National Toxic Substances Incident Program

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Background

- Hazardous Substances Emergency Events Surveillance (HSEES) at ATSDR since 1990
- State health departments collect data on acute hazardous substance releases and the immediate public health impacts
- Multiple data sources (e.g. environmental agencies, DOT, NRC, and responders)
- Web-based standard data collection form
- HSEES state cooperative agreement ending in FY2009, need a new program

Benefits of HSEES

- Most comprehensive and accurate data of non-petroleum toxic substance incidents and acute public health effects*
  - In 2007, 14 HSEES states captured:
    - 7,948 acute chemical incidents (fixed and transportation)
    - 2,337 victims including 69 fatalities
- Preliminary data on 70% of incidents within 48 hours in time for alerting
- Representative of US population and industry for trending
- Has resulted in many successful outreach activities, trainings, publications, and legislation

* Mary Kay O'Connor Process Safety Center, Texas A & M University, Workgroup on Chemical Incident Databases.

Limitations of HSEES

- Not nationwide (14 states)
- No legal mandate to report
- Not a 24/7 system
- No follow-up of medical treatment or long-term health outcomes
- No petroleum-only releases
- Limited partners/collaboration

National Toxic Substances Incident Program (NTSIP)

- A comprehensive, multi-faceted plan that engages many other federal agencies in a cross-cutting program to protect the US population from toxic substances incidents and their deleterious effects.

National Toxic Substances Incident Program (NTSIP)

Three part program

- Part I- National Hazardous Substance Incident Surveillance
- Part II- Surveillance Pilots in Selected States
- Part III- Follow-up of Significant Releases

Part 1- National Hazardous Substance Incident Surveillance and Alerting

- There are many hazardous material incident databases for many distinct purposes
  - Limited overlap
  - Not all timely
  - Not in compatible formats
- Need a central database that can provide situational awareness, alerting for potential response, as well as data for analysis and planning

Part 1- Action Plan

- Build on existing databases and systems (i.e., DOT Hazmat Intelligence Portal (HIP))
- Integrate existing databases
- Supplement with news media searches and Part II data
- Validate completeness and make adjustments

Part 1- Products/Services

- Database will alert state and locals about incidents in their state
  - These agencies can alert other relevant agencies as necessary
- Immediately accessible database for situational awareness
- GIS mapping to identify vulnerable populations potentially affected
- Analyses of events to identify risk factors

Part 1- Activities Underway

- Contractor currently analyzing
  - Gaps and overlaps of existing systems
  - Core data needed by most agencies
  - Making datasets compatible and easily merged
  - How to best enhance current datasets
  - How to effectively and rapidly communicate data
- Developing scope of work for database development

Part 2 – Surveillance Pilots in Selected States

- Many populations in US are located in “vulnerability zones” around industrial facilities and near transportation corridors
- Nationwide, about 14,000 chemical facilities store and use hazardous substances that could kill or injure workers or nearby residents if released

Part II- Rationale

- Data actively collected at the state level is the most complete
- To effectively identify vulnerabilities in industry and transportation, a chemical map of the movement of hazardous substances is needed

Part II-Rationale Continued

- Massachusetts Toxic Use Reduction Act (TURA) requires manufacturing companies to file a report describing their chemical use reduction plan
- MA manufacturers reduced their toxic chemical use by 40%, toxic byproducts by 71%, and toxic environmental releases by 91%
- Law has also saved industry millions of dollars and provided significant health benefits

Part 2 – Action Plan

- Identify and prioritize industries with significant vulnerabilities due to their use, production, and storage of hazardous substances
- Promote the adoption of inherently safer technology-IST through a technical assistance program
- IST eliminates or minimizes the potential for catastrophic events by designing hazards out of process systems

Part 2 - Activities/Products

New cooperative agreement with states

- Collection of state-based incident data
- Development of chemical maps
- Prevention activities
- Partnerships with key agencies and organizations to promote hazard reduction, innovation, and IST
- Dissemination of methods of green chemistry/toxic use reduction, success stories, and lessons learned

Part II-Activities Underway

- Cooperative agreement announcement ready to be posted
- Networking with Environmental Public Health tracking Program and Green Chemistry Initiatives

Part 3 - Follow-up Significant Releases

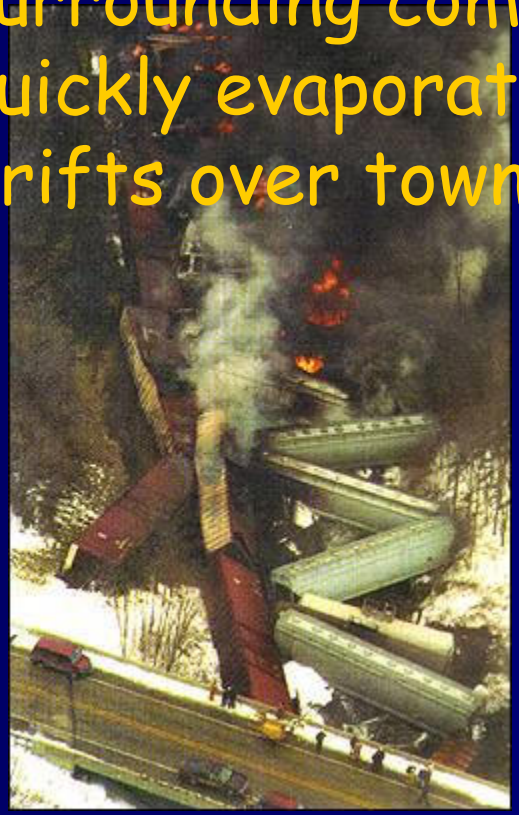
- There is little in the literature on the persistent health effects of acute chemical exposures in a non-occupational setting.
- Need to follow-up on significant incidents to gain knowledge on effective treatments, decontamination procedures, response activities, and health effects.

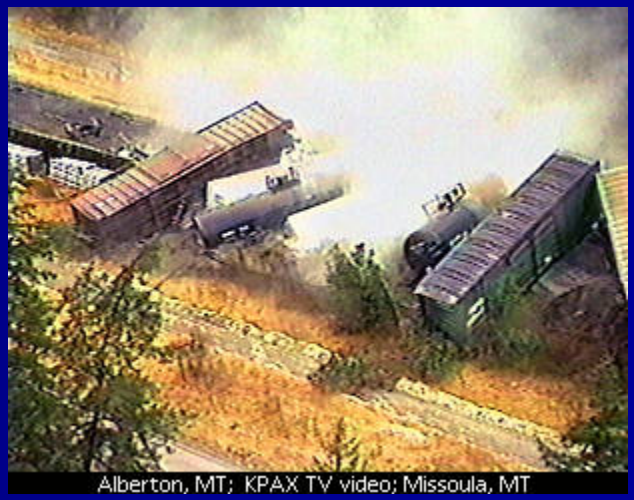
Part 3 - Activities/Products

- Monitor database in Part I for incidents of interest
- Register victims using Rapid Response Registry for follow-up
- Deploy multi-disciplinary teams to conduct exposure assessment, biomonitoring and data collection

An accident at an oil refinery releases 40,000 pounds of hydrogen fluoride (HF) into the atmosphere and the resulting plume of HF gas drifting over the populated area of the city.

A train derails two miles west of town and releases 64 tons of liquid chlorine into the surrounding community. The liquid chlorine quickly evaporates and forms a gas cloud drifts over town.





Alberton, MT; KPAX TV video; Missoula, MT

Part 3 –Products/Services

- **Emergency Responders**: Future evacuations planning, responder training, and safety plans.
- **State Environmental and Health Agencies:** State-wide incident management, prevention, planning and budgeting, community preparedness and education
- **Federal Agencies, Researchers, Scientists:** Incident management, patient management, filling state-specific data gaps (e.g., personnel or training needs, developing public service announcements)

Part 3 – Activity underway

- Presentations at meetings of state and local officials to get support for proposed activity (underway)
- Develop MOU with testing labs
- Develop baseline data collection instrument and protocol and add-in modules for OMB/IRB approval

Contact ATSDR

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