



National Institute of  
Environmental Health Sciences

# 2020 Five-Year Report

for the National Clearinghouse  
for Worker Safety and Health Training



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For two decades, MDB, Inc. (MDB) has provided communication and technical assistance services to the National Institute of Environmental Health Sciences (NIEHS) Worker Training Program (WTP). This report highlights the work completed during the last five-year contract, beginning Sept. 22, 2015, and ending on Sept. 21, 2020.

NIEHS WTP, with MDB support, has empowered and protected workers from environmental and workplace hazards by supporting organizations that deliver worker-centered health and safety training. Managed by MDB, the National Clearinghouse for Worker Safety and Health Training (National Clearinghouse) is the vehicle that delivers resources for hazardous waste worker curricula, technical reports, and weekly news on hazardous materials, waste operations, and emergency response. The National Clearinghouse continues to inform and connect awardees, thus maximizing its benefits.

During the last five years, MDB has developed and updated multiple awareness-level health and safety training materials for emergency response and cleanup workers, improved the structure and functionality of the National Clearinghouse website, facilitated communications between a variety of organizations, and facilitated quality WTP technical meetings and generated substantive reports. The past five years have been a challenging time for worker safety and health issues. MDB's dedication and support of the NIEHS WTP National Clearinghouse and WTP awardees has been essential in addressing those critical issues and increasing awareness of the health and safety of American workers.

This report is organized by the tasks that are designated in the contract and details the work MDB undertook in the realm of each task. Highlights include:

- **Minimum Criteria Update** – The National Clearinghouse completed a revision to the Minimum Criteria for Worker Health and Safety Training for Hazardous Waste Operations and Emergency Response (Minimum Criteria) document, which provides WTP awardees guidance for providing training under WTP grants.
- **Opioid and Fentanyl Training** – The National Clearinghouse developed training tools for emergency responders and other workers who encounter fentanyl and other opioids affecting the workplace.
- **Hurricanes Irma, Harvey, and Maria, Florence** – The National Clearinghouse supported awardees by coordinating safety and health trainings for recovery workers in areas affected by

hurricanes in the Gulf of Mexico and Atlantic Coast. Staff also wrote articles for the Environmental Factor that highlighted some of that work.

- **COVID-19 Response Communication and Resources** – Since the COVID-19 pandemic began, the National Clearinghouse has been tracking ongoing information and has been continually developing and updating materials and training tools.





# Task 1

NIEHS WTP National Clearinghouse management, coordination, reporting, and advisory board establishment.

## Monthly Meetings

Monthly meetings and reports are core management tools used by the National Clearinghouse to ensure clear communication about project plans, program updates, and the status of budgets. Clearinghouse Director Deborah Weinstock attends monthly meetings with WTP staff. These meetings provide WTP and National Clearinghouse staff an opportunity to set priorities and identify steps required to achieve project goals. Each month, Weinstock presents a progress and budget report, and reviews accomplishments and upcoming deadlines. Subject matter experts (SMEs) and other Clearinghouse staff join these meetings as necessary to provide detailed project updates.

Since the start of the COVID-19 pandemic, WTP and MDB staff have adapted monthly meetings from in-person in Research Triangle, North Carolina, to fully online, virtual meetings. Weinstock has accounted for technical, financial, managerial, and logistical issues, when developing meeting agendas and project plans. The agenda is circulated prior to each meeting so WTP staff have an opportunity to adjust it if needed.

## Strategic Planning

MDB hosts and facilitates annual Strategic Planning meetings. These meetings shape annual projects and discuss current and future issues, events, deliverables, metrics, and partnerships within the various program areas: Hazardous Waste Worker Training Program (HWWTP), Environmental Career Worker Training Program (ECWTP), Department of Energy (DOE)/ NIEHS Nuclear Worker Training Program, Small Business Innovative Research (SBIR), and Hazmat Disaster Preparedness Training Program (HDPTP). The Office of the Director, Bethesda (ODB), which runs programs that intersect with WTP efforts, continued to attend annual planning meetings to ensure continuity of planning between programs. Planning meetings served as an opportunity to prioritize activities and develop the next year's operational plans as documented in the WTP operational matrix, a tool to provide structure for planning and implementation of WTP activities.

Each annual planning meeting provides an injection of new excitement for program goals. In 2016, ODB contributed to a conversation on natural disasters, and NIEHS' role in disaster research response, and recovery. In 2017, the conversation focused on the Minimum Criteria document and the NIEHS Strategic Plan. In 2019, activities centered on the U.S. Department of Energy and the Opioid Training Materials Development Initiative. In each of these meetings, the operational matrix was reviewed and updated to reflect anticipated program activities.

## Worker Training Program Operational Matrix

Since the creation of the 2008 WTP Strategic Plan, in lieu of and in between a new five-year plan, MDB has developed and refined an annual operational matrix as a tool to provide structure for planning and implementation of programmatic activities. Initially, the purpose of the operational matrix was to help guide the activities of the Clearinghouse, however it has evolved and now drives the activities of the entire program (i.e., WTP staff, awardees, and the Clearinghouse). The operational matrix maps to outcomes in the WTP logic model and depicts the role that WTP staff, the Clearinghouse, and awardees play in various activities to achieve desired program outcomes.

During each annual Clearinghouse/WTP strategic planning meeting, MDB and WTP staff review and revise the matrix. To ensure everyone's engagement in the meeting, MDB facilitates small group activities and exercises to review the previous year's matrix to identify revisions and opportunities for the upcoming year and to discuss gaps, risks, and risk mitigation efforts. This MDB-facilitated review strategy has proven to be extremely effective as it allows all voices to be heard and ensures all meeting objectives are met during the meeting.

The outcome of the Strategic Planning meeting is an agreed-upon operational matrix that identifies program activities for the upcoming year and role of WTP staff, the Clearinghouse, and awardees in each activity. This unique planning tool optimizes resources, aligns strategic priorities, and highlights partner relationships and has helped WTP stay focused on its key priorities each year.

## National Clearinghouse Advisory Board

Members of the Clearinghouse Advisory Board convene once a year (typically prior to the Fall Awardee meeting and workshop). The Advisory Board is composed of awardee Principal Investigators, who advise the National Clearinghouse on activities, interests, and updates to the WTP Strategic Plan. Occasionally, a unique SME familiar with the program may be invited to join the Advisory Board. The National Clearinghouse staff develop the agenda. Topics generally include upcoming events, ongoing responses and activities, future areas of growth, and discussion of potential workshop topics. Detailed minutes from each meeting are taken and distributed to attendees with follow up actions and comments.

The National Clearinghouse Advisory Board has met in-person on three occasions in the last five years. (The 2015 advisory board meeting was held under the previous contract during the spring of 2015). Meetings were held on Sept. 19, 2016, Oct. 16, 2017, and Oct. 26, 2018, in Research Triangle Park, North Carolina. WTP did not hold a fall awardee meeting and workshop in 2019. The next advisory board meeting is planned for November 18, 2020.





# Task 2

Develop, analyze, compile, and disseminate program research products to enhance ongoing initiatives, support new training initiatives, and promote continuation of program efficacy measures. This includes development of program materials and research products, information dissemination, expert editorial review, partnerships and representation, and support for the HDPTP, ECWTP, and DOE training programs.

# Information Dissemination

## Webinars

The National Clearinghouse has hosted dozens of webinars over the last five years. Depending on the webinar, National Clearinghouse staff play a pivotal role in creating, marketing, facilitating, leading, and distributing the webinars.

## WTP Evaluation Community of Practice Webinar Series:

This series began in 2017 in support of WTP Public Health Educator Demia Wright's efforts to organize and moderate Evaluation Community of Practice webinars. National Clearinghouse staff ran the webinar platform and posted materials to the website following the webinars. The following list describes webinars featured in this series.

- **Evaluation and Data Stakeholder Webinar for COVID-19 (April 13, 2020)** As part of the COVID-19 training initiative, WTP set up the Data and Evaluation Work Group. The group held their first webinar on April 13, 2020 using the opportunity to discuss evaluation as a method to improve training outcomes, data collection, and reporting processes.
- **Findings and Lessons Learned from the NIEHS Ebola Biosafety and Infectious Disease Response (IDR) Training Program (April 15, 2019)** Representatives from three WTP awardee organizations discussed evaluation methods, key findings, and lessons learned from their IDR training programs.
- **Using the Minimum Criteria to Guide Program Evaluation and Self-Audit (November 26, 2018)** The International Association of Fire Fighters (IAFF) and Alabama Fire College (AFC) Workplace Safety Training discussed how they have used or are planning to use the NIEHS Minimum Criteria for Worker Health and Safety Training to guide program evaluation or programmatic check-ins.
- **Evaluating the Impact of Trainers and Other Topics in Safety and Health Evaluation (April 12, 2018)** Ruth Ruttenberg, Ph.D., discussed evaluations completed and in progress for the International Chemical Workers Union Council and CPWR – The Center for Construction Research and Training. Webinar participants also discussed collecting stories from trainers at the May 2018 Trainers' Exchange, using a method based loosely on the Most Significant Change model.
- **Training Follow-Up: Awardee Examples of Data Collection Methods (Nov. 30, 2017)** Carol Rice, Ph.D., University of

Cincinnati (UC)/Midwest Consortium (MWC) for Hazardous Waste Worker Training, and Kevin Riley, Ph.D., University of California Los Angeles – Labor and Occupational Safety and Health Program (LOSH)/Western Regional Universities Consortium (WRUC) provided examples from their programs.

- **Introduction to the WTP Evaluation Community of Practice (March 6, 2017)** This webinar focused on creating a community of practice that allows WTP awardees to share evaluation methods and lessons learned and provide feedback to NIEHS on moving evaluation forward for the program. Participants discussed future webinar topics, webinar frequency, and common evaluation measures for the WTP Infectious Disease Response Program. Donna McDaniel Mitchell, Ed.D., and Tipawan Reed, representing WTP awardee OAI, Inc., also shared insights on using the Social Ecological Model to guide evaluation design.

## Other Webinars

Webinars have been an important resource for WTP to deliver health and safety information, especially since the COVID-19 pandemic began. Pandemic-related webinars have focused on helping workers protect themselves, their families, and their communities as they return to work. Separate from the other webinars, the National Clearinghouse has responded to COVID-19 with a special Summer Webinar Series to focus on protecting workers who may be at risk of exposure to SARS-CoV-2, the virus that causes COVID-19. Below is an abbreviated list of sample webinars in this series. The full listing of webinar recordings and associated presentations can be found on our [COVID-19 Webinars and Presentations](#) page.

- **Training Best Practices in the Time of COVID-19 Webinar Series: Tools for Creative Engagement on Virtual Platforms (September 10, 2020)**
- **Training Best Practices in the Time of COVID-19 Webinar Series: Setting-up Online Training – Practices and Platforms (September 3, 2020)**
- **Ethical Issues around Contact Tracing/Testing in the Workplace (August 19, 2020)**
- **Workplace Outbreak Investigation, Contact Tracing, and Testing: Intersection between Occupational and Public Health (August 5, 2020)**
- **Ethical Considerations Regarding Meat Processing Plant Operations, Worker Safety, and Community Welfare (July 22, 2020)**

Additional topics have included:

- **Funding Opportunity Announcement Briefing and Webinar (September 2019)** The National Clearinghouse provided support to WTP staff on announcing the current Hazardous Materials Worker Health and Safety Training and HAZMAT Training at DOE Nuclear Weapons Complex Funding Opportunity Announcements.
- **Data Management System Updates and Tips Webinar (July 2019)** The National Clearinghouse provided a webinar for awardees on recent updates to the Data Management System and tips on how to use it.
- **Preventing and Reducing Opioid Use and Exposure in the Workplace Webinar (October 17, 2018)** This webinar helped participants: understand the scope of the problem of opioid misuse, addiction, and death among workers and how workplace injuries may lead to opioid use disorder; recognize the key elements of a community-based approach to intervening with and preventing occupational opioid use and abuse; and learn how to access the NIEHS Prevention of Occupational Exposure to Fentanyl and Other Opioids Training Tool for development of site-specific awareness training.
- **National Trainers' Exchange Presenter Webinars (March 19 and 21, 2018)** The National Clearinghouse hosted two webinars to help National Trainers' Exchange presenters prepare for their workshop sessions.
- **Data Management System Course Data Excel Upload Refresher (Feb. 21, 2018)** The National Clearinghouse provided a refresher for awardees on how to upload Excel files into the Data Management System, a feature that was introduced in FY2017.
- **WTP Progress Report Training: 2017 Updates and Tips for a Strong Report (Feb. 9, 2017)** This webinar updated awardees on changes to the progress report templates. Awardees learned how to create more useful progress reports that have the information needed for program sustainability and received tips on WTP Data Management System data entry and uploads.
- **Introduction to Infectious Disease Awardees (July 14 and Aug. 15, 2016)** A series of three webinars were conducted to introduce new infectious disease awardees to NIEHS, the WTP program, and existing awardees.
- **A Pathogen Safety Data (PSD) (July 14, 2016)** This webinar obtained input from stakeholders on a proposal to develop a pathogen safety data guide and related training module.

## Awardee Updates

Over the last five years, the National Clearinghouse has prepared periodic Awardee Updates. These updates focus on specific WTP-related activities, including WTP-or awardee-sponsored events; workshops and conferences; training summaries and highlights; and other relevant information. This has been an effective way for the National Clearinghouse to keep awardees informed about ongoing and upcoming activities.

## Products and Materials

Throughout the five years, the National Clearinghouse has developed various products and materials that highlight the work of its awardees and address current issues. These products and materials include fact sheets, success stories and accomplishments reports, state profiles, emergency response booklets, the Disaster Preparedness Mobile App, and others.

### Fact Sheets

A [pathogen safety data \(PSD\) fact sheet](#) was produced to clarify the use of PSD resources currently available for development of infectious disease occupational exposure control plans.

A [Minimum Criteria Guidance: A Summary of Changes fact sheet](#) was created to identify the major changes and 2018 updates that were incorporated in the Minimum Criteria.

The [Opioid Awareness Training fact sheet](#) provides a summary of the content in the Prevention of Occupational Exposure to Fentanyl and Other Opioids Training Tool.

A [fact sheet informing stakeholders](#) how changes to the Toxic Substance Control Act (TSCA) will impact workplace chemical safety and health

A [Safety Training for Recovery Workers fact sheet](#) was developed following Hurricane Harvey to describe the training available during the recovery process. That fact sheet was then updated to make it more generic and was distributed following Hurricane Florence.

Additional fact sheets include:

- An updated Clearinghouse resources fact sheet;
- The WTP Annual Overview fact sheet was updated each year with new training numbers;
- Updated WTP Awardee fact sheet to include Infectious Disease Response Training and Small Business and Innovative Research awardees; and
- Summaries of the Operational Matrix activities for which the awardees have primary responsibility.

## Success Stories and Accomplishment Reports

National Clearinghouse staff have developed, prepared, and authored various success stories and accomplishment reports over the last five years. These materials have highlighted the achievements of the WTP, its awardees, and its trainees, and greatly assist and inform the community and the public. Below are a range of materials published in that period.

National Clearinghouse staff developed a [historical milestones timeline](#) of WTP and Superfund Research Program events, featured at the 2016 Summer Workshop.

National Clearinghouse staff authored a report, "[Building Capacity with Native Americans and Alaska Natives to Handle Hazardous Materials and Respond to Emergencies](#)," which details the safety and health training WTP awardees have provided to Native Americans and Alaska Natives.

National Clearinghouse staff authored an article, "[Community College Program Advances Worker Safety and Confidence](#)," which details the worker safety and health training that WTP awardee the Community College Consortium for Health and Safety Training (CCCHST), administered by the National Partnership for Environmental Technology Education (PETE).

Additional awardee success stories authored by National Clearinghouse staff were published both internally and externally to other NIEHS outlets or shared among awardee websites: [Rutgers Jobs4Vets program](#); [Flint water crises opens path to new employment](#) (CPWR e-Factor article); [Innovative Training Program Improves Facility Safety, Empowers Workers, and Saves Costs](#) (ICWUC); [Infectious disease training improves airport worker preparedness](#).



## State Profiles

National Clearinghouse staff worked with Demia Wright to develop state profiles that highlight awardee training accomplishments in various states. State profiles are currently available for 11 states: [Alabama](#), [Alaska](#), [California](#), [Connecticut](#), [Minnesota](#), [Mississippi](#), [New Jersey](#), [New Mexico](#), [New York](#), [Ohio](#), and [Texas](#).

National Clearinghouse staff also developed standard operating procedures for creating a state profile.

## Disaster Preparedness Mobile App

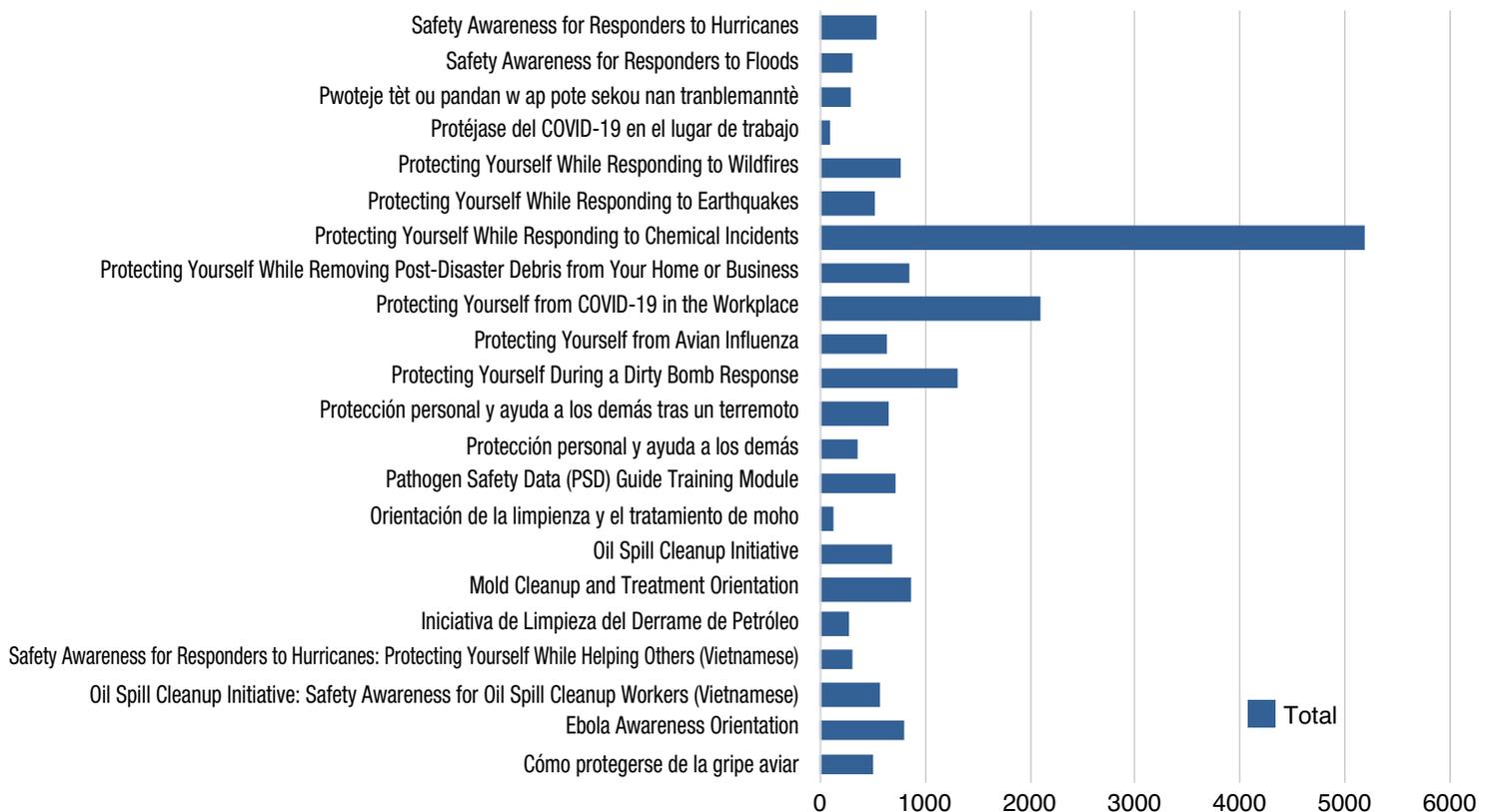
In May 2019, the National Clearinghouse, in collaboration with CPWR - The Center for Construction Research and Training), launched the NIEHS /CPWR Disaster Preparedness mobile app. The app contains NIEHS Disaster Preparedness and Response training tools converted into an accessible mobile platform. The app allows workers exposed to hazards on disaster sites to access a full suite of awareness-level training resources with a simple tap of the screen. Within the app, users can select and

download training materials on a variety of disasters and related topics. Once downloaded, the materials can be accessed anytime, anywhere and no Internet connection is required. Training topics include:

- Avian Influenza (English and Spanish)
- COVID-19 (English and Spanish)
- Chemical Incidents (English)
- Debris Removal
- Dirty Bombs
- Ebola
- Earthquakes (English, Spanish, and Haitian Creole)
- Floods
- Hurricanes (English, Spanish, and Vietnamese)
- Mold Cleanup and Treatment (English and Spanish)
- Oil Spills (English, Spanish, and Vietnamese)
- Pathogen Safety Data Guide
- Wildfires

**Graph 1: Impressions by Training Tool**

Impressions refers to the number of times the app was viewed on the App Store for more than one second Between May 13, 2019 to September 21, 2020



We are currently in the process of loading the COVID-19 Essential and Returning Workers, and Spanish COVID-19 Essential and Returning Workers content to the app.

**Table 1: App Use Metrics**

Apple App Store		Google Play Store	
Metric	Data	Metric	Data
Installations	168	New Users Acquisitions	241
Sessions	339	Average Monthly Active Users	81
Product Page Views	926		

**Definitions**

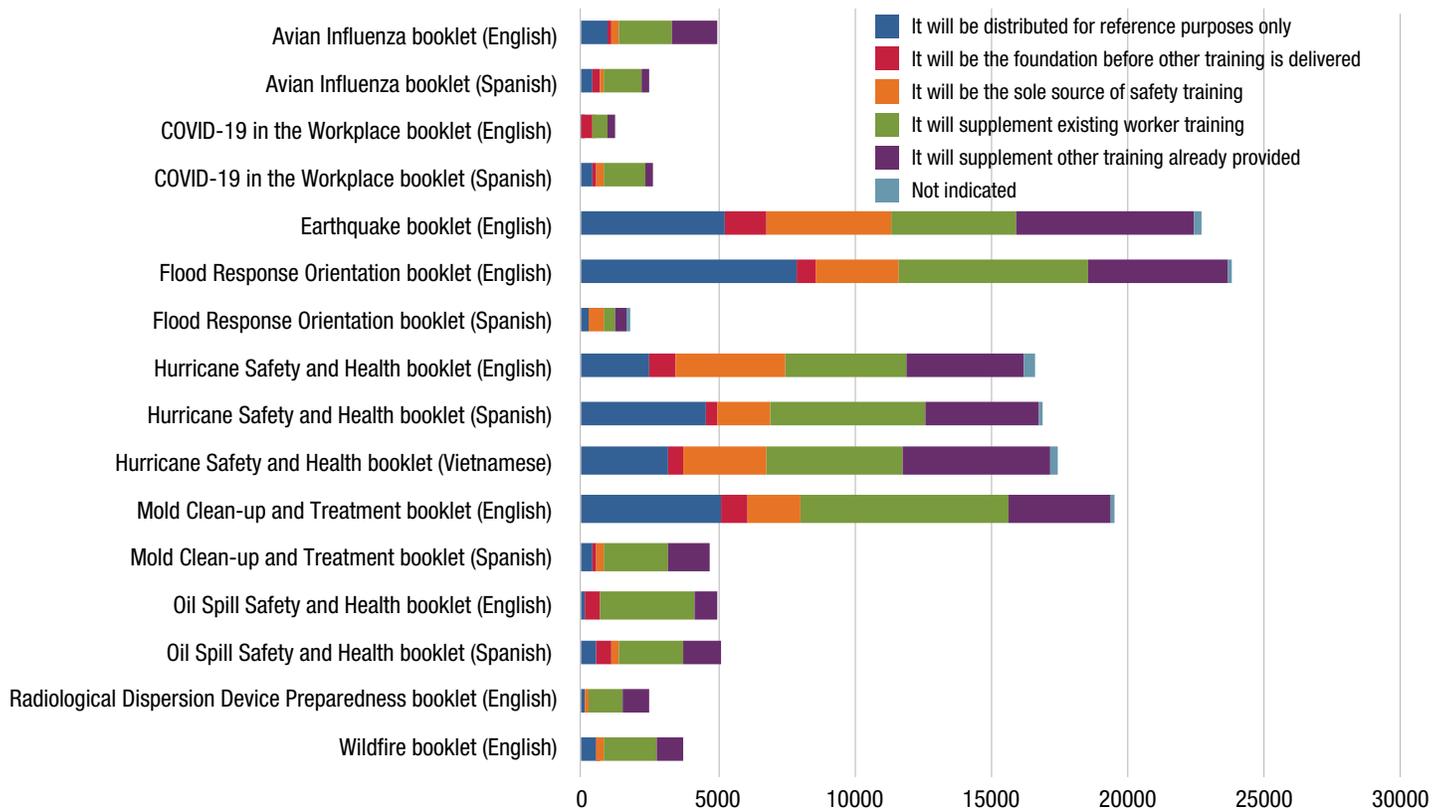
- Installations: The total number of times your app has been installed.
- Product Page Views: The number of times your app's App Store page has been viewed on devices with iOS 8 or tvOS 9, or later.
- Sessions: The number of times the app has been used for at least two seconds.
- New Users Acquired: The number of users who installed your app for the first time. This includes when a user activated a device your app was pre-installed on.
- Average Active Users: The average number of users who have your app installed on at least one device that was active in the preceding 30 days.

**Emergency Response Booklets**

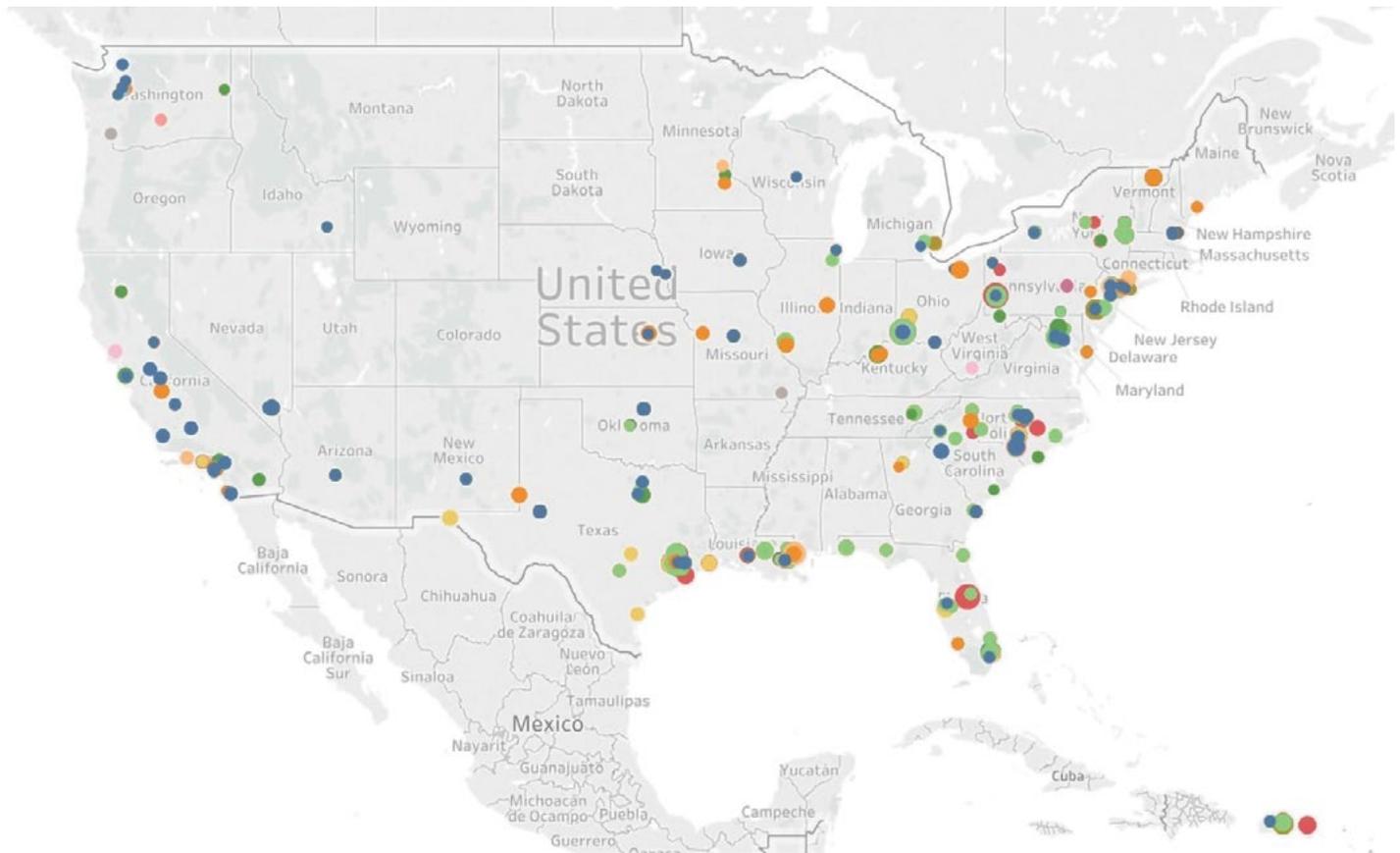
The National Clearinghouse has continued to develop and disseminate awareness-level training tools and companion booklets for workers participating in disaster response and cleanup activities. Since October 2015, 151,656 booklets have been distributed based on 1,238 total orders. People learn about the booklets from visiting the National Clearinghouse website, OSHA website, email alerts, involvement in the Disaster Research Response Program (DR2), and online searches.

In addition, OSHA Regional Offices impacted by natural disasters often ask the National Clearinghouse to send copies of the [Debris management fact sheet](#).

**Graph 2. Booklet by Intended Use (October 1, 2015 - September 21, 2020)**

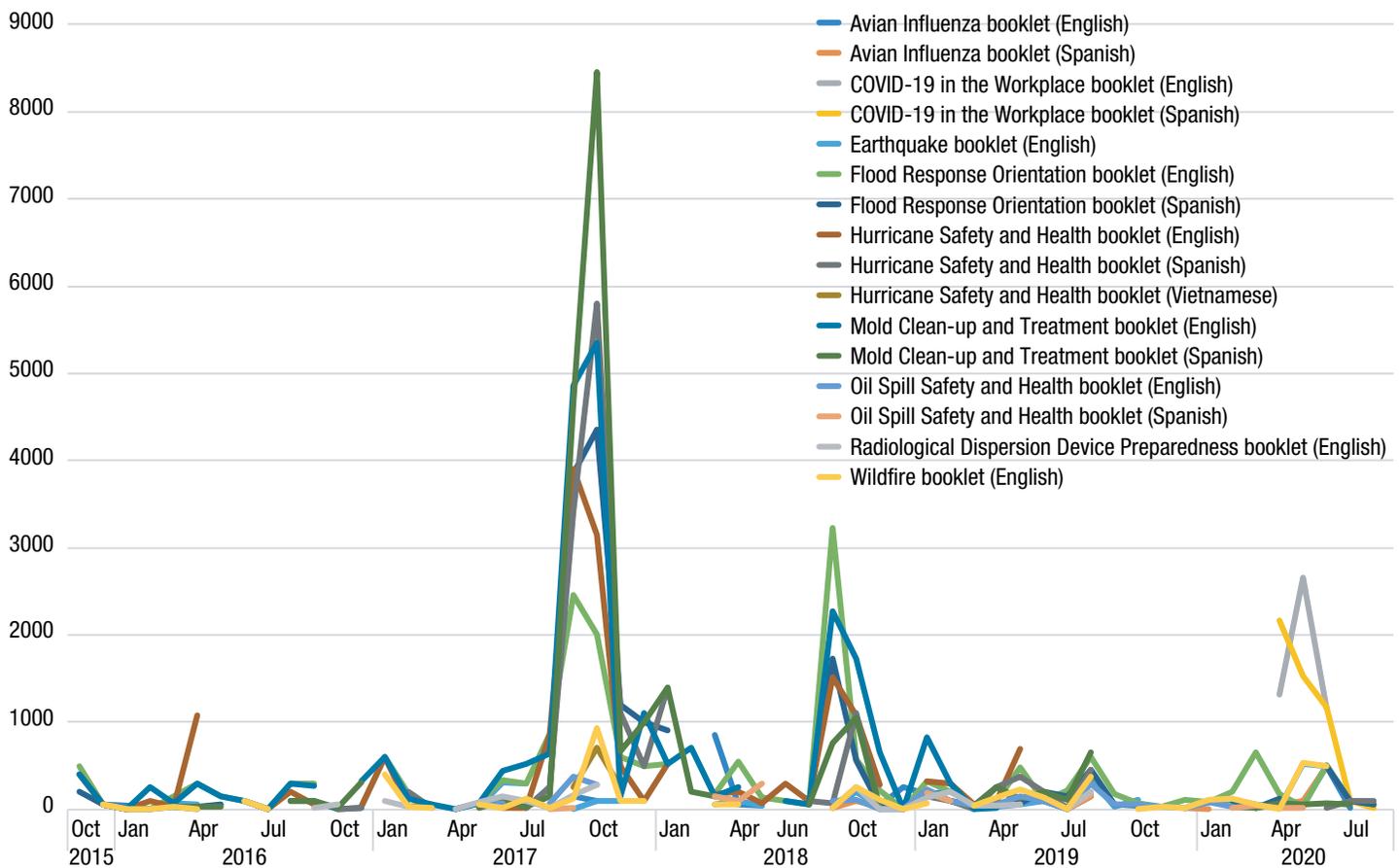


**Graph 3. Training Location of Distributed Booklet by Booklet Type (October 1, 2015 - September 21, 2020)**



- Product Name**
- Avian Influenza booklet (English)
  - Avian Influenza booklet (Spanish)
  - COVID-19 in the Workplace booklet (English)
  - COVID-19 in the Workplace booklet (Spanish)
  - Earthquake booklet (English)
  - Flood Response Orientation booklet (English)
  - Flood Response Orientation booklet (Spanish)
  - Hurricane Safety and Health booklet (English)
  - Hurricane Safety and Health booklet (Spanish)
  - Hurricane Safety and Health booklet (Vietnam..)
  - Mold Clean-up and Treatment booklet (English)
  - Mold Clean-up and Treatment booklet (Spanish)
  - Oil Spill Safety and Health booklet (English)
  - Oil Spill Safety and Health booklet (Spanish)
  - Radiological Dispersion Device Preparedness b..
  - Wildfire booklet (English)

**Graph 4. Total Booklet Order by Year (October 1, 2015 - September 21, 2020)**



## Other

- In 2016, building on continued interest in Ebola and infectious diseases, the National Clearinghouse developed a Pathogen Safety Data guide, training presentation, glossary of diseases terms, and a training agenda and worksheet for awardees and trainers.
- National Clearinghouse staff updated the WTP Annual Overview Flyer that provides the number of courses provided, workers trained, and contact hours, by program area, by year.
- National Clearinghouse staff developed a map of U.S. Health and Human Services eligible disaster declarations for 2018 and 2019 for use by HDPTP awardees.
- National Clearinghouse staff worked on a policy statement on language justice that was adopted by the American Public Health Association Occupational Safety and Health Section. The statement discusses the need to ensure that safety and health training is provided in a language and at a literacy level that the worker being trained can understand.

## Partnerships and Representing WTP

Over the last five years, National Clearinghouse staff were involved with multiple partners in several ways. In some cases, submitting abstracts and presenting at conferences, in others, providing input to articles for safety and health organizations such as the American Industrial Hygiene Association or the National Safety Council. Participation in activities with other organizations has provided representation of WTP at important meetings and events and serves as a useful way to gather and share information from stakeholders and other experts with WTP and vice versa. The list below highlights National Clearinghouse staff commitment to partnerships and representation.

- Deborah Weinstock attended the HAMMER Steering Committee and Subcommittee Meetings in October 2015 in Richland, Washington.
- Jonathan Rosen attended the National COSH Conference in December 2015 in Baltimore, Maryland.

- Deborah Weinstock presented at the National Environmental Justice Conference in February 2016 in Washington, D.C.
- Jonathan Rosen attended the AIHA meeting in May 2016 in Baltimore, Maryland.
- Betsy Galluzzo attended The New Republic's Next Frontier of Climate Change - Climate Justice event in June 2016 in Washington, D.C.
- Deborah Weinstock attended the DOE Trainers' Exchange on June 7-8, 2016, in Albuquerque, New Mexico.
- Joy Lee attended the OSHA National Advisory Committee on Occupational Safety and Health Emergency Response and Preparedness Subcommittee meetings in June 2016 in Washington, D.C.
- Joy Lee attended the Disaster Health Education Symposium: Innovations for Tomorrow conference in September 2016 in Washington, D.C.
- Deborah Weinstock attended the 2016 National Cleanup Workshop in September 2016 in Washington, D.C.
- Ryan Campbell attended the Nuclear Cleanup Caucus on September 14, 2016, in Washington, D.C.
- Betsy Galluzzo and Joy Lee wrote abstracts for the International Oil Spill Conference in 2017.
- The National Clearinghouse had a major role in representing WTP at the American Public Health Association (APHA) Annual Meeting, November 1-4, 2015, in Chicago, Illinois. Deborah Weinstock, Jonathan Rosen, Betsy Galluzzo and Joy Lee attended and presented at the conference. MDB staff authored all abstracts for the sessions below and presented where noted:
  - Protecting workers from biological threats: Ebola as a driver for biosafety training in the U.S.
  - Building Capacity for Ebola and Infectious Disease Training in the U.S: The NIEHS WTP Ebola Biosafety Worker Training Program—Deborah Weinstock presented
  - Training for Ebola Exposures and Basic Infection Protection for Airline Workers
  - PPE Training for New Jersey's Healthcare Providers
  - Meeting the Diverse Population and Training Needs of a Union Consortium
  - Protecting disaster response workers: Turning lessons learned into actions
  - Integrating Disaster Mental Health and Resiliency Training into Existing Occupational Health and Safety Programs
  - Supervisors' role in balancing personal, work demands, and team needs in addressing disaster worker mental health—Jonathan Rosen presented
- Lessons learned from Disaster Research Exercises in California and Texas—Betsy Galluzzo presented
- Poster: Worker Training Needs in Preparation for Impacts of Climate Change—Joy Lee presented
- Deborah Weinstock attended the International Association of Fire Fighters (IAFF) Advisory Board meeting in October 2016 in Phoenix, Arizona.
- Deborah Weinstock and Jonathan Rosen attended the APHA Annual Meeting and Expo in October 2016 in Denver, Colorado.
- Ryan Campbell attended the EPA Toxic Release Inventory National Conference in October 2016 in Washington, D.C.
- Jonathan Rosen and Joy Lee participated in the National Conference on Worker Safety and Health in December 2016 in Baltimore, Maryland.
- Kevin Yeskey attended the National Healthcare Coalition Preparedness Conference in December 2016 in Washington, D.C.
- Deborah Weinstock presented "Climate Change and Worker Safety and Health" at the National Council for Science and the Environment meeting on climate data and public health in January 2017 in Washington, D.C.
- Deborah Weinstock and Jonathan Rosen participated in National Coalition for Occupational Safety and Health TSCA planning calls and webinars in January and February 2017.
- Deborah Weinstock participated in the International Oil Spill Conference panel planning call in January 2017.
- Joy Lee participated in Protecting Worker Alliance calls in February and May 2017.
- Kenda Freeman participated in Environmental Health Collaborative executive planning conference calls in February and March 2017.
- Deborah participated in the planning meeting on the CPWR Foundations of Safety Leadership course in February 2017 in Richland, Washington.
- Deborah Weinstock and Kenda Freeman attended the National Environmental Justice Conference and Training Program in March 2017 in Washington, D.C.
- Deborah Weinstock and Jonathan Rosen participated in infectious disease interagency calls in March, May, June, and July 2017.
- Deborah attended a meeting with the Energy Communities Alliance in March 2017.
- Betsy Galluzzo and Joy Lee prepared abstracts for the APHA

- Annual Meeting and Expo and the National Association of County and City Health Officials (NACCHO) Annual Conference.
- Jonathan Rosen presented at the Preparedness Summit in April 2017 in Atlanta, Georgia.
  - Deborah Weinstock attended the Highly Pathogenic Waste Workshop in April 2017 in College Park, Maryland.
  - Deborah Weinstock attended the DOE HAMMER Steering Committee meeting, Medical Surveillance Subcommittee meeting, and Labor Training Workgroup meeting in April 2017 in Washington, D.C.
  - Deborah Weinstock participated in meetings with the National Training Center in May 2017 in Research Triangle Park, North Carolina.
  - Jonathan Rosen attended the Michigan Homeland Security Conference in May 2017 in Grand Rapids, Michigan.
  - Deborah Weinstock participated in the IAFF/DOE meeting to customize the Frontline Safety course for DOE in June 2017 in Denver, Colorado.
  - Don Elisburg participated in the National Institute for Occupational Safety and Health (NIOSH)/American Psychological Association (APA) Work, Stress and Health Conference in June 2017 in Minneapolis, Minnesota.
  - Don Elisburg participated in the Southeast Area Maritime Industry Safety Training (SEAMIST) Advisory Board meeting and presented on the Clearinghouse in June 2017 in Fort Lauderdale, Florida.
  - Jonathan Rosen presented at the American Industrial Hygiene Conference and Exposition on the development of the NIEHS PSD training and the pilot training in June 2017 in Seattle, Washington.
  - Deborah Weinstock attended the International Association of Fire Fighters (IAFF) Advisory Board meeting and Instructor Development Conference in October 2017.
  - Ryan Campbell attended an event at the Center for American Progress on lessons learned from Superstorm Sandy in October 2017.
  - Deborah Weinstock attended the American Public Health Association (APHA) Annual Meeting and Expo in November 2017.
  - Joy Lee presented a poster on the WTP trainer and researcher deployment guides at the APHA Annual Meeting and Expo in November 2017.
  - Jonathan Rosen presented at the National Conference on Worker Safety and Health in December 2017.
  - Joy Lee attended and exhibited at the National Conference on Worker Safety and Health in December 2017.
  - Jonathan Rosen participated in the American Industrial Hygiene Association (AIHA) Opioids Work Group call in April 2018.
  - Jonathan Rosen attended the American Industrial Hygiene Conference and Exposition in May 2018.
  - Deborah Weinstock and Jonathan Rosen participated in the National Response Team monthly call in July 2018.
  - Jonathan Rosen participated in the Department of Health and Human Services (HHS) Environmental Justice Working Group call in July 2018.
  - Jonathan Rosen participated in the ongoing AIHA Opioid Task Force calls.
  - Deborah Weinstock attended the International Association of Fire Fighters (IAFF) Advisory Board meeting and Instructor Development Conference in October 2018.
  - Deborah Weinstock and Jonathan Rosen attended the National Institute for Occupational Safety and Health (NIOSH) webinar on “New Insights into the Opioid Crisis and Work: Important Information for Workers and Employers” in November 2018.
  - Deborah Weinstock attended the American Public Health Association (APHA) Annual Meeting and Expo in November 2018.
  - Jonathan Rosen presented a poster on the Opioid Training Tool at the APHA Annual Meeting and Expo in November 2018.
  - Jonathan Rosen presented at the National Conference on Worker Safety and Health in December 2018.
  - Joy Lee attended and exhibited at the National Conference on Worker Safety and Health in December 2018.
  - Jonathan Rosen participated in the American Industrial Hygiene Association (AIHA) Opioids Work Group call in December 2018.
  - Jonathan Rosen presented on opioids at the American Association of Community Colleges conference in January 2019.
  - Deborah Weinstock participated on the National Response Team Workers Safety and Health monthly call in February 2019.
  - Kenda Freeman attended a mold awareness training in Robeson County, North Carolina, in March 2019.
    - The training was hosted by the Robeson County Disaster Recovery Committee and led by worker trainers from WTP awardee the International Chemical Workers Union Council. National Clearinghouse and WTP staff authored an April 2019 Environmental Factor [article](#) about the training.
  - Jonathan Rosen presented at the American Industrial Hygiene Conference and Expo in May 2019.

- Don Elisburg participated in the SeaMIST Advisory Board meeting in June 2019.
- Deborah Weinstock participated in the Emory Advisory Board meeting in July 2019.
- Simone Depew attended a PETE/CCCHST Refresher Course held at South Central College in North Mankato, Minnesota, in July 2019.
- Deborah participated in the North Carolina Department of Health and Human Services call in July 2019.
- Jonathan presented at AIHCe on NIEHS WTP COVID-19 Essential and Returning Worker Training Tool and on NIEHS WTP Opioids and the Workplace: Prevention and Response
- Jonathan presented at the Preparedness Summit on Worker and Workplace Preparedness in Response to the Opioid Epidemic, delivered in August 2020
- The National Clearinghouse submitted an abstract to the National Healthcare Coalition Preparedness Conference on The NIEHS WTP: A Network to Support Worker Safety and Health
- The National Clearinghouse submitted an abstract to National Safety Council on Development and Implementation of NIEHS Opioids and the Workplace: Prevention and Response Training. The conference will take place March 2021
- The National Clearinghouse submitted an abstract to RX Drug Abuse & Heroin Summit on Developing and Piloting of the NIEHS Opioids and the Workplace: Prevention and Response training program.
- Jonathan presented a poster at the October 2020 American Public Health Association conference on the Opioid Leadership Program and he moderated an Intersectional Council session on opioids.
- Jonathan was also the lead author on an opioids policy statement for APHA.
- Jonathan participated in a National Safety Council Safer work group on Mental Health and COVID-19.
- Jonathan was lead author on a Synergist article on Opioids and COVID-19.

## Support for the Hazmat Disaster Preparedness Program (HDPTP)

Clearinghouse staff supported WTP and awardee activities during many disasters by creating informational resources, facilitating cooperation and information exchange. In addition to supporting active event responses, staff worked to address and communicate emerging hazardous threats to workers, including pathogen data safety and opioids and fentanyl. Clearinghouse staff represented WTP at a variety of preparedness related events. Products created and support given include:

- Deployment guides for [researchers](#) and [trainers](#) conducting research in the aftermath of a disaster.
- A three-video series following a workshop in Boston highlighting EJ and promoting the concept of disaster research and the DR2 program.
- PSD curriculum pilot
- A Health Security publication in May/June 2017 titled “Ebola Virus Training: A Needs Assessment and Gap Analysis”
- Hurricane Harvey, Irma, Maria, Michael, and Florence response training and supporting fact sheets. National Clearinghouse staff also authored articles on [Hurricane recovery support in Puerto Rico and U.S. Virgin Islands](#) and on [Mold and health classes helping Hurricane Florence workers and residents](#) for the Environmental Factor.
- [Prevention of Occupational Exposure to Fentanyl and Other Opioids](#) Training Tool.
- Support to the EJ and Natural Disasters Subcommittee of the Federal Environmental Justice Interagency Work Group (EJ IWG).

## Environmental Career Worker Training Program (ECWTP)

National Clearinghouse staff have supported ECWTP. National Clearinghouse staff organized and led the efforts to develop the [2015 Economic Impact of the Environmental Career Worker Training Program study](#) and have participated in the National Environmental Justice Conferences. National Clearinghouse staff is currently supporting the EJ and Natural Disasters Subcommittee of the Federal EJ IWG.

In February 2016 in Washington, D.C., Deborah presented at the National Environmental Justice Conference on the Economic Impact report.

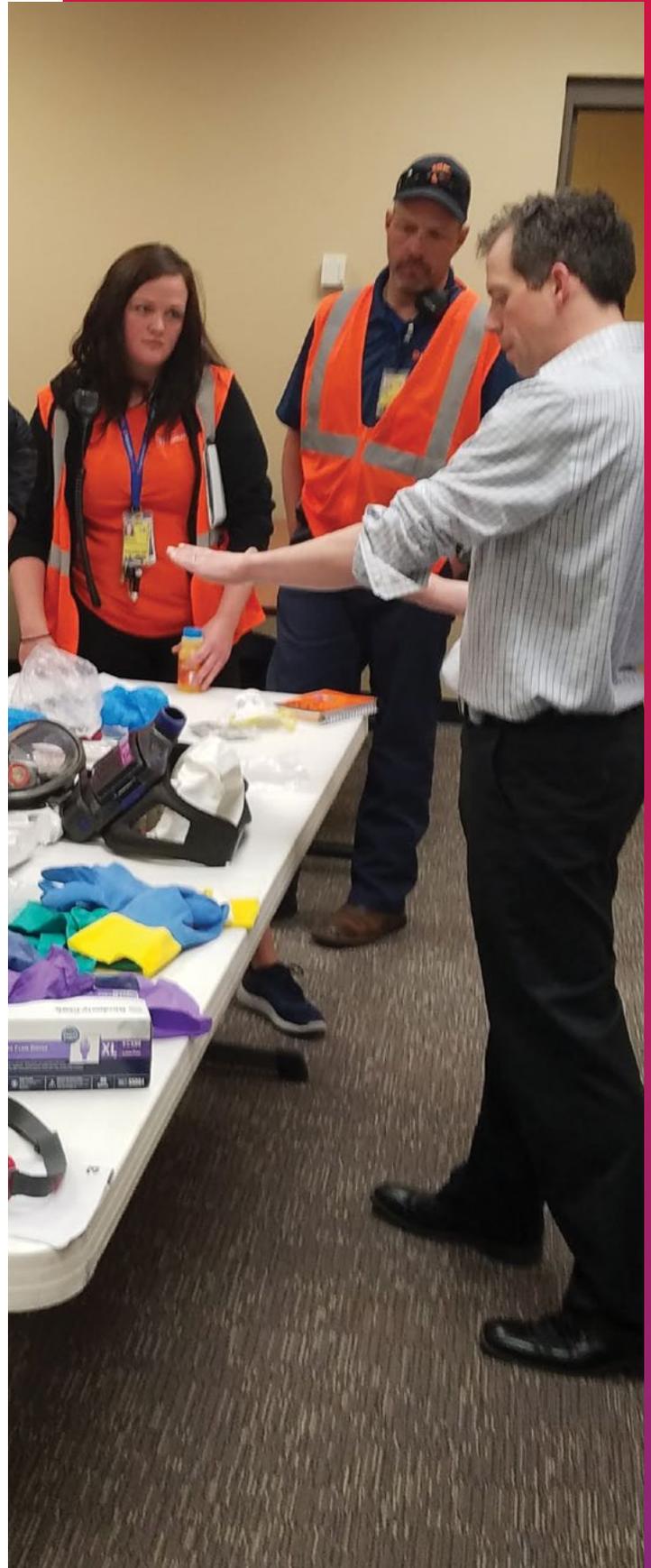
In 2020, National Clearinghouse and WTP staff led a commemoration project for the 25th Anniversary of ECWTP. The project features a multipage interactive website that shares and recognizes the history of the program. The website includes a message from the ECWTP Director Sharon Beard, an interactive timeline, in-depth success stories of each ECWTP awardee, highlights of successful trainees, and a multimedia page to view photos, videos, and more. In conjunction with the launch of the website, National Clearinghouse staff authored an NIEHS Environmental Factor [article](#) about the program's success. Staff are currently continuing to add to the webpages to maintain public engagement.

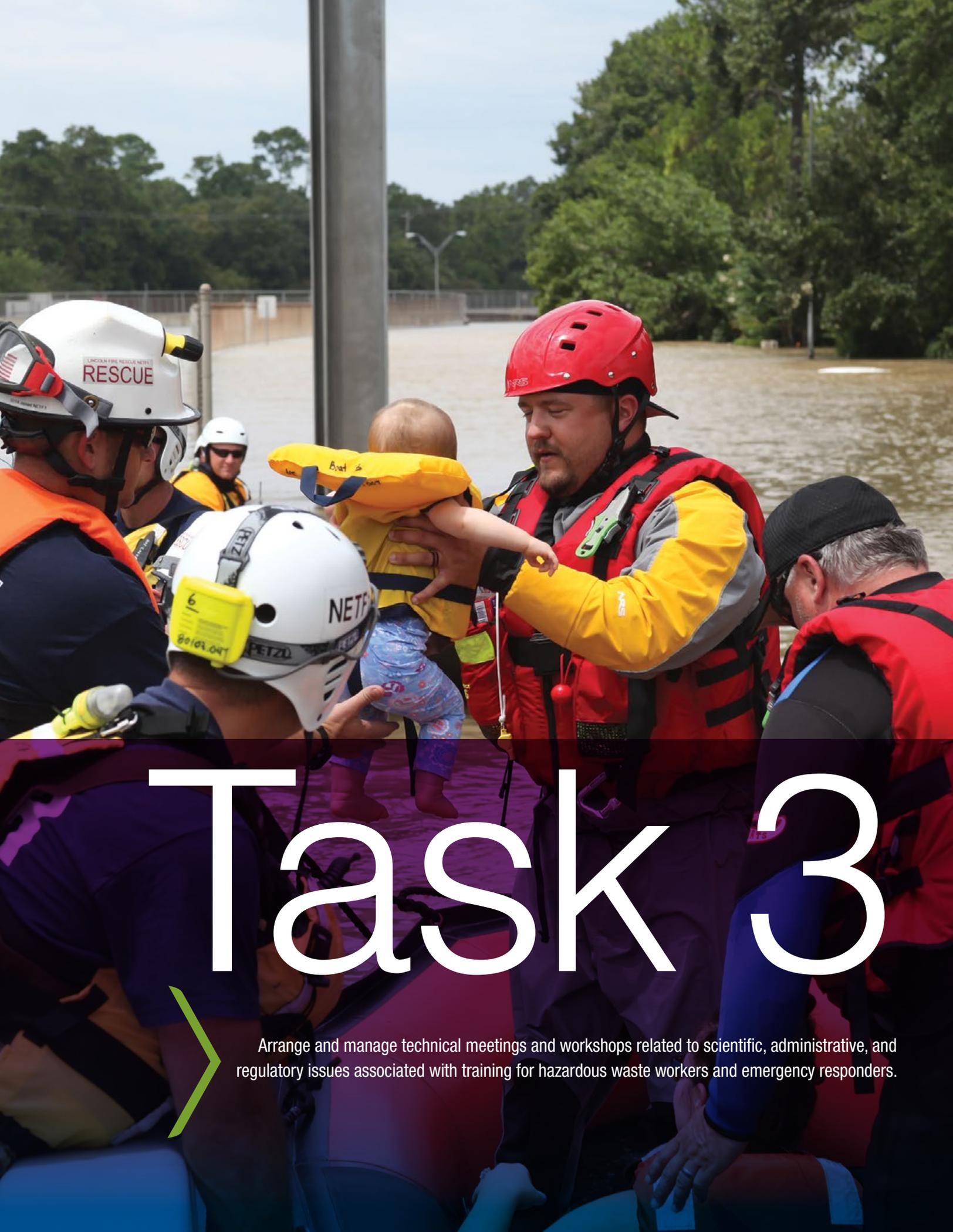
## DOE—Integrated Safety Management

Throughout the five years, the National Clearinghouse continued to support the DOE cleanup training program and the National Training Center. This involved helping to convene DOE awardees in planning calls, conference calls, and attending meetings of the Labor Training Working Group, Medical Surveillance Subcommittee, and HAMMER Steering Committee. National Clearinghouse staff also supported the development of the DOE Nuclear Worker Training Program fact sheets and Annual Reports.

In 2017, the Clearinghouse worked with Mark Griffon to develop a [discussion paper on safety culture](#) at the U.S. Department of Energy.

The National Clearinghouse also completed an [evaluation assessment](#) for the NIEHS-DOE Nuclear Worker Training Program to assess evaluation methods, challenges, and successes of awardees. This report provides a synopsis of evaluation methods used across the NIEHS-DOE Program, a summary of key findings from awardee evaluations, and recommendations for improving evaluation efforts across the program.

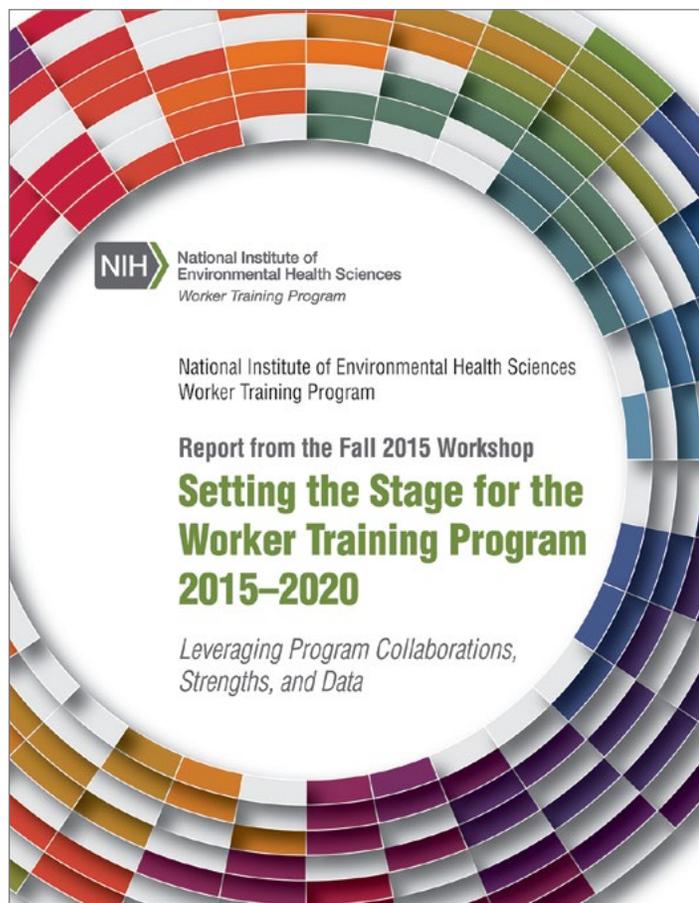




# Task 3

Arrange and manage technical meetings and workshops related to scientific, administrative, and regulatory issues associated with training for hazardous waste workers and emergency responders.

The National Clearinghouse has provided extensive technical and logistical support for meetings and workshops over the past five years. Staff have facilitated and participated on planning committee calls, organized keynote and panel speakers and presentations, and oversaw onsite logistics. Additionally, the National Clearinghouse led the post-workshop wrap-up and wrote workshop reports for meetings. Due to the COVID-19 pandemic, workshops and meetings in 2020 have been moved to virtual and online platforms.



**Setting the Stage for the Worker Training Program: 2015-2020** (Sept. 28-30, 2015, Research Triangle Park, North Carolina) The workshop focused on a variety of topics that offered opportunities to identify and leverage program collaborations, strengths, and data for the next five years. Awardees were encouraged to consider ways of integrating their research within the consortium and jointly with others. The workshop yielded meaningful discussions and set the stage for future efforts in the WTP. Major take-home points from the workshop emerged under the following six topics: Strategic priorities and WTP Data; Data collection and evaluation; HAZMAT and public health partnerships;

Government, organizational, and Inter-awardee partnerships; Enhance instructor development programs; and Enhance national response and recovery resource capabilities.



**Responding to Emerging Health Threats through Research and Training: Workshop & Community Tour (July 18 -20, 2016, Boston, Massachusetts)** In recognition and celebration of NIEHS' 50th anniversary, and the 30th anniversary of the Superfund Research and Training programs, the National Clearinghouse staff organized a community engagement tour by local organizations and awardees a day before the workshop. The tour gave participants a first-hand look at an environmental justice neighborhood that was also featured as the site of a simulated disaster during the **DR2 workshop** on July 19. The joint meeting of the WTP and Superfund Research programs featured presentations on the origins of the NIEHS and its Superfund programs; a **historical timeline** and activity; program history from the awardee perspective; NIEHS support to build capacity for response to emerging threats; a look at health events that were program turning points; and future visions of the programs.



**NIEHS WTP 2016 Infectious Disease Workshop and Awardee Meeting – Let's Get Viral!** (September 19-20, 2016, Research Triangle Park, North Carolina) This workshop provided a forum for WTP awardees, key stakeholders, and experts to discuss the training models, priorities, and implementation related to infectious diseases. The meeting helped WTP and its partners better understand the risks emerging infectious diseases pose to workers and how to implement adequate interventions to mitigate

those risks across a broad scope of occupational settings. National Clearinghouse staff also authored an [article](#) for the Environmental Factor.

The image shows the agenda for a workshop titled "Best Practices in Using Technology in HAZMAT Training" held from March 29-30, 2017, at the Condado Plaza Hilton in San Juan, Puerto Rico. The agenda is for March 29, 2017, and includes the following items:

- 8:00-9:00 a.m. Registration and Breakfast** - Royal Ballroom Foyer
- 9:00-9:15 a.m. Welcome** - Royal Ballroom
  - Michel Rosen, Ph.D., Rutgers University
  - Carlos Padin, Ph.D., Universidad Metropolitana (UMET)
  - Joseph "Chip" Hughes, Jr., NIEHS Worker Training Program (WTP)
  - Linda Birnbaum, Ph.D., NIEHS
- 9:15-9:45 a.m. Introductions and Icebreaker Activity**

**ICEBREAKER ACTIVITY:** Attendees will discuss the limitations that they have encountered using technologies for worker safety and health training within their organizations. Attendees should consider the following questions:

  - What would you like to get out of this workshop? What do you want to learn?
  - What are some of the major challenges your organization faces in using technologies for worker safety and health training?
  - What are some potential solutions for overcoming these limitations?
  - Attendees will use an interactive polling tool to submit topics discussed at their round tables.
- 9:45-10:15 a.m. Evolution of Technology Use in WTP: Our History and Looking Ahead**
  - History of Technology among WTP Awardees
    - Chip Hughes, NIEHS WTP
  - Current Technology among WTP Awardees
    - Konda Freeman and Deborah Weinstein, National Clearinghouse/ADB, Inc.
- 10:15-10:30 a.m. Break** - Royal Ballroom Foyer

**Best Practices in Using Technology in HAZMAT Training (March 29-30, 2017, San Juan, Puerto Rico)** This workshop built on the HAZMAT training program’s work, exploring the types of technologies being used inside and outside of classroom settings, and whether generational differences impacted learning and training. To prepare, the National Clearinghouse developed and reviewed awardee self-assessment forms that were used as the basis for discussion and sharing. National Clearinghouse staff produced a workshop report concluding that: WTP awardees not only recognize the importance of considering the learner and instructor perspectives on e-learning technologies, but have demonstrated successes in deployment of these technologies for effective HAZMAT training for workers. Additional takeaways on learning modules, immersive technologies, and e-learning greatly helped WTP in their work.

The image shows the cover of a document titled "Ensuring Up-to-Date Guidance: Revising the NIEHS Minimum Health and Safety Training Criteria". The cover features a colorful geometric pattern in shades of blue, green, and red. At the top left, the NIH logo is displayed with the text "National Institute of Environmental Health Sciences Worker Training Program". The main title is in large, bold, dark blue letters. Below the title, it says "Revising the NIEHS Minimum Health and Safety Training Criteria". At the bottom, a blue banner contains the text "OCTOBER 16-18, 2017 | Research Triangle Park, North Carolina".

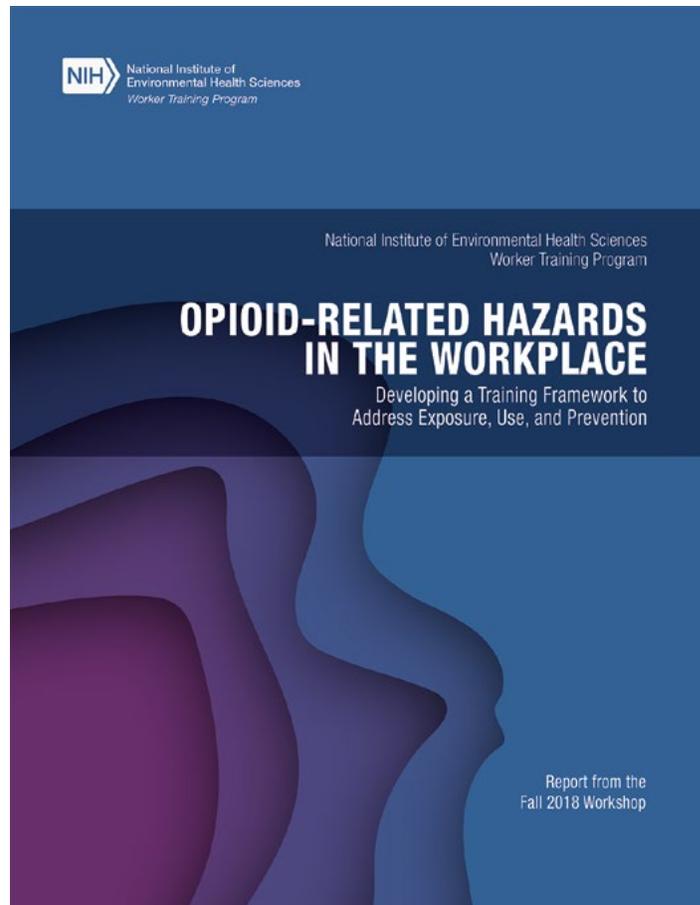
**Ensuring Up-to-Date Guidance: Revising the NIEHS Minimum Health and Safety Training Criteria (October 16-18, 2017, Research Triangle Park, North Carolina)** Last updated in 2005, the Minimum Health and Safety Training Criteria document is a national guidance document for training hazardous waste workers and emergency responders. It serves as the primary quality control foundation for the WTP. Participants in the workshop selected from a limited number of topics addressed in the Minimum Criteria document and then worked in breakout sessions to develop consensus on revisions to the existing language. The Clearinghouse began preparations for the fall 2017 Awardee Meeting and Workshop by facilitating several planning committee calls. The planning committee came up with eight topics for discussion during the workshop. Workgroups were formed to develop specific discussions points to use during breakout groups. Clearinghouse staff participated in each workgroup call and collected the workgroup products to be organized and used at the workshop.

The workshop product was the updated [Minimum Criteria](#) document. A [summary of the changes](#) made to the document in 2018 was also produced.



**National Trainers' Exchange: Looking to the Future, Generational Transitions (May 10-11, 2018, Phoenix, Arizona)**

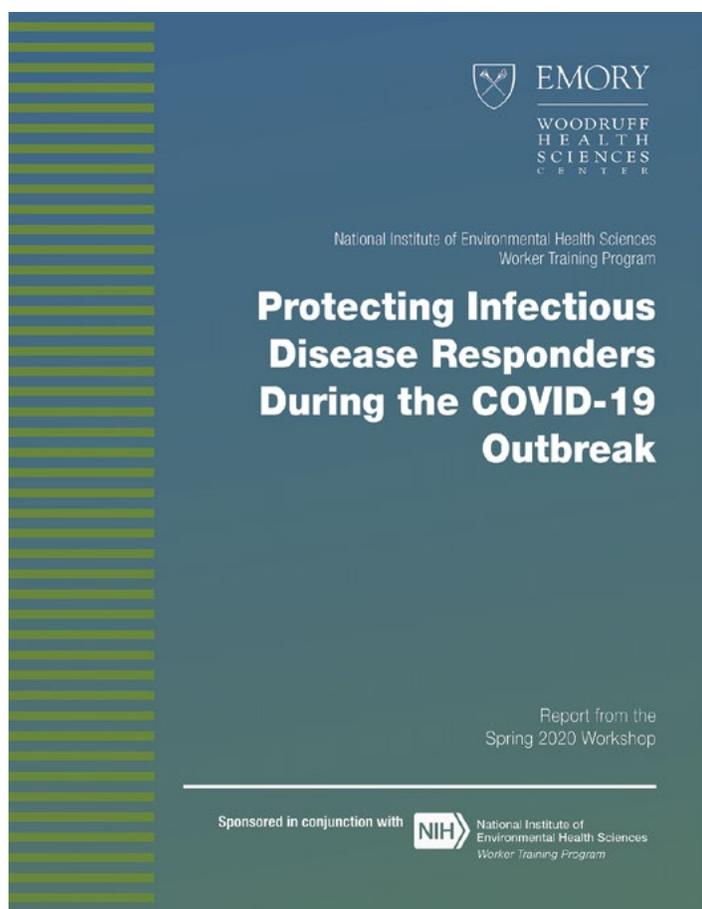
The 7th National Trainers' Exchange, hosted by the Western Region Universities Consortium (WRUC) in conjunction with the WTP, brought together more than 350 U.S. Department of Energy safety and health training stakeholders and trainers from all WTP hazardous waste training programs to share trainer best practices. National Clearinghouse staff collected and assisted the review of workshop abstracts, led two webinars to prepare presenters, provided on-site meeting support, and following the meeting authored an Environmental Factor [article](#) on the event.



**Opioid-Related Hazards in the Workplace (October 24-25, 2018, Research Triangle Park, North Carolina)** During this workshop, WTP awardees, partners, and federal stakeholders convened to discuss the ongoing opioid issue, and the threat it poses to workers in various occupations. Because workers fall into a population at high risk for exposure to opioids, WTP is well-positioned to address the epidemic. With the support of the National Clearinghouse, meeting participants shaped a training framework and response that raises awareness on the issue, and further ensures the protection of workers and communities. A [workshop report](#) provides more detail. National Clearinghouse staff also authored an [article](#) for the Environmental Factor.

**Exploring Workplace Training Interventions Addressing Workplace Stress and Addiction (May 14-16, 2019, Pittsburgh, Pennsylvania)** This workshop looked at workplace stress, fatigue, and addiction, and its association to occupational injury and illness. WTP awardees discussed key factors that contribute to stress such as inadequate staffing, long hours, hierarchical management styles, and lack of essential health and safety standards, such as an ergonomics standard. Following the meeting, the National Clearinghouse produced a workshop report describing in detail WTP's efforts to address mental health resiliency, opioid-related hazards, and substance use in the workplace. National Clearinghouse staff authored an [article](#) for the Environmental Factor.

2015), to best inform protection of workers during the current COVID-19 outbreak. National Clearinghouse staff recorded the meeting and produced a [workshop report](#) shared on the WTP website. National Clearinghouse staff also authored an [article](#) for the Environmental Factor.



**A Vision for 2025: NIEHS Worker Training Program Looking to the Future (September 22-24, 2020, Virtual)** WTP staff, awardees, and partners gathered to discuss a renewed vision for worker education and training and a path forward over the next five years. The workshop provided an opportunity to hear from key leaders and champions in the field of health and safety. Sessions were held to explore the future of each of the WTP program areas (HWWT, ECWT, DOE, HDPT, training technologies, and infectious disease). Breakout sessions featured discussions about infectious disease, disasters, equity, mental health, innovative technologies for training, and many other cross-cutting topics that are of interest to the WTP community. The workshop ended with NIEHS Director Rick Woychick honoring WTP Director Chip Hughes' long-time commitment to protecting workers and disadvantaged communities. Hughes has served as WTP director for more than 30 years and will retire at the end of 2020. National Clearinghouse staff authored an [article](#) for the Environmental Factor. A workshop report will be available on the workshop webpage in December.

**Protecting Infectious Disease Responders During the COVID-19 Outbreak (March 16-17, 2020, Virtual)** Due to the COVID-19 outbreak, this meeting was held virtually and focused on the coronavirus disease. This workshop explored what training and protective measures worked best during previous infectious disease outbreaks, such as the H1N1 avian influenza outbreak (2009) and Ebola virus disease preparedness training (2013-

Other meetings supported by the Clearinghouse include:

- 2016 DOE Trainers' Exchange in Albuquerque, New Mexico
- 2016 National Funding and Resources Training Summit (Tracks 1 and 3)
- 2019 Funding Opportunity Announcement Meeting in Research Triangle Park, North Carolina
- Logistics for all annual planning meetings.



# Task 4

Facilitate the transmission of technical information related to the development of safety and health training programs for hazardous waste workers and emergency responders through website development and maintenance.

## Website Development and Maintenance

Over the past five years, the National Clearinghouse has provided ongoing maintenance to the website.

Staff have provided regular user support that included login assistance, creating and deleting user accounts, updating email addresses, creating and running customized reports for WTP staff, providing end user training and support, investigating and correcting data-input errors, and uploading progress reports. National Clearinghouse staff also ran regular broken link checks and made corrections to links as needed.

### Website Redesign

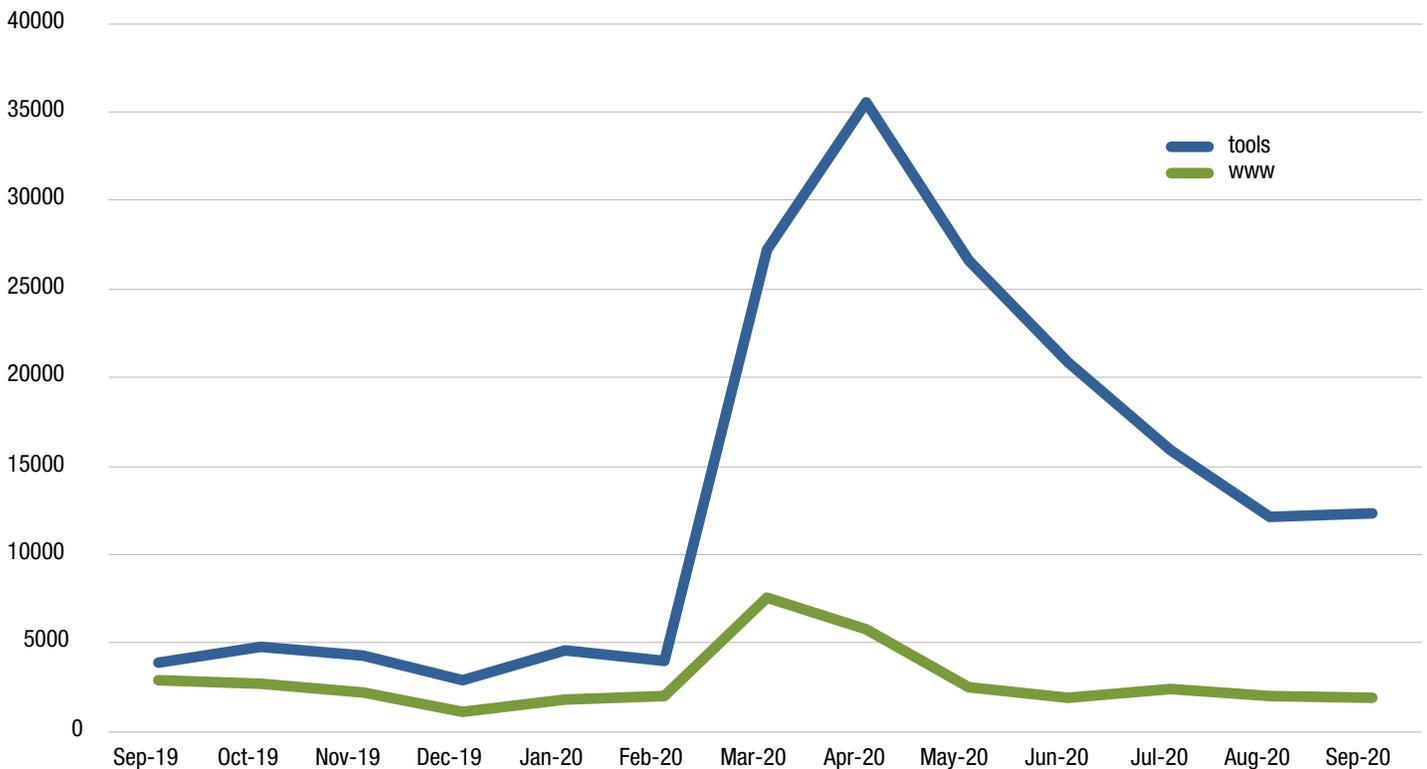
The National Clearinghouse website underwent a major redesign throughout the past few years. Content was reorganized into key topic areas and new materials and resources were added to the site. The redesign has since made the information on the site more accessible and easier to find. Part of this was conducted by organizing a card-sorting activity that solicited input from site users. Card sorting is an effective, easy-to-use process to determine how people think about content and categories.

The card-sorting activity identified the new menu topics for the website. National Clearinghouse staff then categorized resources into the new topic areas and identified outdated materials to archive. Staff also added new graphic elements to the site, including sliders on the main page and images for each landing page. The newly organized website was launched in March 2017.

### Web Statistics

The National Clearinghouse gathers and analyzes web statistics to better understand the value of the website to its viewers. Annual trends for individual years highlight which webpages are the most viewed and valued. In total, the WTP and National Clearinghouse website is viewed on average around 50,000 times a year. The page most viewed during the final year of the contract was the COVID-19 page. Users have come from more than 80 countries, most notable from India and Canada, either directly from NIEHS pages, OSHA, or traditional search engines like Google. Website traffic increased significantly in February 2020, presumably as people were looking for information on the coronavirus and hit its high shortly after NIEHS issued a press release announcing the launch of the COVID-19 website and training tool.

**Graph 5. Traffic Trends by Month (September 2019 - September 2020)**



**Table 2: Top Pageviews for Tools and Public Sites**

Tools Top Pages	Pageviews	Page Title
<a href="https://tools.niehs.nih.gov/wetp/covid19worker/">https://tools.niehs.nih.gov/wetp/covid19worker/</a>	85425	COVID-19
<a href="https://tools.niehs.nih.gov/wetp/">https://tools.niehs.nih.gov/wetp/</a>	55003	National Clearinghouse for Worker Safety and Health Training
<a href="https://tools.niehs.nih.gov/wetp/public/">https://tools.niehs.nih.gov/wetp/public/</a>	3537	Curricula Catalog Search Form
<a href="https://tools.niehs.nih.gov/wetp/search/">https://tools.niehs.nih.gov/wetp/search/</a>	1722	Clearinghouse Search
<a href="https://tools.niehs.nih.gov/wetp/locations/">https://tools.niehs.nih.gov/wetp/locations/</a>	884	Where We Train
<a href="https://tools.niehs.nih.gov/wetp/booklets/">https://tools.niehs.nih.gov/wetp/booklets/</a>	800	Booklet Order Form
<a href="https://tools.niehs.nih.gov/wetp/public/register.cfm">https://tools.niehs.nih.gov/wetp/public/register.cfm</a>	726	Download Registration Form
<a href="https://tools.niehs.nih.gov/wetp/registration/fall2020.cfm">https://tools.niehs.nih.gov/wetp/registration/fall2020.cfm</a>	516	Registration for the WTP Fall Meeting
<a href="https://tools.niehs.nih.gov/wetp/newsbrief/pastissues.cfm">https://tools.niehs.nih.gov/wetp/newsbrief/pastissues.cfm</a>	488	Weekly Newsbrief: Past Issues

Public Site Top Pages	Pageviews	Page Title
<a href="https://niehs.nih.gov/careers/hazmat/about_wetp/">https://niehs.nih.gov/careers/hazmat/about_wetp/</a>	8912	About the Worker Training Program (WTP)
<a href="https://niehs.nih.gov/careers/hazmat/awardees/">https://niehs.nih.gov/careers/hazmat/awardees/</a>	3426	Who We Fund
<a href="https://niehs.nih.gov/careers/hazmat/funding/current_funding_opps/">https://niehs.nih.gov/careers/hazmat/funding/current_funding_opps/</a>	1342	Current Funding Opportunities
<a href="https://niehs.nih.gov/careers/hazmat/training_program_areas/ecwtp/">https://niehs.nih.gov/careers/hazmat/training_program_areas/ecwtp/</a>	1272	Environmental Career Worker Training Program
<a href="https://niehs.nih.gov/careers/hazmat/training_program_areas/">https://niehs.nih.gov/careers/hazmat/training_program_areas/</a>	1139	Training Program Areas
<a href="https://niehs.nih.gov/careers/hazmat/training_program_areas/hwwt/">https://niehs.nih.gov/careers/hazmat/training_program_areas/hwwt/</a>	1060	Hazardous Waste Worker Training Program
<a href="https://niehs.nih.gov/careers/hazmat/training_program_areas/ebola/">https://niehs.nih.gov/careers/hazmat/training_program_areas/ebola/</a>	1019	Ebola Biosafety and Infectious Disease Response Training Program
<a href="https://niehs.nih.gov/careers/hazmat/accomplishments/">https://niehs.nih.gov/careers/hazmat/accomplishments/</a>	937	Program Highlights
<a href="https://niehs.nih.gov/careers/hazmat/awardees/cpwr/">https://niehs.nih.gov/careers/hazmat/awardees/cpwr/</a>	895	CPWR – The Center for Construction Research and Training
<a href="https://niehs.nih.gov/careers/hazmat/funding/">https://niehs.nih.gov/careers/hazmat/funding/</a>	706	Funding Opportunities
<a href="https://niehs.nih.gov/careers/hazmat/training_program_areas/hdpt/">https://niehs.nih.gov/careers/hazmat/training_program_areas/hdpt/</a>	586	HAZMAT Disaster Preparedness Training Program

**Table 3: User Countries (Top 20 List)**

Country	Users
United States	67254
India	3736
Canada	1035
Mexico	690
Nigeria	690
United Kingdom	632
Philippines	632
South Africa	632
Puerto Rico	517
Germany	460
Australia	402
Singapore	345
United Arab Emirates	287
Ethiopia	287
Hong Kong	287
Saudi Arabia	287
Bangladesh	230
Belgium	230
Brazil	230

## Website Updates

National Clearinghouse staff worked with NIEHS WTP staff to update the HAZMAT Safety and Health Training webpages. With the onset of the COVID-19 pandemic, National Clearinghouse staff created and continued to update COVID-19 Training Resources webpages. These webpages include links to a wide range of training tools and resources as well as webinars and presentations on technical topics related to COVID-19 with a focus on protecting workers. In 2019, National Clearinghouse staff created a new Opioids and Substance Use: Workplace Prevention and Response webpage to host the awareness-level training tool on the prevention of occupational exposure to fentanyl and other opioids, as well as other resources as it relates to opioid exposure, use, and prevention. In addition, in 2018, the Meth Labs webpage was renamed Illicit Drug Exposure, including new resources and information.

## National Clearinghouse SOP

To ensure the operational continuity of updating and editing the content of the National Clearinghouse website, staff developed a Standard Operating Procedure (SOP) document in 2016. This document, which is updated annually includes: criteria for inclusion of materials on the website and approval and review processes; a template for Clearinghouse Disaster Preparedness and Response pages (i.e., guidance on organizing and formatting content); instructions for editing and adding content and files; and instructions for inactivating webpages and creating new webpages.

## Data Management System (DMS)

The National Clearinghouse continued to improve the DMS's course data entry Excel upload feature that was introduced in 2018. National Clearinghouse staff incorporated additional validation to check for common data entry errors and developed and instituted a way for the system to handle Excel files with extremely large numbers of records, such as more than 800. At the DMS breakout sessions at the Fall 2017 WTP Awardee Meeting, National Clearinghouse staff focused on teaching DMS users how to use the new Excel course data upload feature, including tips and tricks to make it even easier.

Also introduced in 2019 was the requirement that a justification must be entered for any in-person course data record that has less than five workers, over 25 workers, or a course state of "Other." A pop-up is displayed when a justification is required but has not been entered into the justification field on the course data entry form. The justification gives WTP staff the information they need to be able to approve these courses.

In June 2019, the NIH Center for Information Technology (CIT) notified National Clearinghouse staff as well as other application developers/owners that the NIHEXT login system was being retired and was being replaced by the iTrust login system. National Clearinghouse staff worked with NIH CIT and NIEHS Computer Training Branch staff to work out all of the nuances and issues involved in implementing the iTrust login, created user documentation and help guides to explain how to get an iTrust account and log in using iTrust, and presented an iTrust login training session via webinar. National Clearinghouse staff also worked with each awardee to assist in setting up, troubleshooting, and testing their iTrust accounts.

With the rise in online training, National Clearinghouse staff added an online course checkbox on the course data entry form and Excel template, removed the requirement for training location data for online courses, and added the requirement and associated validation for entering student states.

In 2020, National Clearinghouse staff embarked on a redesign of the 18+ year old DMS to incorporate new technologies, make it easier for the user, and use layouts that remove potential 508 compliance issues. The updated DMS also includes a “dashboard” for WTP staff that graphically represents commonly requested data stored in the DMS.

National Clearinghouse staff also leveraged previous work done on the course data entry Excel upload function to add a student demographic data Excel upload feature. Like the course data entry Excel upload function, the student demographic data Excel upload allows users to import part or all of their student demographic data at one time.

### Mapping Training Locations

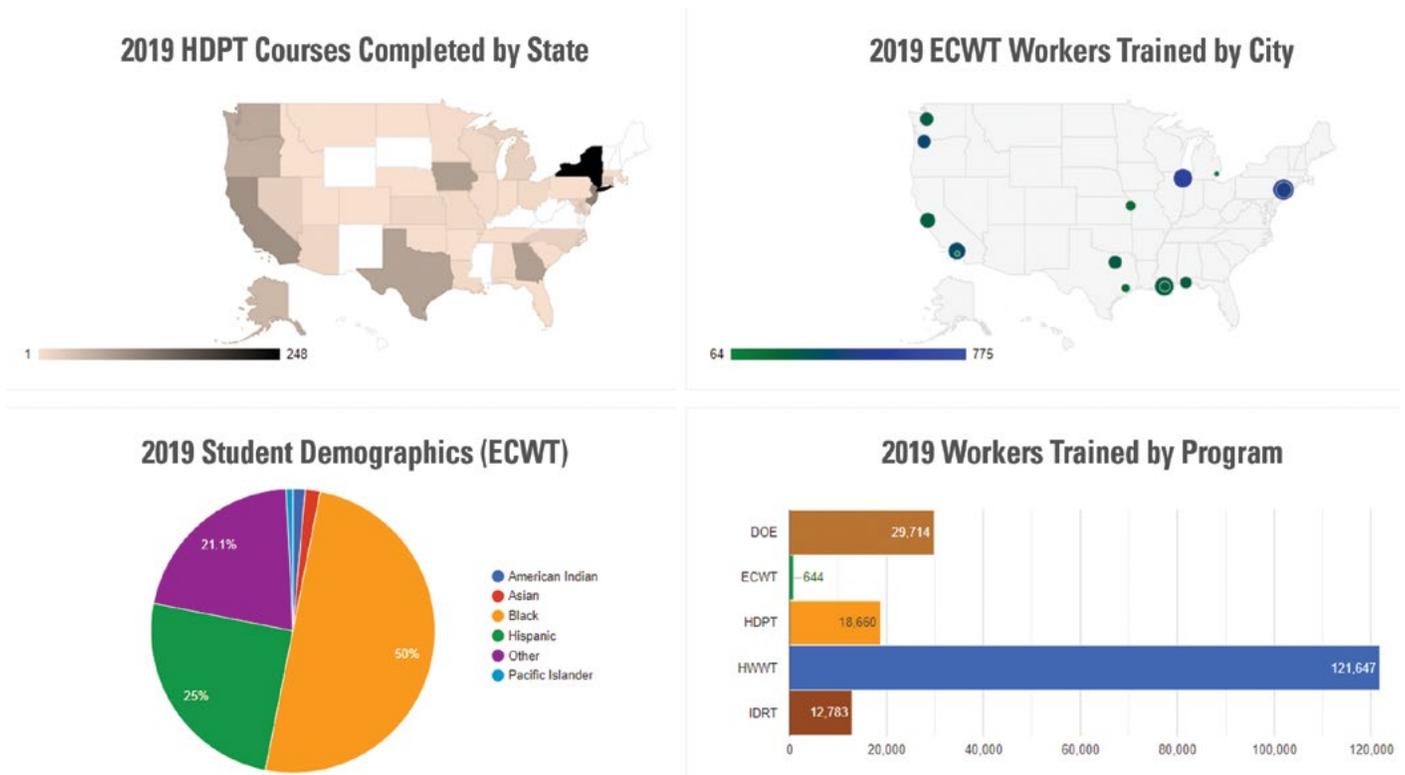
In 2018, National Clearinghouse staff researched and created several demonstration websites that use the training location data

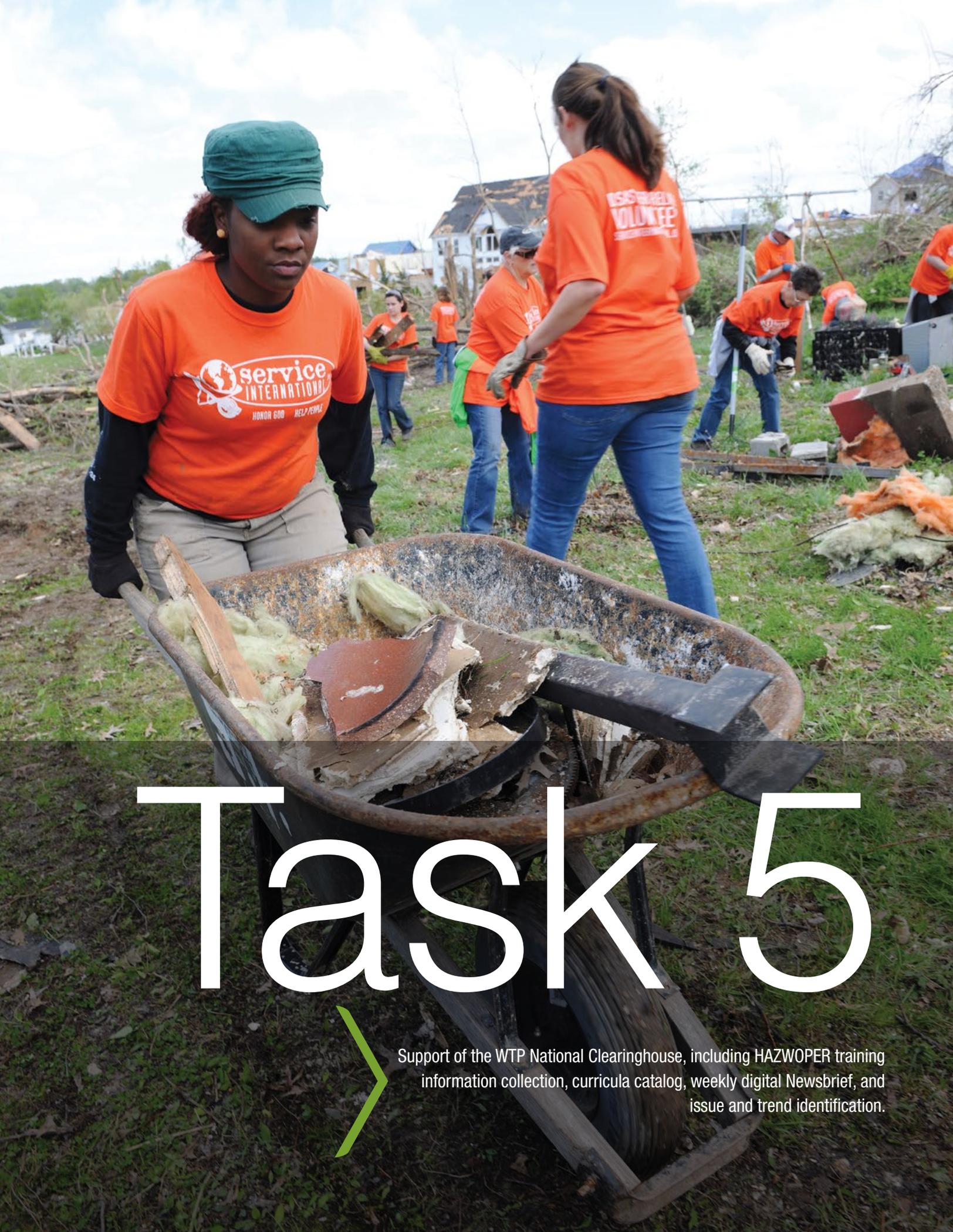
provided by WTP awardees when they enter their course data into the DMS. Staff used training location data to look up the U.S. Congressional districts for the addresses, and then compiled it into bar charts, line charts, donut difference charts, and maps by state, Environmental Protection Agency region, and U.S. Congressional district. This data is used to create maps to visualize the impact that the WTP awardees have across the nation. The [Where We Train map](#) allows the user to choose whether to display the number of workers trained in each state or the number of courses given in each state under the various training program areas. The data on the map can also be downloaded an Excel spreadsheet allowing for data compilation and analysis. Along with the map, admin pages were created to allow WTP staff to control both the year and programs for which data is displayed on the public site.

### Updates to the WTP Clearinghouse Booklet Ordering Form

The booklet ordering form on the National Clearinghouse site was updated to allow people to place more than one booklet order at a time. The order form feeds into an electronic database, which also functions as an inventory system to track the number of booklets on hand.

Figure 1: Examples of DMS Dashboard Graphics





# Task 5

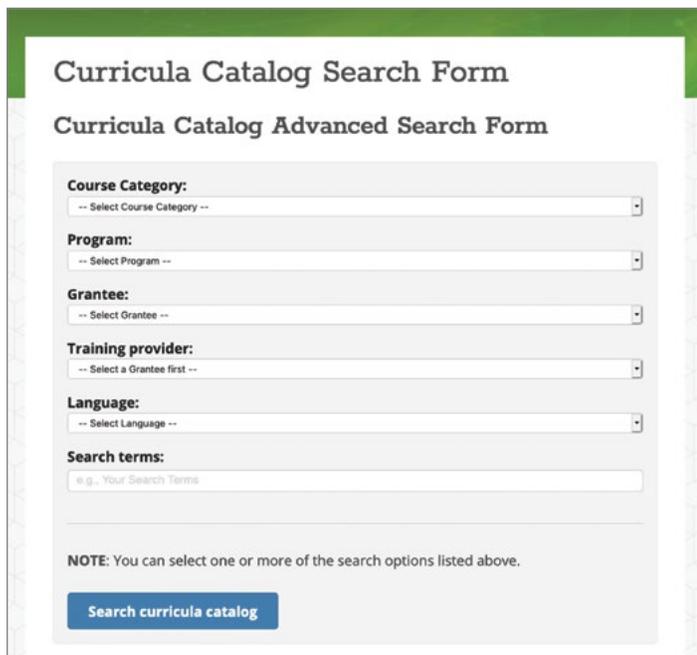
Support of the WTP National Clearinghouse, including HAZWOPER training information collection, curricula catalog, weekly digital Newsbrief, and issue and trend identification.

## HAZWOPER Training Information Collection (HASL) and Curricula Catalog

The Health and Safety Library (HASL) contains a vast collection of diverse, Section 508-compliant materials related to worker safety and health. Over the past five years, the National Clearinghouse information technology team has collected, cataloged, and uploaded new materials to HASL to ensure that it remains a valuable resource for WTP awardees, other members of the training community, and the public. The public can also access curricular materials produced by WTP awardees via the Curricula Catalog on the National Clearinghouse website.

Between October 1, 2019 and September 30, 2020, 419,111 documents were downloaded from HASL. Seventy-four percent of those downloads occurred after March 1, 2020.

WTP awardees added 168 new courses to the curricula catalog, modified 365 existing courses, and uploaded 390 new curricula files.



The image shows a screenshot of the 'Curricula Catalog Search Form' on a website. The form is titled 'Curricula Catalog Search Form' and 'Curricula Catalog Advanced Search Form'. It features several dropdown menus for filtering search results: 'Course Category' (with a placeholder '-- Select Course Category --'), 'Program' (with a placeholder '-- Select Program --'), 'Grantee' (with a placeholder '-- Select Grantee --'), 'Training provider' (with a placeholder '-- Select a Grantee first --'), and 'Language' (with a placeholder '-- Select Language --'). Below these is a text input field for 'Search terms' with a placeholder 'e.g., Your Search Terms'. A 'NOTE' states: 'NOTE: You can select one or more of the search options listed above.' At the bottom of the form is a blue button labeled 'Search curricula catalog'.

## Weekly Digital Newsbrief

Distributed every Friday to over 1,600 subscribers since 2015, the National Clearinghouse e-Newsbrief continues to be an important communication tool for reaching WTP awardees, stakeholders, and interested community members. The e-Newsbrief is produced by National Clearinghouse and WTP staff and contains summaries of the latest worker health and safety news from newspapers, magazines, journals, government reports, and the Web, along with links to the original documents. The weekly newsletter also features updates from government agencies that handle hazardous materials and worker safety issues.

## Issue and Trend Identification

National Clearinghouse staff continue to provide the WTP with updates on new issues and trends by remaining up-to-date on current literature and news articles on worker safety and health, hazardous materials and worker issues, and emergency and disaster response and recovery issues.



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