

3. ATSDR/MDPH Partnership Projects

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Greater New Bedford Health Effects Study

The first health study in the US funded by ATSDR following Superfund Amendments and Reauthorization Act (SARA) in 1986



Since then, ATSDR and MDPH have collaborated on many projects of various types to protect the public from harmful chemicals:

1. Bio-monitoring
2. Emergency Response
3. Health-Exposure Investigations
4. Health Assessments for Superfund Sites and Other Sites
5. Medical Consultations/Collaboration
6. Health Education

ATSDR/MDPH Partnership Projects: Bio-monitoring

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Baird and McGuire Superfund Site Holbrook, MA

- Chemical manufacturing and mixing from 1912 to 1983
- Contamination affected surface and subsurface soil, groundwater, wetlands, river sediment and surface water
- EPA proposed incineration of contaminated soil (14% arsenic)
 - Neighbors were very concerned about health impacts
 - MDPH was concerned about elevated cancer risk from letting site conditions remain without proper clean-up



ATSDR/MDPH Partnership Projects: Bio-monitoring

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Baird and McGuire Superfund Site Holbrook, MA



- MDPH designed and conducted *The Childhood Environmental Study* to measure arsenic in the urine and hair of children living within one mile of the incinerator, before start-up and four times during 2-year operation.
- Study showed that the majority of children did not have detectable levels of arsenic in their urine or hair; for those who did, no consistent pattern was observed between higher biologic measurements and increasing downwind emission frequency. No biologic measurements exceeded CDC's action levels for arsenic in hair or urine.
- An example of successful collaboration with EPA and close communication with concerned residents to address their concerns.

ATSDR/MDPH Partnership Projects: Emergency Response

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Danvers Explosion/Fire

- 11/22/06 @ 2:45 AM: Huge explosion and 10-alarm fire
- At chemical processing facility (inks, coatings) in residential neighborhood
- 20 individuals hospitalized
- Damage to 250 homes, 20 businesses, 1 school, 300 vehicles, 65 boats



Photo: From Boston Globe, 11/22/06

ATSDR/MDPH Partnership Projects: Emergency Response

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Danvers Explosion/Fire

- EPA began air monitoring for hazardous chemicals shortly after explosion (with guidance from ATSDR and MDPH on methods, monitor locations, interpretation of sampling results, etc)
- MDPH and ATSDR Emergency Response staff worked together to identify/derive short-term health standards to evaluate health risks to neighbors
- MDPH and ATSDR reviewed air sampling data for 2.5 months following the explosion (for health risks and evacuation/return to home considerations)
- Close collaboration of ATSDR, MDPH, EPA, MassDEP, and local agencies resulted in unified risk communication messages to the public

ATSDR/MDPH Partnership Projects: Health-Exposure Investigations

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Evaluation of Developmental Disabilities in Relation to Environmental Exposures, Gratuity Road, Groton MA

- Groton school officials contacted MDPH in 1988 with concerns about contaminated drinking water
- MDPH preliminary assessment established that residential wells were contaminated with organic solvents between 1965-1987
- Also established other significant exposure routes including indoor air exposure and recreational water use
- MDPH joint study with Boston's Children's Hospital



ATSDR/MDPH Partnership Projects: Health-Exposure Investigations

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Evaluation of Developmental Disabilities in Relation to Environmental Exposures

Gratuity Road, Groton MA

- Neuropsychological assessments of 2 groups of children – those at greatest risk of exposure and those considered not exposed – plus reviews of special education records and parent interviews
- Exposures estimated based on residential proximity to contamination, groundwater modeling, parent interviews, tap water samples, and environmental sampling data
- Findings:
 - Overall prevalence of learning disabilities between 2 groups not significantly different
 - Those at greatest risk of exposure had lower test scores than the non-exposed group, and when adjusted for other risk factors, scores were even lower

ATSDR/MDPH Partnership Projects: Medical Consultations/Collaborations with the Pediatric Environmental Health Specialty Unit (PEHSU)

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Navy Yard Mills Dracut, MA

- 2012 ATSDR contacted DPH with information regarding old mill complex of various uses (indoor batting cage, furniture manufacturing, storage)
- Volatile organic chemicals detected in indoor air and groundwater
- Sensitive populations visited the batting cage regularly (children, adolescents, pregnant women)
- Vapor intrusion of solvent (TCE) of particular concern



ATSDR/MDPH Partnership Projects: Medical Consultations/Collaborations with PEHSU

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Navy Yard Mills Dracut, MA

- Due to TCE levels in indoor air, recommended batting facility moved to another location
- Families were also concerned about past exposures to children
- Reviewed available health surveillance data on congenital heart malformations
- MDPH consulted with PEHSU and an area Occupational/Environmental Health physician
- Supported local health by developing a fact sheet to address exposure and health concerns of the community
- Relied on combination of clean-up standards and medical advice to put risks in perspective

ATSDR/MDPH Partnership Projects

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Summary

ATSDR funding and collaboration has been **critical** to *building and maintaining capacity to address community environmental health concerns and protect public health*, through a variety of methods:

- Evaluating environmental and health data
- Conducting bio-monitoring to evaluate exposures
- Collaborating with medical professionals to best address resident questions and concerns
- Responding to environmental health emergencies

Questions?

For more information, please contact

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