State Surveillance of Chemical Incidents
(Rebroadcast)

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National Toxic Substance Incidents Program Webinar Series
December 13, 2010

Agency for Toxic Substances and Disease Registry
Division of Health Studies

Getting started

- Conference Room Features
  - Feedback button
  - Q&A
  - Downloads
  - Transcription

- Please don't put us on hold!

As this meeting is being transcribed, please only one speaker at a time.

National Toxic Substance Incidents Program (NTSIP)

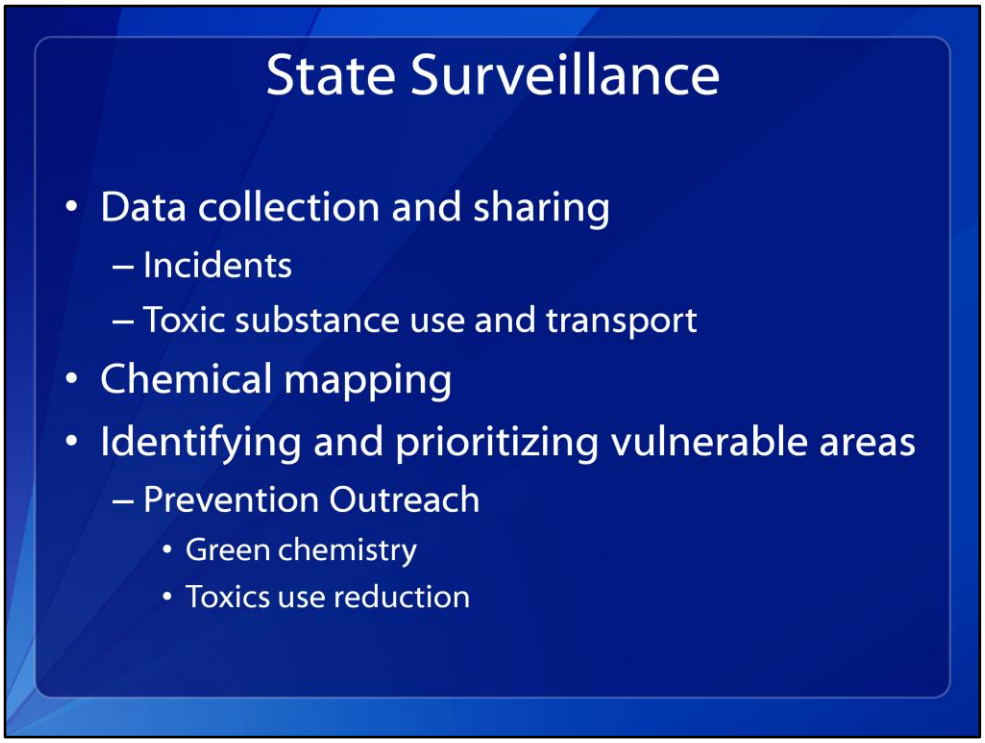
- More complete view of toxic substance incidents in the U.S.
- Partnership between ATSDR and multiple stakeholders
- 3 main components
  - State surveillance
  - National database
  - ACE – Assessment of Chemical Exposures

Partnership between the Agency for Toxic Substances and Disease Registry and multiple stakeholders such as states, other government agencies, industry, labor and NGOs.
Expands on work of Hazardous Substances Emergency Events Surveillance (HSEES) program to reduce the potential for harm from toxic substance incidents.

State Surveillance

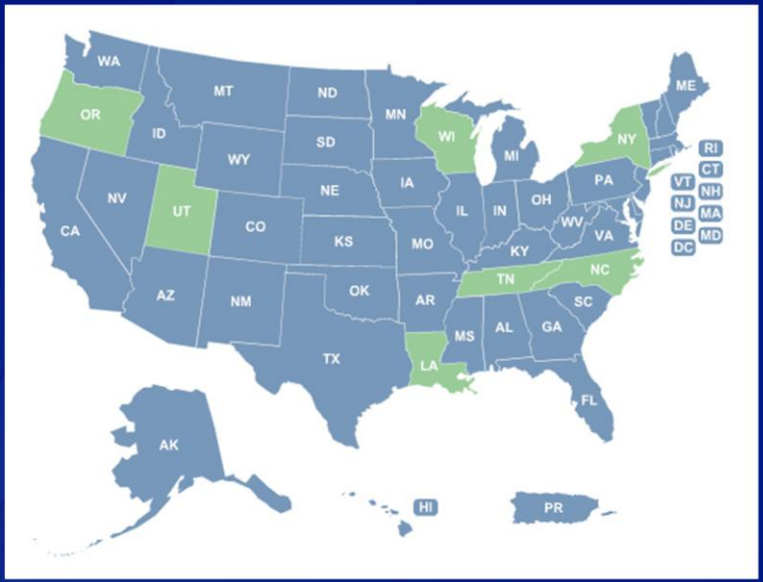
- The Problem - Many populations in "vulnerability zones"
  - Around industrial facilities
  - Near transportation corridors

About 14,000 chemical facilities store and use hazardous substances that could kill or injure workers or nearby residents if released
About 700 chemical plants are near population centers of at least 100,000 people.



The objectives of the state-based surveillance system are to:
•describe toxic substance releases and the public health consequences associated with such releases within the participating states,
•Map location and movement of hazardous substances throughout communities
•identify and prioritize vulnerabilities in industry, transportation, and communities as they relate to toxic substance releases, and
•identify, develop, and promote strategies that could prevent ongoing and future exposures and resultant health effects from toxic substance releases.

State Surveillance

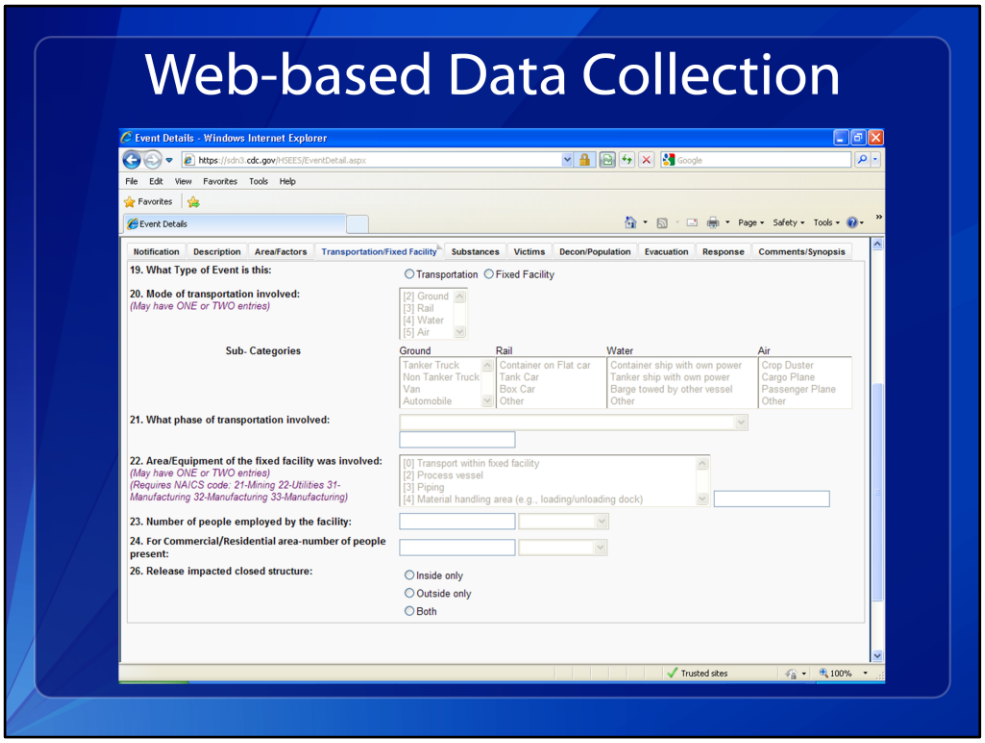


Surveillance Definition

- Uncontrolled or illegal acute release of any toxic substance
- States are highly encouraged to record data on significant non-qualifying incidents

An NTSIP incident is an uncontrolled or illegal acute release of any toxic substance. A toxic substance includes any substance which after release into the environment and upon exposure, ingestion, or inhalation will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malformations, or physical deformation. Toxic substances include chemical, biological, radiological, and medical materials.

States are highly encouraged to record data on significant non-qualifying incidents (e.g. victims present or near misses) and mark them as not meeting the definition. Reasons an incident may not qualify include



NTSIP uses a standardized data collection form and electronic data entry which allows for real-time reporting

The system can be accessed globally

Types of data collected
•notification information
•Time, date, and day of the week when the event occurred
•Event description including type of industry responsible for the event
•Event type (fixed-facility or transportation-related event)
•Geographical location and place within the facility where the event occurred
•Factors contributing to the release
•Substance, chemical, or trade name
•Specific information on injured persons: age, sex, type and extent of injuries, distance from spill, population group (employee, general public, responder, student), and type of protective equipment used (*no personal identifying information* is collected)
•Information about decontaminations, orders to evacuate or shelter-in-place
•Who responded to the event

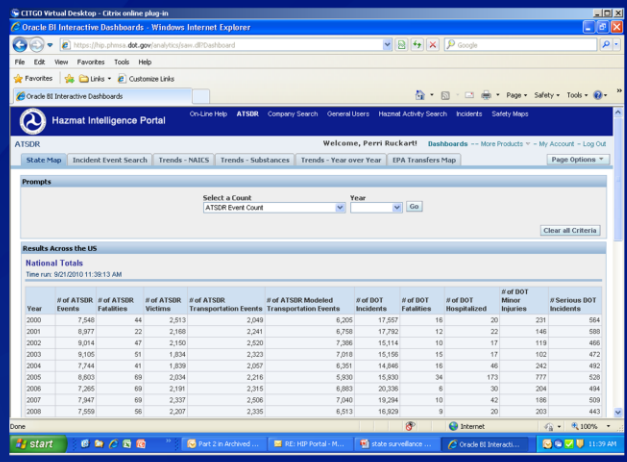
Data Sources
•Responsible party
•Environmental agencies
•Police/fire/HAZMAT agencies
•Response organizations
•Media
•Hospitals
•Department of Transportation
•Poison control centers

Analyses conducted by ATSDR include those using the combined data from all participating states as well as data specific to each participating state.

ATSDR provides annual reports describing the results of data collection from all states on the NTSIP website.

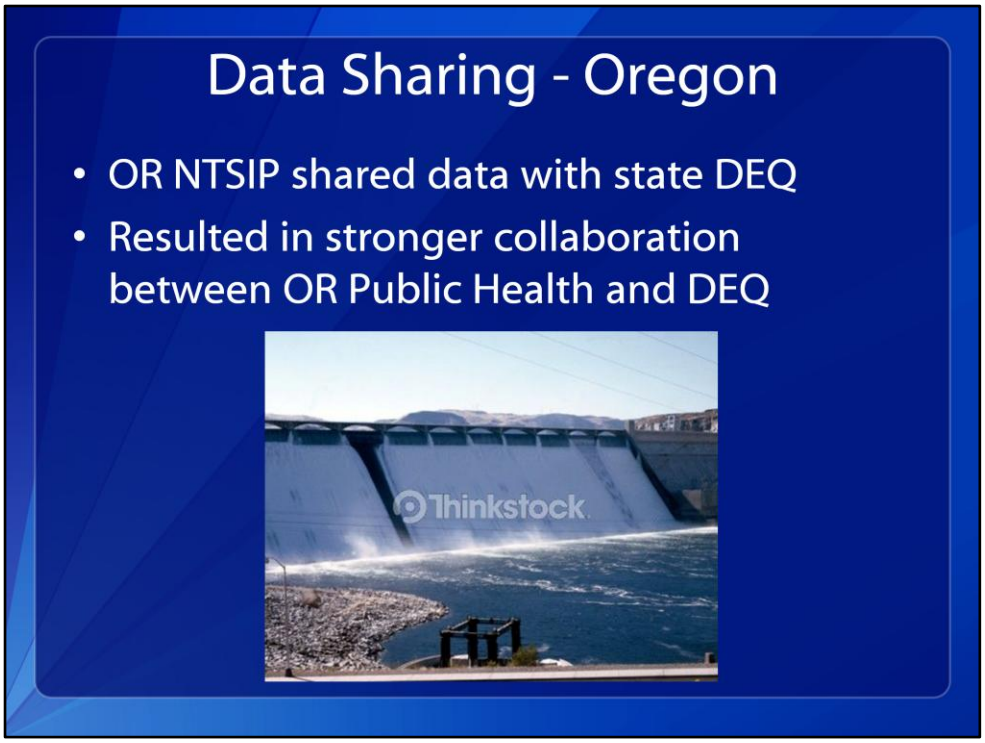
Data Sharing

- NTSIP National Database
- Estimate incidents in non-participating states



Year	# of ATSDR Events	# of ATSDR Fatalities	# of ATSDR Victims	# of ATSDR Transportation Events	# of ATSDR Modeled Transportation Events	# of DOT Incidents	# of DOT Fatalities	# of DOT Hospitalized	# of DOT Minor Injuries	# Serious DOT Incidents
2000	7,548	44	2,513	2,049	6,205	17,557	16	20	231	564
2001	8,977	22	2,168	2,241	6,758	17,792	12	22	146	588
2002	9,014	47	2,150	2,520	7,386	15,114	10	17	119	466
2003	9,105	51	1,834	2,323	7,018	15,156	15	17	102	472
2004	7,744	41	1,839	2,057	6,351	14,846	16	46	242	492
2005	8,603	69	2,034	2,216	5,930	15,930	34	173	777	528
2006	7,265	69	2,191	2,315	6,883	20,336	6	30	204	494
2007	7,947	69	2,337	2,506	7,040	19,294	10	42	186	509
2008	7,559	56	2,207	2,335	6,513	16,929	9	20	203	443

•NTSIP state surveillance data will feed into the national data effort.
•Match NTSIP data with other federal datasets in participating states to estimate incidents in non-participating states



OR NTSIP shared their acute chemical hazard data with the OR Department of Environmental Quality (DEQ) and they passed it around their agency. DEQ's Drinking Water Protection Program contacted OR NTSIP to collaborate and communicate on OR drinking water chemical hazard emergency planning and prevention. What was supposed to be an informal small meeting has mushroomed into a large multi-program meeting between public health and DEQ. OR NTSIP hopes to facilitate cross-agency data sharing, knowledge exchange, and partnership building from this meeting in the effort to enhance drinking water protection plans from acute chemical spills.

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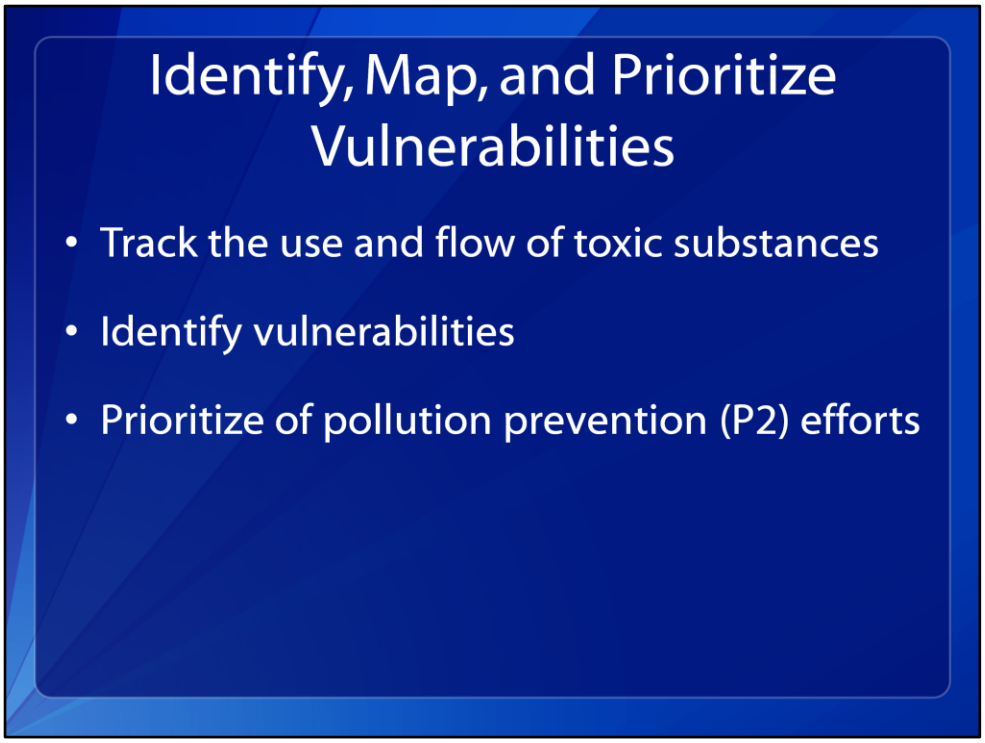


Track the use and flow of toxic substances through commerce and in communities to identify vulnerabilities and facilitate the prioritization of pollution prevention efforts

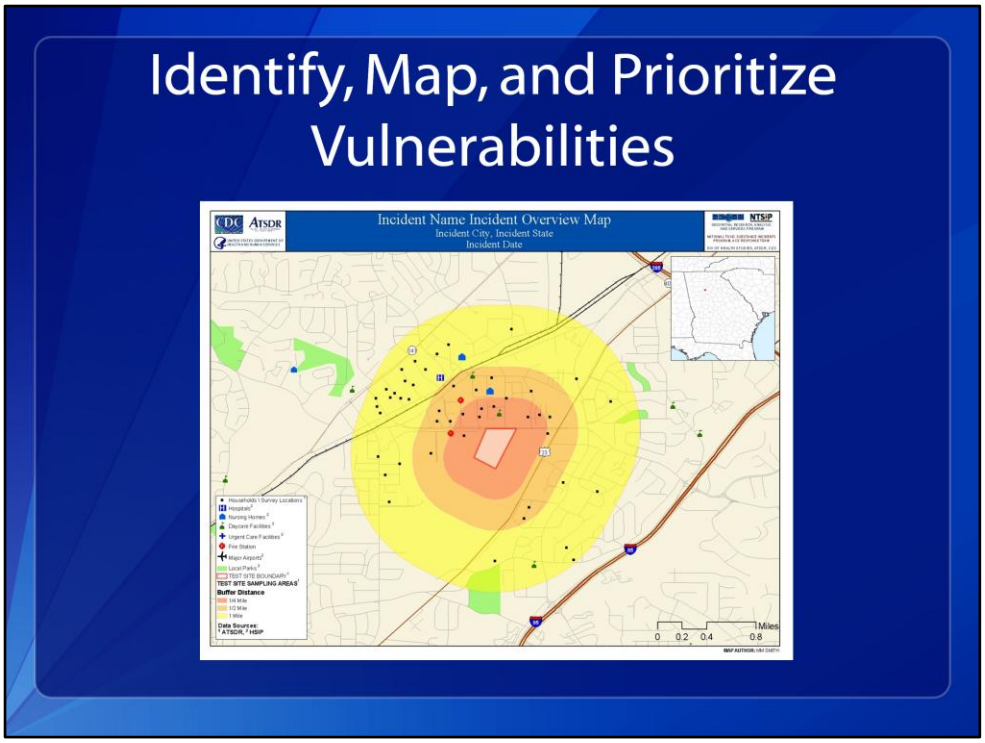
Participating states should partner with key stakeholders to develop a technical assistance program to share lessons learned and promote hazard reduction, innovation, and IST adoption.

Produce a chemical map that tracks the use and flow of toxic substances through commerce and in communities to identify vulnerabilities and facilitate the prioritization of pollution prevention efforts. Chemical maps will assist with:

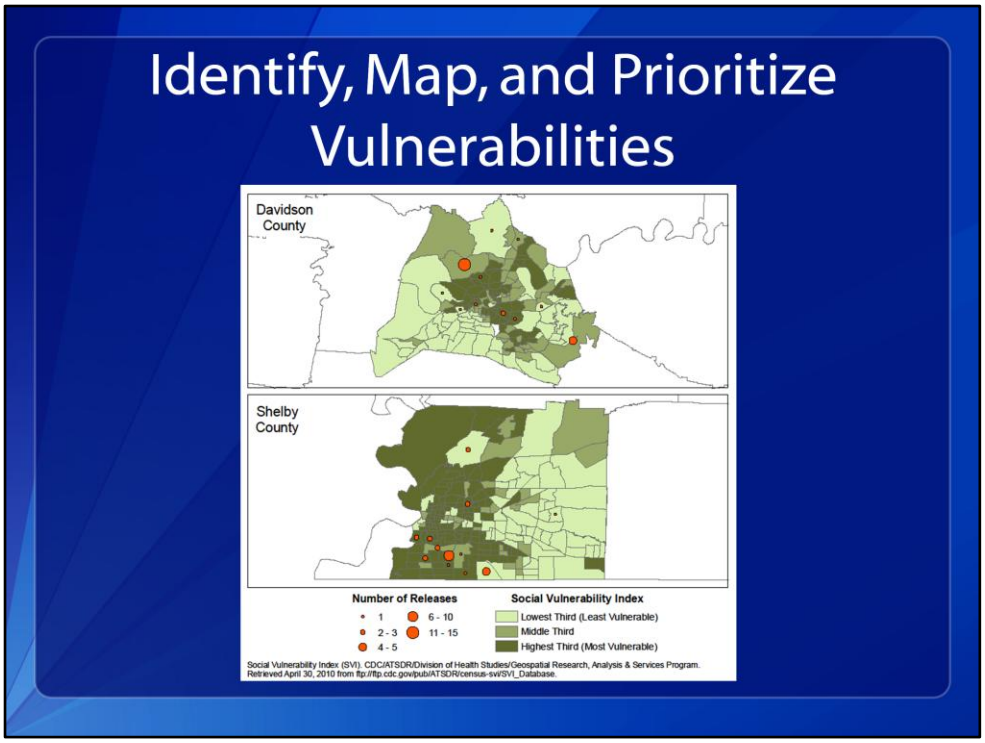
•Identifying locations where toxic substances are manufactured, used, stored, and transported
•Determining types quantities of chemicals imported, used, produced, sold, and disposed of within state
•Tracking the flow of substances within the state
•Identifying industries with high risk potential, accident-prone industry and transportation sections, and vulnerable populations
•Identifying security risks

Compile existing information and develop new sources of information as needed.

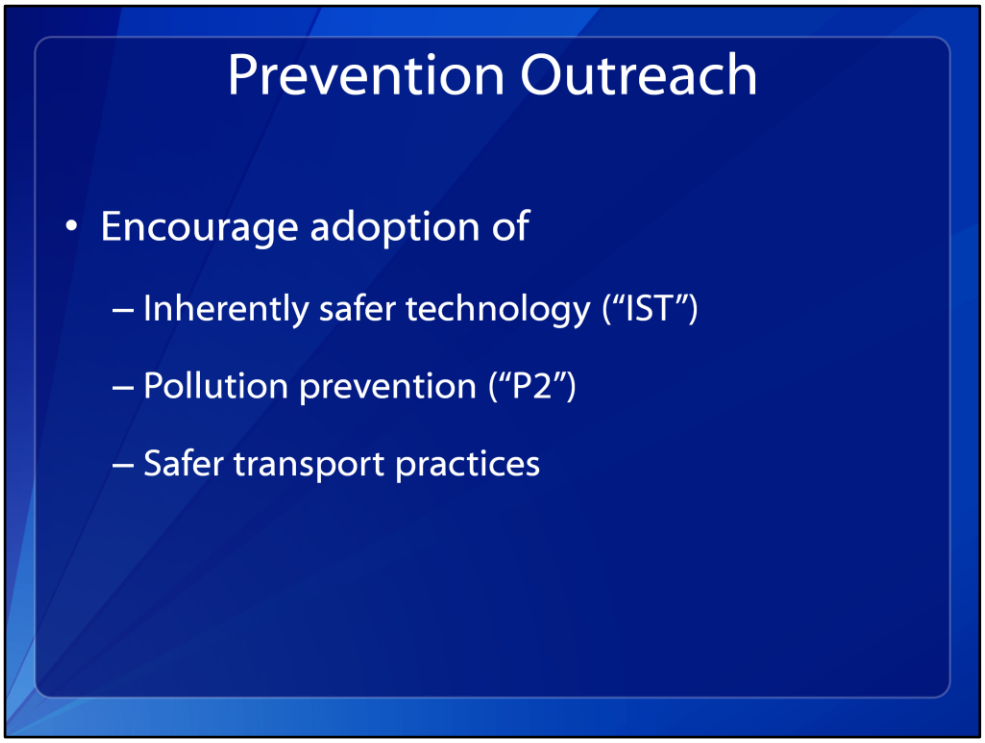
Available data include:
•HIP
•Census
•TRI
•EPCRA 312 (tier 2)
•RMP
•HSEES
•P2 info
•Other – state, NGOs, etc.
•Facility materials accounting (MA, NJ, and Eugene, OR collect these data)



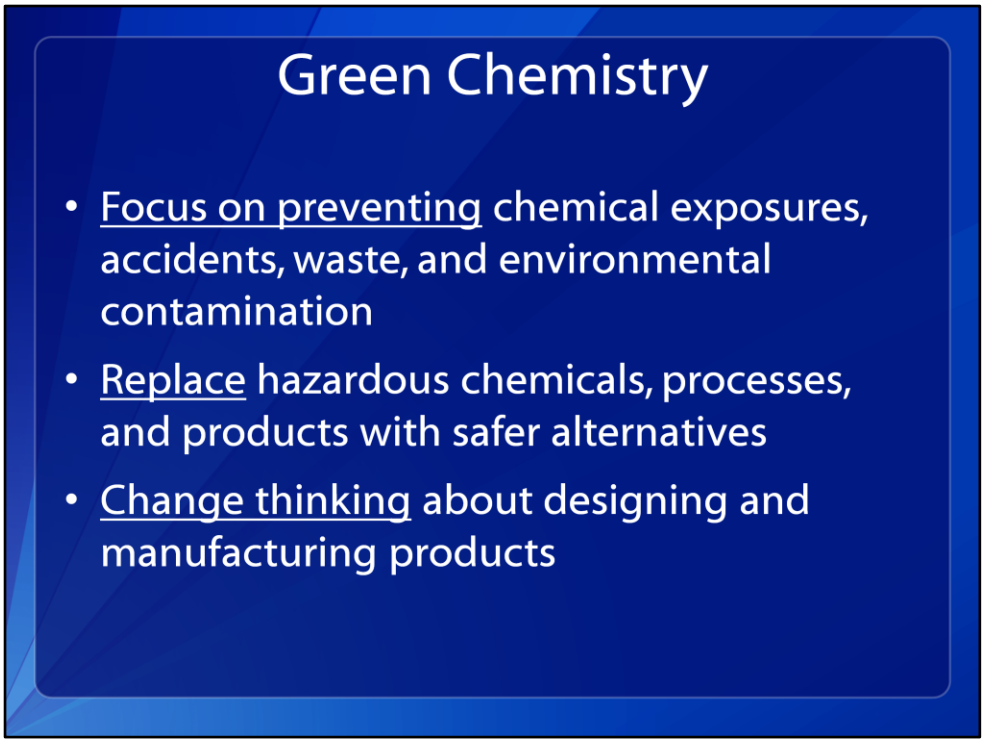
UT NTSIP is working on a geospatial query that will be on Utah's IBIS-PH (Indicator Based Information System for Public Health). The query would allow the user to type in an address, bring up a map with that address point centered on the map, and display selected hazardous substance events that occurred near that address. The user would then be able to turn on/off various underlying layers displaying nearby recreations sites (parks, playgrounds, etc.), heavily traveled areas, fire stations, police stations, emergency services, schools, hospitals, elderly care facilities, day care centers, and other medical/care locations. The user could then select an event and find out if the event has a danger zone (or buffer area) around it, and if so, receive information associated with the event such as how many people were exposed, what the immediate effects on the exposed population were, and what the expected long-term effects on the exposed population are.



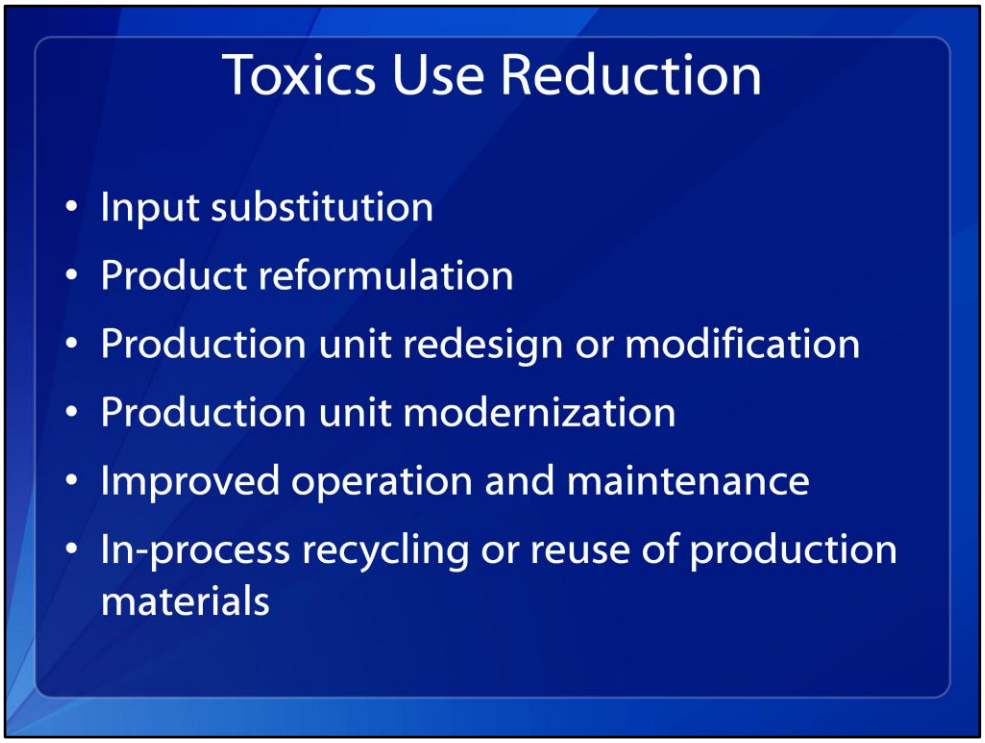
TN NTSIP has mapped the location of chemical incidents and the location of chemical facilities (based on E-Plan data) as well as hospital locations, fire stations, child care providers, houses of worship, schools, highways, railroads, streets, and land cover for Tennessee. They also have Homeland Security data on the map such as statewide cell towers and the pipeline system. They also have the SVI (social vulnerability index) data which they could include on the map.



Participating state health departments provided a 3 year prevention plan (October 2009-September 2012) that can serve as a model for others.
Most of the first year will be spent partnering, gathering existing data and identifying data gaps, mapping, and establishing the criteria to focus on. Partners include P2 programs, state environmental agency pollution prevention programs, and regional EPA and ATSDR representatives.
The actual outreach will begin in year 2. Year 3 will focus on the data analysis, measuring impact, sharing lessons learned, producing case studies/best practices, etc.
Prevention is meant to be a collaborative effort between industry, labor, academia, NGOs, government, and communities.



Focus on preventing, rather than reducing, chemical exposures, accidents, waste, and environmental contamination.
Replaces hazardous chemicals, processes, and products with safer alternatives.
Designs chemicals and manufacturing processes to minimize the potential for chemical accidents including explosions, fires, and releases to the environment
Changes the way companies think about designing and manufacturing products
Making manufacturing processes and products safe from the start.



Techniques to achieve toxics use reduction

Input substitution: changing the raw materials of a product to use nontoxic or less toxic raw materials

Product reformulation: reformulating or redesigning end products to be nontoxic or less toxic upon manufacture, use, release, or disposal

Production unit redesign or modification: using production units of a different design than those used previously

Production unit modernization: upgrading or replacing production unit equipment or methods

Improved operation and maintenance: modifying existing equipment or methods by such steps as improved housekeeping, system adjustments, or process/product inspections

In-process recycling or reuse of production materials

Benefits

- Minimizes toxic emissions and hazardous waste
- Healthier workplaces and communities
- Safer products
- Cost-effective
- Reduces company compliance costs and liability
- Reduces government enforcement costs

Less waste
Fewer accidents
Safer products
Healthier workplaces and communities
Energy efficient
Companies have competitive advantage
Economical including lower production costs and regulation and enforcement costs

Summary

- Collect and share data for ATSDR's toxic substance incidents surveillance system
- Collect information on toxic substance use and transport
- Map location and movement of toxic substances throughout communities
- Identify and prioritize vulnerable areas for targeted prevention activities

The objectives of the state-based surveillance system are to:
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Please visit our website

http://www.atsdr.cdc.gov/ntsip/

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.