

# National Toxic Substance Incidence Surveillance

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Agency for Toxic Substances and Disease Registry  
Division of Health Studies



Good afternoon. Welcome to the last of three webinars through which we will be introducing the National Toxic Substances Incidents Program or NTSIP. My name is Maureen Orr. I'm an epidemiologist in the Agency for Toxic Substances and Disease Registry / Division of Health Studies / Surveillance and Registries Branch. Mary Anne Duncan and Perri Ruckart, who led the other two Webinars are here with me. Today we will be discussing the National Surveillance component of NTSIP.

# Getting Started

- Conference Room Features
  - Feedback button
  - Q&A
  - Downloads
  - Transcription
- Please don't put us on hold!



Some of the features of this electronic classroom that we will be using are the download button and the question and answer feature.

The download button is located on the top right of your screen. It is the 4th icon from the right that looks like 3 little sheets of paper. If you click on it, you can download our NTSIP fact sheet.

We will be answering questions at the end of the presentation. You may either ask them over the phone bridge or type them in to the Q & A window on the top left of your screen. To type in a question, click Q & A, then type your question in the top part of the box that appears, and click over the word Ask to send it to us.

We won't have anyone monitoring the feedback button, so if you can't hear or I'm going too fast, please speak up over the phone bridge.

The meeting is being transcribed, so please try to have only one person speaking at a time.

And, finally, please mute your phones unless you are speaking to me or the group, and please do not put us on hold.

# NTSIP

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

For the past 20 years, our branch has had the Hazardous Substance Emergency Events Surveillance or HSEES program. Through HSEES, ATSDR had cooperative agreements with 19 states at varying times over the years. The state health departments collected detailed data on toxic substance incidents and entered it into the ATSDR database and performed prevention activities.

In response to feedback from stakeholders, it was decided to develop a program that could provide a more complete view of toxic substance incidents in the United States. NTSIP was developed and went live in January this year.

There are three main components to NTSIP. The first part, which we will be covering today is a national database of toxic substance incidents that combines data from existing databases. The second part of is similar to the state-based surveillance that was part of HSEES, but with a mapping component and an increased emphasis on prevention outreach. There currently are 7 states participating. The third part of is incident investigations after large-scale toxic substance releases also known as ACE investigations. Today we will cover the National Surveillance part.

# Background

- Several barriers to national public health surveillance of chemical incidents
  - Competing mandates
  - Varying definitions
  - Limited data on public health impacts
- Only 1% of events listed in all 3 national databases\*

\* Binder S. Deaths, injuries and evacuations from acute hazardous materials releases. Am J Public Health 1989; 79: 1042-1044

In the past, barriers that have prevented establishing a national surveillance system to assess the morbidity and mortality associated with acute releases of hazardous substances include: 1) no legal mandate or competing mandates requiring these data to be reported, 2) differing definitions of hazardous substance releases or injured persons, 3) identifying exposed persons and public health impacts.

There was a study in 1989 by Sue Binder et al, looking at the various federal databases at the time that collected chemical incident data. There was only 1% of incidents with public health consequences that was reported to all 3 databases. It was found that:

- The purpose of these databases was not to assess adverse health outcomes that result from hazardous substances emergencies, but rather to serve as a mechanism of enforcement or notifying other agencies.
- The raw numbers collected by these databases do not describe the many variables that are associated with the morbidity and mortality resulting from these emergencies, nor do they stratify by populations (i.e., employees, responders, general population) affected.
- These databases are limited because of the number of events missed by failure of reporting as well as by the selective reporting of substances due to differing mandates.
- That is why the HSEES program was initiated in 1990, to take a more complete in-depth look at chemical incident surveillance and the public health impacts in a sample of states. Because HSEES, and now NTSIP, are limited by the number of states ATSDR can fund, ATSDR created the National Surveillance part of NTSIP.

## National Database

- Collaboration among
  - ATSDR
  - DOT
  - NRC
  - EPA
  - State Health Departments
- Hosted via DOT's Hazmat Intelligence Portal (HIP)

ATSDR has an interagency agreement with the US Department of Transportation (DOT) to create an ATSDR dashboard. The datasets currently included in the ATSDR dashboard are HSEES and NTSIP incident datasets, the DOT Hazardous Materials Information System (HMIS), the National Response Center Incidents, currently the fixed-facility NRC incidents have been stripped out, but will be included in the next update. EPA contributes data from their toxic release inventory and in the future from their risk management plan accident history. This ATSDR dashboard exists in the DOT Hazmat Intelligence Portal (HIP).

## What is HIP?

- The US Department of Transportation HAZMAT Intelligence Portal (HIP)
  - is a web-based hazardous materials intelligence data warehouse
  - provides centralized access to actionable information
  - supports risk management, transparency, and decision support objectives

HIP is a web-based hazardous materials intelligence data warehouse created by the US Department of Transportation to combine all of their modal (air/highway/rail) hazmat data to provide centralized access to actionable information to support risk management, transparency (One DOT), and decision support objectives.

## HIP Facts

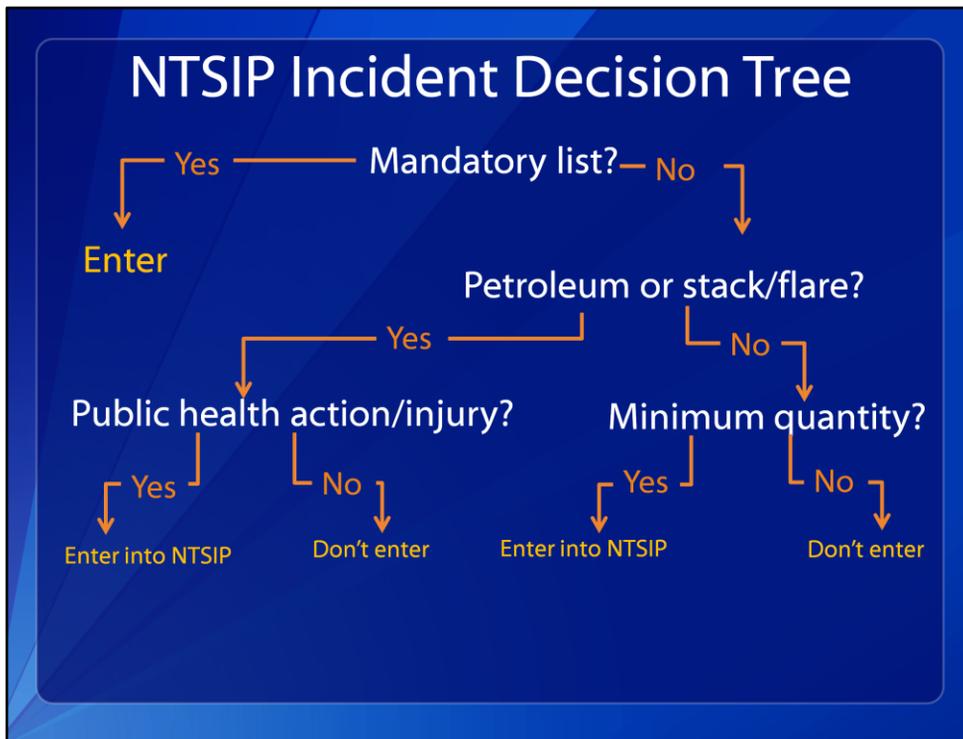
- 2.4 million companies in HIP
- 20+ million inspection records
- 40+ million activity records (registration, penalties, incidents and inspections)

The HIP is a very rich database. It has:

2.4 million companies and their business information

20+ million inspection records

40+ million activity records (registration, penalties, incidents and inspections)



This flow chart shows which incidents qualifies for the NTSIP database and subsequently the HIP ATSDR dashboard.

- All incidents involving chemicals on the NTSIP mandatory reporting list. The list is an extremely hazardous substance list created by ATSDR using other agencies extremely hazardous lists and looking at public health impacts documented in the former HSEES and now NTSIP database.
- Petroleum incidents or stack/flare incidents are only included when there is a public health action or injury. We do not include incidents where the petroleum released was fueling the vehicle at the time. We also only include incidents in personal homes when there is a public health action taken.
- All other chemicals are included if their minimum quantity is released. Generally this is 10 pounds/1 gallon. However, some are lower or higher depending on their propensity to cause harm. For example, chemicals that have an EPA reporting requirement of 1 pound are reported to NTSIP at one pound, and less hazardous substances have higher reportable quantities
  - Paint/coating 100gal
  - PCBs > 50ppm
  - Propylene glycol and ethylene glycol 50 gal
  - Freons 100 lb



This is a flow chart depicts the ATSDR dashboard in the HIP.

The dashboard was created to integrate national chemical incident data.

It combines data from existing federal databases (in this chart on the left)

- National Response Center Incident Reporting Information System (IRIS)
- Department of Transportation Hazardous Materials Incident System (HMIS)
- ATSDR's NTSIP and HSEES data from state health departments.

States are required to have at least 80% of their incidents in the database within 48 hours of occurrence.

- We are in discussion to have the EPA Risk Management Plan (RMP) accident history data available in the HIP.
- The news media feeds into many of these sources.

On the right side of the chart is the commerce data inputs.

HIP data on companies.

EPA off-site waste transfers. Facilities that manufacture, process or otherwise use certain chemicals in quantities that exceed threshold amounts are required to report the quantities that they released into the environment or otherwise managed as waste (e.g., transferred off-site for destruction) to EPA.

Approximately 23,000 facilities file about 80,000 or more reports annually to EPA.

Nightly a new load of data is uploaded to the HIP, so the data are up to date.

## Modeled Transportation Data

- Compare ATSDR transportation incidents and DOT incidents
  - Match incidents to the closest dates
  - Pick the best location match
- For non-participating states, the matching ratio from participating states is applied to DOT incidents to get an estimate of NTSIP qualifying incidents.
- Coming soon - modeled fixed-facility incidents using the ATSDR fixed-facility incidents and the NRC as the matching source.

To get complete data for national chemical incidents and injuries meeting the HSEES/NTSIP definition, there are modeled numbers. Currently we have modeled transportation incidents, in the future there will be modeled fixed-facility incidents.

- The first step is to compare ATSDR transportation incidents and DOT incidents
- Incidents are matched to the closest date and location
- For non-participating states, the matching ratio from participating states is applied to DOT incidents to get an estimate of NTSIP qualifying incidents.
- The fixed-facility data will be modeled using NRC fixed-facility incidents and potentially EPA RMP accident data compared to HSEES/NTSIP data.

# ATSDR Dashboard

Hazmat Intelligence Portal

ATSDR

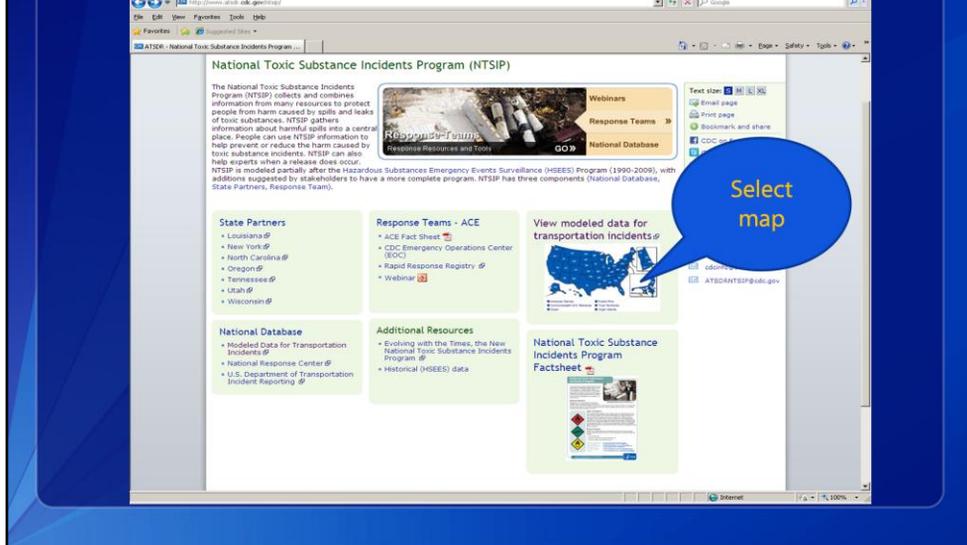
- Available Tabs
  - States Map
  - Incident Event Search
  - Trends-NAICS
  - Trends-Substances
  - Trends-Year over Year
  - EPA Transfers Map

Clicking on a tab will allow you to see and filter ATSDR-specific reports!

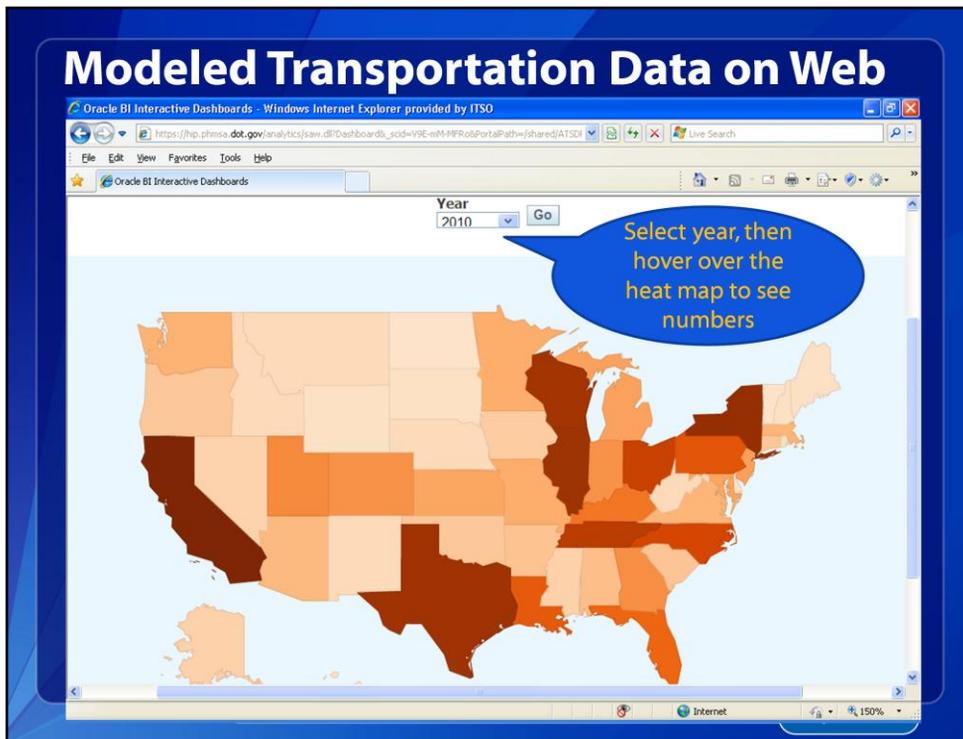
Data available on the ATSDR dashboard are on tabs  
 There are tabs for

- States map with numbers of incidents and victims you can hover over and drill down on.
- Incident Event Search where you can query incidents to find ones you want to see.
- Trends in industries in the HSEES/NTSIP data using Industry NAICS codes.
- Trends in industries in the HSEES/NTSIP data top released hazardous substances, like ammonia or chlorine.
- Trends in incidents in the HSEES/NTSIP data by years.
- EPA transfers map to look at quantities of hazardous waste being produced that will be transferred.

# Querying National Data from the NTSIP Webpage



Nightly data from the HIP ATSDR dashboard is downloaded to the ATSDR NTSIP website for public access. The data can be accessed directly from the front page—just click on the view modeled data for transportation incidents.



Once you choose modeled transportation data you can query incidents by year. Then hover over the map to see modeled incidents numbers by state. The maps are “heat maps” with shading to indicate the number of incidents. The darker the shading, the greater the number of incidents.

## NTSIP Website Mapping Tool Under Development

**Select Data**

Region: US National

State: NA

County: NA

Map by: State

**Aggregate Data**

NTSIP: 2010

HSEES: 1996-2009

DOT modeled

Currently under development is a mapping tool for the NTSIP website that will allow you to do more in-depth mapping using either the NTSIP, HSEES or modeled transportation or fixed-facility data. You will be able to select a region or state or county to display the data by. The release date for this mapping tool is early 2011.

## Benefits

- Display, map, and query national incidents
- Coordination among federal agencies
- Situational awareness
- Alerts of hazardous situations
- Trending and planning
- Access by public for information

The national data integration and mapping were designed to improved coordination among federal agencies and the data they collect. It fosters “transparency” and ease of use for the end data users and public.

National situational awareness of the chemical incidents are now available. NTSIP states already provide alerts to their public health partners, but we want to tie in non-participating states to this data so that they can design alerting networks also. This data can be used for trending for improved planning and response. Additionally this puts a wealth of data in the end users or the public’s hands to improve evidence-based prevention activities.

**Please visit our website**  
**<http://www.atsdr.cdc.gov/ntsip/>**

**Email us at [ATSDRNTSIP@CDC.GOV](mailto:ATSDRNTSIP@CDC.GOV)**

**For more information please contact Agency for Toxic Substances and Disease Registry**

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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.

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Please visit our website to access the modeled data. If you have questions or suggestions for the website email them to us at [ATSDRNTSIP@CDC.GOV](mailto:ATSDRNTSIP@CDC.GOV). We will be repeating the webinar on state surveillance with Perri Ruckart in two weeks from today, December 13 for those of you unable to participate. All webinars will be available on the website. Are there any questions on today's presentation?