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Building Capacity for Public Health Assessments Through a Web-Based Training Curriculum

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Agency for Toxic Substances and Disease Registry

Editor's Note: As part of our continued effort to highlight innovative approaches to improve the health and environment of communities, the *Journal* is pleased to publish regular columns from the Agency for Toxic Substances and Disease Registry (ATSDR) at the Centers for Disease Control and Prevention (CDC). ATSDR serves the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and diseases related to toxic substances. The purpose of this column is to inform readers of ATSDR's activities and initiatives to better understand the relationship between exposure to hazardous substances in the environment, its impact on human health, and how to protect public health.

The findings and conclusions in this column are those of the authors and do not necessarily represent the views of ATSDR and or CDC.

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The Agency for Toxic Substances and Disease Registry (ATSDR), in coordination and collaboration with state partners, conducts public health assessments (PHAs) to characterize exposures to toxic contaminants, evaluate the potential for adverse human health effects, and recommend evidence-based public health actions to mitigate or prevent harmful exposures in communities living near a hazardous waste site (ATSDR, 2022; Ulirsch & Li, 2022). As part of the PHA process, environmental health professionals evaluate complex data, includ-

ing environmental monitoring data, exposure information, and health-related evidence; assess exposure pathways; characterize site-related exposure doses and durations; and determine the likelihood of adverse health effects among affected communities. Performing PHAs has become increasingly challenging due to complex sites, heterogeneous data sets with varying quality, multiple exposure pathways, mixtures of chemical contaminants, emerging contaminants of concern, and the evolving understanding of chemicals and their toxicity.

ATSDR has recently developed numerous training courses, videos, guidance documents, and tools to train professionals and build technical capacity on the PHA process. These training materials cover various topics and steps in the PHA process, ranging from community engagement to toxicological evaluations. They are based on the 10 core professional PHA competencies that provide health assessors with the skills and knowledge to effectively conduct and document the PHA process.

The materials are also designed with different technical levels for different audiences. For example, some are for new professionals or community members who want a general understanding of the process, while others are for experienced health assessors who require in-depth learning. To organize hundreds of materials and enable clear navigation for users to locate the appropriate training suited for their specific needs, ATSDR developed and released a comprehensive Public Health Assessment Training (PHAT) Curriculum website in June 2025 (ATSDR, 2025). This website serves as a central educational hub for all of ATSDR's training materials, guidance documents, and resources for conducting PHAs at hazardous sites. A one-stop hub for users with varying technical skills and backgrounds, the website allows easy navigation to introductory and advanced training courses, topic- and competency-specific training materials, and courses that offer continuing education credits (Figure 1). The following are the sections of the PHAT website.

FIGURE 1

The Agency for Toxic Substances and Disease Registry's Public Health Assessment Training Curriculum Website

Find Public Health Assessment Training



Introductory Training

In Introductory Training you will learn about the fundamentals of the PHA process.

JUNE 23, 2025



ATSDR Environmental Health Assessor Professional Competencies

In Professional Competencies you will learn about the 10 essential PHA competencies.

JUNE 23, 2025



ATSDR Training and Education by Topic

In Training and Education by Topic you will find PHA courses, guidance, and tools by topic.

JULY 9, 2025



Continuing Education

Learn about the training programs on the PHA process that are accredited for continuing education.

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Note. Find these valuable trainings at www.atsdr.cdc.gov/pha-curriculum.

Introductory Training

Designed as introductory courses for new health assessors, this section includes eight training modules that provide an overview of the fundamentals of the PHA process, including its purpose and steps.

- Module 1: ATSDR and Its Method
- Module 2: Public Health Assessment Overview

- Module 3: Site Information and Data Gathering
- Module 4: Exposure Pathway Evaluation
- Module 5: Selection of Sampling Data
- Module 6: Data Screening Analysis
- Module 7: Health Effects Evaluation
- Module 8: How to Write Clear Environmental Health Information

In addition, this section also includes a series of webinars that highlight the experiences of ATSDR subject matter experts while conducting health assessment work at hazardous waste sites, including the following:

- Introduction to ATSDR and the PHA Process
- Engaging the Community
- Exposure Pathway Evaluation
- Selection of Sampling Data
- Data Screening Analysis
- Exposure Units and Estimating Exposure Point Concentrations

Professional Competencies

ATSDR developed the Environmental Health Assessor Professional Competencies to provide an outline for the essential knowledge, skills, and abilities needed to conduct the PHA process. This section provides a list of training courses, guidance, and tools for each of the 10 professional PHA competencies.

- Competency #1: Design initial site-specific PHA strategy
- Competency #2: Engage communities throughout the PHA process
- Competency #3: Identify and evaluate exposure pathways for contaminants at hazardous waste sites
- Competency #4: Select the sampling data that are appropriate for use in the PHA process
- Competency #5: Define and characterize potentially exposed populations
- Competency #6: Use comparison values to screen substances and identify contaminants and pathways requiring further evaluation
- Competency #7: Perform exposure calculations
- Competency #8: Perform in-depth analysis to determine if adverse health effects are likely
- Competency #9: Determine and communicate health assessment conclusions, limitations, recommendations, and public health action plans
- Competency #10: Write and release your PHA document in an appropriate format

Training and Education by Topic

For professionals who are familiar with the PHA process and want more information in specific areas, they can use this section to explore courses, guidance, resources, and

tools related to the PHA process by the following topics:

- 508 Compliance and Public Health Documents
- Chemicals
- Discrete and Nondiscrete Sampling Guidance
- Engaging the Community
- Environmental Medicine Resources for Healthcare Providers
- Exposure Dose Guidance Documents
- Exposure Units and Exposure Point Concentrations
- Geospatial Research Analysis and Services Program
- Health Outcome Data
- Nitrates and Nitrites
- Newsletters for Health Assessors
- Pathways of Exposure
- ATSDR Petition Program
- Public Health Assessment Guidance Manual (PHAGM)
- Screening Contaminants
- SHOWER (Shower and Household Water-Use Exposure) Model
- Toxicological Evaluations
- Vapor Intrusion

Continuing Education

This section outlines PHA courses from ATSDR that offer continuing education (CE). CE plays a vital role in helping public health professionals to meet licensure and certification requirements and stay current with evolving science and practices. ATSDR accredited a set of training courses to support professional development and strengthen the knowledge and skills needed to conduct the PHA process. For example, each of the eight PHA training modules offers a range of CE credits:

- Continuing education unit (CEU)
- Continuing education contact hour (CECH) in health education for Certified Health Education Specialists (CHES) and

Master Certified Health Education Specialists (MCHES)

- Certified Public Health (CPH) recertification credit

Another successful example is ATSDR's Environmental Health and Land Reuse (EHLR) training program, developed in collaboration with the National Environmental Health Association (NEHA). The EHLR Certification Program includes an introduction and five modules. Each represents one step of ATSDR's 5-step Land Reuse Model and provides the information, procedures, and resources needed to identify, clean up, and redevelop land reuse sites. Completing the following EHLR modules enables participants to receive an EHLR certificate and 10 CEUs:

- Module 1: Introduction to the Environmental Health and Land Reuse Certificate Program
- Module 2: Engaging With Your Community
- Module 3: Evaluating Environmental and Health Risks
- Module 4: Communicating Environmental and Health Risks
- Module 5: Redesigning With Health in Mind
- Module 6: Measuring Success

The PHAT Curriculum website represents a significant advancement in ATSDR's efforts to build technical capacity (Li et al., 2025) for conducting PHAs in an increasingly complex environmental health landscape. The website comprises 34 individual webpages and integrates 107 training courses and resources, including 8 training modules, 20 webinars, 26 guidance documents, 26 tools, and 37 additional resources. The website serves as a centralized educational hub for ATSDR's PHA process.

By enabling health assessors to easily identify training materials and tools that suit their unique needs, the platform enables more efficient access to high-quality resources tailored

to users with varying levels of expertise. By improving availability to consistent, science-based guidance and training, the website enhances workforce competency and promotes greater consistency and rigor in conducting the PHA process across ATSDR and state health departments. Strengthening the technical capabilities of the workforce supports more timely and scientifically robust assessments and more effective public health actions, ultimately advancing ATSDR's mission to protect communities from harmful environmental exposures and associated health risks. 🌸

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Did You Know?

According to the U.S. Census Bureau, there are more than 30 million swimmer visits each year in the U.S. We have a webpage with resources to help you keep your communities safe, especially as the summer months approach and people look to cool down from the heat. Learn more and explore our curated resources at www.neha.org/recreational-waters.