips and links to additional resources that can help responders take care of their own emotional health.

National Institute for Occupational Safety and Health. (2013). [Emergency Response Resources: Personal Protective Equipment](). Centers for Disease Control and Prevention.

> The information on this webpage focuses on personal protective equipment (PPE) and includes the following categories: respirators; protective clothing; skin exposures; eye protection; and hearing protection. Links to related resources are provided.

National Institute for Occupational Safety and Health. (2014). [Reducing Risks Associated with Long Work Hours: Interim NIOSH Training for Emergency Responders.]() Centers for Disease Control and Prevention.

> This training is geared towards emergency responders who deploy to disaster sites. It details the risks associated with fatigue, lists safe practices for managers and workers, and provides strategies for self-care.

National Institute for Occupational Safety and Health. (2015). [Emergency Responder Health Monitoring and Surveillance (ERHMS)](). Centers for Disease Control and Prevention.

> This webpage provides an overview of the surveillance system, which monitors responder health and safety to help develop related guidelines. Links to documents and information about the phases of the system are included.

National Institute of Environmental Health Sciences. (2012). [Safety Awareness for Responders to Hurricanes: Protecting Yourself While Helping Others.]()

> This training tool is a health and safety resource for "skilled support personnel" who will participate in hurricane response and cleanup activities. Responders will gain a basic awareness of identifying and managing hazards associated with hurricane response and cleanup activities.

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Nickell, L., Crighton, E., Tracy, C., et al. (2004). [Psychosocial Effects of SARS on Hospital Staff: Survey of a Large Tertiary Care Institution.](#) CMAJ. 2: 170(5):793-8.

>   The authors studied the psychosocial effects associated with working in a hospital environment during the SARS outbreak. They also found significant negative effects on employees' families and lifestyles as a result of this experience.

Occupational Safety and Health Administration. (n.d.). [Getting Started - General Preparedness and Response: Response and Recovery Workers](#). (Accessed 12/29/2015.) U.S. Department of Labor.

>   The information on this webpage is geared towards first responders and includes the following categories: organization of response operations; equipment; training; and hazard assessment and health and safety plans.

Occupational Safety and Health Administration. (n.d.) [Protecting Worker Safety and Health Under the National Response Framework](#). (Accessed 12/29/2015.) U.S. Department of Labor.

>   This "Quick Card" provides an overview of the Worker Safety and Health Support Annex in the National Response Framework.

Occupational Safety and Health Administration. (n.d.). [Safety and Health Guides](#). (Accessed 12/29/2015.) U.S. Department of Labor.

>   These resources can help first responders keep themselves safe when responding to a variety of hazards and situations (e.g., blister agents, nerve agents, extreme weather, structural collapse). Information is presented in question and answer format, and links to related resources are provided in each guide.

Substance Abuse and Mental Health Services Administration, Disaster Technical Assistance Center. (2005). [A Guide to Managing Stress in Crisis Response Professions.](#) U.S. Department of Health and Human Services.

>   Emergency healthcare responders are repeatedly exposed to extraordinarily stressful events, placing them at higher-than-normal risk for developing stress reactions. This guide on managing stress provides some basic tools that can inspire and spread optimism and point the way to effective stress management.

Substance Abuse and Mental Health Services Administration, Disaster Technical Assistance Center. (2013). [Mass Casualty Support and Response Podcast.](#) U.S. Department of Health and Human Services.

>   This webinar shares information about emotional reactions to mass casualty events, addresses what Medical Reserve Corps team members, Commission Corps Officers, and

other responders may encounter in the field during a crisis event, and familiarizes participants with related disaster behavioral health.

Substance Abuse and Mental Health Services Administration, Disaster Technical Assistance Center. (2014). [Tips for Disaster Responders: Preventing and Managing Stress.](#)

> This tip sheet presents a series of personal stress prevention and management skills disaster responders and emergency healthcare providers can practice before called upon to respond.

Substance Abuse and Mental Health Services Administration, Disaster Technical Assistance Center (2014). [Tips for Disaster Responders: Returning to Work.](#)

> This four-page fact sheet offers tips to help disaster response workers transition back to routine work.

Substance Abuse and Mental Health Services Administration, Disaster Technical Assistance Center. (2014). [Tips for Disaster Responders: Understanding Compassion Fatigue.](#) U.S. Department of Health and Human Services.

> This tip sheet can help emergency healthcare responders understand the signs of compassion fatigue (CF). It highlights tips for preventing and coping with CF and links to helpful resources.

Behavioral Health and Resilience

Center for the Study of Traumatic Stress. (n.d.). [Stress Management for Health Care Providers](#). (Accessed 12/18/2015.) Uniformed Services University School of Medicine.

> This fact sheet lists strategies healthcare providers can use to help themselves and their coworkers manage stress after disasters.

Centers for Disease Control and Prevention. (2009). [Stress Management for Emergency Responders: What Responders Can Do.](#)

> This podcast is part of a series that examines sources of stress and what individuals, team leaders, and agency management can do to manage the stress and increase resilience. Tips for reducing stress and lessening its negative impacts are also provided.

Centers for Disease Control and Prevention. (2014). [Coping With a Disaster or Traumatic Event](#).

> This webpage contains links to resources focused on disaster behavioral health. There are resources geared towards individuals, responders, health professionals, and other community members, and some are categorized by hazard. The "Disaster Mental Health for Responders: Key Principles, Issues, and Questions" page focuses on responders.

Division for At-Risk Individuals, Behavioral Health, and Community Resilience (ABC). (2015). [Individual Resilience: Factsheet for Responders](). U.S. Department of Health and Human Services. Office of the Assistant Secretary for Preparedness and Response.

Responders can learn more about resilience and the advantageous role it plays in disaster response and recovery from this factsheet.

Fujitani, K., Carroll, M., Yanagisawa, R., and Katz, C. (2015). [Burnout and Psychiatric Distress in Local Caregivers Two Years After the 2011 Great East Japan Earthquake and Fukushima Nuclear Radiation Disaster](). (Abstract only.) Community Mental Health Journal.

The authors surveyed caregivers more than two years after the disaster and found a "significant number" indicated signs of emotional exhaustion and psychological distress. The authors call for long-term psychological support and better working conditions for caregivers.

Hodge, J.G., Rutkow, L., and Corcoran, A.J. (2010). [Mental and Behavioral Health Legal Preparedness in Major Emergencies](). Public Health Reports. 125(5): 759–762.

The authors discuss the importance of preparing to address mental and behavioral health problems in affected populations and emergency responders following a major disaster, both programmatically and legally.

Liu, J., Naturale, A., and David, J. (2012). [Self-Care for Disaster Behavioral Health Responders.]() Substance Abuse and Mental Health Services Administration, Disaster Technical Assistance Center.

Public health emergency healthcare providers can learn about best practices and tools that could enable them and their supervisors to identify and effectively manage stress and secondary traumatic stress in this 60-minute podcast.

McCarroll, J., Vineburgh, N., and Ursano, R. (Eds.) (2013). [Disaster, Disease and Distress: Resources to Promote Psychological Health and Resilience in Military and Civilian Communities](). Center for the Study of Traumatic Stress, Uniformed Services University.

This is a compilation of 10 years' worth of Center fact sheets on military and disaster health and mental health topics. It is geared towards healthcare providers, government and military leadership, service members, families, and communities and raises awareness of and shares strategies for coping with traumatic exposure.

National Center for PTSD. (2014). [Working with Trauma Survivors: What Workers Need to Know]().

This website highlights the importance of traumatic stress awareness for first responders who work with survivors of disasters and other traumatic events.

National Institute for Occupational Safety and Health. (2010). Traumatic Incident Stress. Centers for Disease Control and Prevention.

This website highlights the physical, cognitive, emotional, and behavioral symptoms that first responders may experience after a disaster. The Institute provides tips and links to additional resources that can help responders take care of their own emotional health.

*New Jersey Critical Incident Stress Response. (2004). Critical Incident Stress Response.

This self-directed program can help responders: better understand stress and its association to critical incident response; build an awareness of self-care techniques and available resources; and recognize symptoms in one's self and in others.

Nickell, L., Crighton, E., Tracy, C., et al. (2004). Psychosocial Effects of SARS on Hospital Staff: Survey of a Large Tertiary Care Institution. CMAJ. 2; 170(5):793-8.

The authors studied the psychosocial effects associated with working in a hospital environment during the SARS outbreak. They also found significant negative effects on employees' families and lifestyles as a result of this experience.

Pietrzak, R.H., Feder, A., Singh, R., et al. (2014). Trajectories of PTSD Risk and Resilience in World Trade Center Responders: An 8 Year Prospective Cohort Study. Psychological Medicine. 44(1): 205-219.

The authors studied the factors associated with posttraumatic stress disorder (PTSD) symptoms in World Trade Center first responders. The found that prior psychiatric history, Hispanic ethnicity, severity of WTC exposure and WTC-related medical conditions had the strongest relationships with PTSD; greater levels of education and family and work support were protective factors.

Rudofossi, D. (2013). Understanding the Challenges Facing Our First Responders: Treating Those Who Are Suffering from Trauma and Stress Brought About by Acts of Terrorism. The Alabama Department of Public Health's Center for Emergency Preparedness.

These symposium materials feature speakers who discuss treating first responders who are suffering from trauma and stress brought about by traumatic acts (e.g., acts of terrorism).

Rutkow, L., Gable, L., and Links, J.M. (2011). Protecting the Mental Health of First Responders: Legal and Ethical Considerations. Journal of Law, Medicine, and Ethics.

The authors discuss the ethical and legal issues associated with three key areas in first responder mental health: mental health screening; licensure portability of mental health care providers; and workers' compensation for mental health claims.

*Stamm, B. (2012). The Professional Quality of Life Elements Theory and Measurement.

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The ProQOL (short for Professional Quality of Life) is the most commonly used measure of Compassion Fatigue and Compassion Satisfaction, two effects commonly experienced by responders who help people who experience suffering and trauma. In addition to the tool, the researcher provides links to theoretical resources, presentation aids, and other resources that can be helpful when raising awareness of the behavioral health effects on disaster responders.

Stamm, B. (2013). Understanding Compassion Fatigue and Compassion Satisfaction: Tips for Disaster Responders. Substance Abuse and Mental Health Administration, Disaster Technical Assistance Center.

This podcast can help emergency responders (e.g., healthcare providers, behavioral health professionals) learn about the positive and negative effects of helping disaster survivors.

Substance Abuse and Mental Health Services Administration, Disaster Technical Assistance Center. (2005). A Guide to Managing Stress in Crisis Response Professions. U.S. Department of Health and Human Services.

Emergency healthcare responders are repeatedly exposed to extraordinarily stressful events, placing them at higher-than-normal risk for developing stress reactions. This guide on managing stress provides some basic tools that can inspire and spread optimism and point the way to effective stress management.

Substance Abuse and Mental Health Services Administration, Disaster Technical Assistance Center. (2013). Mass Casualty Support and Response Podcast. U.S. Department of Health and Human Services.

This webinar shares information about emotional reactions to mass casualty events, addresses what Medical Reserve Corps team members, Commission Corps Officers, and other responders may encounter in the field during a crisis event, and familiarizes participants with related disaster behavioral health.

Substance Abuse and Mental Health Services Administration, Disaster Technical Assistance Center. (2014). Tips for Disaster Responders: Preventing and Managing Stress. U.S. Department of Health and Human Services.

This tip sheet presents a series of personal stress prevention and management skills disaster responders and emergency healthcare providers can practice before called upon to respond.

Substance Abuse and Mental Health Services Administration, Disaster Technical Assistance Center (2014). Tips for Disaster Responders: Returning to Work. U.S. Department of Health and Human Services.

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This four-page fact sheet offers tips to help disaster response workers transition back to routine work.

Substance Abuse and Mental Health Services Administration, Disaster Technical Assistance Center. (2014). Tips for Disaster Responders: Understanding Compassion Fatigue. U.S. Department of Health and Human Services.

This tip sheet can help emergency healthcare responders understand the signs of compassion fatigue (CF). It highlights tips for preventing and coping with CF and links to helpful resources.

Substance Abuse and Mental Health Services Administration, Disaster Technical Assistance Center. (2015). Disaster Behavioral Health Information Series (DBHIS) Resource Collections. U.S. Department of Health and Human Services.

This webpage contains links to resource collections on a variety of disaster behavioral health topics (e.g., resilience and stress management, chemical and biological events, children and youth, and disaster responders).

*Tucker, P. (2009). Surviving Field Stress for First Responders. Agency for Toxic Substances and Disease Registry.

This two-hour webcast (available in segments or a transcript) is intended for first responders, fire paramedics, police and health-care providers as well as federal, state, and local public health and emergency management officials who may respond to disaster events.

U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration. (2015). SAMHSA Behavioral Health Disaster Response Mobile App.

This app provides first responders access to field resources for aiding disaster survivors, and the ability to search for and map behavioral health service providers in the impacted area, review emergency preparedness materials, and share resources.

U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Disaster Technical Assistance Center. (2015). Disaster Behavioral Health Information Series (DBHIS) Resource Collections.

This webpage contains links to resource collections on a variety of disaster behavioral health topics (e.g., resilience and stress management, chemical and biological events, children and youth, and disaster responders).

U.S. Department of Homeland Security. (2012). Project Responder 3: Toward the First Responder of the Future.

Project Responder 3 used facilitated discussions with responders throughout the United States to identify existing response capability gap, which were then categorized into nine

domains, including "Responder Health, Safety, and Performance." Discussion revealed three abilities that are critical to responders: the ability for them to obtain real-time status updates about their families during disaster response; the ability to measure an individual's resilience to determine whether s/he will perform effectively under stress; and the ability to monitor, in real time, the physical and mental status of responders during an incident.

*University of Minnesota, School of Public Health. (2013). Responder Self Care App.

This application aids responders during deployment in maintaining their own physical, emotional, and social wellbeing. Checklists for before, during, and after deployment are included. The app also allows users to customize reminders and tips and lists steps that can help responders pack for deployment, take care of daily needs, maintain important relationships, and reflect on their experiences.

Education and Training

Cocciardi, J.A. (2013). Operating Safely in Hazardous Environments: A Review and Refresher. Jones & Bartlett Learning. (Book available for purchase.)

The information in this book can help readers identify and mitigate hazards in the disaster response workplace. Review materials and exercises are included.

*European Union, European Centre for Disease Prevention and Control. (2014). Safe Use of Personal Protective Equipment in the Treatment of Infectious Diseases of High Consequence: A Tutorial for Trainers in Healthcare Settings.

This training program provides information on the proper use of personal protective equipment at the point of care and shares information on procurement, preparedness, and capacity building.

*Federal Aviation Administration. (2010). First Responder Safety at a Small Aircraft or Helicopter Accident.

This set of five training modules can help first responders ensure their safety at an aircraft accident scene.

Federal Emergency Management Agency. (n.d.) IS-102.c: Preparing for Federal Disaster Operations: FEMA Response Partners. (Accessed 12/29/2015.)

Lesson 3 of this course covers accountability, safety, and security. The safety component includes lessons on occupational safety and tips for mitigating hazards frequently encountered in a disaster response situation (e.g., extreme weather, contaminated food/water, injuries, and rashers).

Federal Emergency Management Agency. (2013). IS-930: Emergency Responder Health Monitoring and Surveillance (ERHMS) System: Leadership Training.

 This course teaches participants about the Emergency Responder Health Monitoring and Surveillance (ERHMS) system, which collects data and tracks responder wellness during the response phase and beyond. ERHMS uses this data to create guidelines for protecting emergency responders over a variety of emergency types and settings.

Murphy, K., and Jewell, S. (2010). Personal Safety and Health for Emergency Responders. (Free registration required.) University at Albany, State University of New York, School of Public Health and Health Professions, Center for Public Health Preparedness.

 The objective of this one hour course is to help emergency responders understand the types of dangers encountered in a disaster setting, as well as the common injuries that are sustained during an emergency response.

National Association of County and City Health Officials. (2015). Building Workforce Resilience Through the Practice of PFA- L: A Course for Supervisors and Leaders.

 This self-paced course was developed by the U.S. Department of Health and Human Services and the National Association of County and City Health Officials to introduce the concept of Psychological First Aid (PFA) as a leadership tool to build workforce resilience. The course uses scenario-based exercises to teach participants about the core components of Psychological First Aid for Leaders.

National Institute of Environmental Health Sciences. (2012). Safety Awareness for Responders to Hurricanes: Protecting Yourself While Helping Others.

 This training tool is a health and safety resource for "skilled support personnel" who will participate in hurricane response and cleanup activities. Responders will gain a basic awareness of identifying and managing hazards associated with hurricane response and cleanup activities.

*National Institute for Occupational Safety and Health. (2014). Reducing Risks Associated with Long Work Hours: Interim NIOSH Training for Emergency Responders. Centers for Disease Control and Prevention.

 This training is geared towards emergency responders who deploy to disaster sites. It details the risks associated with fatigue, lists safe practices for managers and workers, and provides strategies for self-care.

*New Jersey Critical Incident Stress Response. (2004). Critical Incident Stress Response.

 This self-directed program can help responders: better understand stress and its association to critical incident response; build an awareness of self-care techniques and available resources; and recognize symptoms in one's self and in others.

Occupational Safety and Health Administration. (n.d.). <u>Resilience Resources for Emergency Response.</u> (Accessed 12/29/2015.) United States Department of Labor.

> This web page describes and provides links to educational materials that can assist employees, their families, and supervisors gain awareness of issues related to and maintain physical and behavioral health before, during and after deployment.

Occupational Safety and Health Administration. (2010). <u>Best Practices for the Development, Delivery, and Evaluation of Susan Harwood Training Grants</u>. U.S. Department of Labor.

> This document can help grantees and others develop, deliver, and evaluate employee and employer occupational safety and health training.

*Tucker, P. (2009). <u>Surviving Field Stress for First Responders.</u> Agency for Toxic Substances and Disease Registry.

> This course is intended for first responders, fire paramedics, police and health-care providers as well as federal, state, and local public health and emergency management officials who may respond to disaster events.

Occupational Safety

*Centers for Disease Control and Prevention. (2011). <u>Capability 14: Responder Safety and Health.</u> Public Health Preparedness Capabilities.

> The Responder Safety and Health capability is one of the 15 capabilities identified in the Centers for Disease Control and Preparedness Public Health Preparedness Capabilities. This capability focuses on the ability to protect emergency medical staff responding to a critical incident, and is comprised of four functions: 1) Identify responder safety and health risks; 2) Identify safety and personal protective needs; 3) Coordinate with partners to facilitate risk-specific safety and health training; and 4) Monitor responder safety and health actions.

*Centers for Disease Control and Prevention. (2014). <u>Guidance Documents for Protecting Emergency Responders.</u>

> Four volumes are linked to and included in this set of materials. They include the following: 1) Lessons Learned from Terrorist Attacks; 2) Community Views of Safety and Health Risks and Personal Protection Needs; 3) Safety Management in Disaster and Terrorism Response; and 4) Personal Protective Equipment Guidelines for Structural Collapse Event.

Centers for Disease Control and Prevention, Emergency Preparedness and Response. (2015). <u>Response Worker Health and Safety</u>.

This webpage includes links to health and safety topics that pertain to disaster responders. Resources are also categorized by hazard (e.g., flood and hurricane cleanup, extreme heat, electrical safety).

Elwain, M. and Czepiel, M. (2013). Going Down Range: Deployment Basics. Department of State Health Services, Response and Recovery Unit.

This presentation provides emergency healthcare responders with: an overview of deployment conditions and issues; communications tips; packing guidelines; tips for staying mentally and physically healthy; responder safety strategies; and information on post deployment.

*Federal Aviation Administration. (2010). First Responder Safety at a Small Aircraft or Helicopter Accident.

This set of five training modules can help first responders ensure their safety at an aircraft accident scene.

Jackson, B.A., Baker, J.C., Ridgely, S., et al. (2004). Protecting Emergency Responders, Volume 3. (Free to download.) RAND Corporation.

This report is based on a literature review, interviews with members of the response community, and information gathered at a conference on occupational safety and health. Recommendations for formalizing "an integrated, incident-wide approach to safety management at major disaster response operations" are included.

National Institute for Occupational Safety and Health. (2014). Disaster Science Research Initiative to Enhance Responder Safety and Health.

The aim of this initiative is to better understand and reduce responder health effects from disasters. The webpage includes links to related resources.

National Institute for Occupational Safety and Health. (2015). Cold Stress. Centers for Disease Control and Prevention.

The resources on this webpage can help employers and their staff understand the causes and symptoms of heat stress to help them better prevent, identify, and treat it.

National Institute for Occupational Safety and Health. (2015). Emergency Responder Health Monitoring and Surveillance (ERHMS). Centers for Disease Control and Prevention.

This webpage provides an overview of the surveillance system, which monitors responder health and safety to help develop related guidelines. Links to documents and information about the phases of the system are included.

National Institute for Occupational Safety and Health. (2015). Heat Stress. Centers for Disease Control and Prevention.

The resources on this webpage can help employers and their staff understand the causes and symptoms of heat stress to help them better prevent, identify, and treat it.

Occupational Safety and Health Administration. (n.d.). Getting Started - General Preparedness and Response: Response and Recovery Workers. (Accessed 12/29/2015.) U.S. Department of Labor.

The information on this webpage is geared towards first responders and includes the following categories: organization of response operations; equipment; training; and hazard assessment and health and safety plans.

Occupational Safety and Health Administration. (n.d.). Safety and Health Guides. (Accessed 12/29/2015.) U.S. Department of Labor.

These resources can help first responders keep themselves safe when responding to a variety of hazards and situations (e.g., blister agents, nerve agents, extreme weather, structural collapse). Information is presented in question and answer format, and links to related resources are provided in each guide.

Personal Protective Equipment

Association for Professionals in Infection Control and Epidemiology. (2014). 2014 Donning and Doffing PPE Competency Validation Checklist.

This checklist can be used by evaluators when testing healthcare professionals' ability to safely and effectively don and doff personal protective equipment.

*Centers for Disease Control and Prevention. (2011). Capability 14: Responder Safety and Health. Public Health Preparedness Capabilities.

The Responder Safety and Health capability is one of the 15 capabilities identified in the Centers for Disease Control and Preparedness Public Health Preparedness Capabilities. This capability focuses on the ability to protect emergency medical staff responding to a critical incident, and is comprised of four functions: 1) Identify responder safety and health risks; 2) Identify safety and personal protective needs; 3) Coordinate with partners to facilitate risk-specific safety and health training; and 4) Monitor responder safety and health actions.

*Centers for Disease Control and Prevention. (2014). Guidance Documents for Protecting Emergency Responders.

Four volumes are linked to and included in this set of materials. They include the following: 1) Lessons Learned from Terrorist Attacks; 2) Community Views of Safety and Health Risks and Personal Protection Needs; 3) Safety Management in Disaster and

Terrorism Response; and 4) Personal Protective Equipment Guidelines for Structural Collapse Event.

Centers for Disease Control and Prevention. (2014). [Guidance on Personal Protective Equipment to Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease in U.S. Hospitals, Including Procedures for Putting On (Donning) and Removing (Doffing).](#)

This CDC webpage includes guidance on the types of personal protective equipment (PPE) that should be used by those caring for patients with Ebola. It also includes steps for donning and doffing PPE as well as what trained observers should do to ensure these steps are followed.

*European Union, European Centre for Disease Prevention and Control. (2014). [Safe Use of Personal Protective Equipment in the Treatment of Infectious Diseases of High Consequence: A Tutorial for Trainers in Healthcare Settings.](#)

This training program provides information on the proper use of personal protective equipment at the point of care and shares information on procurement, preparedness, and capacity building.

Methodist Hospital for Surgery. (2014). [Buddy System for PPE Placement & Removal](#). Association for Professionals in Infection Control and Epidemiology.

This document outlines the steps for the "buddy system" for the placement and removal of personal protective equipment.

National Institute for Occupational Safety and Health. (2009). [NIOSH Hazard Based Guidelines: Protective Equipment for Workers in Hurricane Flood Response.](#) Centers for Disease Control and Prevention.

This website provides general guidance for personal protective equipment for workers responding in hurricane flood zones and can be adapted to specific conditions.

National Institute for Occupational Safety and Health. (2013). [Emergency Response Resources: Personal Protective Equipment](#). Centers for Disease Control and Prevention.

The information on this webpage focuses on personal protective equipment (PPE) and includes the following categories: respirators; protective clothing; skin exposures; eye protection; and hearing protection. Links to related resources are provided.

Occupational Safety and Health Administration. (n.d.). [PPE Selection Matrix for Occupational Exposure to Ebola Virus.](#) (Accessed 12/29/2015.) United States Department of Labor.

The U.S. Department of Labor shares information on the type of personal protective equipment to be worn in various situations (e.g., normal work activities, casual

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interaction, providing medical and supportive care, cleaning and disinfecting environments, and dealing with waste).

Toma, M.E., Kundrapu, S., Thota, P., et al. (2015). Contamination of Health Care Personnel During Removal of Personal Protective Equipment. JAMA Internal Medicine.

The authors examine how pathogens can be spread during the removal of PPE.

University of Nebraska Medical Center. (n.d.). PPE Donning and Doffing: Ebola Patients. (Accessed 12/29/2015.)

These standard procedures were developed to protect staff from Category A agents and differ slightly from Centers for Disease Control and Prevention recommendations. Guidance and photos are provided to help readers understand the types of personal protective equipment to use and how to don and doff them appropriately.

Plans, Tools, and Templates

American Industrial Hygiene Association. (2015). Emergency Response Planning Guidelines™.

The Association's Emergency Response Planning Committee developed these guidelines for those who respond to actual or suspected releases of acutely toxic airborne substances. These guidelines were created based on the assumption that exposure would be "once-in-a-lifetime, shortterm (typically 1-hour)."

*Centers for Disease Control and Prevention. (2011). Capability 14: Responder Safety and Health. Public Health Preparedness Capabilities.

The Responder Safety and Health capability is one of the 15 capabilities identified in the Centers for Disease Control and Preparedness Public Health Preparedness Capabilities. This capability focuses on the ability to protect emergency medical staff responding to a critical incident, and is comprised of four functions: 1) Identify responder safety and health risks; 2) Identify safety and personal protective needs; 3) Coordinate with partners to facilitate risk-specific safety and health training; and 4) Monitor responder safety and health actions.

Federal Emergency Management Agency. (2010). National Incident Management System (NIMS) Incident Command System (ICS) Forms Booklet: Safety Message/Plan (ICS 208).

This optional form can be completed by the Safety Officer and included in an Incident Action Plan.

Federal Emergency Management Agency. (2013). Worker Safety and Health Support Annex.

This annex provides an overview of the federal support that will be made available to local, State, territorial, tribal, insular area, and federal response and recovery organizations to ensure worker safety and health during incidents requiring a coordinated federal response.

Occupational Safety and Health Administration. (n.d.) Protecting Worker Safety and Health Under the National Response Framework. (Accessed 12/29/2015.) U.S. Department of Labor.

This "Quick Card" provides an overview of the Worker Safety and Health Support Annex in the National Response Framework.

*Stamm, B. (2012). The Professional Quality of Life Elements Theory and Measurement.

The ProQOL (short for Professional Quality of Life) is the most commonly used measure of Compassion Fatigue and Compassion Satisfaction, two effects commonly experienced by responders who help people who experience suffering and trauma. In addition to the tool, the researcher provides links to theoretical resources, presentation aids, and other resources that can be helpful when raising awareness of the behavioral health effects on disaster responders.

U.S. Department of Health and Human Services. Office of the Assistant Secretary for Preparedness and Response. (2015). 2016 Force Protection: Health and Safety Plan.

The 2016 Force Protection: Health and Safety Plan (HASP) is specific to National Disaster Medical System (NDMS) staff. It includes sections on personal protective equipment, training, general safety and health requirements, medical services and first aid, sanitation, roadway safety, fire and life safety, security, and logistics safety. It also includes forms and actions sheets in the appendices.

*University of Minnesota, School of Public Health. (2013). Responder Self Care App.

This application aids responders during deployment in maintaining their own physical, emotional, and social wellbeing. Checklists for before, during, and after deployment are included. The app also allows users to customize reminders and tips and lists steps that can help responders pack for deployment, take care of daily needs, maintain important relationships, and reflect on their experiences.

Responder Fatigue

Buczek, D. (2015). Fatigue in First Responder Operations. The CIP Report, January 2015: 11-13.

The author defines responder fatigue, explains when it becomes a hazard, lists some of the causes, and provides suggestions for mitigating it.

National Institute for Occupational Safety and Health. (2014). [Preventing Worker Fatigue among Ebola Healthcare Workers and Responders.](#) Centers for Disease Control and Prevention.

>These guidelines can help healthcare workers and responders involved with cases related to Ebola in the United States, prepare to work long or unusual shifts and cope with related fatigue and other effects. Information for supervisors is also included.

*National Institute for Occupational Safety and Health. (2014). [Reducing Risks Associated with Long Work Hours: Interim NIOSH Training for Emergency Responders.](#) Centers for Disease Control and Prevention.

>This training is geared towards emergency responders who deploy to disaster sites. It details the risks associated with fatigue, lists safe practices for managers and workers, and provides strategies for self-care.

U.S. National Response Team. (2009). [Guidance for Managing Worker Fatigue During Disaster Operations: Technical Assistance Document: Volume 1](#).

>This document addresses worker fatigue during large-scale disaster operations and can serve as a hands-on manual to assist organizations with the development of programs and plans to address fatigue issues among disaster workers.

Select Occupational Safety and Health Standards

envirosafety. (n.d.) [Hard Hat Facts](#). (Accessed 1/4/2016).

>This free fact sheet lists standards and equipment that can help responders protect their heads when working on scenes where there is the potential to be struck by falling objects. (A link to the full standard, 1910.135, which must be purchased, is also included in this Topic Collection.)

Grainger, Inc. (2015). [First Aid Regulation, 29 CFR 1910.151 and Z308.1-2015 Summary](#).

>This guide lists four types of first aid kits and supplies that are compliant with ANSI Z308.1.

International Safety Equipment Association. (2015). [Emergency Eyewash and Shower Equipment. Selection, Installation, and Use Guide](#).

>This guide supports related standards and shares information on proper emergency eyewash and shower equipment that can prevent or mitigate injury from splash and ocular incidents. It also includes information on eyewash and shower equipment systems, and can help readers select, use, and maintain emergency eyewash and shower equipment.

Minnesota Department of Labor and Industry. (2015). Fact Sheet: Contents of a First Aid Kit. Occupational Safety and Health Division.

This factsheet complies with ANSI Z308.1 and lists recommended basic first aid supplies.

National Fire Protection Association. (2013). NFPA 1500: Standard on Fire Department Occupational Safety and Health Program. (Free access to full standard text with registration.)

This standard provides an overview of the requirements of an occupational medicine program that can reduce risk and promote the health of "fire departments or organizations that provide rescue, fire suppression, emergency medical services, hazardous materials mitigation, special operations, and other emergency services."

National Fire Protection Association. (2013). NFPA 1600: Standard on Disaster/Emergency Management and Business Continuity Programs. (Free access to full standard text with registration.)

NFPA 1600 establishes a common set of criteria for all hazards disaster/emergency management and business continuity programs.

NC State University. (n.d.) Emergency Eyewash Factsheet. (Accessed 1/4/2016).

This one-page factsheet highlights how eyewash stations must comply with ANSI standards; lab responsibilities are also listed.

Occupational Safety and Health Administration. (2015). Eye and Face Protection. U.S. Department of Labor.

This standard (1910.133) details requirements and criteria for eye protection for employees working in areas where hazards such as flying particles or chemical gases or vapors may cause injury. A table that lists filter lenses by operation, electrode size, arc current, and minimum protective shade is also included.

Occupational Safety and Health Administration. (2015). Foot Protection. U.S. Department of Labor.

This standard (1910.136) details requirements and criteria for foot protection in situations where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, or electrical hazards. Consensus standards are also listed.

Occupational Safety and Health Administration. (2015). Hand Protection. U.S. Department of Labor.

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This standard (1910.138) details requirements and criteria for hand protection in situations where hands are exposed to hazards or at risk for cuts or burns.

Occupational Safety and Health Administration. (2008). Hazardous Waste Operations and Emergency Response. U.S. Department of Labor.

This guidance document provides information that can help employers assure compliance during decontamination and hazardous materials training and responses. It includes the section "Provisions of HAZWOPER for Emergency Response Operations" which highlights the importance of plans, response procedures, training, medical surveillance, and personal protective equipment.

Occupational Safety and Health Administration. (2015). Head Protection. U.S. Department of Labor.

This standard (1910.135) details requirements and criteria for head protection for employees working in areas where falling objects may cause injury. Consensus standards are also listed.

Occupational Safety and Health Administration. (2006). Respiratory Protection. U.S. Department of Labor.

This standard (1910.134) details requirements and criteria for respiratory protection. This webpage provides the major requirements for this standard, to include: respiratory protection program, selection of respirators, medical evaluation, fit testing, use of respirators, maintenance and care, training and information, and program evaluation.

The American Society of Safety Engineers. (2010). ANSI/ISEA 107-2010 American National Standard for High-Visibility Safety Apparel and Headwear Devices - Electronic Copy. (Excerpts of this standard are available on select vendor websites; the full standard is available for purchase.)

This standard lists requirements for high visibility safety apparel and headwear.

The American Society of Safety Engineers. (2011). ANSI/ISEA 207-2011 American National Standard for High-Visibility Public Safety Vests - Electronic Copy. (Excerpts of this standard are available on select vendor websites; full standard is available for purchase.)

This standard lists requirements for high visibility vests and includes specifications related to color and reflection.

The American Society of Safety Engineers. (2014). ANSI/ISEA Z358.1-2014 American National Standard for Emergency Eyewash & Shower Equipment - Electronic Copy. (Excerpts of this standard are available on select vendor websites; full standard is available for purchase.)

This standard includes requirements for shower and eyewash equipment for the emergency treatment of eyes or other body parts of an employee who has been exposed to hazardous materials. It includes emergency showers, eye washes, eye/face washes, and combination units.

The American Society of Safety Engineers. (2015). ANSI/ISEA Z308.1-2015 American National Standard for Minimum Requirements for Workplace First Aid Kits and Supplies - Electronic Copy. (Available for purchase.)

This standard lists requirements for first aid kits designed for use in the work environment.

Oregon OSHA. (n.d.). Fact Sheet: High Visibility Safety Apparel-Unraveled.

This fact sheet includes information on high visibility garments that can be used by emergency personnel on the scene of an incident. (A link to the full standard, ANSI/ISEA 107-2010, which must be purchased, is also included in this Topic Collection.)

Agencies and Organizations

Note: The agencies and organizations listed in this section have a page, program, or specific research dedicated to this topic area.

American Board of Industrial Hygiene.

American Conference of Governmental Industrial Hygienists.

American Industrial Hygiene Association.

American Society for Testing and Materials.

American Society of Safety Engineers.

Board of Certified Safety Professionals.

Centers for Disease Control and Prevention.
    Coping With a Disaster or Traumatic Event.
    Resources for Emergency Health Professionals.
    National Institute for Occupational Safety and Health (NIOSH).
    Response Worker Health and Safety.

[Council for Accreditation in Occupational Hearing Conservation.](#)

[Headington Institute.](#)

[International Critical Incident Stress Foundation.](#)

[International Safety Equipment Institute.](#)

[National Center for PTSD.](#)

[National Child Traumatic Stress Network](#).

[National Environmental Health Association.](#)

National Fire Protection Association. [Codes and Standards](#).

National Safety Council. [Safety at Work](#).

U.S. Department of Health and Human Services. Radiation Emergency Medical Management. [First Responders in the Field](#).

U.S. Department of Health and Human Services. Radiation Emergency Medical Management. [Hospital Staff](#).

U.S. Department of Health and Human Services. [Substance Abuse and Mental Health Services Administration (SAMHSA).](#)

U.S. Department of Health and Human Services, SAMHSA. [Disaster Technical Assistance Center](#).

U.S. Department of Labor. Occupational Safety and Health Administration. [Emergency Preparedness and Response](#).

U.S. Fire Administration. [Operational Safety](#).

U.S. Fire Administration. [Wellness and Fitness](#).

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