

## ASPR TRACIE Technical Assistance Request

**Requestor:**

**Requestor Phone:**

**Requestor Email:**

**Request Receipt Date (by ASPR TRACIE):** 26 July 2018

**Response Date:** 2 August 2018

**Type of TA Request:** Standard

### Request:

The requestor asked if ASPR TRACIE had data on the number of times that hospitals conducted mass patient decontamination operations, and what hazards prompted the need for mass decontamination at these hospitals.

### Response:

The ASPR TRACIE Team reached out to several ASPR TRACIE Subject Matter Expert (SME) Cadre members for feedback and information on hospital decontamination incidents. Section I below provides the opinions and anecdotal information received from the ASPR TRACIE SME Cadre members. Section II includes resources and data relevant to hospital decontamination incidents. Finally, Section III provides additional resources that may be useful to this request.

## I. ASPR TRACIE SME Cadre Member Comments

Please note: these are direct quotes or paraphrased comments from emails and other correspondence provided by SME Cadre members in response to this specific request. They do not necessarily express the views of ASPR or ASPR TRACIE.

### SME Cadre Member 1:

- In 2010, the Hazardous Substances Emergency Events Surveillance System ([HSEES](#)) - cited in Section I below, transitioned to the National Toxic Substance Incidence Program ([NTSIP](#)).
- The requestor should go to the NTSIP [Report and Data page](#) to find the updated annual reports that document hospital Emergency Department (ED) injuries from toxic substance exposures.
- Also attached and cited below in Section III, are four papers that were published that deals with this topic.
- Contact the [ASPR TRACIE Assistance Center](#) if you would like to speak directly with this SME for more information.

### SME Cadre Member 2:

- To my knowledge no hospitals have performed decontamination on true 'mass' numbers (though mass chlorine and other incidents have occurred). However, the [Primary Response Incident Scene Management \(PRISM\) Guidance for Chemical Incidents](#) document is really helpful in that regard.

- The [OSHA Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances](#) document (also cited in Section III below) is helpful to set the 'standard.' In particular, the table on page 22 addresses the expectations that hospitals should comply with.
- Contact the [ASPR TRACIE Assistance Center](#) if you would like to speak directly with this SME for more information.

### **SME Cadre Member 3:**

- Situations that would prompt a mass decontamination situation might include a large chemical plant explosion, a train derailment containing chemicals, an anthrax attack, or a plane crash with diesel fuel.
- There are numerous examples of when our decontamination team is activated as part of our Hospital Incident Command System. Our ED staff are trained for the 1-2 individual chemical exposures, but we often activate the team for any situation that includes more victims than this because we quickly exceed our shower capability and need the larger decontamination equipment.

## **II. Hospital Decontamination Resources**

U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR). (n.d.). [Hazardous Substances Emergency Events Surveillance](#). (Accessed 8/2/2018.)

The Hazardous Substances Emergency Events Surveillance System (HSEES) system was established by ATSDR to gather and analyze information about acute releases of hazardous substances and threatened releases resulting in a public health action (e.g., an evacuation). The HSEES transitioned to the National Toxic Substance Incidence Program (NTSIP) in 2010. For historical reference, reports dated up to 2009 can be reviewed on the left-hand panel of this webpage.

U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR). (2018). National Toxic Substance Incidents Program (NTSIP). [NTSIP Report and Data](#).

The NTSIP gathers information and data from various resources related to toxic substance incidents. As noted in the citation above, NTSIP is modeled partially after the HSEES Program. Reports from 2010-2014 can be downloaded from this webpage.

## **III. Other Resources**

Horton, D.K., Berkowitz, Z., and Kay, W.E. (2003). Secondary Contamination of ED Personnel from Hazardous Materials Events, 1995-2001. (See attachment.) American Journal of Emergency Medicine. 21:199-204.

The authors of this article conducted a retrospective analysis of data from the ATSDR's HSEES, which identified hazmat events that occurred in 16 states from 1995 through 2001 that involved secondary injury to ED personnel. Results indicated that ED

personnel injuries and contamination of the ED can be prevented by the following: proper victim decontamination procedures, good field-to-hospital communication, and appropriate personal protective equipment use.

Horton, D.K., Burgess, P., Rossiter, S., and Kaye, W.E. (2005). Secondary Contamination of Emergency Department Personnel from o-Chlorobenzylidene Malononitrile Exposure, 2002. (See attachment.) American College of Emergency Physicians. 2005.01.031.

The authors of this article address a hazardous materials incident that occurred in 2002, in which three symptomatic, contaminated patients presented to an ED, which resulted in secondary contamination of two ED staff. The authors also discuss methods to prevent secondary exposure, such as EDs educating their staff about secondary contamination, implementing a team approach for handling contaminated patients, establishing decontamination protocols, ensuring proper selection of and training in PPE use, and conducting drills.

Horton, D.K., Orr, M. Tsongas, T., et al. (2008). Secondary Contamination of Medical Personnel, Equipment, and Facilities Resulting from Hazardous Materials Events, 2003-2006. (See attachment.) Disaster Medicine and Public Health Preparedness. Vol. 2/No. 2.

The authors of this article conducted a retrospective study of hazardous material incidents occurring in 17 states during 2003-2006 that involved secondary contamination of medical personnel, equipment, and facilities. They provide several suggestions to help healthcare facilities prevent secondary contamination.

Larson, T.C., Orr, M., Auf der Heide, E., et al. (2015). Threat of Secondary Chemical Contamination of Emergency Departments and Personnel: An Uncommon but Recurrent Problem. (See attachment.) Society for Disaster Medicine and Public Health. 127.

The authors of this report conducted an analysis on events involving secondary contamination from 2007-2013. They also provide several suggestions on best practices to avoid secondary contamination.

Occupational Safety and Health Administration. (2005). [OSHA Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances.](#)

This resource can serve as the starting point for hospital decontamination planning and includes foundational information on personal protective equipment (PPE), training first responders/ receivers, response components (e.g., isolation, lockdown, decontamination, equipment), and recovery components (e.g., waste management). Though geared to hospitals, the document contains a great deal of valuable information about PPE and programs/training of relevance to first responders, particularly those that are not fire-based and may model their PPE and programs similarly in order to support warm-zone response support when appropriate. Templates and case studies are provided in appendices.