

# Chemical Emergency Surge Annex Tabletop Exercise TEMPLATE

## Situation Manual

# PREFACE

This Chemical Emergency Surge Annex Tabletop Exercise (TTX) Toolkit Template has been developed by the U.S. Department of Health and Human Services (HHS), Office of the Assistant Secretary for Preparedness and Response (ASPR) Technical Resources, Assistance Center, and Information Exchange (TRACIE). It can be used by healthcare coalitions (HCCs) to enhance operational awareness to effectively address the needs of patients impacted by a chemical incident as part of a whole community emergency response framework. It can also be utilized to satisfy [Funding Opportunity Announcement \(FOA\) requirements](#) for the Hospital Preparedness Program (HPP) Cooperative Agreement.

HCCs are not required to use this template and may conduct a chemical emergency surge annex exercise using a chemical incident of their choosing and any acceptable [Homeland Security Exercise and Evaluation Program \(HSEEP\)](#) compliant format.

While many exercise scenarios are based on organophosphate agents that require coordinated administration of medical countermeasures, this toolkit uses a chlorine release scenario to help jurisdictions anticipate the specific issues related to patient surge, chemical exposure decontamination, and patient care needs that may create competing resource and coordination demands. Chlorine spills are common and account for the highest rate of injury of any chemical in the United States. Planning for such scenarios is important and should be included in the coalition annex and exercise plans.

Note that the scenario and modules include initial health care response to the chemical hazard and **not** the pre-hospital response. Exercise Planners can create sub-modules, or adjust the scenario, if they prefer to have a more detailed discussion regarding pre-hospital emergency operations activities, industry/emergency responder responsibilities, or other non-medical efforts.

This toolkit template is intended to be edited and modified by the HCC Exercise Planning Team to satisfy the concepts and objectives each HCC intends to test. Blue text boxes and bracketed sections are included throughout the document and serve as notes to planners to enter your own text. *Please delete those boxes and bracketed areas once final planning decisions are made and text has been crafted.*

The complete toolkit template includes the following supporting materials for conducting a Chemical Emergency Surge Annex TTX:

1. Step-by-Step Guide to Implementing the Chemical Emergency Surge Annex Tabletop Exercise Template ([compliant PDF](#), [DOC](#))
2. Situation Manual (this document) ([compliant PDF](#), [DOC](#))
3. Chemical Emergency Surge Annex Tabletop Exercise Presentation ([compliant PDF](#), [PowerPoint](#))
4. Participant Feedback Form ([compliant PDF](#), [DOC](#))
5. Sign-in Form ([compliant PDF](#), [DOC](#))

For more information, access ASPR TRACIE's [CBRN Resources Page](#), which includes links to an [HCC Chemical Emergency Surge Annex Template](#) and [Chemical Hazards Topic Collection](#). Our [Healthcare Coalitions Resources Page](#) contains additional tools and templates. For more information, visit [www.asprtracie.hhs.gov](http://www.asprtracie.hhs.gov) or contact our Assistance Center at 1-844-5-TRACIE or [askasprtracie@hhs.gov](mailto:askasprtracie@hhs.gov).

# HANDLING INSTRUCTIONS

1. The title of this document is *Chemical Emergency Surge Annex Tabletop Exercise (TTX) Situation Manual (SitMan)*.
2. This template is a publicly available document, however once downloaded and completed by any jurisdiction, this document is FOR OFFICIAL USE ONLY (FOUO). It contains information that may be exempt from public release under the Freedom of Information Act (5 U.S.G. 552) and State and local statutes. It is to be controlled, stored, handled, transmitted, distributed, and disposed of in accordance with jurisdictional policy relating to FOUO information.
3. [Insert any local statutes or regulations with regard to document handling.]
4. For more information or questions regarding this exercise, please contact:  
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# INTRODUCTION

## Background

[May include additional background information specific to the coalition, member organizations, and threats/hazards as identified in the jurisdiction's risk assessment/ hazard vulnerability assessment and resource gap analysis.]

## Purpose

The Chemical Emergency Surge Annex TTX provides HCC members and leadership with a useful exercise to address large numbers of patients seeking healthcare following an industrial chlorine incident. The exercise allows participants to address key issues through a series of facilitated discussions.

## Scope

This toolkit is an interactive, discussion-based exercise focusing on impacts to HCCs and healthcare facilities caused by the release of chlorine gas resulting in a surge of confirmed and potentially exposed patients.

The exercise is planned for a half day. The scenario consists of three chronological modules portraying an industrial chlorine incident, and its aftermath, where people who may not need medical treatment, but fear they have been exposed (i.e., concerned citizens), overwhelm a health system. The emphasis on chemical exposure focuses on the need to assess patients, decontaminate, treat a variety of injuries, and work with public health and emergency managers.

## Healthcare Preparedness and Response Capabilities

[These are suggested related existing HPP program capabilities. Grantees will determine their current chemical emergency medical resources in the community under normal conditions and define how they work together to determine relevant capabilities, objectives, and activities that need to be addressed during the Initial Planning Meeting.]

- **Capability 2: Health Care and Medical Response Coordination**
  - Objective 1:** Develop and Coordinate Health Care Organization and Health Care Coalition Response Plans
  - Objective 3:** Coordinate Response Strategy, Resources, and Communications
- **Capability 3: Continuity of Health Care Service Delivery**
  - Objective 3:** Maintain Access to Non-Personnel Resources during an Emergency
  - Objective 5:** Protect Responders' Safety and Health
  - Objective 6:** Plan for and Coordinate Health Care Evacuations and Relocation
- **Capability 4: Medical Surge**
  - Objective 1:** Plan for a Medical Surge
  - Objective 2:** Respond to a Medical Surge

## Exercise Objectives

The following exercise design objectives can help participants understand the concept of operations of the HCC Chemical Emergency Surge Annex and develop recommended actions and procedural adjustments to address potential gaps or problem areas:

1. Review existing chemical emergency care assets and identify gaps that may occur during a chlorine release mass casualty incident.
2. Review agency and facility roles during a chemical incident.
3. Validate assumptions in the HCC Chemical Emergency Surge Annex.
4. Identify changes that need to be made to the HCC Chemical Emergency Surge Annex based on the roles and capabilities of involved partners.
5. [Other objectives identified by the Exercise Planning Team.]

## Roles

- *Players* respond to the situation presented based on their current roles in their facility or HCC; expert knowledge of incident management procedures; current plans and procedures in place in their agency, jurisdiction, or organization; and insights derived from previous experience.
- *Observers* view all or selected portions of exercise play and support the group in developing responses to the situation during the discussion.
- The *Facilitator* provides situation updates and moderates discussions. They also provide additional information or resolve questions as required.
- *Data Collectors* observe and record the discussions during the exercise, participate in the data analysis, and assist with drafting the After-Action Report (AAR) that will be used to suggest improvements within the Chemical Emergency Surge Annex itself and future exercises.

## Exercise Structure

The exercise will be a half day event. The TTX has three modules consisting of an initial incident and subsequent response. Players in this exercise will participate in the following exercise module elements:

- Module 1 – Initial Recognition and Response
- Module 2 – Community Coordination and Collaboration
- Module 3 – Ongoing Healthcare Response

Each module begins with a scenario update that summarizes the key events occurring within that time period. A series of questions following the scenario summary will guide the facilitated discussion of critical issues in each of the modules

**Planning Note:** The coalition may add, delete, or modify questions based on their local plans and resources. Based on exercise priorities, time dedicated to each module will be managed by the Facilitator.

The following is an approximate schedule:

8:00-8:30 AM –	Introductions and Opening Remarks
8:30-9:00 AM –	Overview of the HCC Chemical Emergency Surge Annex and process during a large-scale chemical incident
9:00-9:20 AM –	Table discussion Module 1
9:20-9:40 AM –	Report-out and discussion
9:40-10:00 AM –	Table discussion Module 2
10:00-10:10 AM –	Break
10:10-10:30 AM –	Report-out and discussion
10:30-10:50 AM –	Table discussion Module 3
10:50-11:10 AM –	Report-out and discussion
11:10-11:50 AM –	Wrap up and Hotwash

**Planning Note: The Exercise Planning Team should use this information for planning purposes and delete this text box once decisions have been made.**

This exercise could also be facilitated with a large group and no table discussion breakouts, or virtually if needed, based on Exercise Planning Team and Facilitator preference. If less than 20 people are participating in the exercise, full group facilitation is likely most effective. Facilitation will need to be adjusted if this is a virtually conducted exercise.

Attendees should sit together by facility and discipline. If there are few attendees from a specific discipline (e.g., emergency management) they should be assigned to a table that the planners feel would be most valuable from a contribution, learning, and relationship standpoint. Ideally, if there is a healthcare system participating in the TTX, the hospitals for that system should be seated together so they can discuss system-level, facility, and coalition-level responses to the incident. Planners should avoid having tables with fewer than six members if possible. Because public health and other agencies may have a significant response role, consider having a table set aside for special attendees.

## Exercise Guidelines

- Open, low-stress, no-fault environment.
- Comments will be non-attributable.
- Be professional and respect other’s opinions based on their knowledge.
- Responses should be based on knowledge of current plans and capabilities – you do not have to have all the answers.
- Exercise-based decisions are not precedent setting.
- Problem-solving efforts should be the focus; it is expected that more questions than answers may be generated.



- The situation updates, written material, and resources provided are the basis for discussion; it is not expected that participants will need to do additional research or review other materials prior to participation in this exercise.
- Participants are encouraged to use the SitMan as a reference and to fill out the Participant Feedback Form as you go; feedback is welcome!
- Use the notes pages available in the SitMan.

## Exercise Assumptions and Artificialities

In any exercise, a number of assumptions and artificialities may be necessary to complete the exercise play in the time allotted. During this exercise, the following apply:

- The scenario for this exercise is artificial, however, it is plausible, and events occur as they are presented.
- There is no “hidden agenda” and there are no “trick questions.”
- All players receive information at the same time.
- Assume cooperation and support from other responders, agencies, and organizational entities.

### Planning Note:

- Planners may change the incident, or the scope, as needed to fit local considerations (e.g., a rail-related incident could be substituted for an industrial release). Scenarios should still follow the modular approach in this sample.
- Planners should consider adjusting patient numbers and providing other demographic or geographic information specific to their community and design to exceed day-to-day capabilities that test and/or “break” the system.
- It is important that the number of chemically exposed, or potentially exposed, patient volumes overwhelm area capabilities without being so extreme that they are unrealistic and cause participants to lose focus or focus on issues that do not contribute to functional planning.
- The Facilitator should have license to adjust patient volumes during the exercise to move the exercise forward.
- Planners should also be familiar with chemical emergency guidelines specific to their jurisdictional, state, or local chemical emergency program.

# MODULE 1: INITIAL RECOGNITION AND RESPONSE

Monday morning, 8:00 am.

- Hospitals and other healthcare facilities in the area served by your HCC are at normal staffing and supply levels early in the morning. Hospitals were also at their average daily occupancy for both general inpatient and intensive care unit (ICU) beds yesterday and into the evening.
- You are notified by your local EMS agency that an explosion has occurred at a chemical manufacturing plant. While the manufacturing plant is located in an industrial area, the adjacent area is densely populated with office buildings, retail spaces, and schools. Initial fire reports indicate a significant chemical release and multiple injuries.
- While the specific chemical is not yet confirmed, local EMS begin transferring wounded to all nearby medical facilities. Within minutes patients begin arriving to your facility with a variety of major and minor traumas, respiratory issues, and burns/skin irritations.
- *Scenario Note:* While specific numbers are not indicated, the patient load for this portion of the scenario should remain manageable so that it taxes a healthcare system but does not overwhelm it. Small/rural coalitions may adjust their numbers depending on the appropriate scale for their facility and can select a different venue/location based on what is relevant locally.

## Planning Note:

- Module 1 focuses on the initial health care response to the chemical hazard and **not** the pre-hospital response. Exercise Planners can create sub-modules, or adjust the scenario, if they prefer to have a more detailed discussion regarding pre-hospital emergency operations activities, industry/emergency responder responsibilities, or other non-medical efforts.
- This section requires coalition partners to understand their current resources as informed by a gap analysis or risk assessment. The following should be considered when shaping this module:
  - Who are the specialists able to provide hazardous material (HAZMAT) response support in your area?
  - What other regional resources are required and available within your jurisdiction (e.g., HAZMAT experts, toxicologists, industry experts), and how would they be accessed?
- Determine whether to add any at-risk populations to the patient mix, such as pediatric patients or those with access or functional needs.
- Supply those who will be reporting-out with a note pad and pen/pencil at the beginning of the exercise and assign a scribe for each report-out team, preferably someone whose handwriting is legible for later review.

## Module 1 Discussion Questions

1. What are your initial actions upon notification of the explosion? Do you know/understand your role during an industrial chemical incident? Prioritize those actions.
  - a. Are these actions in accordance with coalition, healthcare system, hospital/facility chemical emergency response plan(s)?
2. If the HCC has an operations center, how is it activated and staffed and what functions does it serve during a chemical emergency? How does it interface with the Emergency Operations Center (EOC)? How is EMS/healthcare ([ESF-8](#)) represented at the EOC?
3. Do you know who your local, regional, and/or national chemical/HAZMAT and poison control resources are and how to contact them?
  - a. Does your jurisdiction have specialized HAZMAT and/or decontamination resources?
  - b. Do you know if your local/State health department has disaster epidemiology capacity to assist?
4. What specialized resources/supplies will be needed to respond to a chemical incident? What is the role of the HCC in acquiring these resources?
  - a. What decontamination equipment and capability do hospitals have?
  - b. Is there a protocol or are processes in place for resource sharing among coalition members and jurisdictional healthcare facilities?
5. Are facility staff familiar with proper chemical emergency response protocol such as screening, triage, contamination control, decontamination, workforce safety, and medical treatment for exposed or potentially exposed individuals?
  - a. Where would you obtain guidance or additional clinical advice if needed, in real time?
6. Is additional just-in-time training needed and readily available? Where is it located? Who conducts the training?
7. Who initiates information sharing for HCC members? What alerts and notification mechanisms are in place to ensure HCC members and partners are aware of the incident and can share real-time information about the disaster and plans/strategies for patient care/ transport/distribution/ decontamination/supplies?
  - a. What essential elements of information will you collect from and share with HCC members?
  - b. Who will ensure that up-to-date information about the agent and corresponding treatment recommendations are shared with EMS and hospitals?
8. Are there any at-risk populations that must be considered such as pediatric patients, those with access or functional needs, or the elderly? Be sure to plan for people who may be uncomfortable or prohibited from undressing (due to religious or other beliefs) in order to go through the decontamination process.



# MODULE 2: COMMUNITY COORDINATION & COLLABORATION

## Monday late morning, 10:00 am (chemical explosion + 2 hours)

- By 10:00 am it is verified that the explosion was caused by faulty equipment at the plant. Investigators confirm the incident was accidental and the major chemical of concern is chlorine gas. The tank explosion has caused significant damage to the facility and surrounding areas.
- Aside from a high number of injuries and impacts to those in the immediate area, plume models show that an **xxx area**/radius may be affected. A shelter-in-place order has been issued for the downwind area while the plant itself has been evacuated.
- The governor declares a state of emergency to support additional disaster services.
- Major news and social media outlets are reporting on the health concerns related to chlorine gas exposure and urging anyone affected to seek care.
- 911 operators and Poison Control Centers are overwhelmed with calls from those concerned about exposure.
- Hospitals, clinics, physician offices, and other healthcare facilities in the area have already begun to receive self-referred patients, and EMS transports, of individuals who were near the site and are having symptoms or are concerned about potential exposure.
- Your facility has now received a significant number of patients with burn injuries, major and minor trauma, and in respiratory distress, in addition to self-evacuated individuals and uninjured, concerned residents. Capacity is quickly becoming overwhelmed as many more victims present with respiratory irritation.

### Planning Note:

- The questions in this module may need to be changed based on coalition resources. The key focus of this module is defining what activities occur where (e.g., does transfer coordination occur at the hospital [particularly if there are only one/few hospitals in the coalition], jurisdictional EOC, coalition physical or virtual coordination center, or at the receiving hospital?).
- This section requires coalition partners to have situational awareness of their current surge capacity protocol. The following should be considered when shaping this module:
  - How would patients be prioritized for care and/or patient movement if load-balancing is required (e.g., by chlorine exposure level/type and trauma combination injuries, by severity of injury, or by other trauma injury types)?
  - Where will additional support services, resources, and staff come from?
  - Who has primary responsibility for risk communication?

## Module 2 Discussion Questions

1. Who decides and communicates shelter-in-place or evacuation orders to the community? How would a hospital be informed of those orders? What actions would a hospital take if it was in the affected zone?
2. What plans does your facility have for a large number of contaminated, or potentially contaminated, patients? Is there an alternate area for triage/assessment? Do you have the ability to provide “dry” decontamination (i.e., clothing removal, absorbent material for blotting skin, and redress)?
3. What EMS transport resources are available for emergency and patient transfer (consider both public safety and private services including local, mutual aid, and state resources and/or ambulance strike teams)?
  - a. Encourage EMS to discuss considerations related to both ground and air assets.
4. What type of additional assistance and resources are needed now that the surge capacity threshold is being exceeded (e.g., extra staff, space, specialty resources/equipment)? How does the HCC and its members support these needs? Are there other partners that you should coordinate with?
5. If a surge of concerned citizens require additional screening areas or treatment space (e.g., community screening centers, alternate care sites) how are these capabilities initiated?
  - a. Who decides if a reception/screening center is activated? Who will operate the community reception center?
  - b. When/how would this be coordinated, managed, supplied? How will the community screening site be staffed?
  - c. Can dry or wet decontamination be provided on-site if needed?
6. How is HCC clinical and surge information being collected and distributed (e.g., via email, a special portal, messaging boards) to ensure consistent care and guidance is communicated across facilities?
  - a. Are data and subjective information being collected and reported for situational awareness (e.g., hospital capacity, number exposed, transport needs, supply requests)?
  - b. How will the HCC coordinate and share patient information across multiple facilities for patient tracking and family re-unification?
7. With public concern high, who is coordinating messaging to the public? What are the key messages?
  - a. How will the EOC Joint Information Center (JIC) coordinate public information with HCC members?
  - b. How will you ensure clear and consistent risk communication messaging to the public and media to prevent/mitigate mass panic?
  - c. Are there readily available chemical release/sheltering-in-place/evacuation scripts available for patients, staff, public messaging?



## MODULE 3: ONGOING HEALTHCARE COORDINATION

### Monday evening, 8:00 pm and beyond (Explosion + 12 hours)

- Responding agencies have controlled the chemical release. Danger from the plume has been declared over, and the shelter-in-place order has been lifted.
- The number of new patients presenting to hospitals has decreased slightly as information about chlorine exposure has been disseminated, however media coverage remains intense, leading to the ongoing burden on emergency departments to conduct evaluations.
- A community reception center remains open to support screening concerned citizens.
- Many patients suffering from chlorine exposure, including those with minor and major traumas, burns, and other injuries, have been stabilized at area hospitals; they may now require secondary transfer for ongoing care. Some patients will need to be cared for locally until transport/inpatient capacity catches up.
- Specialty (critical care) transportation resources are also needed for patient movement.
- The medical examiner is asking for guidance on the necessary decontamination of decedents.
- Hospitals and EMS agencies have a large quantity of clothing and belongings they are not sure if they can return. Victims are calling to get belongings back from the decontamination process.
- Mental health and wellness experts are warning of negative mental health impacts among those affected by the explosion, including the general public, healthcare workers, and children.

#### **Planning Note:**

This module focuses on the healthcare response to the chemical incident. Exercise Planners can choose to create sub modules, or adjust the scenario, if they prefer to have more detailed discussions regarding post-exposure operations, law enforcement investigations, or other non-medical activities.



## Module 3 Discussion Questions

1. You have intubated many patients for airway inflammation that you cannot accommodate- how would you expand capacity at your hospital and/or coordinate referring those cases to a facility that has appropriate capacity and resources?
  - a) What is the current referral process and how would this change for this incident?
  - b) How will you prioritize/triage multiple referrals from your facility?
  - c) What transportation resources will you need?
2. Does the HCC have a coordination role at this point? What is it? If not, who is coordinating healthcare resource issues?
3. What experts will hospitals work with to address contaminated belongings and low-level contamination if needed?
4. What types of staffing shortages and resource needs are likely to occur and how can the HCC help to address them? How many hospital staff, especially in the ER, have been properly trained for a chemical emergency response?
5. What partners can support the exponential increased need for collection and disposal of contaminated materials (e.g., materials or waste that may require special disposal)?
6. Who do hospitals need to notify if they have conducted “wet” decontamination activities that resulted in contaminated water moving into sanitary or storm sewers?
7. How will patients be tracked? Does the tracking mechanism support family reunification efforts?
8. What is the process for providing ongoing situational awareness communication among the HCC and jurisdictional health facilities/partners that includes up to date capacity, patient transport, and treatment guideline information?
9. What is your communication strategy to alleviate public fear and misinformation?
10. What efforts can be made to divert concerned but not exposed residents to seek medical attention at facilities other than hospital settings?
11. What mass fatality management plans are in place to support a large-scale incident. What considerations should be made for storing and final disposition of contaminated bodies? What is the role of funeral homes for contaminated remains?

