

Toolkit for Epidemiologic Response to an Acute Chemical Release

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ABSTRACT

When a large chemical incident occurs and people are injured, public health agencies need to be able to provide guidance and respond to questions from the public, the media, and public officials. Because of this urgent need for information to support appropriate public health action, the Agency for Toxic Substances and Disease Registry (ATSDR) of the US Department of Health and Human Services has developed the Assessment of Chemical Exposures (ACE) Toolkit. The ACE Toolkit, available on the ATSDR website, offers materials including surveys, consent forms, databases, and training materials that state and local health personnel can use to rapidly conduct an epidemiologic investigation after a large-scale acute chemical release. All materials are readily adaptable to the many different chemical incident scenarios that may occur and the data needs of the responding agency. An expert ACE team is available to provide technical assistance on site or remotely. (*Disaster Med Public Health Preparedness*. 2016;10:631-632)

Key Words: toolkit, epidemiologic response, chemical spill

The Agency for Toxic Substances and Disease Registry (ATSDR) is a federal public health agency of the US Department of Health and Human Services. ATSDR's goal is to serve the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and diseases related to toxic substances. In 2010, ATSDR developed the Assessment of Chemical Exposures (ACE) program¹ as part of the National Toxic Substance Incidents Program (NTSIP). ACE is available to assist state and local health departments in an epidemiologic response after a large chemical incident in which numerous people experience acute health effects. Experts from the ACE team are available to deploy to the site to assist in an investigation when requested or can provide technical assistance remotely. ATSDR has developed the ACE Toolkit with materials to enable a rapid start to an investigation after a spill. In addition, the use of the ACE tools enables comparable data to be collected from multiple incidents to aid in development of "lessons learned." The ACE Toolkit is available on the ACE website for use by any agency planning for or responding to an acute chemical release.²

SURVEYS, ABSTRACTION FORMS, AND CONSENT FORMS

All surveys are set up in modules so that entire sections that are not applicable can be deleted. In addition, questions that are not applicable can also be

deleted and additional questions specific to the incident can be added. The surveys are described below. There are accompanying consent forms. Most of these materials are also available in Spanish.

The General Survey is an individual-level survey with sections for adults (including responders), children, and household pets. Information is collected on

- Acute health effects,
- Injuries from fire/explosion,
- Medical care and treatments received,
- Occupational history and exposure to chemicals at work,
- Medical history,
- Emergency response,
- Communication during the release,
- Needs resulting from the incident,
- Exposure of other people and pets present with the respondent, and
- Demographic information.

The Household Survey collects similar information to the General Survey but on a household level. The Rapid Response Registry is a 2-page form that collects contact information and very limited exposure and outcome data; it can be used to obtain contact information so that the exposed persons can be interviewed at a later time. If limited data are needed, the form may be all that is needed. The ACE Interviewer Training Manual prepares interviewers by covering safety issues, interview techniques, and

exactly what is expected from each question in the General Survey.

The Hospital Survey is designed to interview personnel at responding health care facilities to learn about

- Surge,
- Response,
- Decontamination, and
- Lessons learned.

The Medical Chart Abstraction Form is used to record information from medical charts, including

- Patient demographics,
- Visit information,
- Medical history,
- Decontamination,
- Signs and symptoms,
- Medical tests and imaging, and
- Treatment.

A similar Veterinary Chart Abstraction Form is used if pets are affected and there is a need to gather information about their health effects.

DATABASES

Epi Info 7 (Centers for Disease Control and Prevention, Atlanta, GA) databases for each of the surveys and abstraction forms are available online to manage and analyze the data collected. The databases can easily be modified to match changes made to the surveys and abstraction forms. The ACE Data Management Guide contains basic instructions on how to manage and analyze the data.

TRAINING RESOURCES

The ACE Workbook was designed for courses taught on performing ACE investigations. It is a stand-alone resource that includes sections on planning and conducting an epidemiologic investigation after a large-scale chemical release.

The ACE program has also developed an online Assessment of Chemical Exposures Training³ course on performing ACE investigations after chemical spills that offers free continuing education credit for several professions.

The ACE Toolkit can be integrated into preparedness planning so that state and local health agencies can be ready to respond quickly when a chemical release occurs. This planning can involve including epidemiologic responses to large-scale chemical releases in emergency plans, adapting the ACE tools for use by a specific agency, and planning staffing and training on epidemiologic response to a chemical release disaster.

CONCLUSION

The ACE Toolkit has been tested in multiple incidents and has been found to be very adaptable and has provided valuable information to the responding agencies. An expert ACE team is available to provide technical assistance remotely, or on site when requested, at no cost to the responding agency. Contact information is available on the ACE web page.¹

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Disclaimer

The findings and conclusions in this report are those of the author(s) and do not necessarily represent the views of the Agency for Toxic Substances and Disease Registry.

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