NIH

**National Institute of
Environmental Health Sciences**
Worker Training Program

**Emergency Support
Activation Plan**

Researcher
Deployment Guide

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Overview

Background

The National Institutes of Health (NIH) created the NIH Disaster Research Response Program (DR2) in response to recent disasters and the research conducted in their wake. The program aims to create a disaster research system consisting of coordinated environmental health disaster research data collection tools and a network of trained research responders. Elements of the system include epidemiologic questionnaires and clinical protocols, specially trained disaster researchers, environmental health disaster research networks, a reach-back roster of subject matter experts, and a support infrastructure that can be activated and deployed during public health emergencies and declared disasters. The National Institute of Environmental Health Sciences (NIEHS) is building on its extensive program capabilities, research networks, and field experience in leading this program.

Purpose

This document provides guidance and recommendations for any academic institution or research organization who will be participating in disaster response research activities, such as conducting disaster research. The information provided in this guide will help better prepare grantees and their families prior to, during, and after disaster response deployment.

Introduction

Disaster sites can be austere environments in which local infrastructures are completely overwhelmed by the event. Responders are working in hazardous environments and are at constant risk of injury and illness. Communication can be extremely difficult, and living conditions can be basic, including limitations in food and water supplies. Access to medical care may also be limited or nonexistent. Working under these conditions can be extremely stressful. Workers, including researchers, who have not been properly trained to work in disaster areas, are at risk for mental and physical injuries.

Your skills and experience make you a valuable national resource. While collecting the necessary health data is important to better understanding and helping support the victims of the disaster, YOUR health and safety is our number one priority. We appreciate the sacrifices that you, your family, and your organization make in order for you to participate. Through preparedness, we believe we may minimize the physical and mental impact of being placed in an unfamiliar environment under less than ideal conditions.

This guide is intended to help you and your family prepare for deployment and to serve as a resource for you and your family during your deployment. This guide is NOT intended to replace your organization's policy, guidance, or protocol or any written law or regulations. It is not intended to take the place of either the written law or regulations. We encourage users to visit the occupational safety and health office in their institutions for the official worker safety and health protocol on deployment or field work. NIEHS cannot be held liable or responsible for any errors or omissions, or for any harm or damage resulting from the use of the information contained in this publication.

Pre-deployment Preparedness

This section provides information that will help better prepare you and your family prior to your deployment. It contains topic areas and checklists that you may want to consider prior to leaving.

Family and Living Preparedness

Deployment to uncertain environments can be stressful to you and your family. You should decide with your family whether to deploy to a disaster. Factors that should be discussed, and that may affect your decision to deploy, include:

- Medical condition
- Social situations
  - Children
  - Dependent family members/friends
  - Pets
  - School commitments
  - Legal commitment (e.g., parole, custody, court dates, etc.)
  - Financial situation
- Employment situations
  - Employer/Supervisor

If you decide to deploy, prior to departure you should prepare your family for your leave. Provide them with emergency contact numbers so they can reach you. Be aware that you may not be able to talk to them for a while, and it may be difficult to talk.

You should ensure that all documentation necessary to ensure that dependent family members will be cared for are up-to-date. This includes logistical, financial, medical, educational, and legal documentation, stored in an accessible place.

If you are a single parent or if you are primarily responsible for dependent family members, ensure that you have a trusted and responsible person who is going to take care of the family. You will also need to provide your child/children's medical records to the caretaker. You should also notify your child/children's school of your situation and the responsible person who will be acting as caretaker. You will also need to ensure that all financial arrangements, allotments, and other appropriate documentation, including powers of attorney, are up-to-date. Ensure that documentation on your child/children's legal guardianship is up-to-date (e.g., designated caregiver or legal guardian).

Arrange for other relatives, neighbors, and/or friends to check in regularly with your family.

If you have a pet, make sure that you have someone to look after your pet. Make sure that you provide your pet's medical records to the caretaker.

Family Preparedness Checklist

- ◯ Arrange for relatives or friends to check on family
- ◯ Legal guardianship
- ◯ Power of attorney for children
- ◯ Pet care

Legal Preparedness

Ensure that all legal documents are current and review these prior to deployment.

Ensure that you have designated a power of attorney. Assign your power of attorney to someone you trust, such as your spouse, parent, or friend. If you already have one in place, make sure that it is up-to-date and accessible.

If you do not have one already prepared and up-to-date, it is recommended to have in place a living will or health care directive, which allows a person to describe what medical treatments he or she does not want in case of a serious injury or terminal illness.

It is also recommended that you have or update your last will and testament.

Legal Preparedness Checklist
○ Power of attorney ○ Living will or health care directive ○ Last will and testament

Daily Living Preparedness

For those living alone, make sure you stop or reroute your mail and stop newspaper delivery. It may also be important to make sure that your home looks lived-in, so you may want to arrange for regular lawn service or have friends look into your home periodically. You may not want to post your deployment status on social media, such as Facebook or Twitter, or on out-of-office replies on emails.

Daily Living Preparedness Checklist
○ Stop mail delivery ○ Stop newspaper delivery ○ Arrange for lawn service and/or snow plowing service ○ Arrange for someone to check in your home, timers for lights, neighbors set out garbage ○ Arrange for automatic bill paying

Physical Preparedness

Deployed researchers may be required to work in austere environments, with limited transportation, communication, and utilities. Researchers must be able to perform the mental and physical duties and tasks required by the particular job, e.g., sitting, lifting, walking, etc.

Medical checkups may be recommended for deploying researchers. All deployed researchers should be able to perform the functions of their job in the field.

Health/Medical Preparedness

Disaster site workers are at risk of exposure to various dangers and diseases, including rusty nails and disease-carrying mosquitos. Prior to deployment, you should visit your organization's occupational safety and health office for travel guidelines and protocols for field work.

You should also make sure that all necessary vaccinations are up-to-date. The Centers for Disease Control and Prevention has a list of recommended vaccinations that all emergency and response workers should have prior to deployment. These may include tetanus and hepatitis B vaccines if there is possibility for bloodborne exposure or exposure to other potentially infectious materials. The list of recommended immunization can be found at: *http://emergency.cdc.gov/disasters/disease/responderimmun.asp*. Please remember that some vaccinations may take some time to provide full immunity or require multiple doses. International disaster response may require other types of vaccinations and medical clearance. More information can be found at: *http://wwwnc.cdc.gov/travel*. Moreover, based on your mission assignment, if you might be at risk to exposure to asbestos during your deployment, it is suggested that you receive a Forced Expiratory Volume in One Second (FEV1) testing to get a baseline reading prior to deployment.

If you have a prior medical condition, you may need to check with your physician to get clearance for departure. Make sure to let your team leader know about your medical conditions. Bring at least a 30-day supply of prescription medications and you may want to bring some over-the-counter drugs, including antihistamines, acetaminophen, ibuprofen, antacids, etc. If you wear glasses, bring two pairs of prescription glasses and sunglasses. You may want to avoid contact lenses, as it is hard to clean them in the field environment. Keep in mind that extreme temperatures at the disaster site may also cause damage to certain medications, and you may not have access to electricity if your medication needs refrigeration Check with your health care provider for clinics and/or pharmacies in the deployment area.

Notify your team leader if you need accommodations for medical devices requiring electricity, including medications that may need refrigeration and C-PAP devices. Also keep in mind Transportation Security Administration requirements may have to be met if flying with certain medical equipment.

Clothing and Packing Requirements

Pack lightly, as you will be responsible for carrying your own bags. Pack only as much as you can easily carry. Your packing needs will vary depending on the location of deployment. Pack in a bag or suitcase that can be locked. In terms of clothing, be mindful of the environment where you will work. Choose items that can easily be layered and are comfortable to work in. Clothes should also protect against environmental hazards, such as sun, bugs, cold, heat, wet, etc. You may or may not be able to launder your clothes while deployed. If you can, you will need to bring travel detergent. Clothing that dries quickly and is made with moisture-wicking material is a good option. Bring comfortable, closed-toed shoes, as well as any other working shoes (e.g., steel-toed, rubber shoes) you may need for various conditions.

Never deploy with anything you don't want to lose. Take off all nonessential jewelry, etc. before deploying.

Deploying Equipment Checklist (Not all items are necessary. Decide based on condition and mission.)
Important Paperwork   ○ Driver's license/Picture ID   ○ Passport (some locations may require two forms of government ID)   ○ Certification/Professional license (if applicable)   ○ Credentials (if applicable)   ○ Government ID badge   ○ Vaccination records   ○ Emergency notification form (next of kin and primary agency notification)

Medicines
- ○ Prescription drugs (30-day supply)
- ○ Over-the-counter drugs
- ○ Antacids
- ○ Analgesics
- ○ Antihistamines
- ○ Ibuprofen/Pain medication
- ○ Acetaminophen
- ○ Decongestant
- ○ Glasses/Contact lenses (two pairs) and copy of the prescription
- ○ Bug repellent
- ○ Sun block
- ○ Lip balm
- ○ Small first aid kit
- ○ Hand sanitizer
- ○ Medical form (with individual and primary point of contact) in case of emergency

Clothing
- ○ Appropriate pants and shirts
- ○ Uniforms issued
- ○ Shoes/Boots (closed-toed, broken-in, comfortable, and, if possible, steel toe/12 inches high if possible)
- ○ Rain gear
- ○ Cold weather if appropriate
- ○ Underwear for seven days
- ○ Socks for seven days
- ○ Personal protective gear (e.g., globes, goggles, hearing protection, etc.)

Toiletries
- ○ Razor and blades (manual or battery-operated suggested; if electric, consider 12 volt to 100 converter or solar-powered charger)
- ○ Body and hair wash/toilet paper/baby wipes
- ○ Towel/washcloth
- ○ Sewing kit with scissors
- ○ Toothbrush and toothpaste
- ○ Tampons/sanitary napkins/pads for women

Possible Needed Equipment
- ○ Flashlight—hand-held, helmet/head-mounted, small hand crank (recommend with FM radio)
- ○ Extra batteries for each of the flashlights
- ○ Pens and pocket notepad
- ○ Marker (Sharpie type)—black
- ○ Safety shears*
- ○ Leatherman tool*
- ○ Pocket knife*
- ○ 10-by-10-foot plastic cover (fold up)
- ○ 100-foot 500 cord (parachute cord)

Miscellaneous

Essential Items

○ Cash, debit, or credit card ($100-150/week—cash recommended)

○ Cell phone and chargers

○ Sunglasses

○ Hand disinfectant

○ Water bottle with filter or water-purifying straws

○ Travel cup

○ Professional tools/instruments/equipment, uniforms etc.

Optional Items

○ Backpack

○ Books/Deck of cards

○ Camera

○ Portable music (with headset) or movies saved to a USB drive or on tablet or movie streaming account (e.g., Netflix)

○ External batteries for camera, portable music, tools, etc.

*   Keep in mind that these may not be allowed on airplane carry-on bags.

Depending on your research assignment, you may need to pack instruments and tools to collect data. Please check with your supervisor or your organization's occupational safety and health office to see what resources are available at the site.

Psychological Preparedness

Working in disaster sites can be extremely exhausting, frustrating, and stressful as you may be exposed to a variety of traumatic sights or emotions. While reactions to these events are normal, you should be prepared to recognize and confront disaster-related stress in order to avoid injury and illness.

Factors that contribute to stress during deployment include:

- Lack of physical fitness
- Alcohol or illegal substance use
- Long hours without breaks or recreational activities
- Social isolation
- Unfamiliarity with job or lack of training
- Lack of sleep/interrupted or poor conditions for sleep

When deployed, stay connected with your co-workers, family, and friends. Stay active and take breaks from your work. Avoid misuse of alcohol and illegal substances. Eat healthy foods in moderation and find ways to relax. Keep a log of your daily activities to help in preparing your report and to clear your mind at the end of the day. Above all, stay positive.

More about mental health resiliency can be found at: *http://tools.niehs.nih.gov/WETP/index.cfm?id=2528*

Questions to Ask Prior to Deployment

○ How long will I be deployed?

○ How will I get there? What about local travel between work site and base camp? How will I get back home?

○ What am I going to be doing?

○ Who do I report to and where is that person located?

○ Where will I be living? Do I need a sleeping bag, etc.?

○ What will I eat? Are meals provided or are there restaurants within walking distance?

○ Is there cell phone service? Internet access?

○ What are the daily temperatures—highs and low?

○ Is there electricity at the work site/base camp?

○ How many others are being deployed?

Deployment

Deployment will depend on the situation and whether there is a request to conduct research response. Unless authorized by the appropriate party or your organization, do not get in the way of any rescue or response effort, such as life saving missions.

Field Preparedness: Understanding the Disaster Environment

Introduction to the Disaster Environment

Post-disaster conditions in the field are treacherous and hazardous and can pose extreme mental and physical injury to those who are unfamiliar or have little experience with the risks and hazards of the environment. Depending on your assignment, you may or may not encounter some of the environmental hazards, such as debris, chemical contaminants, biological contaminants, unstable grounding, floodwater, etc. However, always take the necessary safety precautions when deployed and NEVER put yourself in harm's way. If the situation appears unsafe, then do not enter.

While acute rescue operations may have ceased during your deployment, always maintain awareness of your surroundings, as you may encounter unforeseen situations or hazards. Please notify your supervisor or emergency personnel as soon as possible. Please do not get in the way of any emergency rescue efforts.
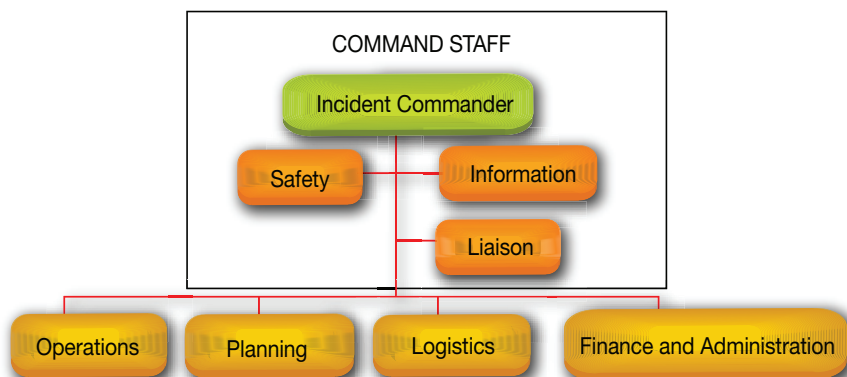
If you would like more information about disaster hazards, the NIEHS National Clearinghouse for Worker Safety and Health Training (NIEHS Clearinghouse) website contains awareness-level training booklets for skilled support personnel who are responding to various disasters, including floods, earthquakes, hurricanes, Ebola, etc. These training tools provide important information on how to protect yourself from some of the physical and mental hazards while responding to various disasters. The training tools can be found at: _http://tools.niehs.nih.gov/wetp/index.cfm?id=556_.

Incident Command Structure

The National Incident Management System (NIMS) is a systematic, proactive approach to guide departments and agencies at all levels of government, nongovernmental organizations, and the private sector to work together seamlessly and manage incidents involving all threats and hazards—regardless of cause, size, location, or complexity—in order to reduce loss of life, property, and harm to the environment.

Responses to disasters are usually coordinated through the incident command system (ICS). The ICS provides a structure to promote effective coordination among responders. It allows for an integrated organizational structure that is not hindered by jurisdictional boundaries. It has five organizational functions to allow for a manageable span of control. The chart below shows the incident command organizational structure. It is important to note that safety is part of the Command function.

Your organization should have a health and safety plan. You should become familiar with the plan, as it may contain important information. Please follow your organization's safety and health plan while you are deployed. If you have any questions regarding the plan, please talk to your supervisor or your organization's emergency management office.

COMMAND STAFF

Incident Commander

Safety · Information · Liaison

Operations · Planning · Logistics · Finance and Administration

For more information about the ICS, please visit the Federal Emergency Management Agency NIMS website at: _https://training.fema.gov/nims/_.

Reporting and Communication within the ICS

ICS delineates the chain of command and the job responsibilities of those involved in the disaster response.

The ability to communicate within ICS is absolutely critical. Using standard or common terminology is essential to ensuring efficient, clear communication. ICS requires the use of common terminology, or standard titles for facilities and positions within the organization. Common terminology also includes the use of "clear text"—that is, communication without the use of agency-specific codes or jargon.

Establish a communication's plan with your organization or with your deployed group to ensure accountability. Report issues to your organization, and if necessary, report to the safety officer in the incident command.

Assignments

Based on the disaster and what is needed, your organization may be asked to complete specific tasks and assignments. Upon being contacted by your organization, you should have a basic understanding of the general assignment of the deployment. You may receive more specific details about the assignment when you check in at the site.

Communication

Staying in communication is extremely important during your deployment. Keep your field supervisor informed on the progression of your tasks and any questions or concerns you may have about the field assignment. Your field supervisor should be able to connect you to the appropriate officials to properly address your concerns. Again, make sure you have established a clear communications plan with your organization or deployed group.

Reporting

One of the best ways to understand what is occurring in the field is to actually be on the ground. As a deployed member of your organization who is on-site, you may be asked to provide periodic updates/reports of the ongoing activities that you are involved in or what you have seen during your deployment. It is important to pay attention to your surroundings and take note of the hazards and risks that may harm or pose a risk to response workers or volunteers. Use a Situation Report (SITREP) or other agreed upon template to inform your organization and others about what you see.

Arrival

Checking In

Once you arrive at the site, check in with your designated supervisor and/or organization. If not provided earlier, they should be able to provide you with specific details about your assignment, tasks, and responsibilities, as well as give you the site-specific safety and health plan. They will also brief you on important information about the site or schedules.

Field Conditions

As mentioned earlier, be aware of potential hazards at the disaster site, such as working in or near damaged buildings, vehicle operations, and unsanitary living and eating conditions. Report hazardous conditions and other safety concerns to your supervisor and also to the safety officer, if available.

Identification

You will need to carry your government-issued photo ID with you at all times. Depending on the site, you may need additional identification or go through added security measures. A valid driver's license, passport, or global entry card can be of use.

If you have any certification or credentials, please bring them along, and make sure to keep your certification and credentials with you at all times.

Security

Make sure you know your supervisor's name and have his/her contact number with you. It is strongly recommended to use the buddy system to travel, and you should always notify someone of your plans at all times. Have a packet that contains medical information, home phone contact information, etc., for your partner to use in case of emergency.

Lodging

Lodging will vary depending on the disaster site. Ensure prior to deployment that you have organized accommodations for your stay. Hotel accommodations may not be guaranteed, so you may need to stay in shelter-type lodging. Keep lodging options open as you may want/need to relocate once the disaster site has been assessed. If you have hotel accommodations, try to find extended stay hotels as they may offer a morning meal, or cooking area, and have laundry areas to wash your clothes.

Transportation

Transportation may be limited in disaster areas. You will be responsible for transportation during the duration of your deployment unless otherwise specified. Roads may be severely damaged by the disaster. If you are driving, please follow traffic directions and signals. Ensure you have sufficient fuel and spare tire as these resources may not be available in a disaster site. Allow sufficient time to get from your lodging to your work site.

Meals

You will most likely be responsible for your own meals. Have at least three days of food and one day of bottled water with you until eating arrangements can be made. Recommendations include Meals Ready to Eat (MREs), packaged foods, crackers, etc., along with bottled water. If an eating arrangement is an option, choose a sit-down meal over a fast-food meal. The sit-down meal gives you time to relax and get your thoughts in order, and it also permits time for conversations/contact with other people. That contact with people helps to recharge your psychological wellness.

Operations

Research Concept of Operations (CONOPS)

Your field assignment will depend on the research needs/questions as a result of the disaster. Research needs/questions should be identified with the input and consideration of the local communities and government officials prior to your deployment. The protocol you choose to utilize for the research should also take into consideration the targeted community of the research and the environment you will be working in.

The NIH DR2 has developed pre-positioned disaster research protocols to minimize the time to begin collecting human health data. The Rapid Acquisition of Pre- and Post-Incident Disaster Data (RAPIDD) study was designed to create a research registry of disaster response workers who are rostered before or immediately after deployment to a disaster area.

For more information about the DR2, RAPIDD, and DR2 tools and resources, visit: *http://dr2.nlm.nih.gov/*.

Institutional Protocol and IRB

All research involving human subjects requires Institutional Review Board (IRB) approval. Discuss this with your parent institution prior to embarking on any disaster-related research project. NIEHS can provide advice about this process upon request.

Data Security and Protection

If you are working with sensitive data (e.g., data containing personal identifying information), be sure that the data is encrypted and appropriately stored. Any data that contain sensitive information and require confidentiality and/or integrity should be stored encrypted in systems, databases, or portable media (e.g., USB stick, CD, flash drive, smart phone, or laptop). If using physical devices such as a computer or smartphone to store sensitive information, these devices should be treated like cash and kept in a secure place at all times.

For an example guidance on data protection, visit the NIH Data Sharing Policy and Implementation Guidance: *https://grants.nih.gov/grants/policy/data_sharing/data_sharing_guidance.htm*

For details on NIH Policies and Institute/Center Guidance for Data and Safety Monitoring of Clinical Trials, visit: *https://humansubjects.nih.gov/data_safety*.

For a guide on storing encryption technologies for devices, please see: *http://csrc.nist.gov/publications/nistpubs/800-111/SP800-111.pdf*.

Possible Difficulties

Be aware that you may not have all the resources you would usually have under nondisaster circumstances. Ask in advance about resources at the location in which you will be performing your research and/or assessments. For instance, you may need to bring in your own instruments or tools to collect specific types of data, or you may need to ensure that you have facilities for storing biosamples. Prepare accordingly.

In addition, if you are working with community members, please be aware that participants may be stressed due to the nature of the disaster. Be sensitive to the emotions of the affected populations.

Post-deployment

Following deployment, upon return, you should report back to your organization, and prepare a briefing on your accomplishments, lessons learned, and next steps. Be sure your own physical and emotional health is attended to as needed on your return.

The NIEHS Clearinghouse has developed training resources to address the mental health of those impacted by the disasters. The training tools are designed to educate and empower those impacted by disasters to:
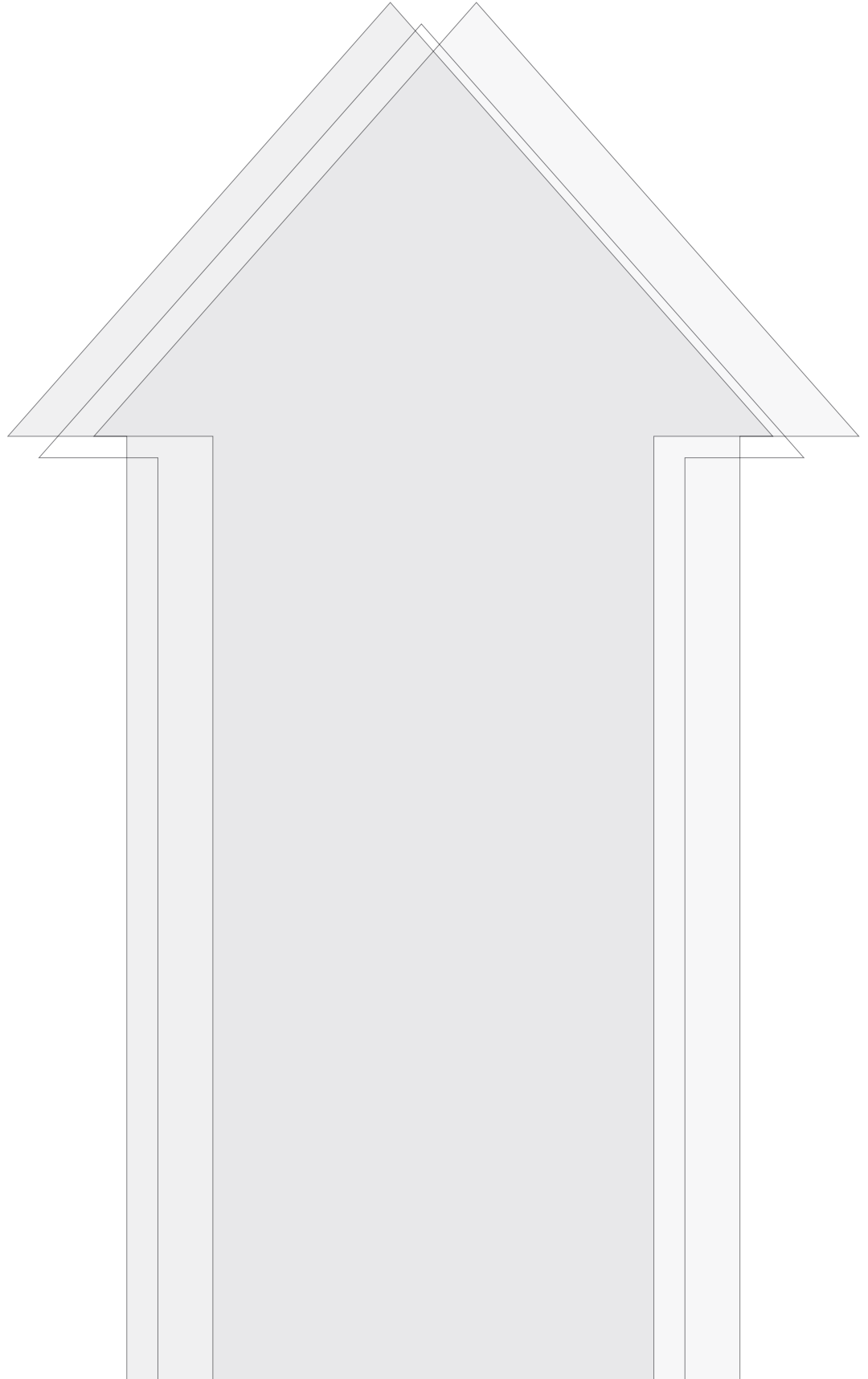
- Recognize signs and symptoms of disaster work-related stress
- Obtain support through an employer/organization or community resources
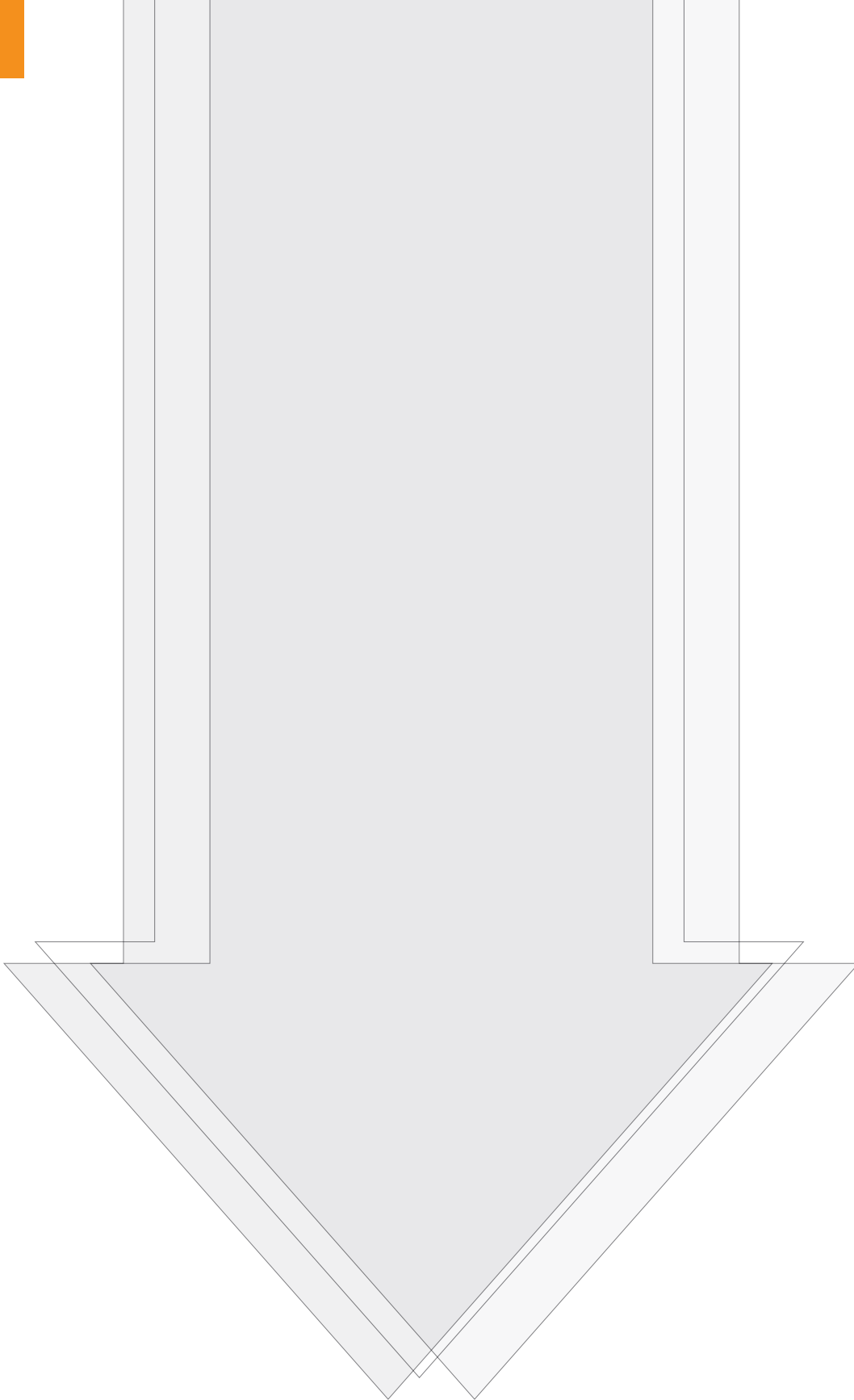- Build resilience by understanding stress reduction and coping strategies

For more information about NIEHS resiliency training tools, visit: *http://tools.niehs.nih.gov/wetp/index.cfm?id=2528*.

Appendix A:

Acronyms

CDC.............Centers for Disease Control and Prevention

CONOPS ......Concept of Operations

DMS ....Data Management System

FEMA...........Federal Emergency Management Agency

MREs...........Meals Ready to Eat

MA..............Mission Assignment

NIH ....National Institute of Health

NIMS ....National Incident Management System

NIEHS ....National Institute of Environmental Health Sciences

OSHA...........Occupational Safety and Health Administration

PPE..............Personal Protective Equipment

POC ....Point of Contact

SITREP.........Situation Report

TSA ....Transportation Security Administration

DHS.............U.S. Department of Homeland Security

WTP.............Worker Training Program

National Institute of
Environmental Health Sciences
Worker Training Program