Indiana

DISTRICT 7

Healthcare Coalition

Chemical Surge Annex

Annex Revision Information

VERSION	DATE	CHANGES	AUTHOR
1.0	3/11/2022	Original Annex	MESH

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Introduction

Purpose

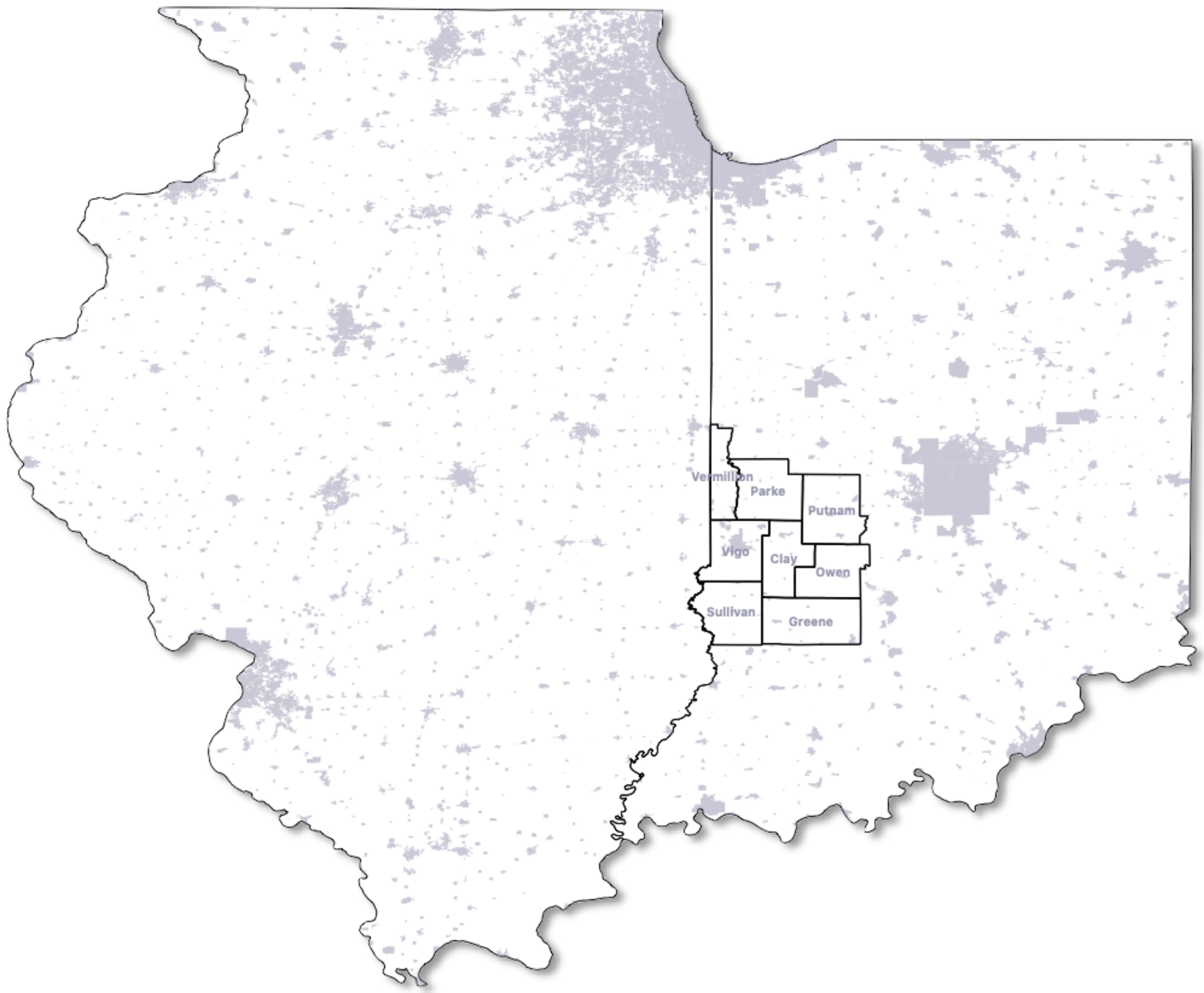
The purpose of the Chemical Surge Annex is to support the Indiana District 7 Healthcare Coalition (D7 HCC) ***Response Plan*** and provide support to the local community in the event of an incident in which the number and severity of chemical patients exceeds the capability of HCC member facilities. This functional annex will identify the experts and specialized resources within D7 and the mechanisms/processes that will be used to determine which patients go to which facilities.

Scope

The scope of the D7 HCC Chemical Surge Annex is limited to supporting the participating Core 4 (eight Emergency Management Agencies; eight Health Departments; seven Hospitals; seventy-five Emergency Medical Services providers) and ancillary member organizations strategic preparedness planning efforts and causing a universal understanding of cooperation and effort within the Indiana District 7 region.

The D7 HCC encompasses 8 counties within west-central Indiana. The coalition is open to all identified member partner types as identified by the Assistant Secretary for Preparedness and Response.

Indiana District 7 HCC Counties



(Map: *MESH Coalition* | Data Source: *US Census Bureau, 2021*)

This document is designed to serve as a supplement to participating organizations, and does not supplant, effective emergency management and/or emergency preparedness programs for each participating organization. Nor does this document supersede any local, county, regional, state, or federal entities preparedness plan.

The District 7 Executive Board Chairperson or designee is responsible for serving as the primary on-call point of contact for the coalition. The Chairperson or designee is responsible for communicating incident emergency status to the coalition as well as to the Indiana Department of Health (IDOH).

The D7 Executive Board Chairperson, the Healthcare Coalition Readiness & Response Coordinator, or their designee shall assume the role of Healthcare Coalition Coordination Center (HCCCC) Manager representing the District 7 HCC.

As the HCCCC Manager, the D7 Executive Board Chairperson shall assign HCCCC staff positions as needed.

In the event the D7 Executive Board Chairperson is unavailable or voluntarily relinquishes command, the Vice Chairperson will assume all roles and responsibility with all given authority of the D7 Executive Board Chairperson as the HCCCC Manager.

In like fashion, the Secretary/Treasurer will assume the role of HCCCC Manager given the absence of the aforementioned officers with one exception. An executive session shall be called by the Secretary/Treasurer, for either live attendance in a common place or by virtual meeting, and an interim plan shall be put in place by majority vote for any further succession needs. These provisions will be upheld only for as long as necessary to complete the event or the re-assumption of Management by a higher-level Officer, if possible.

Administrative Support of Annex Review

The District Coalition will review this annex annually to ensure valid and current information. Additionally, the D7 HCC will review this annex after an activation of the annex, whether in response to a real-world incident or exercise.

District 7 Healthcare Coalition Overview and Situation

Overview and Situation

The D7 HCC geographically includes eight counties in west-central Indiana: Clay, Greene, Owen, Parke, Putnam, Sullivan, Vermillion, & Vigo.

Seven hospitals are located within the D7 HCC: Terre Haute Regional, Union Hospital Terre Haute, (and the five Critical Access Hospitals) Ascension St. Vincent-Clay, Greene County General, Putnam County, Sullivan County Community, and Union Hospital Clinton.

Terre Haute Regional Hospital and Union Hospital are verified Level III Trauma Centers in District 7. Indiana relies upon the American College of Surgeons-Committee on Trauma (ACS-COT) to verify trauma centers.

Union Hospital Terre Haute is recognized by the Illinois EMSC program as a Pediatric Ready Facility. Indiana's pediatric facility recognition program was established in November of 2018 and Indiana hospital emergency departments that are recognized by IL will be "grandfathered" in at a later date.

Seventy-five Indiana registered Emergency Medical Services providers are located within the district.[1] The Indiana Department of Homeland Security EMS District Manager actively participates in district meetings.

District 7 Healthcare Coalition Membership

The Indiana District 7 Healthcare Coalition consists of members that contribute to the planning, identification of gaps and mitigation strategies, operational planning and response, information sharing, and resource coordination and management. The District will collaborate with a variety of stakeholders to ensure the community has the necessary medical

[1] Indiana Department of Homeland Security: EMS Providers list. Accessed May 26, 2020

equipment and supplies, real-time information, communication systems, and trained educated health care personnel to respond to an emergency. The following members are essential in this effort:

- Hospitals
- Emergency Medical Services
- Emergency Management Agencies
- Public Health
- Long Term Care Providers
- Mental/Behavioral Providers
- Specialty Services Providers
- Support Service Providers
- Non-Governmental Organizations
- Schools/Universities

The Indiana District 7 Healthcare Coalition consists of a variety of healthcare organizations and membership. A full list of participating organization and members can be found in ***Response Plan Appendix A – Healthcare Organizations and Coalition Members***. In general, membership is consistent with the following ASPR requirements:

District 7 Healthcare Coalition Core Members

The District 7 Healthcare Coalition ensures it includes the following Core 4 Membership:

- Hospitals (a minimum of two hospitals)
- Emergency Medical Services (including inter-facility and other non-EMS patient transport systems)
- Emergency management Agencies
- Public health Agencies

District 7 Healthcare Coalition Ancillary Members

Additional Ancillary District 7 Healthcare Coalition members may include, but are not limited to, the following:

- Behavioral health services and organizations
- Community Emergency Response Team (CERT) and Medical Reserve Corps (MRC)

- Dialysis centers and regional Centers for Medicare & Medicaid Services (CMS)-funded
  - End-stage renal disease (ESRD) networks
- Federal facilities (e.g., U.S. Department of Veterans Affairs (VA) Medical Centers, Indian Health Service facilities, military treatment facilities)
- Home health agencies (including home and community-based services)
- Infrastructure companies (e.g., utility and communication companies)
- Jurisdictional partners, including cities, counties, and tribes
- Local chapters of health care professional organizations (e.g., medical society, professional society, hospital association)
- Local public safety agencies (e.g., law enforcement and fire services)
- Medical and device manufacturers and distributors
- Non-governmental organizations (e.g., American Red Cross, voluntary organizations active in disasters, amateur radio operators, etc.)
- Outpatient health care delivery (e.g., ambulatory care, clinics, community and tribal health centers, Federally Qualified Health Centers (FQHCs), urgent care centers, freestanding emergency rooms, stand-alone surgery centers)
- Primary care providers, including pediatric and women's health care providers
- Schools and universities, including academic medical centers
- Skilled nursing, nursing, and long-term care facilities
- Support service providers (e.g., clinical laboratories, pharmacies, radiology, blood banks, poison control centers)
- Other (e.g., child-care services, dental clinics, social work services, faith-based organizations)

District 7 Healthcare Coalition Demographics

The population of the eight counties included in the Indiana District 7 Healthcare Coalition is:

POPULATION (2020) [2]

DISTRICT 7	**276,137**
CLAY	26,246
GREENE	32,203
OWEN	20,833

[2] http://www.stats.indiana.edu

PARKE	16,871
PUTNAM	37,469
SULLIVAN	20,578
VERMILLION	15,329
VIGO	106,608

The number of individuals in District 7 counties by age is:

POPULATION BY AGE (2019 ESTIMATE) [3]

AGE	CLAY	GREENE	OWEN	PARKE	PUTNAM	SULLIVAN	VERMILLION	VIGO
UNDER 5 YEARS	1,635	1,712	1,124	1,050	1,863	1,058	830	6,169
5 TO 9 YEARS	1,446	1,958	1,149	1,005	1,987	1,094	882	6,043
10 TO 14 YEARS	1,864	2,038	1,297	970	2,126	1,198	1,059	6,084
15 TO 19 YEARS	1,611	1,998	1,271	921	3,046	1,146	1,022	8,171
20 TO 24 YEARS	1,451	1,689	1,035	964	3,552	1,320	833	11,763
25 TO 29 YEARS	1,593	1,852	1,095	1,052	2,203	1,473	856	7,339
30 TO 34 YEARS	1,535	1,793	1,124	1,015	2,177	1,295	770	6,487
35 TO 39 YEARS	1,351	1,691	1,225	853	2,547	1,467	986	6,888

3 https://data.census.gov/cedsci/table?t=Populations%20and%20People&g=0500000US18021,18055,18119,18121,18133,18153,18165,18167&tid=ACSST5Y2019.S0101&hidePreview=true

40 TO 44 YEARS	1,817	2,026	1,063	1,016	1,821	1,360	908	5,457
45 TO 49 YEARS	1,670	2,156	1,329	1,105	2,362	1,452	1,064	6,329
50 TO 54 YEARS	1,737	2,374	1,722	1,163	2,577	1,486	1,075	6,530
55 TO 59 YEARS	2,077	2,351	1,880	1,253	2,726	1,617	1,186	6,661

District 7 Healthcare Coalition Hospitals and Chemical Capabilities

Seven hospitals are located within the D7 HCC: Terre Haute Regional, Union Hospital Terre Haute, (and the five Critical Access Hospitals) Ascension St. Vincent-Clay, Greene County General, Putnam County, Sullivan County Community, and Union Hospital Clinton.

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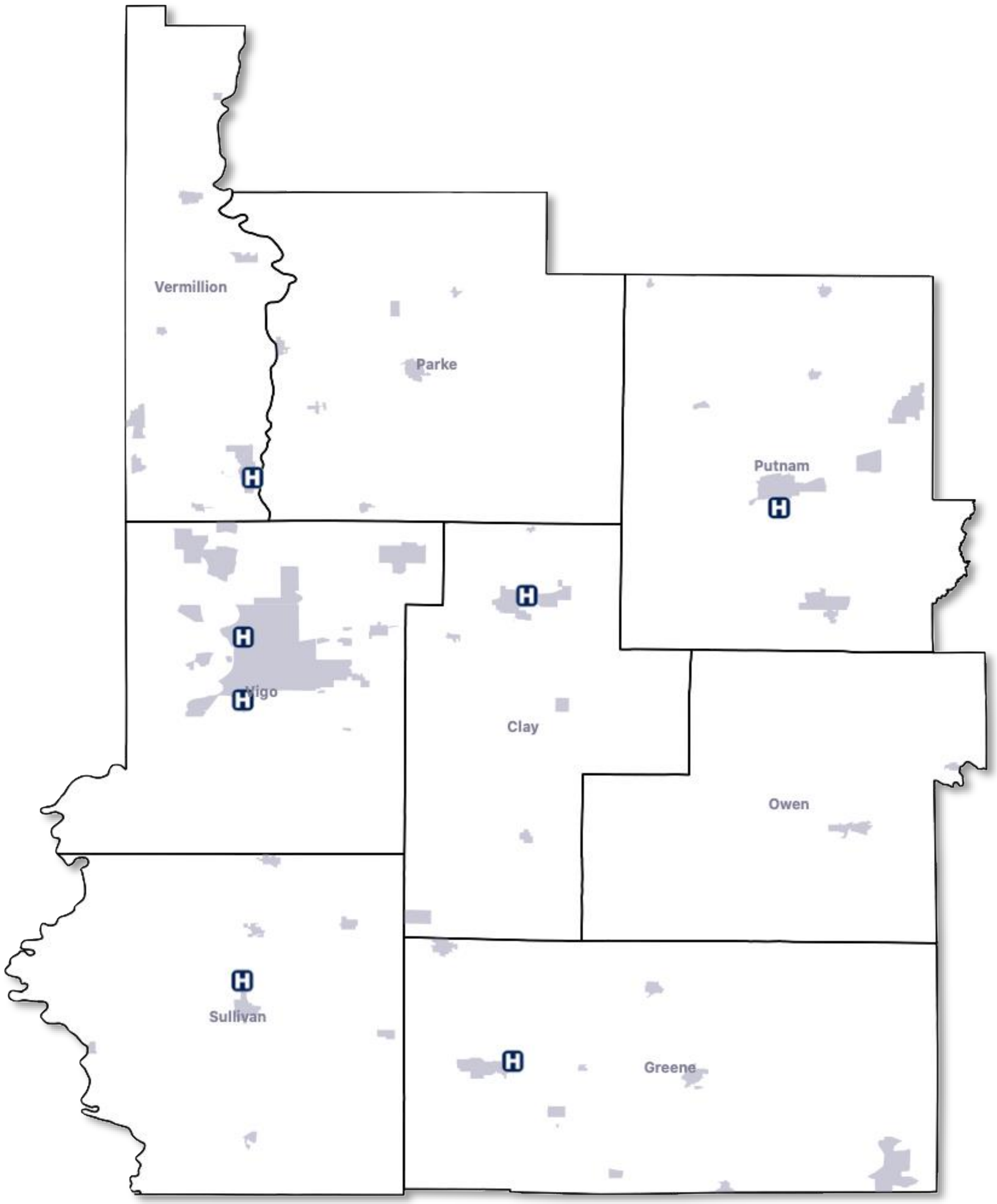
Indiana District 7 HCC Hospitals



(Map: *MESH Coalition* | Data Source: *EMResource, 2022*)

Terre Haute Regional Hospital and Union Hospital are verified Level III Trauma Centers in District 7. Indiana relies upon the American College of Surgeons-Committee on Trauma (ACS-COT) to verify trauma centers.

Union Hospital Terre Haute is recognized by the Illinois EMSC program as a Pediatric Ready Facility. Indiana's pediatric facility recognition program was established in November of 2018 and Indiana hospital emergency departments that are recognized by IL will be "grandfathered" in at a later date.

Exposure to certain chemicals can cause burns. No burn centers are in District 7. All hospitals in the district can provide initial stabilization of burn patients, however, patients with chemical burns should be transported to a trauma center for initial stabilization per existing Emergency Medical Services protocols.

According to American Burn Association guidelines: “A burn center may treat adults, children, or both. Burn injuries that should be referred to a burn center include the following:

- Partial thickness burns of greater than 10 percent of the total body surface area.
- Burns that involve the face, hands, feet, genitalia, perineum, or major joints.
- Third-degree burns in any age group
- Electrical burns, including lightning injury
- **Chemical burns**
- Inhalation injury
- Burn injury in patients with preexisting medical disorders that could complicate management, prolong recovery, or affect mortality
- Burns and concomitant trauma (such as fractures) when the burn injury poses the greatest risk of morbidity or mortality. If the trauma poses the greater immediate risk, the patient’s condition may be stabilized initially in a trauma center before transfer to a burn center. Physician judgment will be necessary in such situations and should be in concert with the regional medical control plan and triage protocols
- Burns in children; children with burns should be transferred to a burn center verified to treat children. In the absence of a regional pediatric burn center, an adult burn center may serve as a second option for the management of pediatric burns
- Burn injury in patients who will require special social, emotional, or rehabilitative intervention.” [4]

American Burn Association (ABA) verified burn centers in relation to District 7 include:

[4] http://ameriburn.org/wp-content/uploads/2017/05/acs-resources-burn-chapter-14.pdf

AMERICAN BURN ASSOCIATION (ABA) VERIFIED BURN CENTERS IN RELATION TO DISTRICT 7 [5]

CENTER	Address	City	State	Zip	# Beds	Ages	Helipad
ESKENAZI HEALTH HOSPITAL	720 Eskenazi Ave	Indianapolis	IN	46202	15	Adults & Pediatrics	Yes
RILEY HOSPITAL	720 Barnhill Dr	Indianapolis	IN	46202	10	Pediatrics Only	Yes
SUMNER L. KOCH BURN CENTER	1901 W Harrison St	Chicago	IL	60612	18	Adults & Pediatrics	Yes
UNIVERSITY OF CHICAGO BURN CENTER	5841 S Maryland Ave	Chicago	IL	60637	16	Adults & Pediatrics	Yes
LOYOLA UNIVERSITY MEDICAL CENTER	2160 S 1st Ave	Maywood	IL	60153	22	Adults & Pediatrics	Yes
MERCY HOSPITAL ST. LOUIS	615 S New Ballas Rd	St. Louis	MO	63141	12	Adults & Pediatrics	N/A

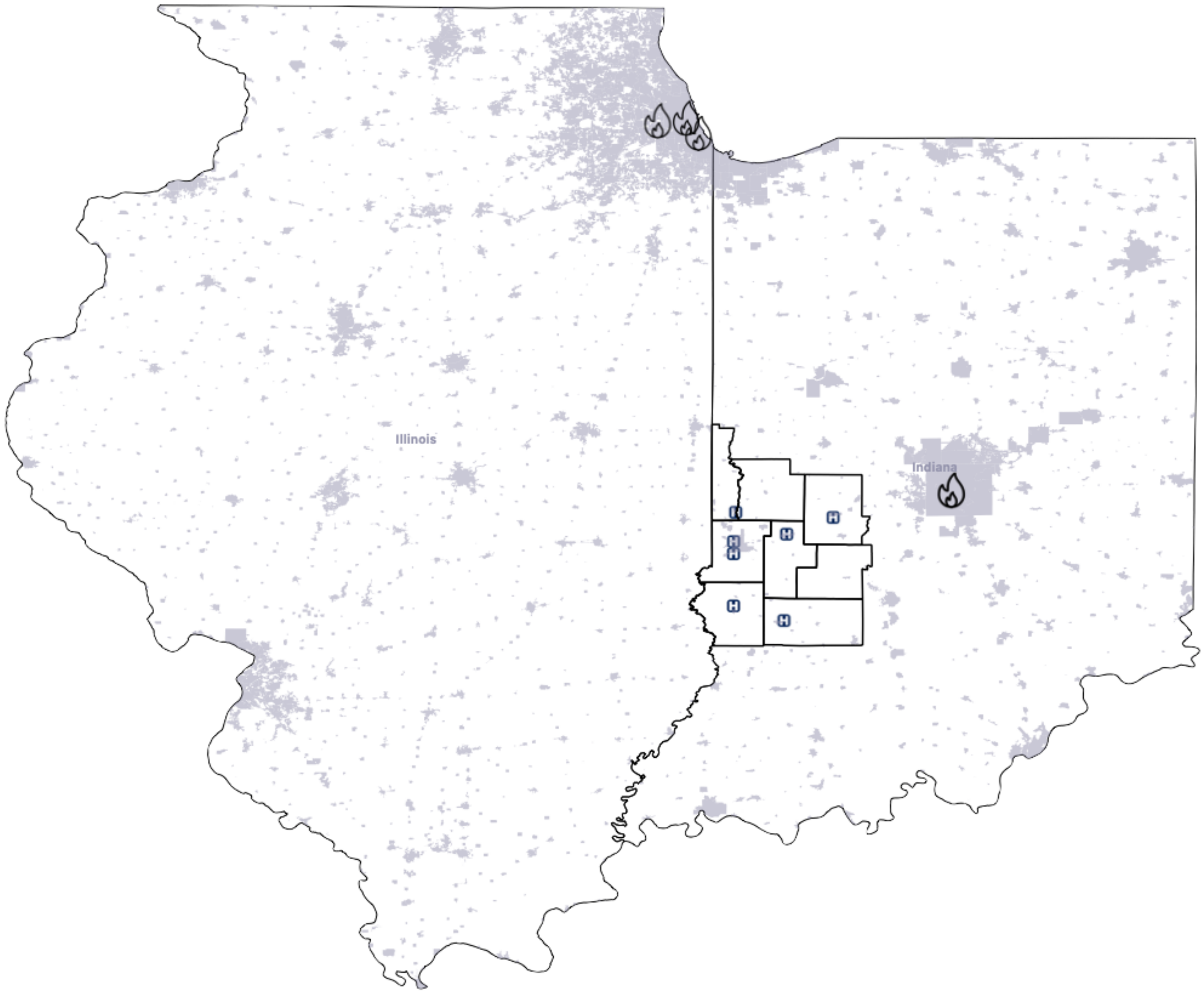
[5] http://ameriburn.org

DISTANCE IN MILES BETWEEN ABA BURN CENTERS AND INDIANA DISTRICT 7 HCC HOSPITALS[6]

	Ascension St. Vincent - Clay	Greene County General	Putnam County	Sullivan County Community	Terre Haute Regional	Union Hospital Terre Haute	Union Hospital Clinton
SUMNER L. KOCH BURN CENTER	165	198	162	190	170	166	154
UNIVERSITY OF CHICAGO BURN CENTER	158	192	155	184	164	159	148
LOYOLA UNIVERSITY MEDICAL CENTER	165	198	163	190	170	166	154
ESKENAZI HEALTH HOSPITAL	52	72	37	79	70	68	65
RILEY HOSPITAL	52	72	37	79	70	68	65
MERCY HOSPITAL ST. LOUIS	189	181	204	167	172	173	178

[6] Distance measured as a straight line between points in rounded statute miles

ABA Verified Burn Centers in relation to Indiana District 7 HCC Hospitals

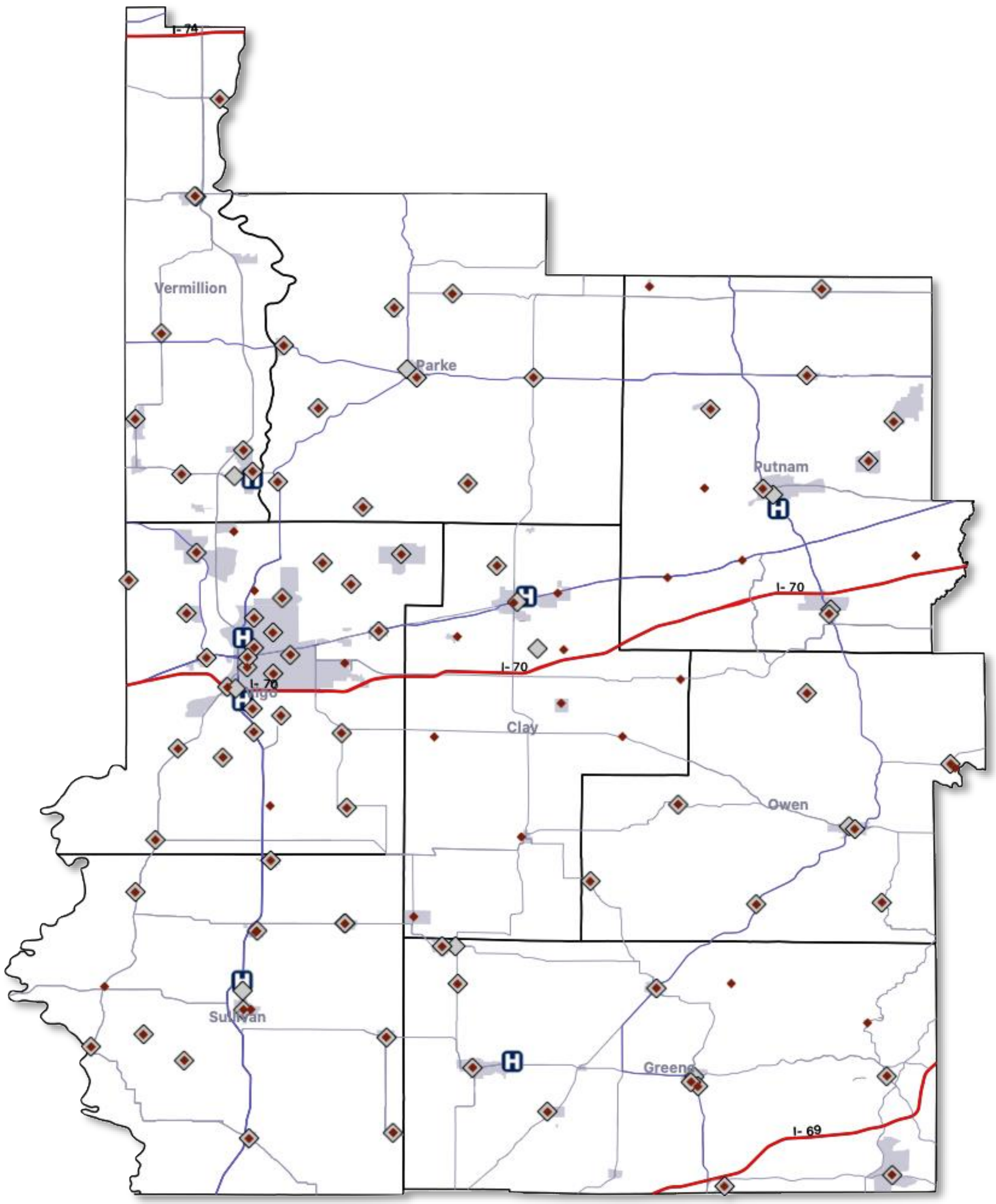


(Map: *MESH Coalition* | Data Source: *American Burn Association, 2022*)

Seventy-five Indiana registered Emergency Medical Services providers are located within the district.[7] The Indiana Department of Homeland Security EMS District Manager actively participates in district meetings

[7] Indiana Department of Homeland Security: EMS Providers list. Accessed May 26, 2020

Indiana **EMS** (outline diamonds) and **Fire** Agencies in relation to Indiana District 7 HCC Hospitals



(Map: *MESH Coalition* | Data Source: *IDHS, 2009*)

Local Emergency Medical Services providers would provide primary transportation of patients in a Chemical Mass Casualty Incident. Local EMS transportation could be supplemented by private ambulance services and/or Indiana and Illinois hospital-based ground and aeromedical transport assets.

Local Risks for Chemical Mass Casualty Incidents

Potential risks of Chemical Mass Casualty incidents include 4 primary sources: industrial, agricultural, transportation, and terrorism.

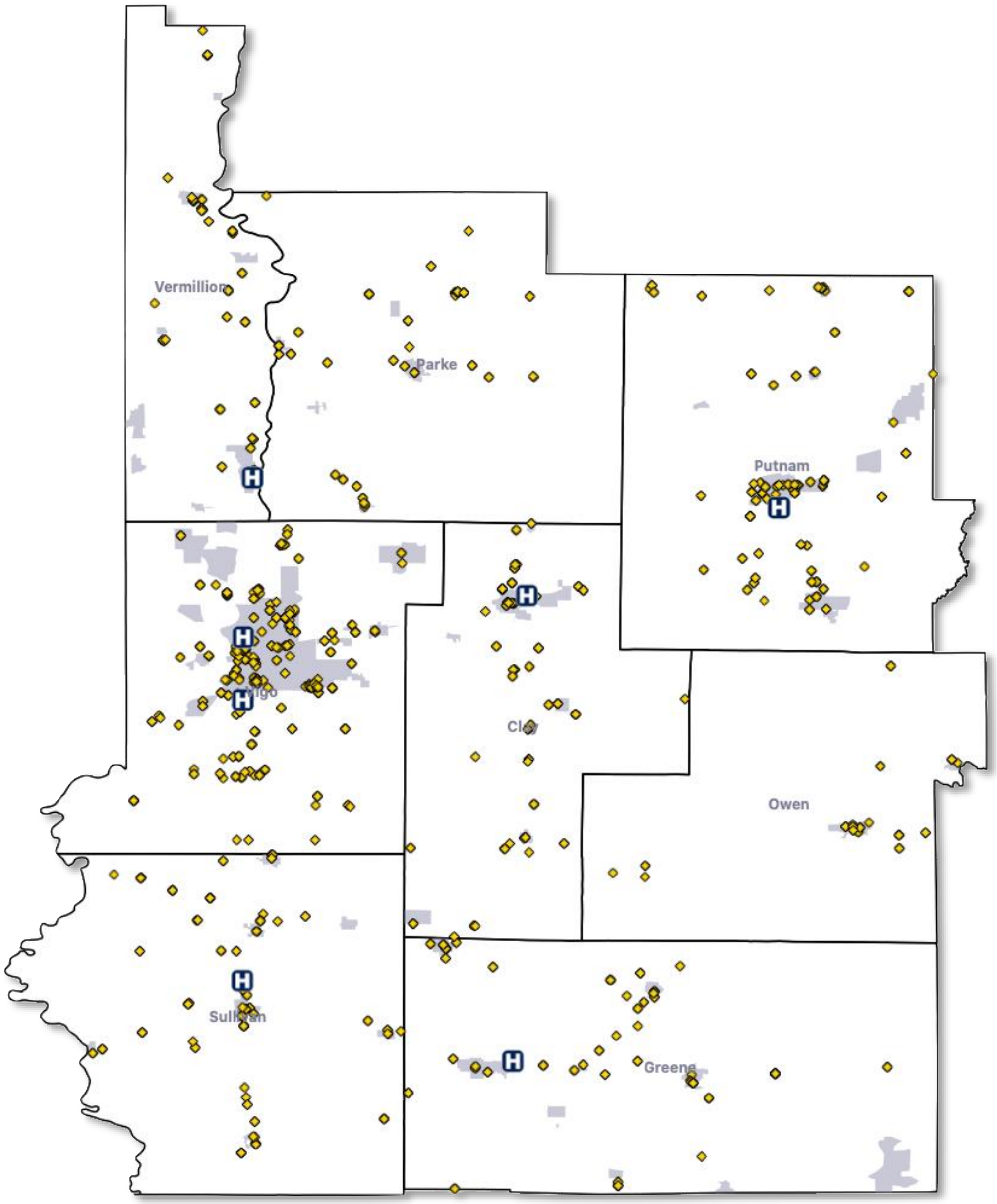
371 Tier II Chemical Facilities have been identified in Indiana District 7. Tier II reporting is required when a facility has greater than or equal to 10,000 pounds of any hazardous chemical by OSHA criteria. An intentional or accidental chemical release could result in a Chemical Mass Casualty Incident

TIER II ACTIVE CHEMICAL FACILITIES (2022)[8]

DISTRICT 7	**371**
CLAY	41
GREENE	39
OWEN	13
PARKE	26
PUTNAM	58
SULLIVAN	38
VERMILLION	24
VIGO	132

[8] https://tier2.dhs.in.gov/Account/Login.aspx

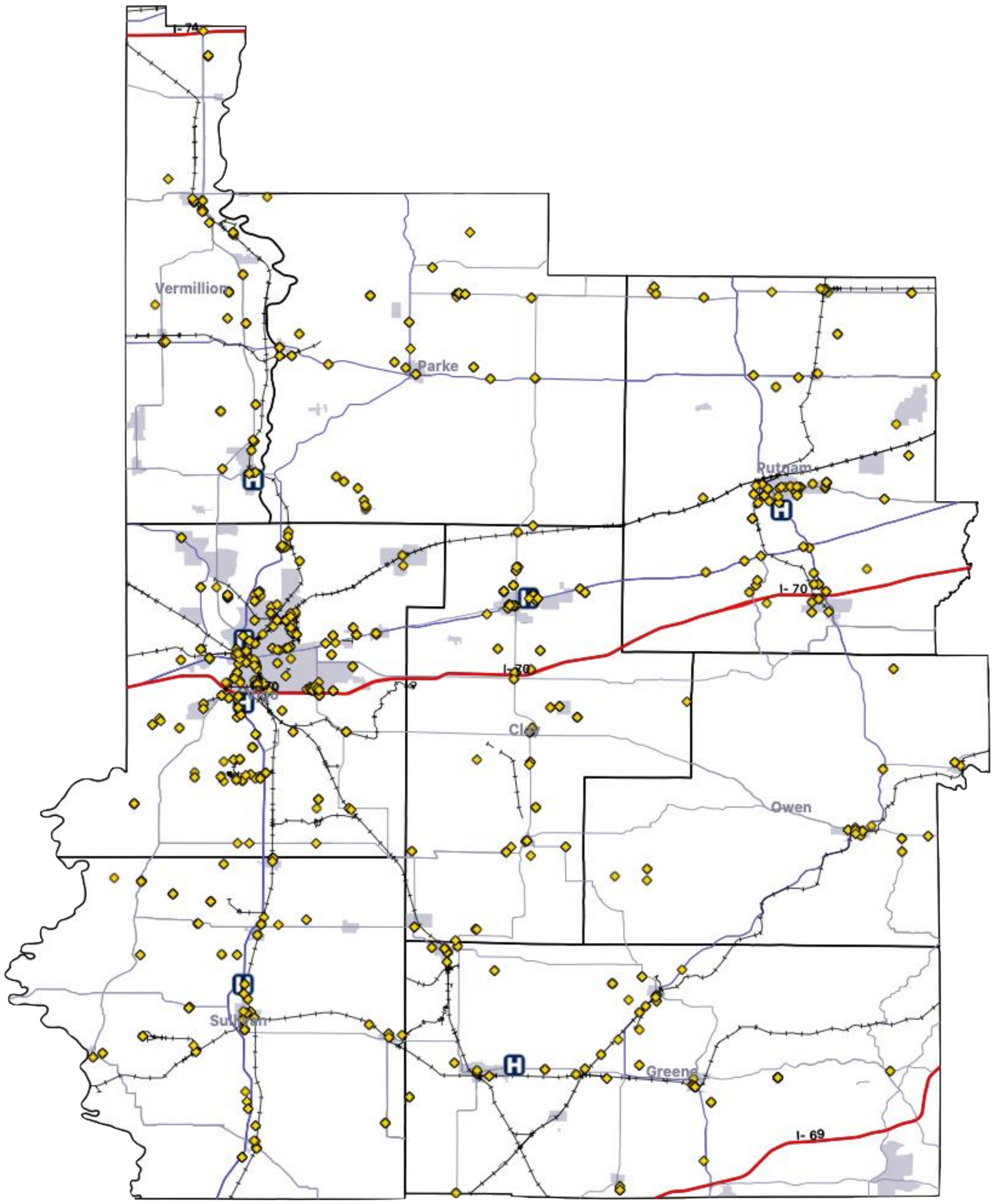
Tier II Chemical Facility locations in relation to Indiana District 7 HCC Hospitals



(Map: *MESH Coalition* Data Source: *IERC TIER II Report*[9])

[9] https://tier2.dhs.in.gov/Account/Login.aspx

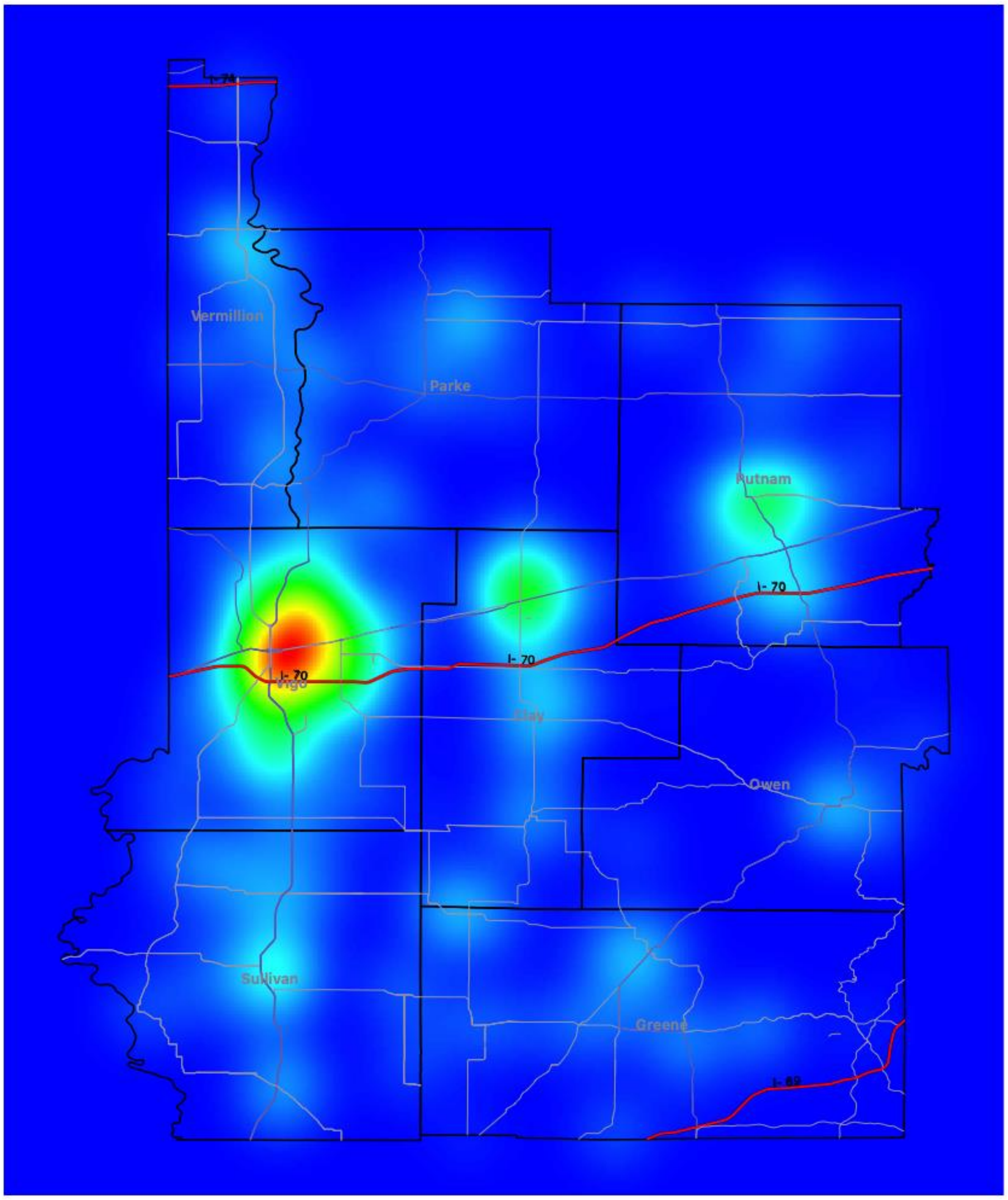
Tier II Chemical Facility locations in relation to Interstates, **Railways**, and Indiana District 7 HCC Hospitals



(Map: *MESH Coalition* Data Source: *IERC TIER II Report*[10])

10 https://tier2.dhs.in.gov/Account/Login.aspx

Tier II Chemical Facility location density



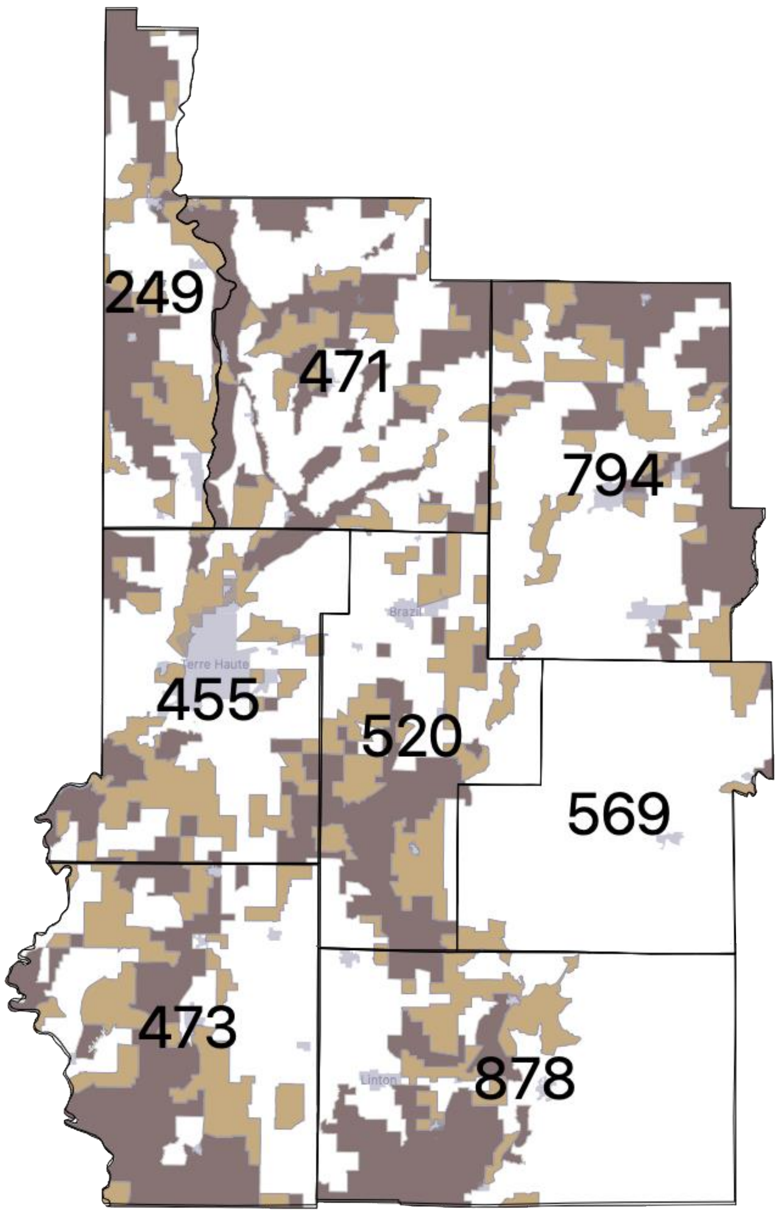
(Map: *MESH Coalition* Data Source: *IERC TIER II Report*[11])

The Indiana Emergency Response Commission *Online Tier II Manager* system provides up-to-date information on facilities with reportable chemical quantities[12].

[11] https://tier2.dhs.in.gov/Account/Login.aspx
[12] https://tier2.dhs.in.gov/Account/Login.aspx

Chemicals of concern in agriculture use include anhydrous Ammonia and pesticides. Unintentional or intentional release of these chemicals in a manner other than standard usage may result in a Chemical Mass Casualty Incident. Contaminated individuals presenting to health care facilities for treatment may impact staff due to chemical "off gassing."

Number of Farms and **51-75%**, and **>75%** Cultivated Soil Areas in Indiana District 7 HCC Counties

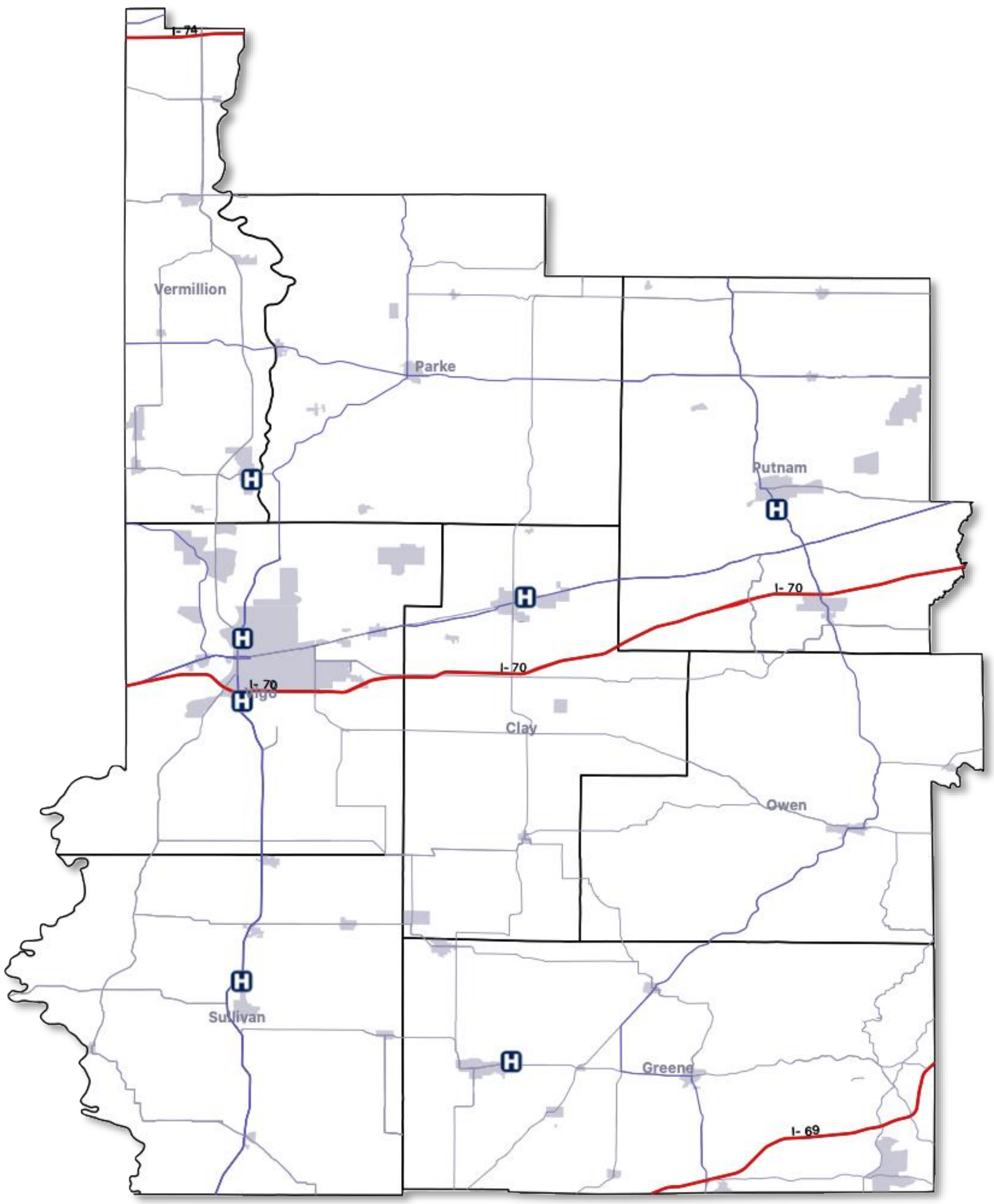


(Map: *MESH Coalition* Data Source: *Agriculture Census and Cultivated Areas*[13])

[13] https://maps.indiana.edu/layerGallery.html?category=Agriculturel

Interstate 70 runs through D7 counties and is a major route for the transportation of varying quantities of chemicals. Interstates 74 and 69 also run through D7 counties and provide additional chemical transportation routes, as do U.S highways and other roadways in the district. An accident involving chemical release could result in a Chemical Mass Casualty Incident.

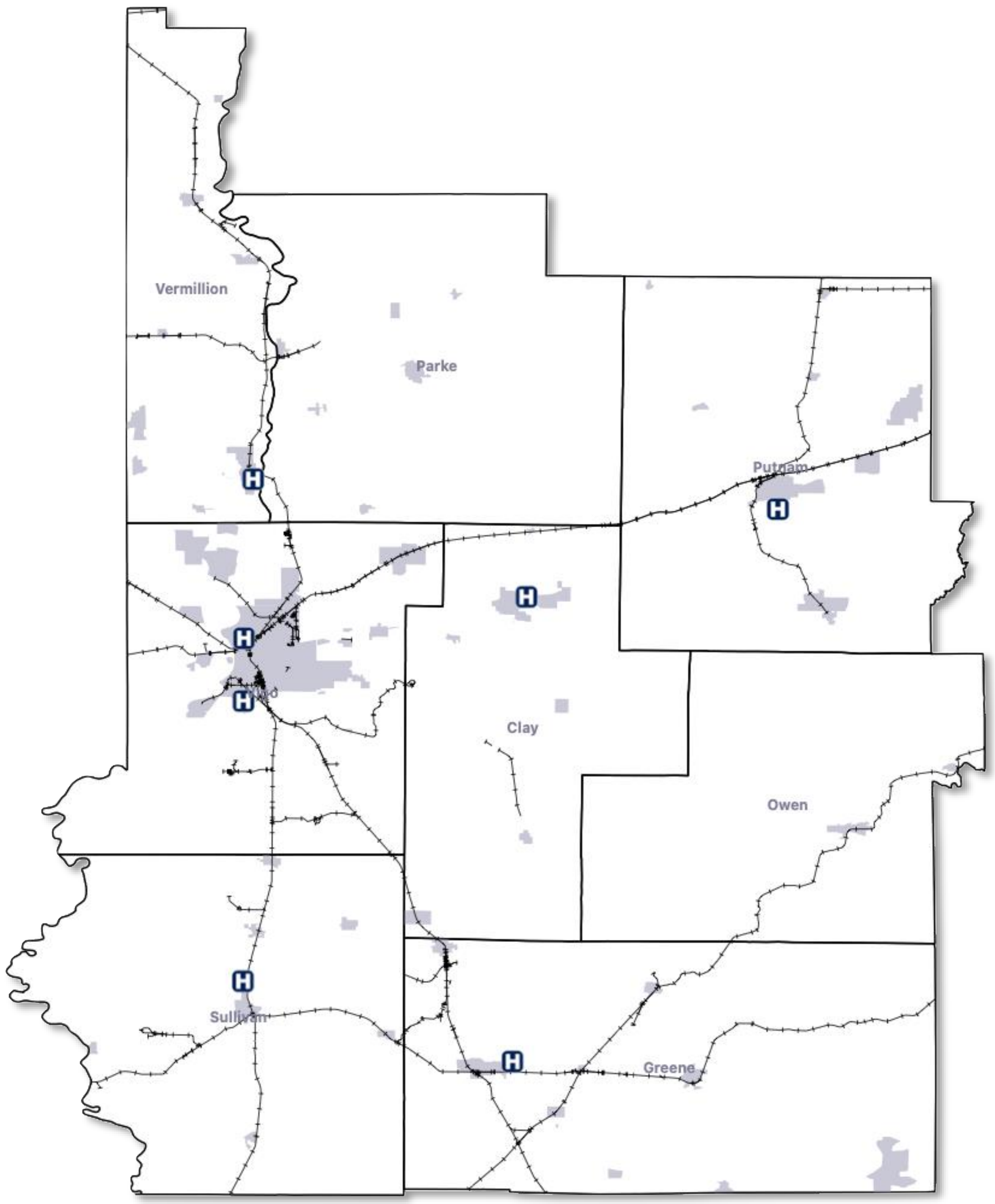
Interstates in relation to Indiana District 7 HCC Hospitals



(Map: *MESH Coalition* | Data Source: *US Census Bureau, 2021*)

Active railroads are present in D7 counties and provide for the transportation of varying quantities of chemicals. For example, U.S. DOT-111 tank car capacity is 34,500 gallons. An accident involving chemical release could result in a Chemical Mass Casualty Incident.

Railways in relation to Indiana District 7 HCC Hospitals



(Map: *MESH Coalition* | Data Source: *US Census Bureau, 2021*)

Terrorists could intentionally release a variety of chemical agents into populated areas and could result in a Chemical Mass Casualty Incident.

Chemical warfare agents are often sought after and/or utilized by terrorists and include:

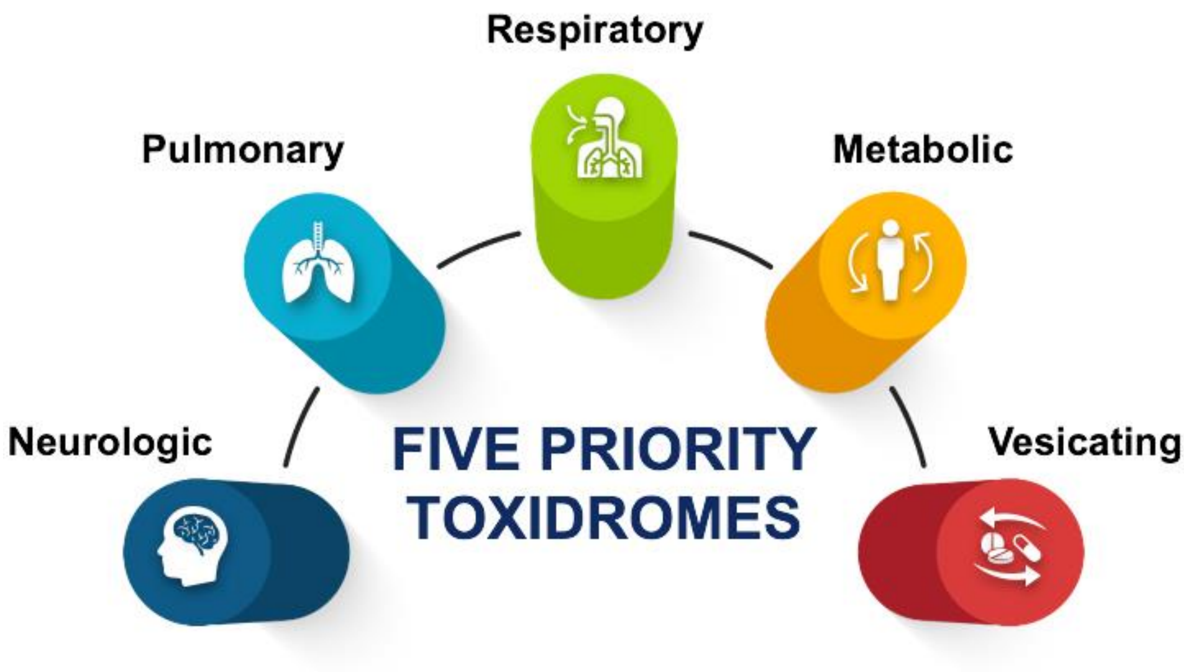
- Nerve agents.
- Vesicants (blistering agents)
- Bloods agents (cyanogenic agents)
- Choking agents (pulmonary agents)
- Riot-control agents (tear gases)
- Psychomimetic agents.
- Toxins.[14]

Nerve agents are a particular concern and medical countermeasures are included in the Indiana Chempack Program assets. See ***Appendix C*** for more information.

The Biomedical Advanced Research and Development Authority (BARDA), within the Office of the Assistant Secretary for Preparedness and Response in the U.S. Department of Health and Human Services advocates:

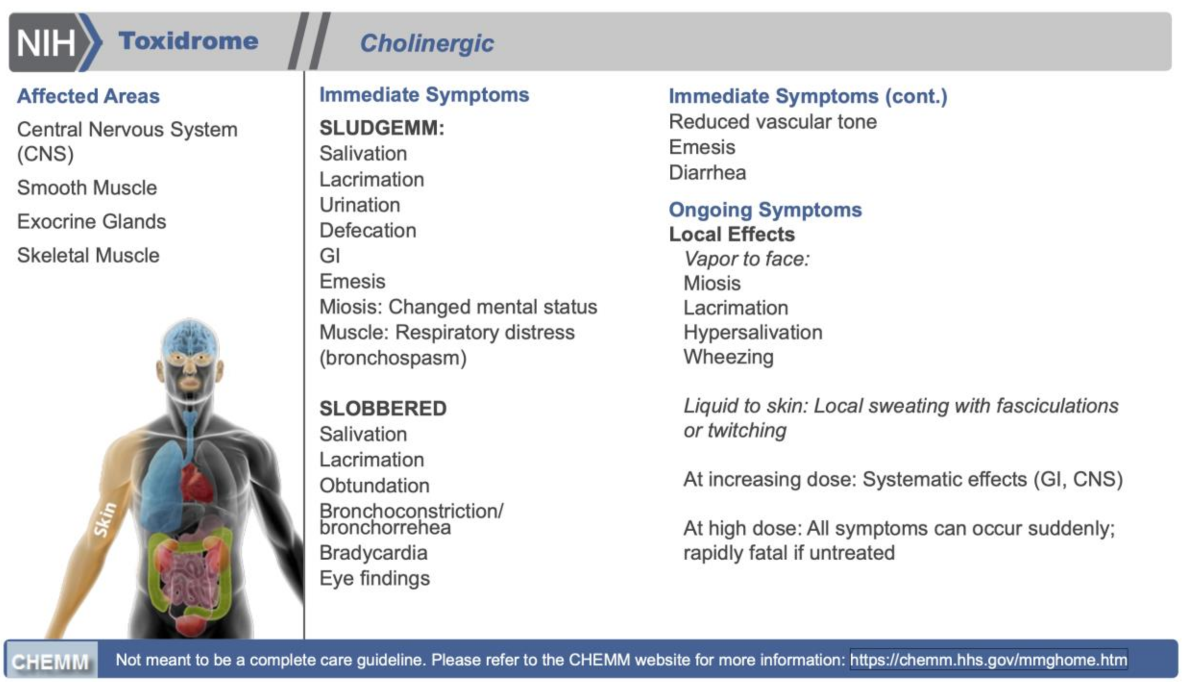
“Exposure to chemicals can cause injuries that share symptomology, or toxidrome, with commonly seen medical conditions. Our priority threats can be binned into five diagnostic toxidromes: neurologic, pulmonary, respiratory, metabolic, and vesicating. Recognizing these toxidromes allows for the assessment and treatment of chemical injury without the need to identify the specific chemical causing such injury—allowing for broad spectrum therapeutic utility and aligning with standard emergency medicine practice. Treat the injury, not the agent is our watchword.“ [15]

[14] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3148621/
[15] https://www.medicalcountermeasures.gov/barda/cbrn/chemical-medical-countermeasures/



(Source: MedicalCountermeasures.gov[14])

Chemical Toxidrome cards[16] are included in ***APPENDIX B***.



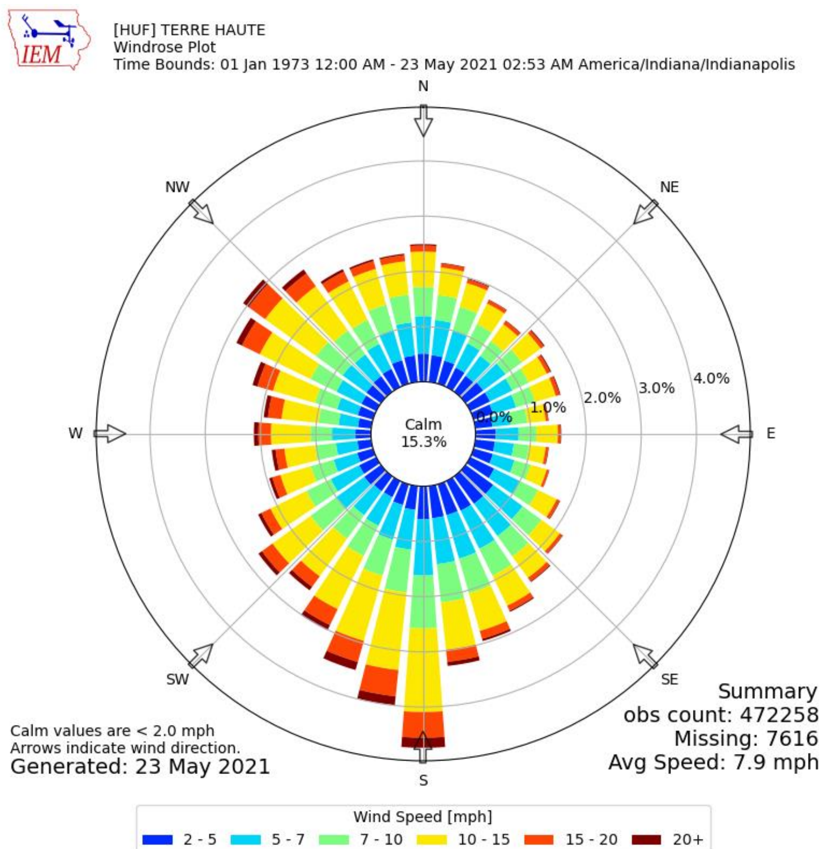
(Source: CHEMM[15])

[16] https://chemm.hhs.gov/toxidrome_cards.htm

Chemical plumes can result from releases and pose a threat to humans and animals downwind.

Software packages such as WISER[17] and ALOHA[18], are available to provide chemical information and/or plume modeling. The District 7 HCC does not possess nor utilize these software packages and would rely upon coalition members such as fire agencies, ems agencies, emergency management agencies, and public health agencies to utilize their software assets in conjunction with National Weather Service consultation.

Windrose Plot Showing Prevailing Winds in Vigo County, Indiana District 7 HCC



(Source: *Iowa State Mesonet*[19])

[17] https://wiser.nlm.nih.gov/
[18] https://www.epa.gov/cameo/aloha-software
[19] http://mesonet.agron.iastate.edu/sites/windrose.phtml?network=IN_ASOS&station=HUF

Assumptions

- All District 7 Healthcare Coalition hospitals providing emergency care may receive chemical patients and should be able to provide initial assessment and stabilization.
- District 7 Healthcare Coalition Core Members will have primary responsibility for response including initial casualty distribution and subsequent triage of patients for forward movement.
- District 7 Healthcare Coalition Core Members will have primary responsibility for support of the response and will coordinate transfers of chemical burns with the closest ABA burn center in accordance with established regional protocols.
- District 7 Healthcare Coalition Core Members will follow their respective chemical, burn and/or emergency response plan expectations of preparedness and coordination.
- Trauma centers in District 7 should plan for a major role in the receipt and care of chemical patients and understand their role in a Chemical Mass Casualty Incident.
- Care of critical chemical burns is extremely resource-intensive and requires specialized staff, expert advice, and critical care transportation assets.
- Severe chemical burn patients may become clinically unstable within 24 hours of injury, complicating transfer plans after this time frame.
- Federal resources (e.g., ambulance contracts, National Disaster Medical System teams), though potentially available to assist, cannot be relied upon to mobilize and deploy for the first 72 hours.

Concept of Operations

District 7 Healthcare Coalition Activation and the Healthcare Coalition Coordination Center

In the event there is an incident involving a Chemical Mass Casualty Incident that has or will have an effect on the ability of the member Healthcare Coalitions/coalition partners to respond, the D7 Healthcare Coalition will activate and identify all appropriate parties that will be providing assistance, support and services from a District level. The Activation, Notification and Roles and Responsibilities processes are outlined in detail in the ***D7 HCC Response Plan***. This plan follows the ICS/NIMS framework.

The District 7 HCC, when activated as needed, shall support each affected coalition member facility by establishing a Healthcare Coalition Coordination Center (HCCCC) for coordination of district wide resources and information sharing.

The D7 Healthcare Coalition Coordination Center (HCCCC) shall assist the individual facilities command structure in the planning process by providing real-time information related to resources and coordinate with D7 support elements such as the Indiana Department of Health, the Indiana Homeland Security Department and local Emergency Management Agencies.

The D7 Healthcare Coalition Coordination Center (HCCCC) provides district healthcare coordination assistance in support of core four coalition members in ensuring life safety, scene stabilization and property preservation.

D7 Healthcare Coalition staff serve in the Healthcare Coalition Coordination Center (HCCCC) as the need arises during simulated or real-world incidents/events.

The D7 Healthcare Coalition Coordination Center (HCCCC) shall assist the individual facilities command structure in the planning process by providing real-time information related to resources and coordinate with D7 support elements such as the Indiana Department of Health, the Indiana Homeland Security Department and local Emergency Management Agencies.

The identification of chemical/burn Subject Matter Experts (SME’s) would be led by a Clinical Advisor to the D7 HCC and be based on the incident type and specialty support expertise needed.

District 7 Healthcare Coalition Notifications

The activation, notification and roles and responsibilities processes are outlined in detail in the ***D7 HCC Response Plan***. This plan follows the ICS/NIMS framework.

The priority of the D7 HCC is to maintain life and prevent further injury or illness.

The D7 HCC utilizes EMS and fire personnel with current specific competencies and protocols to assure appropriate triage. Local EMS agencies would follow established medical protocols for initial patient distribution from an Chemical Mass Casualty Incident and mutual aid for secondary transfers. See the ***D7 HCC Emergency Operations Plan***.

Responsibility for patient movement activities including matching patients to available resources in a Chemical Mass Casualty Incident is outlined in detail in the ***D7 HCC Emergency Operations Plan***.

Depending on patient age and triage classification, burn patients may be transported by ground or aeromedical crews to D7 HCC member hospitals, the closest trauma center, or to specialty facilities with burn-bed capabilities, such as Eskenazi Health Hospital, an American College of Surgeons Verified Level I Adult Trauma Center and American Burn Association Verified Adult Burn Center, and Riley Hospital for Children at IU Health, an American College of Surgeons Verified Level I Pediatric Trauma Center and American Burn Association Verified Pediatric Burn Center, both located in Indianapolis, Indiana.

The identification of local chemical injury Subject Matter Experts (SME’s) would be led by a clinical advisor to the D7 HCC and be based on the incident and specialty support expertise needed. Because of their trauma experience, SME’s at Terre Haute Regional and Union Hospital Terre Haute could be utilized.

The identification of regional burn SME’s would be led by a clinical advisor to the D7 HCC and be based on the incident type and specialty support expertise needed. Because of current use and MOU in place, SME's at Eskenazi Health and Riley hospital for children at IU Health could be utilized.

If a longer-term incident requires activation of the Crisis Standard of Care System, D7 HCC hospitals will enact their individual Crisis Standard of Care plan.

During an incident, the D7 HCC works with members to assist them in collecting essential elements of information to be gathered on all patients including name, age, weight, injuries/diagnosis, and care requirements for transport (e.g., IV drip medications, oxygen/vent support), and whether the minor has identified parents or a guardian.

Communication procedures to follow during a Chemical Mass Casualty Incident are outlined in detail in the ***D7 HCC Response Plan.***

Coordination of inpatient and outpatient resources, including behavioral health support for patient, families, and staff will be coordinated with D7 HCC Members and Ancillary Members.

District 7 Healthcare Coalition Logistics

Activation, notification and roles and responsibilities processes are outlined in detail in the D7 HCC Response Plan. This plan follows the ICS/NIMS framework.

The D7 HCC employs a Logistics Manager to oversee supplies.

Space

District 7 hospitals have individually identified surge/flex capabilities and would follow their internal plans for space flex during an influx of patients from a Chemical Mass Casualty Incident. See the ***D7 HCC Emergency Operations Plan***.

The D7 HCC may assist in coordinating movement of tents and/or trailers to members to support space requests.

Staff

In the event of patient surge, D7 HCC hospitals will enact their individual staff surge procedures/emergency plan.

The D7 HCC may assist in coordinating movement of personnel between core member hospitals to support staffing requests.

The D7 HCC may assist in making telephone calls to support member requests.

Emergency Department staff at Terre Haute Regional Hospital and Union Hospital, both verified Level III Trauma Centers in District 7, are required to complete annual Society of Trauma Nurses training which includes specific training in burn and radiation burn care. Completion Trauma Nurse Core Course, which also includes specific training in burn and chemical burn care is also required for ED staff.

Supplies

The D7 HCC does not maintain a cache of medical supplies. Supplies are maintained by each organization/agency and are replenished/supplemented in accordance with their policies and procedures, such as just-in-time supply chain utilization.

During an emergency, D7 HCC core member Emergency Management Agencies and county Health Departments would assist in resource allocation and procurement, such as in requesting the Strategic National Stockpile, at the local, state, and federal levels through the appropriate channels.

District 7 Healthcare Coalition Special Considerations

Behavioral Health

The D7 HCC works with ancillary member organizations and providers, such as social workers and behavioral health counselors to provide behavioral health care and services to the injured, ill and the well to reduce surge on the hospitals if there is no medical necessity.

Eskenazi Health provides Burn Survivor Support Services at https://www.eskenazihealth.edu/programs/burn-support-services 371-880-6878 Survivors Offering Assistance to Recovery-One-to-one peer support visits to those whose lives have been affected by a burn Injury. Burn Survivor Support Group-Monthly group provides survivors an opportunity to share stories and challenges in a safe environment. Burn Survivor Social Re-Integration Program-burn survivors and families gather to enjoy activities in the community.

ABA Burn Survivor Resources are available at: http://ameriburn.org/public-resources/burn-survivor-resources/

Pediatric

Prior to transport, D7 HCC EMS and Fire Agencies will perform emergency initial treatment to pediatric patients in the field.

The D7 HCC utilizes EMS and fire personnel with current competencies and protocols to assure appropriate triage. D7 HCC core members utilize JumpSTART as their pediatric triage methodology to do the greatest good for the greatest number of victims in the shortest amount of time. See the ***D7 HCC Emergency Operations Plan***, pp. 55-58 for additional information.

All District 7 hospitals providing emergency care may receive pediatric patients and should be able to provide initial assessment and stabilization.

Terre Haute Regional Hospital and Union Hospital are verified Level III Trauma Centers in District 7. Indiana relies upon the American College of Surgeons-Committee on Trauma (ACS-COT) to verify trauma centers.

Union Hospital Terre Haute is recognized by the Illinois EMSC program as a Pediatric Ready Facility. Indiana's pediatric facility recognition program was established in November of 2018 and Indiana hospital emergency departments that are recognized by IL will be "grandfathered" in at a later date.

Pediatric patients with chemical burns should be transferred to a burn center verified to treat children. In the absence of a regional pediatric burn center, an adult burn center may serve as a second option for the management of pediatric burns.

Regional Verified Pediatric Burn Centers include:

AMERICAN BURN ASSOCIATION (ABA) VERIFIED BURN CENTERS IN RELATION TO DISTRICT 7 [20]

CENTER	Address	City	State	Zip	# Beds	Ages	Helipad
ESKENAZI HEALTH HOSPITAL	720 Eskenazi Ave	Indianapolis	IN	46202	15	Adults & Pediatrics	Yes
RILEY HOSPITAL	720 Barnhill Dr	Indianapolis	IN	46202	10	Pediatrics Only	Yes
SUMNER L. KOCH BURN CENTER	1901 W Harrison St	Chicago	IL	60612	18	Adults & Pediatrics	Yes
UNIVERSITY OF CHICAGO BURN CENTER	5841 S Maryland Ave	Chicago	IL	60637	16	Adults & Pediatrics	Yes
LOYOLA UNIVERSITY MEDICAL CENTER	2160 S 1st Ave	Maywood	IL	60153	22	Adults & Pediatrics	Yes
MERCY HOSPITAL ST. LOUIS	615 S New Ballas Rd	St. Louis	MO	63141	12	Adults & Pediatrics	N/A

The D7 HCC works with member hospitals to incorporate age-appropriate carry/immobilization devices for transfer transportation.

Combined Injury

The priority of the D7 HCC is to maintain life and prevent further injury or illness.

[20] http://ameriburn.org

Chemical release after a facility or transportation incident could lead to combined traumatic and chemical injuries

The D7 HCC utilizes EMS and fire personnel with current competencies and protocols to assure appropriate triage. D7 HCC core members utilize START as their adult triage methodology, and JumpSTART as their pediatric triage methodology to do the greatest good for the greatest number of victims in the shortest amount of time. See the ***D7 HCC Emergency Operations Plan***, pp. 55-58 for additional information.

Because hospitals in the D7 HCC have limited trauma, chemical burn treatment capabilities, Memoranda of Understanding (MOU) are in place for transfer to regional hospitals such for Eskenazi Health Hospital and Riley Hospital for Children for burn center capabilities. Subject Matter Experts from these trauma and burn centers would be contacted to provide telemedicine support.

Adult patients with burns and trauma should be transferred to an adult trauma and burn center. Eskenazi Health Hospital, an American College of Surgeons Verified Level I Adult Trauma Center and American Burn Association Verified Adult Burn Center is located in Indianapolis and is the closest geographically to District 7.

Pediatric patients with burns and trauma should be transferred to a pediatric trauma and burn center. Riley Hospital for Children at IU Health, an American College of Surgeons Verified Level I Pediatric Trauma Center and American Burn Association Verified Pediatric Burn Center is located in Indianapolis and is the closest geographically to District 7.

Additional information on pediatric surge, including decontamination issues, is outlined in detail in the ***D7 HCC Pediatric Surge Annex***.

District 7 Healthcare Coalition Operations - Medical Care

Triage and Secondary Triage

The D7 HCC will utilize triage officer expertise to identify the mode of transport, priority of transport, and coordination of transportation assets.

The D7 HCC will utilize multi-agency communication between hospitals/referring facilities/EMS agencies.

Primary transport will match needs to resources when possible.

Secondary transport will include prioritization of patients and coordination of assets.

Transportation Priority
1. Unstable hemodynamic or respiratory status requiring emergency specialty intervention.
2. Currently stable but prior or potential deterioration, intensive care requirements (pressors, complex vent management, etc.).
3. Expectant, not expected to survive transfer despite interventions but transfer once resources become available.
4. Stable, but requires specialty operative or other interventions, no intensive care requirements.
5. Stable, but <8 years of age or congenital/behavioral issues requiring specialized care.

See the ***D7 HCC Emergency Operations Plan*** for additional triage and transportation information.

Because hospitals in the D7 HCC have limited chemical burn capabilities, Memoranda of Understanding (MOU) are in place with regional hospitals such as Riley Hospital for Children at IU Health, and Eskenazi Health with advanced burn capabilities.

Secondary triage may be accomplished via physician consultation with trauma, burn, and/or radiation specialty providers via telemedicine as needed.

Field or hospital-based Medical Command will be involved in making triage decisions about expectant management for patients with significant chemical exposure and/or catastrophic burns.

The D7 HCC shall maintain a list of mutual aid agreements with external support agencies. These agreements shall describe the resource to be utilized for equipment, materials, staff, physical structures, patient transport, and transfer.

The mutual aid agreements shall be kept up to date and located in the ***D7 HCC Emergency Operations Plan***.

Treatment Protocols / Information

Treatment will be provided based on current protocols.

Medical Countermeasure and chemical toxidrome information is included in ***APPENDIX B***. Indiana Chempack Program information is included in ***APPENDIX C***.

Because hospitals in the D7 HCC have limited chemical burn capabilities, Memoranda of Understanding (MOU) are in place with regional hospitals such as Riley Hospital for Children at IU Health, and Eskenazi Health with advanced burn capabilities.

Consultations may be accomplished via physician contact with specialty trauma and/or burn providers via email, telephone call, and/or video-based telemedicine as needed.

Transfer of burn patients to a regional burn center will be accomplished via physician-to-physician with patient and patient information hand-off accomplished through the hospital transfer center.

Just-in-time training would be sought from educators at regional burn centers and would be conducted via video-based telemedicine or other technology platforms as needed.

See the ***D7 HCC Emergency Operations Plan.***

Decontamination Protocols / Information

Decontamination is the process of removing or neutralizing hazardous materials/dangerous goods that have contaminated people and equipment during an incident.

Contamination happens in the area generally referred to as the Hot Zone. Everything and everyone entering this zone should be decontaminated when leaving, including emergency response personnel This reduces the chances that more contamination will occur.

There are two main types of contamination:

1. Direct contamination happens in the Hot Zone .
2. Cross contamination happens when someone or something outside the Hot Zone was not properly decontaminated and comes in contact with another object or person, usually in the Warm or Cold

Zone .

To decontaminate, you must:
1. physically remove contaminants; and/or
2. chemically neutralize contaminants* .

The NFPA 472, Chapter 3, describes the following four kinds of decontamination.

1. Gross decontamination: Quickly removing surface contamination, which usually happens by mechanically removing the contaminant or rinsing with water from handheld hose lines, emergency showers, or other nearby water sources.
2. Technical decontamination: Reducing contamination to a level as low as possible by chemical or physical methods. A hazmat team will perform this kind of decontamination.
3. Mass decontamination: Reducing or removing surface contaminants as fast as possible from a large number of people in potentially life-threatening situations.
4. Emergency decontamination: Immediately reducing contamination of people in potentially life-threatening situations with or without formally setting up a decontamination corridor . This process should be performed upwind and uphill from victims. Responders should avoid contact with victims, runoff or spray from the decontamination process .[21]

On-scene decontamination will be provided by Hazardous Materials trained first responders and the kind of decontamination will based on the chemical(s) involved, Material Safety Data Sheet guidance, Emergency Response Guide guidance, and/or and current protocols. On-scene command will establish hot, warm, and cold zones, determine evacuation zones, and determine personal protective equipment level as needed.

Law enforcement agencies, fire agencies, EMS agencies, public health agencies and emergency management agencies in Indiana District 7 would provide additional monitoring, response, and public notification services.

Members of the Indiana National Guard 19th CBRNERFP Battalion (Chemical, Biological, Radiological and Nuclear Enhanced Response Force Package Battalion) would likely be deployed in response to a terrorism-related Chemical Mass Casualty Incident.

The Indiana District 7 HCC does not possess or utilize chemical personal protective equipment. The coalition would rely upon each member to

[21] https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2020-08/ERG2020-WEB.pdf

provide and train staff in the use of chemical personal protective equipment.

Chemical personal protective equipment is divided into four categories based on the degree of protection afforded. Level A - To be selected when the greatest level of skin, respiratory, and eye protection is required. Level B - The highest level of respiratory protection is necessary, but a lesser level of skin protection is needed. Level C - The concentration(s) and type(s) of airborne substance(s) is known and the criteria for using air purifying respirators are met. Level D - A work uniform affording minimal protection: used for nuisance contamination only.[22]

Hospital first receivers may need to provide patient decontamination. Personal protective equipment available at D7 HCC hospitals includes:

DISTRICT 7 HOSPITAL HAZARDOUS MATERIALS DECONTAMINATION PERSONAL PROTECTIVE EQUIPMENT (FEBRUARY 2022)

HOSPITAL	Suit Level	Respiratory Protection	Staff Trained
ASCENSION ST. VINCENT-CLAY	C & D	PAPR, N95	In process of renewing Level C training
GREENE COUNTY GENERAL	B & C	PAPR, N95	Staff are trained annually
PUTNAM COUNTY	B	PAPR	Awareness training only for some staff. Some staff trained in PAPR use
SULLIVAN COUNTY COMMUNITY	C	PAPR with CBRN cannisters	ER Staff, Housekeeping, Maintenance, House Supervisors, and a few Directors are trained annually
TERRE HAUTE REGIONAL	C	PAPR	Trained Personnel
UNION HOSPITAL TERRE HAUTE	B	PAPR	2 staff members trained

[22] https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.120AppB

UNION HOSPITAL CLINTON	C	PAPR	Various department staff members trained for formalin spills and shower decontamination

(Source: APHIS USDA[23])

[23] https://www.aphis.usda.gov/animal_health/carcass/docs/training/3-health-safety.pdf

(Source: CDC NIOSH[24])

[24] https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/powered-air-purifying-respirators-strategy.html

Decontamination throughput at each hospital will be based on the level of decontamination and personal protective required and the number of trained personnel on hand.

See *OSHA Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances*[25] for additional training, equipment, and decontamination information.

Transportation

The D7 HCC will utilize triage officer expertise to identify the mode of transport, priority of transport, and coordination of transport assets. The D7 HCC will utilize multi-agency communication between hospitals/referring facilities/EMS agencies.

Primary transport will match needs to resources when possible.

Secondary transport will include prioritization of patients and coordination of assets.

Transportation Priority

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4. Stable, but requires specialty operative or other interventions, no intensive care requirements.
5. Stable, but <8 years of age or congenital/behavioral issues requiring specialized care.

Because hospitals in the D7 HCC have limited burn treatment capabilities, Memoranda of Understanding (MOU) are in place with regional hospitals such as Eskenazi Health Hospital Burn Center and Riley Hospital for Children at IU Health Burn Center.

The mutual aid agreements shall be kept up to date and located in the D7 HCC Emergency Operations Plan (EOP).

Seventy-five Indiana registered Emergency Medical Services providers are

[25] https://www.osha.gov/sites/default/files/publications/osha3249.pdf

located within the district.[26] The Indiana Department of Homeland Security EMS District Manager actively participates in district meetings.

Local Emergency Medical Services providers would provide primary transportation of patients in a Burn Mass Casualty Incident. Local EMS transportation could be supplemented by private ambulance services and/or Indiana and Illinois hospital-based ground and aeromedical transport assets.

Tracking

When the D7 Healthcare Coalition Coordination Center has been activated and under evacuation conditions involving one or more of the D7 HCC members, a patient tracking group shall be assigned under the operations section of the Healthcare Coalition command structure to support and monitor evacuation tracking, transportation and ensure accountability for patients.

Community Reception Center

The Indiana District 7 HCC will coordinate with member emergency management and public health agencies to establish a community reception center as outlined in the members plans, policies, and procedures.

Deactivation and Recovery

The demobilization process begins at the onset of the disaster as the Incident Command System is established.

Demobilization is the release and return of resources that are no longer required and may occur at any time during or after the incident.

The Incident Commander may either assign a member of the response team (Planning Section if established) to coordinate the demobilization process or manage it themselves.

[26] Indiana Department of Homeland Security: EMS Providers list. Accessed May 26, 2020

The responsible person for demobilization can utilize the ICS demobilization check-out form 221 as a guideline for the process.

Demobilization of an incident involving pediatric surge should ensure that the pediatric perspective and issues are addressed, and address roles and responsibilities for continued pediatric and school behavioral health support, and assistance with reimbursements as applicable.

Refer to the ***D7 HCC Response Plan*** for additional guidance on the demobilization and continuity process.

Indiana

DISTRICT 7

Healthcare Coalition

Chemical Surge Annex

Appendix A

Training and Exercises

OSHA Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances
https://www.osha.gov/sites/default/files/publications/osha3249.pdf

National Academies and The U.S. Department Of Homeland Security
Chemical Attack Warfare Agents, Industrial Chemicals, and Toxins Fact Sheet
https://www.dhs.gov/xlibrary/assets/prep_chemical_fact_sheet.pdf

The American Burn Association provides a number of online training resources available at: http://ameriburn.org/education/education-resources/

The *Advanced Burn Life Support Course* Provider Manual – 2018 update is available online at: http://ameriburn.org/wp-content/uploads/2019/08/2018-abls-providermanual.pdf

The *Just-in-Time Training Summary Sheet Patient Care Priorities for the First 24 hours in Burn Mass Casualty for Non-Burn Physicians (Based upon "Guidelines for Burn Care Under Austere Conditions")* is available at: http://ameriburn.org/wp-content/uploads/2020/03/austere-guidelines-just-in-time-training.pdf

Indiana

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Healthcare Coalition

Chemical Surge Annex

Appendix B

Chemical Care Resources

2020 U.S. Department of Transportation Emergency Response Guidebook
https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2020-08/ERG2020-WEB.pdf

Burn Center Referral Criteria: http://ameriburn.org/wp-content/uploads/2017/05/burncenterreferralcriteria.pdf

For specific patient questions, consult with your local/regional burn center.

CHEMM Intelligent Syndromes Tool (CHEMM-IST 2.0)
https://chemm.hhs.gov/chemmist.htm

CHEMM Toxidrome Cards https://chemm.hhs.gov/toxidrome_cards.htm

The Emergency Response Safety and Health Database (ERSH-DB) is a rapidly accessible occupational safety and health database developed by NIOSH for the emergency response community. The ERSH-DB contains accurate and concise information on high-priority chemical, biological and radiological agents that could be encountered by personnel responding to a terrorist event.
https://www.cdc.gov/niosh/ershdb/default.html

The Primary Response Incident Scene Management (PRISM) series was written to provide authoritative, evidence-based guidance on mass patient disrobe and decontamination during a chemical incident. The PRISM documentation comprises three volumes
https://www.medicalcountermeasures.gov/barda/cbrn/prism//

U.S. Department of Health & Human Services Chemical Emergency Medical Management https://chemm.hhs.gov/

PLACEHOLDER

NIH Toxidrome // *Cholinergic*

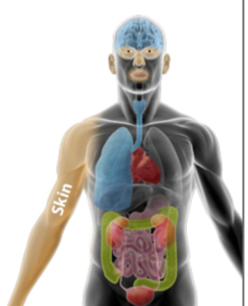
Affected Areas

Central Nervous System (CNS)

Smooth Muscle

Exocrine Glands

Skeletal Muscle



Immediate Symptoms

SLUDGEMM:
Salivation
Lacrimation
Urination
Defecation
GI
Emesis
Miosis: Changed mental status
Muscle: Respiratory distress (bronchospasm)

SLOBBERED
Salivation
Lacrimation
Obtundation
Bronchoconstriction/ bronchorrehea
Bradycardia
Eye findings

Immediate Symptoms (cont.)

Reduced vascular tone
Emesis
Diarrhea

Ongoing Symptoms

Local Effects

Vapor to face:
Miosis
Lacrimation
Hypersalivation
Wheezing

Liquid to skin: Local sweating with fasciculations or twitching

At increasing dose: Systematic effects (GI, CNS)

At high dose: All symptoms can occur suddenly; rapidly fatal if untreated

CHEMM Not meant to be a complete care guideline. Please refer to the CHEMM website for more information: https://chemm.hhs.gov/mmghome.htm

NIH Cholinergic

Examples

Chemical Warfare Agents

*Nerve agents**
GA (tabun)*
GB (sarin)*
GD (soman)*
VX*
*May be weaponized

Toxic Industrial Chemicals/Toxic Industrial Materials

Carbamate insecticides
Aldicarb
Methomyl

Organophosphate insecticides
Chlorpyrifos
Parathion

Common Treatment Protocols

Atropine
2-PAM (oximes)
Benzodiazepines
Airway and breathing support
Scopolamine (not FDA-approved)
Ketamine (not FDA-approved)
Decontamination

Sensitive Populations

No particularly sensitive populations

Concerns About This Syndrome

The toxidrome encompasses insecticides and nerve agents, which can differ radically in potency. Clinical onset varies by state of agent and route of exposure as well as in especially sensitive populations (including children). Management differs between insecticides and nerve agents. Chemical aging is a concern with GD and possibly with certain insecticides. There is a differing clinical presentation in children. Infants and young children in many instances present only with neurological signs and symptoms.

CHEMM Not meant to be a complete care guideline. Please refer to the CHEMM website for more information: https://chemm.hhs.gov/mmghome.htm

Indiana

DISTRICT 7

Healthcare Coalition

Chemical Surge Annex

Appendix C

PLACEHOLDER

Indiana Chempack Program

Nerve Agent Medical Countermeasures (MCM)

Indiana State Department of Health
Division of Emergency Preparedness

June 2018