CDC/ATSDR Assessment of Chemical Exposures (ACE)/Epi Aid Investigation
East Palestine Train Derailment

National Academies Virtual Workshop: Public Health Research and Surveillance Priorities from the East Palestine, Ohio Train Derailment
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What is ATSDR?

• A federal non-regulatory public health agency within the U.S. Department of Health and Human Services
• Created by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, also known as the Superfund Law, as amended by Superfund Amendments and Reauthorization Act in 1986
• Works with communities; local, state, and tribal governments; and other federal agencies to protect people from environmental exposures
ATSDR’s Role in the Derailment Response

ATSDR engaged with our partners during the derailment and fire to exchange information and promote health-protective decisions. As the response developed, we:

• Provided communication support to health care providers, residents, and key partners to help them understand health concerns and locate available resources

• Coordinated public health activities with state, local, and federal partners

• Provided health-based screening levels, when requested by partners, to support environmental data collection and review

• Conducted Assessment of Chemical Exposure surveys
ATSDR's Assessment of Chemical Exposures (ACE)

• When toxic substance spills or chemical emergencies happen, ATSDR helps state and local health departments by providing ACE resources to perform a rapid epidemiologic assessment

• State and local health departments use the generated information to
  • assess impact of the release on individuals as well as the community
  • direct the public health response
  • target outreach to prevent similar incidents
  • assess the need to modify emergency response procedures
  • identify a group of exposed people that may need to be followed for long-term effects
ACE in East Palestine

ATSDR was asked by Ohio Department of Health and Pennsylvania Department of Health to help with two investigations:

Community Health Assessment

First Responder Survey
Respondents to ACE surveys

702 community surveys
- 528 from OH
- 174 from PA

339 responder surveys
- 198 from OH
- 111 from PA
Community Survey: Respondents’ Location - February 3 – 8, 2023

52% within 1-mile radius of derailment

69% within 2-mile radius of derailment

54% of all respondents evacuated, although only 36% reported being asked to evacuate
Community Survey

86% of respondents believed they were exposed to hazardous substances

- 96% in Air*
- 46% in Soil
- 45% in Water

*Of those who believed they were exposed; not mutually exclusive
**Ears, nose & throat (89%, 76%)**
- Runny nose (53%, 48%)*
- Stuffy nose or sinus congestion (57%, 46%)
- Burning nose or throat (56%, 46%)

**Nervous system (84%, 70%)**
- Headache (92%, 94%)*
- Dizziness or lightheadedness (54%, 34%)

**Lungs (69%, 45%)**
- Coughing (81%, 71%)*
- Difficulty breathing/feeling out of breath (65%, 57%)

**Eyes (67%, 56%)**
- Irritation/pain/burning (78%, 71%)*
- Watering/tearing (57%, 49%)

*Percent of those respondents reporting symptoms in this category for the given state
Community Survey: Mental Health

70% of respondents (77% for OH and 49% for PA) reported at least one new or worsening mental health symptom since the incident.
Community Survey: Conclusions and Health Recommendations

• The distribution, types, and severity of health symptoms captured in the ACE survey and other sources were consistent with each other
• Reported symptoms appear to be mild to moderate and are consistent with irritant exposures
• Symptoms are also consistent with what is currently known about the health effects of the substances released and their distribution
• Improvement and resolution of these symptoms would be generally expected after exposure ceases and time elapses
  • We encouraged residents to see their health provider if symptoms persisted
  • ATSDR developed clinician guidance for concerns related to the derailment
• The mental health effects seen are consistent with other environmental disasters
Responders:

- Firefighters
- Hazmat Professionals
- Police Officers
- Emergency Medical Services (EMS)
- Ohio National Guard
- Government Workers
- Contractors
- Others
Responder Survey: Exposure Findings

• Total hours worked
  • Median of 6 hours worked within the 1-mile radius
  • Median of 10 hours worked outside the 1-mile radius

• Majority of responders reported not wearing a mask or respirator during the incident (70-90% for the most common job categories)

• Of those who have ever taken a chemical safety training, nearly 38% have not taken any in the past year
Responder survey: most reported symptoms

**Eyes:** 37 (23%)
- Increased watering/tearing: 16 (43%)
- Irritation/pain/burning in the eye(s): 32 (87%)
- Blurred or double vision: 3 (8%)

**Ear, nose, & throat:** 132 (82%)
- Stuffy nose/sinus congestion: 86 (65%)
- Runny nose: 76 (58%)
- Burning nose or throat: 64 (49%)

**Heart:** 15 (9%)
- Chest tightness or pain/angina: 14 (93%)
- Fast heart rate/pulse: 5 (33%)

**Lungs:** 45 (28%)
- Coughing: 37 (82%)
- Difficulty breathing/feeling out-of-breath: 22 (49%)
- Wheezing: 16 (36%)

**Skin:** 19 (12%)
- Dry or itchy skin: 9 (47%)
- Skin rash: 9 (47%)
- Irritation, pain, or burning of skin: 7 (37%)
Responder Survey: Health Recommendations

• We encouraged first responders to see their health provider if symptoms persisted
• ATSDR recommended annual preventative care visits and enrolling in firefighter health registries
• We made specific recommendations to protect the health and safety of responders in future incidents
Thank you!

• Columbiana District Health Department (OH)
• Ohio Department of Health
• Pennsylvania Department of Health
• East Palestine Fire Department (OH)
• Negley Fire Department (OH)
• Darlington Fire Department (PA)

Questions?
Contact Dr. Motria Caudill at 312-886-0267 or mcaudill@cdc.gov.
For more information: https://www.atsdr.cdc.gov/sites/east-palestine-train-derailment/index.html