

MISSOURI HEALTHCARE COALITION

ESF8 Emergency Preparedness Alliance

Emergency Operations Plan



[MO HCC Interactive EOP Assistant](#)

Click above to query the secure MO HCC Emergency Operations Plan. This is a closed-system AI tool trained *exclusively* on our officially approved EOP and vetted external guidelines (CDC, FEMA). It does not search the open internet. Always verify guidance by clicking the provided citation links to view the original source text.

TABLE OF CONTENTS

Contents

MO HCC Interactive EOP Assistant	1
TABLE OF CONTENTS	2
Revisions Table	6
SECTION 1: INTRODUCTION.....	7
1.1 Purpose Statement	7
1.2 Scope	8
1.3 Essential Assumptions.....	8
1.4 Missouri Healthcare Coalition Overview.....	9
SECTION 2: CONCEPT OF OPERATIONS (CONOPS).....	10
2.1 Overview	10
2.2 Coalition Activation and Status Levels.....	10
2.3 Notification and Communication Procedures.....	12
2.4 Roles and Responsibilities.....	13
2.4.1 Missouri State ESF-8 Structure	13
2.4.2 HCC Member Roles and Responsibilities.....	13
SECTION 3: RESOURCE COORDINATION AND MUTUAL AID	14
3.1 Overview	14
3.2 Resource Requesting Process	14
3.3 Management of HCC-Owned Assets	15
3.4 Clinical and Tactical Coordination	15
3.5 Logistics and Documentation	16
3.6 Mutual Aid Philosophy	16
SECTION 4: INFORMATION MANAGEMENT	16
4.1 Overview	16
4.2 Essential Elements of Information (EEI).....	16
4.3 Data Reporting & Frequency Matrix.....	17
4.4 Primary Communication Platforms: EMResource and eICS.....	18
4.5 Tactical Coordination: eICS	18

4.6 Redundant Information Flow (The Communication Fail-Safe)	18
4.7 Public Information and External Messaging	19
SECTION 5: RECOVERY AND CONTINUITY OF OPERATIONS (COOP)	20
5.1 Continuity of Operations (COOP) Overview	20
5.2 Health Care System Recovery	21
5.2.1 Patient Tracking and Reunification	22
5.2.2 Reunification Best Practices Space Holder	22
5.2.3 Operational Reporting and System Recovery	22
5.2.4 Demobilization.....	23
5.2.5 After-Action Reporting (AAR) and Improvement Plan (IP).....	23
5.3 Plan Maintenance and Review.....	23
Communication Plan	24
SECTION 6: COMMUNICATION PLAN	24
6.1 Primary Digital Platforms.....	25
6.2 Secondary / Redundant Communication Systems	26
6.3 Operational and Clinical Support Tools	29
6.4 Communication Resources.....	29
SECTION 7: MEDICAL SURGE OVERVIEW.....	30
7.1 Framework.....	31
7.2 Patient Management.....	33
7.3 Trauma Combat Casualty Care – TCCC / TECC.....	38
7.4 Joint Trauma System (JTS) Clinical Practice Guidelines	39
7.5 Prolonged Casualty Care (PCC)	39
7.6 Military Trauma Surgery Guidelines	39
7.7 Key Terms and Concepts to Consider	40
7.8 Telehealth.....	41
7.9 Transportation.....	41
7.10 Resources	41
SECTION 8: PEDIATRICS	42
OVERVIEW	42
8.1 Pediatric Surge Plan.....	43

8.2 EMS	43
8.2.1 EMSC Pediatric Pre-Hospital Designated Entities	44
8.3 Hospitals.....	45
8.4 Role of Clinics and FQHCs	47
8.5 Role of LPHAs	47
8.6 Obstetrics Place Holder	47
8.7 NICU Place Holder	50
8.8 Additional Resources.....	53
Section 9: CHEMICAL ANNEX	54
Overview and Planning Assumptions.....	54
Assumptions	54
9.1 Operations Medical Care.....	55
9.2 Just-in-Time Resources	62
9.3 Telehealth & Regional Support.....	62
9.4 Demobilization and Recovery.....	63
Section10: BURN ANNEX.....	64
10.1 Operations Medical Care	64
10.2 Transportation.....	66
10.5 Special Considerations.....	67
10.6 Demobilization and Recovery	68
10.7 Clinical Management Resources.....	69
10.7 Resources	69
Section11: INFECTIOUS DISEASES ANNEX	70
11.1 Concept of Operations.....	71
11.2 OUTBREAKS	73
Community-based Testing.....	78
11.3 PANDEMIC RESPONSE	80
11.4 HCID	84
Acute Care Hospitals & Clinics	87
Emergency Medical Services (EMS).....	88
Local Public Health Agencies (LPHAs).....	88

Long-Term Care (LTC) Facilities.....	88
10.4.3 Coalition Information Management and Coordination	88
11.4.4 Patient Care and Clinical Management	89
Clinical Autonomy and Medical Control	89
11.4.4.1 Telehealth and SME Consultation	89
11.4.4.2 Regulated Medical Waste and Environmental Decontamination	90
11.4.4.3 Patient Tracking and Movement	90
11.4.4.5 Pediatric Clinical Support.....	90
11.4.5 Resources.....	90
11.5 BIO TERRORISM.....	90
11.5.1 Planning Assumptions for Bioterrorism	91
11.5.2 Patient Care/Management.....	91
Medical Countermeasures	91
SECTION 12: RADIATION INCIDENTS.....	94
12.1 Overview	94
Missouri Nuclear Facilities	94
12.2 Assumptions.....	95
12.3 Operations and Medical Care	96
12.4 Triage and Screening	98
Pre-hospital Triage for Arriving Victims of Contamination Radiological Incidents ..	99
.....	99
12.5 Transport.....	103
12.6 Treatment.....	103
.....	104
.....	104
.....	104
.....	104
12.6 Special Considerations.....	104
.....	108
12.7 Rehabilitation, Outpatient Follow-Up Services.....	110
12.7 Fatality Management.....	111

12.8 Deactivation and Recovery	112
12.9 Additional Resources	113
Helpful Apps for HCC members	113
APPENDIX A – ACRONYMS	114
APPENDIX B – HICS FORMS	119

Revisions Table

Name	Title	Date	Summary of Changes
Keri Barclay	Manager of Clinical Preparedness	March 2026	Combined MO HCC Plans and Annexes into a single EOP. Updated Links and graphics.

SECTION 1: INTRODUCTION

1.1 Purpose Statement

The primary purpose of the Missouri Healthcare Coalition (MO HCC) Emergency Operations Plan (EOP) is to provide a comprehensive, all-hazards framework that integrates disparate health and medical entities into a unified response system.

Built upon the three inseparable pillars of **Communicate, Collaborate and Coordinate**, this plan ensures the MO HCC can effectively plan, respond to, mitigate and recover from medical surge incidents and public health emergencies.

By aligning Emergency Support Function #8 (ESF-8) and ASPR Health Care Preparedness and Response Capabilities, this EOP facilitates:

- **Unified Situational Awareness:** The rapid collection and distribution of Essential Elements of Information (EEI), such as bed capacity and operational status, across hospitals, EMS, public health and emergency management.
- **Medical Surge Resilience:** The coordination of information, resources and patient movement to maintain care standards during large-scale incidents, including pandemics, mass casualty events and infectious disease outbreaks.
- **Operational Continuity:** The maintenance of mission-essential functions through redundant communication systems and defined leadership succession, ensuring the Coalition remains functional even if primary systems fails or the organization must operate virtually.
- **Collaborative Mutual Aid:** The seamless connection of resource-needing entities with resource-providing partners to prevent the fragmentation of patient care and optimize asset allocation.

Ultimately, this plan serves as the source of truth for the MO HCC, bridging the gap between individual facility plans and state-level response efforts to protect the health and safety of the community.

Navigating This Document: The EOP AI Assistant To ensure rapid access to critical guidance during an event, this Emergency Operations Plan features an integrated, closed-

network AI search assistant.



- **Secure & Sourced:** This tool does not pull information from the open internet. It generates answers based *only* on the approved MO HCC EOP text and strictly vetted external annexes.
- **Verifiable:** Every response includes numbered citations. Click a citation to instantly jump to the exact paragraph in the official plan.
- **Maintained:** Internal MO HCC protocols are updated continuously. External agency references (e.g., CDC guidelines) are audited and refreshed biannually every January and July to prevent outdated links.

MISSION: Missouri Healthcare Coalition is to connect and support health and medical communities through enhanced emergency preparedness and resiliency.

Vision: The Missouri Healthcare Coalition is the recognized leader in coordination, collaboration, and communication for healthcare emergency management.

1.2 Scope

This plan applies to all member organizations and resource partners of the MO HCC, including but not limited to:

- Acute Care Hospitals and Trauma Centers
- Emergency Medical Services (EMS)
- Public Health Agencies
- Long-Term Care (LTC) and Skilled Nursing Facilities
- Federally Qualified Health Centers, Primary Care Clinics and Community Health Centers
- Emergency Management Agencies

The jurisdictional scope encompasses the designated regions of the MO HCC, with provisions for regional delegation and decentralized coordination as outlined in Section 5 Continuity of Operations (COOP).

1.3 Essential Assumptions

1. **Capability Integration:** This EOP is designed to meet ASPR Capability 1 Foundation for Health Care and Medical Readiness and Capability 4 Health Care System Recovery.
2. **Scalability:** The plan is scalable and can be activated in part or in whole depending on the scale of the incident (e.g., regional Hazmat incident vs. a catastrophic event).
3. **Adopted Framework & Jurisdictional Authority:** This EOP is the officially adopted framework for MO HCC health and medical coordination. However, the **MO**

HCC holds no jurisdictional or regulatory authority over its member organizations. All tactical directions and resource allocations coordinated through the MO HCC are supportive in nature; individual member organizations maintain their own statutory authorities, clinical protocols, and internal command structures.

4. **Source of Truth:** While member organizations maintain internal EOPs, this document takes precedence for intra-coalition coordination and inter-agency resource requesting.
5. **Redundancy:** It is assumed that primary commercial communications may fail; therefore, the MO HCC maintains redundant radio and digital platforms (Juvare/EMResource, MOSWIN, etc.) as detailed in the Communication Plan.

1.4 Missouri Healthcare Coalition Overview

1.4.1 Demographics and Geography

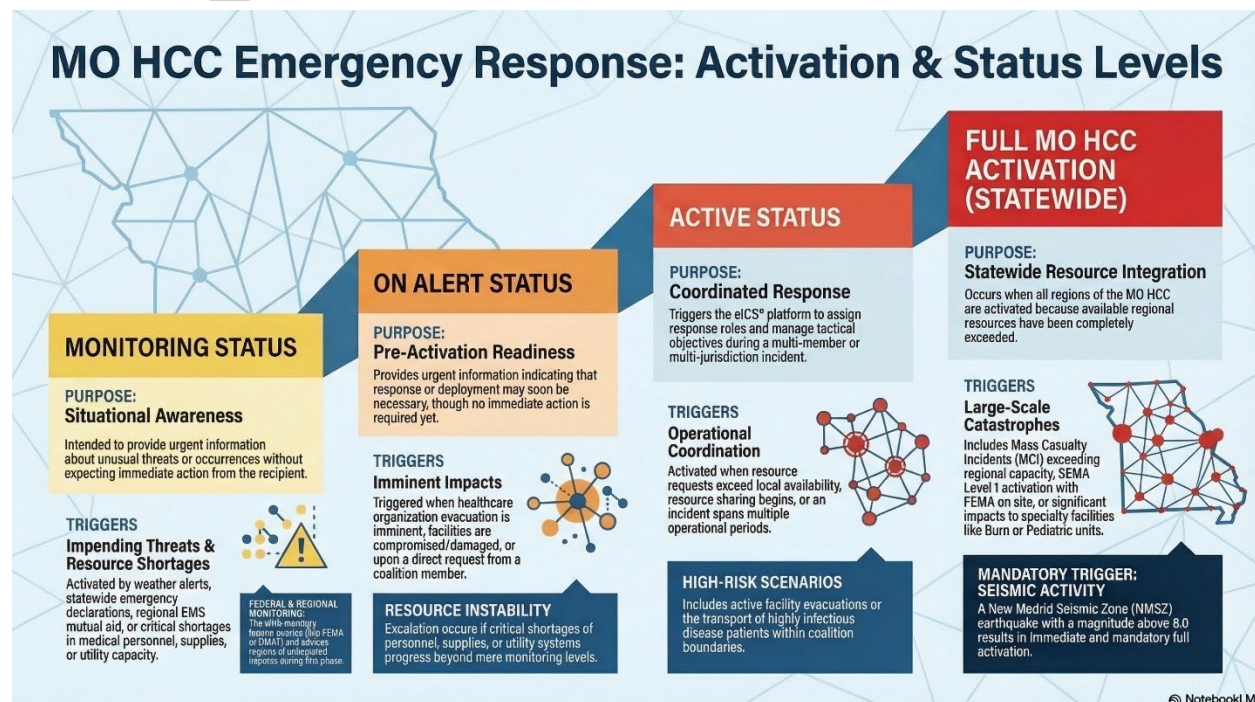
The MO HCC primarily serves nonurban regions of Missouri, characterized by a diverse landscape of rural communities and critical access hospitals as well as large urban cities and the state capital. The coalition's demographic profile often includes higher concentrations of vulnerable populations, including elderly residents in long-term care facilities and populations with limited access to specialized tertiary care. These geographic factors necessitate a decentralized coordination model that relies heavily on regional components and virtual convening.

1.4.2 High-Risk Areas and Hazards

Based on the Coalition's Hazard Vulnerability Analysis (HVA) and regional risk profiles, the following high-risk areas are prioritized within this plan and its tactical annexes:

- **Medical Surge (Infectious Disease):** High susceptibility to seasonal Respiratory Virus Illnesses (RVI) and pandemics (e.g., COVID-19, Influenza, RSV) which can rapidly overwhelm limited rural bed capacity.
- **Severe Weather:** Significant risk from tornadoes, flooding, and winter storms that can isolate facilities and disrupt primary transport routes.
- **Agricultural/Bioterrorism Risks:** Given the nonurban nature of the regions, unique risks associated with agricultural zoonotic diseases and potential bioterrorism agents (as outlined in the EMS Bioterrorism Guide) are factored into planning.
- **Trauma and Mass Casualty:** Incidents occurring in remote areas with extended EMS transport times and limited trauma center proximity.

SECTION 2: CONCEPT OF OPERATIONS (CONOPS)



2.1 Overview

The Concept of Operations (CONOPS) defines how the MO HCC transitions from daily readiness to active emergency coordination. The Coalition operates under a decentralized, virtual-first model, utilizing a scalable response structure that expands based on the severity and geographic impact of the incident.

2.2 Coalition Activation and Status Levels

As an incident or event occurs with potential or actual impact to coalition members, the MO HCC may be placed on **Monitoring**, **On Alert**, or **Active** status. These statuses are maintained and visible to all members within the **EMResource®** platform. The MO HCC can have multiple regional activation status until criteria has been met for a full MO HCC activation.

2.2.1 Monitoring Status

A monitoring status provides urgent information about an unusual occurrence or threat, but no immediate action by the message recipient is expected.

- **Purpose:** To provide situational awareness for personnel at healthcare organizations, even if the organizations themselves do not yet need to take emergency action.
- **Triggers for Monitoring:**

- Critical shortage of medical/ancillary personnel or capacity.*
 - Shortage of medical supplies or resources.*
 - Critical utility or back-up systems are in use or non-operational.*
 - Local emergency, all-hazard incident, or planned event occurring.
 - Statewide or federal emergency declaration.
 - Weather-related alerts.
 - Regional EMS mutual aid activation.
- **Special Note:** MHA monitors federal queries and activations (e.g., Midwest-1 DMAT, FEMA national ambulance contract) and will advise regions of anticipated impacts under this status.

2.2.2 On Alert Status

This status indicates that coalition resources have been notified of potential events that may lead to full activation.

- **Purpose:** Provides urgent information indicating that action by the recipient may soon be necessary. No immediate response or deployment is required at this stage.
- **Triggers for On Alert:**
 - Healthcare organization evacuation is imminent.
 - Critical shortage of medical/ancillary personnel or capacity.*
 - Shortage of medical supplies or resources.*
 - Healthcare organization is damaged or compromised.
 - Critical utility or back-up systems are in use or non-operational.*
 - Direct request from a coalition member.

2.2.3 Active Status

An active status is utilized when a coordinated response from coalition members is required.

- **Purpose:** Triggers the activation of the **eICS®** platform to assign members to appropriate response roles and manage tactical objectives.
- **Triggers for Active Status:**
 - Resource sharing is occurring between members.
 - Resource requests exceed local availability.
 - Assistance required beyond an organization's current capabilities.
 - Incident affects two or more members/jurisdictions in a region.
 - Incident affects multiple regions in the MO HCC.
 - Scarce resources are being requested from multiple facilities.
 - Incident will last multiple operational periods.
 - Highly infectious disease patient is being transported within coalition boundaries.

- A healthcare organization is actively evacuating.

2.2.4 Full MO HCC Activation

All regions of the MO HCC will be activated in response to all-hazard incidents in which available regional resources have been exceeded.

- **Statewide Triggers:**
 - A region formally requests full MO HCC activation.
 - Multiple regions activate for the same purpose.
 - Mass Casualty Incident (MCI) exceeds regional resources.
 - SEMA Level 1 activation with FEMA on site.
 - Specialty facilities (Pediatric, Burn, Psychiatric) are significantly impacted.
 - Mandatory Trigger: New Madrid Seismic Zone (NMSZ) earthquake above a 6.0 magnitude.

2.3 Notification and Communication Procedures

2.3.1 Decentralized Coordination

Because of the widespread geography of Missouri, primary coalition coordination occurs virtually. While coordination is typically virtual and redundant, face-to-face coordination may be deemed appropriate by leadership to increase response effectiveness during specific incidents.

2.3.2 Platform Utilization

1. **EMResource®** (Status & Awareness): The primary tool for displaying the current operational status of each region and hospital, EMS, LPHA and FQHC entities within the state. Coalition status must be updated here for every level.
2. **eICS®** (Command & Control): * The coalition must use an eICS event for communication and coordination during an Active status.
 - The coalition may choose to use eICS for Monitoring or On Alert statuses if appropriate for the situation.
 - Member Expectation: When notified of an activation in eICS, all members are expected to respond with their status/availability and continue monitoring eICS for the duration of the event.

2.3.3 Redundancy and Resilience

In accordance with the Communication Plan, if digital platforms (Juva  eICS) are unavailable due to infrastructure failure, the coalition will default to the MOSWIN radio network and other secondary systems (HEAR/VHF) to maintain the flow of information. The MO HCC also uses email, newsletters and LinkedIn for information sharing.

2.4 Roles and Responsibilities

2.4.1 Missouri State ESF-8 Structure

The Missouri Department of Health and Senior Services (DHSS) is the lead agency for ESF-8.

- DHSS Emergency Response Center (ERC): The 24/7 coordination hub for all DHSS medical and public health responses.
- State Emergency Operations Center (SEOC): The ESF-8 Desk at the SEOC maintains bi-directional communication with the ERC, ensuring clinical needs are integrated into the broader state response.
- Bureau of EMS: Manages EMS Mutual Aid, strike teams, and ambulance resource coordination.
- Coalition Interface: DHSS works with Healthcare Coalitions (HCCs) to maintain situational awareness. If regional clinical resources are exhausted, DHSS coordinates with the State Emergency Management Agency (SEMA) for state-level support.

2.4.2 HCC Member Roles and Responsibilities

Members maintain organizational autonomy while supporting the regional mission. Base responsibilities include:

Category	Responsibility
Communication	Maintain active presence in the designated event platform (e.g., eICS) for bi-directional updates.
Reporting	Provide real-time updates on organizational status, bed capacity (if applicable), and resource gaps.
Resource Management	Enter resource needs into appropriate platforms and fulfill requests from partners when capacity allows.
Flexibility	Support HCC-wide functions, such as serving as a liaison or assisting with regional messaging.
Readiness	Ensure organizational contact information is updated annually in eICS for "on-demand" access.

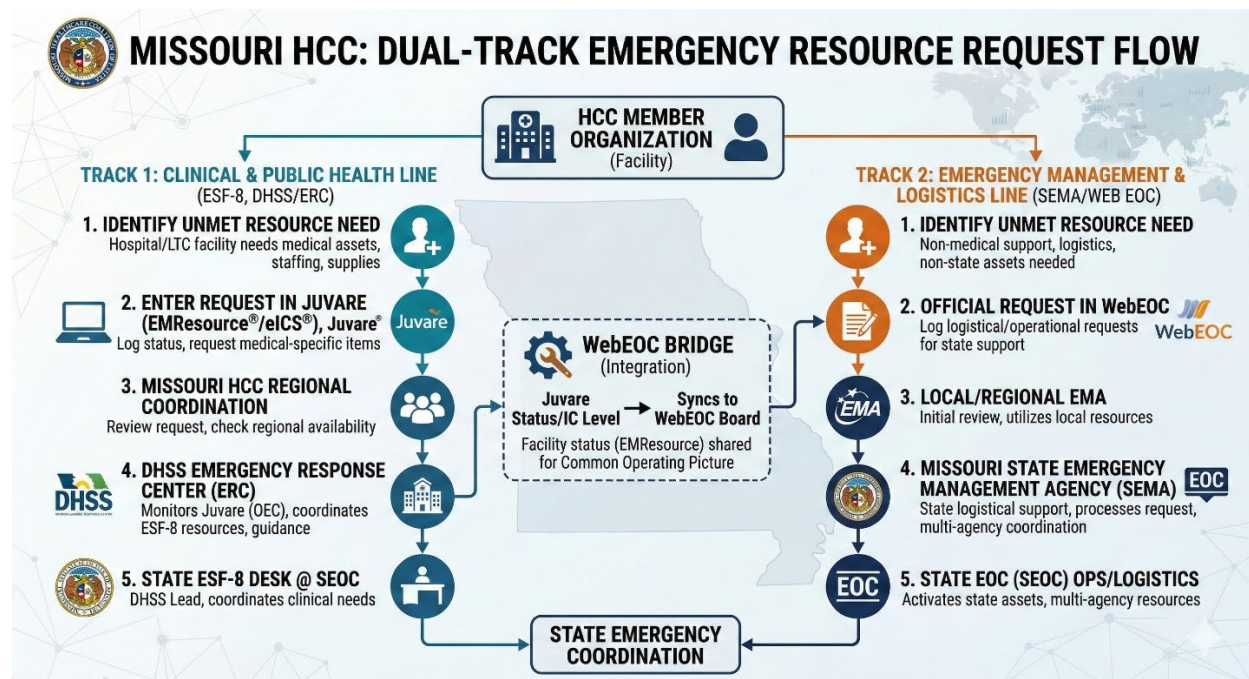
SECTION 3: RESOURCE COORDINATION AND MUTUAL AID

3.1 Overview

The MO HCC facilitates resource coordination when a member organization's internal capabilities are exceeded or when specialized assets are required to maintain patient care. The Coalition functions as a matchmaker and coordinator, connecting resource-needing entities with resource-providing partners.

3.2 Resource Requesting Process

All formal resource requests to the MO HCC should follow a standardized workflow to ensure tracking, accountability, and clinical appropriateness. Depending upon the resource requested, requests may simultaneously go through the local Emergency Management workflow. When this is the case, please note this on the MO HCC resource request so that there is improved coordination and amplification of efforts.



3.2.1 The Request Workflow

1. **Exhaustion of Local Resources:** Before requesting through the Coalition, the requesting organization should attempt to exhaust internal caches, day-to-day vendors, and existing local mutual aid agreements.
2. **eICS Mission Entry:** During an **Active** status, the requesting organization enters a resource request mission into the **eICS®** platform.
 - o **Standard Form:** Requests should align with **ICS 213RR Resource Request Message** format to include quantity, specific type/kind, delivery location, and priority.

3. **Liaison Validation:** The Regional Liaison or Board member reviews the request in eICS to ensure it contains all Essential Elements of Information.
4. **Resource Identification:** The Coalition searches for available assets in the following order of priority:
 - **Tier 1: MO HCC Regional Assets:** Equipment or supplies owned or managed by the Coalition (e.g., trailers, caches) managed by regional partners.
 - **Tier 2: Regional Mutual Aid:** Assets available from other member organizations within the same geographic region.
 - **Tier 3: Inter-Regional Support:** Assets identified in other MO HCC regions.
5. **State Escalation:** If the request cannot be filled through Tier 1-3, the MO HCC leadership facilitates the escalation to **State ESF-8 (DHSS)** for state-level or federal asset deployment.

3.3 Management of HCC-Owned Assets

The MO HCC maintains specific assets designed for rapid deployment during medical surge or infrastructure failure.

- **Deployment Authority:** The MO HCC Board and MHA Liaisons can address and prioritize HCC assets moved out of a home region if needed.
- **Deployment Limitations:** Members recognize that only HCC-branded assets are managed via this direct method; individual facility assets remain under the control of the parent organization.

3.4 Clinical and Tactical Coordination

Certain types of resource coordination require specialized clinical guidance or specialized transport protocols:

- **Highly Infectious Disease:** Coordination follows the **Highly Infectious Disease Annex**, utilizing specialized EMS transport as outlined in the *EMS Bioterrorism Guide*.
- **Specialty Populations:** Requests involving pediatric or burn patients trigger the activation of the **Pediatric** or **Burn Annexes**, often involving **Pulsara** for telehealth consultation and specific triage protocols.
- **Scarce Resource Allocation:** If multiple facilities request the same scarce resource (e.g., ventilators, specific antivirals), the MO HCC Board will provide adjudication based on regional impact and clinical need.

3.5 Logistics and Documentation

- **Tracking:** Every resource movement coordinated by the Coalition should be documented in the eICS event log.
- **Financial Responsibility:** Unless otherwise specified in a formal Disaster Declaration or specific MOU, the requesting organization is responsible for the costs associated with the consumption or loss of shared resources.
- **Demobilization:** Resources must be returned to the providing entity or HCC cache in good working order upon the conclusion of the incident, as determined by the demobilization plan.

3.6 Mutual Aid Philosophy

The MO HCC operates on a "Good Faith" mutual aid model. While the Coalition provides the framework for coordination, it has no jurisdictional authority to compel a member to provide resources if doing so would compromise that member's own operational safety or patient care standards. The MO HCC relies on the MO HCC Member Agreements, MHA Hospital Mutual Aid Agreement, LPHA Mutual Aid Agreements and mutual aid agreements laid out in MO SCOPE such as EMS, Fire and Emergency Management.

SECTION 4: INFORMATION MANAGEMENT

4.1 Overview

Information Management is the process by which the MO HCC collects, validates, and disseminates critical data to establish a Common Operating Picture (COP). In a decentralized, virtual coalition, the integrity of the healthcare delivery system depends on the timely reporting of Essential Elements of Information (EEI).

4.2 Essential Elements of Information (EEI)

The MO HCC focuses on the collection of data points that directly impact regional medical surge capacity and the safety of healthcare workers. These include:

- **Facility Operational Status:** (No Impact, Minimal, Moderate, Significant, or Closed).
- **Bed Availability:** Open/Staffed beds (ICU, Med/Surg, Pediatric, etc.).
- **Emergency Department Status:** (Open, Diversion, or Closed).
- **Resource Scarcity:** Critical shortages of PPE, pharmaceuticals, or medical gases.
- **Staffing Levels:** Identification of personnel shortages that compromise care standards.

- **Specialty Capacity:** Capability to receive specialty patients (Burn, Pediatric, Neonatal) as defined in the Specialty Annexes.

4.3 Data Reporting & Frequency Matrix

During a large-scale event, facilities should strive to report the following data points within the designated intervals to ensure regional situational awareness.

EEI REPORTING MATRIX	
4 Hours Post Incident	• CAN Report (Current Condition, Actions Taken, Needs) • Operational Status - Are you remaining open? • Power/Fuel • Water • Oxygen (bulk, portable) • Life Safety/Infrastructure • Biohazard • Structural assessment • Functional communication platforms • Situational assessment (open-ended) • Who have we not heard from? • Official Incident and Operational Periods • Summary Report • Transportation Routes • Arrival of Supplies (include push locations) • Needs / Casualty Collection Points / Staging areas • DECON in progress
12 Hours Post Incident	• Facility Operations • Communications Infrastructure • Critical Facility Damages • Security On Scene - what needs secured/cyber • Facility Evacuation (coordinate due to surge - self transport and structured evacuation) • Patient Care • Capabilities • What can be shared? • Casualty Report • Self sustaining? Food/water • Location of Alternative Care Sites • Needs • 1135 Waivers / Variances • Casualty Collection Points / Staging Area • Talking Points to Distribute • State Situation Report • Public Shelter Locations • Transportation Routes • Arrival of Supplies • Summary of Facility Statuses and Bed Availability

24 Hours Post Incident

- Patient Rosters - movement or sustainment
- Surge Information
- Supplies Needed to Maintain Operations
- Staff Needs and Rosters (with credentials)
- Continued Situational Reports

4.4 Primary Communication Platforms: EMResource and eICS

EMResource and eICS are the MO HCC's primary tools for real-time situational awareness, communication and coordination during events.

4.4.1 Reporting Frequencies and Expiration

See the above reporting matrix or as determined in the eICS incident or EMResource Bed queries as the incident response needs dictate.

4.4.2 RVI Operational Impact Monitoring

The RVI Operational Impact monitoring is typically active from October 1 – March 15th. As per the *2025-2026 RVI Guidance*, facilities must specifically update the "RVI Operational Impact" field during seasonal surges.

- **Requirement:** Users must configure "Status Change Notifications" (Email, Text, or Mobile App) within Juvare to receive immediate alerts when regional trends indicate an escalation to "Significant Impact."

4.5 Tactical Coordination: eICS

While EMResource provides the "What," eICS manages the "How."

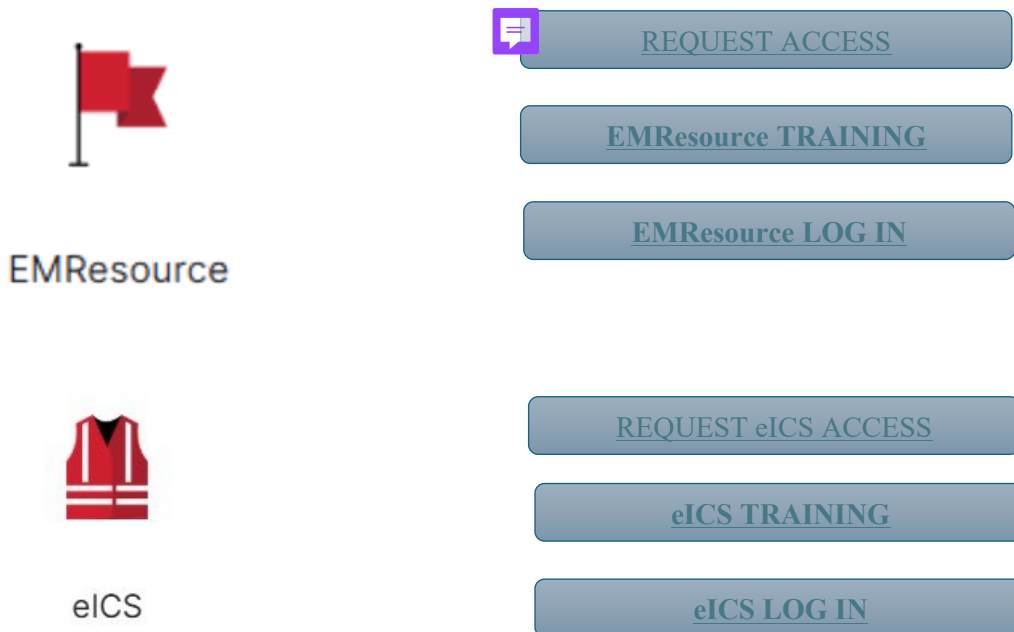
- **Mission Tracking:** All tactical objectives, resource requests, and inter-agency communications during an **Active** status should be logged in the eICS event.
- **Virtual Convening:** The Coalition will use eICS as its "Virtual EOC" and to announce situational briefings and maintain the Master Activity Log (ICS 214). Items for improvement and relevant documents are available here as well.

4.6 Redundant Information Flow (The Communication Fail-Safe)

In accordance with the Communication Plan, if the primary Juvare-based digital systems (EMResource/eICS) are non-operational:

1. **Liaison Verification:** MHA Liaisons will initiate a "roll call" via phone or email (if available) looking to board members and regional leadership for insight.

2. **Radio Network:** The **MOSWIN** radio system becomes the primary tool for transmitting EEIs.
 - Members should utilize the NATO Phonetic Alphabet and standard radio pro-words (e.g., "Over," "Out," "Read Back") to ensure clarity during poor signal conditions.
 - EMS and hospital members can communicate directly through the HEAR system which remains largely operational in the rural areas.
3. **Manual Documentation:** In a total infrastructure failure, MHA Liaisons maintain written copies of key documents and inventory lists as required by the COOP.



4.7 Public Information and External Messaging

The MO HCC supports member organizations by facilitating consistent regional messaging.

- **Joint Information System (JIS):** The Coalition may convene facility Public Information Officers (PIOs) via virtual briefing to ensure that public-facing alerts (e.g., "ED Diversion" or "Clinic Closures") are synchronized across the region.
- **State Interface:** The HCC Board serves as the primary conduit for providing regional situational summaries to the MHA Liaisons who are members of the DHSS Medical Incident Coordination Team (MICT). HCC members may be asked to join certain call to help answer questions, coordinate response or provide additional insight.



CONTINUITY OF OPERATIONS PLAN

HEALTHCARE COALITION | BUSINESS RESILIENCE & RECOVERY

SECTION 5: RECOVERY AND CONTINUITY OF OPERATIONS (COOP)

5.1 Continuity of Operations (COOP) Overview

The MO HCC Continuity of Operations (COOP) ensures that the Coalition can maintain its mission-essential functions—specifically Communicate, Collaborate, and Coordinate—during any incident that disrupts normal business operations or infrastructure.

5.1.1 Mission-Essential Functions

During a COOP activation, the MO HCC prioritizes the following:

1. **Situational Awareness:** Maintenance of the Common Operating Picture via EMResource and eICS.
2. **Resource Coordination:** Facilitating mutual aid and deployment of HCC-owned assets.
3. **Communication Bridge:** Serving as the link between member organizations and State ESF-8.

5.1.2 Orders of Succession and Delegation of Authority

To ensure continuous leadership, the MO HCC board adheres to a predefined succession plan. If the primary Coalition leadership (Director/Lead) is unavailable, authority is delegated in the following order:

1. Board Chair / Executive Leadership
2. Regional Liaison (Lead Region)
3. Designated Regional Liaison

Board members are nominated by their region as needed to fill open seats.

Delegation of Authority: Successors are authorized to activate the EOP, commit HCC-owned resources, and represent the Coalition in state-level ESF-8 briefings.

5.1.3 Virtual-First Operational Model

The MO HCC primarily operates and convenes virtually. This inherent design serves as a primary COOP strategy.

- **Decentralization:** Should the full MO HCC be unable to connect, regional components (MHA Liaisons and Board Members) are encouraged to continue operations independently within their regions until traditional broader connectivity is restored.
- **System Resilience:** Primary coordination tools (Juvare/eICS) maintain internal disaster recovery plans. If these fail, the Coalition transitions to the redundant communication protocols (MOSWIN/HEAR Radio) outlined in Section 4.

5.1.4 Essential Records and Key Documents

Essential records are maintained in accordance with the Missouri Hospital Association (MHA) record retention and preservation policy.

- **Digital Repository:** Master copies of the EOP, COOP and Tactical Annexes are stored in the EMResource Library.
- **Physical Redundancy:** MHA Liaisons are required to maintain written (hard copy) versions of key documents and regional asset inventories, updated annually. MO HCC Board Members are also asked to maintain written (hard copy) versions of these documents.

5.2 Health Care System Recovery

Transitioning to Recovery (Deactivation & Demobilization)

The shift to the recovery phase is initiated when acute care and load balancing within the region have stabilized. Because facilities will not transition to recovery simultaneously, the MO HCC will maintain a coordinated approach.

- **eICS Recovery Incident:** To manage this transition, the MO HCC recommends initiating a specific "Recovery" incident within eICS. This allows the initial response incidents to be closed out while maintaining a dedicated space for long-term coordination.
- **Demobilization of Assets:** Demobilization occurs at the discretion of the impacted facilities as resources are released and patient care returns to a traditional cadence. The MO HCC facilitates the return of shared regional assets, ensuring they are fully restocked and returned to a "ready to be deployed" status, and formally closes the associated eICS missions.

- **Status Monitoring:** The recovery phase will be continuously monitored through regular touch points and daily status updates within EMResource.

5.2.1 Patient Tracking and Reunification

During mass casualty or high-surge events, patient tracking and family reunification are critical recovery functions. The MO HCC supports a flexible approach to documentation, ensuring facilities can maintain accountability without duplicating administrative efforts. A transport officer should be assigned to record and oversee transport. Facilities should utilize *either* digital tracking *or* standard paper documentation to support this process.

- **Digital Tracking (Pulsara):** If available and implemented by the facility, Pulsara serves as the primary tool for real-time patient tracking, care coordination, and family reunification, replacing the need for paper tracking forms. The HCC will assist with patient reunification using these tools as requested by partner entities or the DHSS ERC.
- **Standard ICS Documentation (HICS Forms):** If an entity does not utilize Pulsara (or an equivalent digital process), the designated transport officer must maintain official incident documentation using standard Hospital Incident Command System (HICS) forms.
- **HICS 254 (Disaster Victim/Patient Tracking Tool):** Maintained on the scene at casualty collection points or the initial hospital receiving area to log patient tracking.
- **HICS 255 (Master Patient Evacuation Tracking Form):** Utilized by hospital transport officers to record and oversee the movement of patients to other treatment sites or funeral homes.

5.2.2 Reunification Best Practices Space Holder

5.2.3 Operational Reporting and System Recovery

As the immediate threat subsides, continuous reporting is vital to establish a timeline for full system recovery and to identify lingering vulnerabilities.

Casualty Reporting: Hospitals should continue to provide the **HICS 259 (Hospital Casualty / Fatality Report)**. During the recovery phase, this should be completed every 12 hours until all patients have been appropriately cared for based upon available resources.

Incident Status: At the end of each operational period, an **ICS 209M (Incident Status Summary)** should be completed to share with the DHSS Emergency Response Center,

WebEOC, and EMS Mutual Aid at the SEOC.

5.2.4 Demobilization

Demobilization occurs at the discretion of the impacted facilities as resources are released and patient care returns to a traditional cadence.

- **Coalition Role:** The MO HCC facilitates the return of shared regional assets and ensures that eICS missions are formally closed.
- **Transition:** The Coalition moves from Active or On Alert status back to Normal Operations (Steady State) only after all regional resource needs have been met or transitioned to long-term recovery programs.

5.2.5 After-Action Reporting (AAR) and Improvement Plan (IP)

In alignment with ASPR Capability 4 (Health Care System Recovery), the MO HCC is committed to a transparent evaluation process.

- **Timeline:** The MO HCC will facilitate debriefing sessions and collect "Lessons Learned" to produce an After-Action Report (AAR) within 90 days of the conclusion of an event.
- **Improvement Plan:** Findings from the AAR will be incorporated into a formal Improvement Plan (IP). The MO HCC Board is responsible for assigning tasks and timelines to update the EOP and Tactical Annexes based on these findings.

5.3 Plan Maintenance and Review

- **Annual Review:** A comprehensive review of the EOP, COOP, and all Tactical Annexes will be conducted annually with opportunity for input from MO HCC members and stakeholders.



SECTION 6: COMMUNICATION PLAN

The Missouri Healthcare Coalition (MO HCC) is built upon three inseparable pillars: **Communicate, Collaborate, and Coordinate**. Communication is not merely a tool for the HCC; it is the **foundational principle** that enable all other mission-critical activities.

During a large-scale incident—whether a pandemic, a mass casualty event, or a chemical release—the timely, accurate flow of information across disparate organizations (hospitals, EMS, public health, and emergency management) determines the success of the unified response. A breakdown in communication directly leads to critical failures in collaboration and coordination, resulting in misallocated resources, fragmented patient care, and a slow path to recovery.

This Communications Plan ensures that the MO HCC maintains the robust, redundant, and reliable systems necessary to:

1. **Establish Situational Awareness:** Rapidly collect and distribute essential elements of information (EEI) like bed capacity and operational status.
2. **Support Mutual Aid:** Connect resource-needing entities with resource-providing entities.
3. **Ensure Redundancy:** Provide operational continuity when primary systems (e.g., commercial phone/internet) fail.

6.1 Primary Digital Platforms

The Juvare suite, encompassing EMResource® and eICS®, serves as the HCC's primary source of truth for command, control, and data sharing.

eICS® (Incident Command System):

This is the **Alerting and Command Platform**. It is used by the Duty Officer to formally activate the coalition, send mass notifications (phone, text, email), manage contact rosters, and serve as the centralized event log for all incident activities.

[Request Access to ICS](#)

[eICS Training](#)

How EMResource, eICS and Pulsara Work Together to Support Our System and Region



EMResource

Real-time hospital capacity tracking



eICS

Incident Command System software



Pulsara

Real-time patient communication

Integrated operational toolkit

EMResource® (Situational Awareness): This is the **Data and Resource Platform**. It provides real-time, validated data on hospital operational status, bed availability (including specialized views for Pediatrics and Burns), and mobile medical asset tracking. It is the primary tool for sharing essential information between members and the State EOC (via the WebEOC bridge).

[Request Access to EMResource](#)

[EMResource Training](#)

Pulsara (Secure Clinical Platform): This is a HIPAA-compliant, daily-use mobile platform that facilitates real-time, secured communication and care coordination across healthcare entities. This scalable tool can be utilized for managing MCI (Mass Casualty Incident) patient details, supporting telehealth, providing clinical surge support, and enabling patient tracking and reunification capabilities during an incident.

[Pulsara MO Page](#)

6.2 Secondary / Redundant Communication Systems

Radio systems provide the critical, redundant communications necessary when commercial networks are compromised or overloaded.

- **MOSWIN (Missouri Statewide Interoperability Radio Network):** This is the **Tactical and Interoperability System**. It is the designated secondary communication method for HCCs, providing direct, reliable voice communication across jurisdictional boundaries and with state partners (e.g., MHA 1, MHA 2, MHA 3 talkgroups).

MOSWIN SOG

- **HEAR (Hospital Emergency Administrative Radio):** This Local Tactical System (155.340 MHz) is monitored by acute care hospitals and provides direct, immediate voice communication with incoming ground ambulances and on-scene EMS command.
- **Amateur Radio (HAM):** This acts as the Contingency System, offering essential, low-tech, point-to-point communication when all other systems have failed.

6.2.1 Radio Communication Standards

1. Clarity: "Be Understood"

Communication is only effective if the receiver understands the message perfectly the first time.

- **Pace & Tone:** Speak calmly and slightly slower than a normal conversational pace. Maintain a steady volume; shouting often causes audio distortion on the receiver's end.
- **Articulation:** Pronounce each word distinctly.
- **The NATO Phonetic Alphabet:** Use this standardized system to spell out difficult names, street addresses, or alphanumeric codes to prevent "sounds-like" errors.



2. Brevity: "Be Concise"

Airtime is a limited resource. Keep transmissions focused to allow others access to the channel.

- **Prep Before Transmitting:** Know exactly what you are going to say before you press the "Push-to-Talk" (PTT) button.
- **The 30-Second Rule:** Limit transmissions to 30 seconds or less.
- **Segmentation:** If a message is complex, break it into smaller segments. Use the pro-word "**BREAK**" between segments to allow others to interrupt if there is an emergency.

3. Security: "Be Secure"

Unless you are on a specifically encrypted digital channel, assume that the general public, media, and unauthorized users can hear your transmission.

- **No PHI/PII:** Never transmit Protected Health Information (patient names, specific IDs) or Personally Identifiable Information.
- **Confidentiality:** Do not discuss personnel issues, security concerns, or proprietary data.
- **Alternative Channels:** Use secure phones or encrypted digital platforms for sensitive traffic.

4. Discipline: "Be Professional"

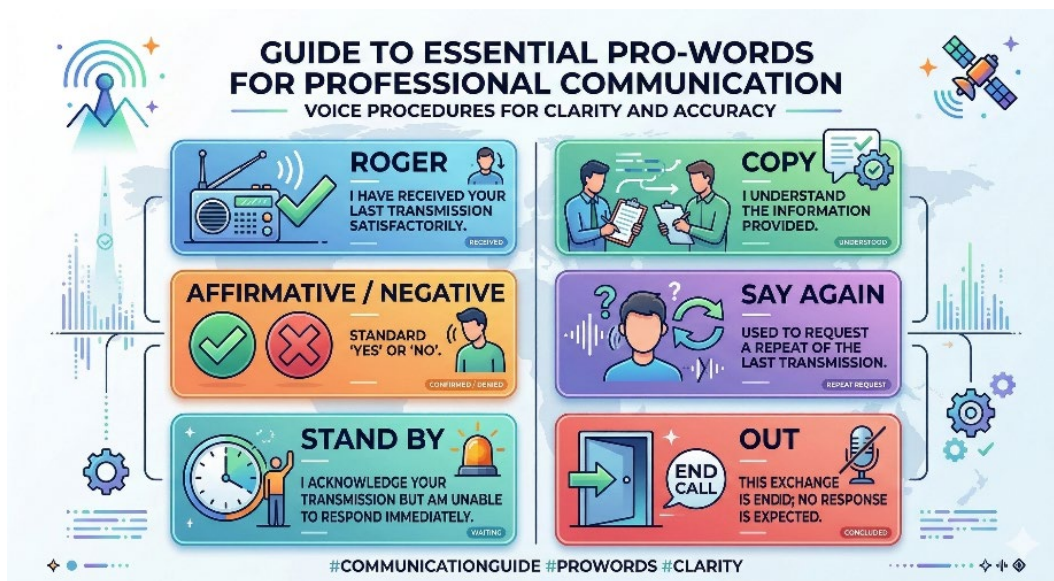
Follow established protocols to maintain order on the airwaves.

- **Listen First:** Always listen for 2–3 seconds before transmitting to ensure you aren't "stepping on" another conversation.
- **Priority:** Never interrupt an active conversation unless you have a "Life Safety" or "Emergency" break-in.
- **Standard Pro-words:** Use consistent procedural words to shorten the conversation and reduce ambiguity.

THE MO HCC
Conducts 2
Redundant
Communication
Drills using
MOSWIN & eICS

Regular radio checks
are critical to ensure
equipment is
functioning and you
have signal coverage.

Regional HEAR
Radio tests are
encouraged.



6.3 Operational and Clinical Support Tools

Crucially, all primary electronic communication tools are accessible via mobile application, ensuring that leadership and staff can maintain situational awareness and command functions even while operating in the field or away from fixed workstations:

- **Juware Suite:** EMResource® and eICS® both have dedicated mobile apps.
- **WebEOC:** Access to the State Emergency Operations Center (EOC) board via the WebEOC bridge is also available through a mobile application.

Specialized Operational and Clinical Apps

These tools, often recommended or utilized within specific annexes (e.g., Chemical or Radiation), provide crucial real-time decision support:

- **Pulsara:** A statewide digital tracking platform incorporated as an option for patient tracking, particularly useful in mass casualty incidents or where rapid patient movement and reunification are required.
- **MO-HNS (Missouri Health Notification System):** An official public health system used by state and local agencies to issue alerts and notifications, distinct from the HCC's internal eICS alerting.
- **REMM (Radiation Emergency Medical Management):** A highly recommended app providing guidance on the diagnosis and treatment of radiation injuries for healthcare providers.
- **ICCR (Internal Contamination Clinical Reference):** An app providing essential reference material for handling patients with internal radioactive contamination.
- **CHEMM (Chemical Hazards Emergency Medical Management):** A resource for chemical hazard information and medical management guidelines.

6.4 Communication Resources



SECTION 7: MEDICAL SURGE OVERVIEW

This Medical Surge Annex serves as the foundational framework for the MO HCC to coordinate responses to medical surge incidents within its boundaries. It is designed to support ESF 8 by guiding diverse health and medical entities during natural disasters, public health emergencies, and mass casualty events.

Core Components

- **Scope and Applicability:** The plan applies to all coalition member organizations, including hospitals, long-term care facilities, EMS, and public health agencies. This is intended as a support document and does not replace entity level command, control, jurisdictional authority or clinical decision making.
- **Patient Management & Triage:** Members should use triage methods consistent with their facility's Emergency Operations Plan, typically START or Jump-START. Coalition members are encouraged to implement Pulsara, a statewide tool for patient tracking, care coordination, and reunification.
- **Clinical Care Guidance:** While the MO HCC retains no authority over patient care, the plan encourages members to adapt Joint Trauma System (JTS) resources for mass casualty, prolonged casualty care and mass casualty surgical care. This includes:
 - Tactical Combat Casualty Care (TCCC).
 - Damage Control Resuscitation (DCR).
 - Prolonged Casualty Care (PCC) guidelines for limited-resource settings.
- **Telehealth Integration:** The coalition encourages leveraging existing telehealth

arrangements including the Pulsara consult feature to support disaster-related medical needs.

Operational Assumptions

- Medical surge events may occur with little or no warning and can quickly overwhelm local resources, requiring regional or state assistance.
- The plan focuses on the **non-clinical components** of surge, while clinical care is determined by individual facility scope and capabilities.
- Patient movement is specifically addressed in a separate Patient Movement Plan. Maintenance and Evaluation from SEMA.
- Demobilization occurs at the discretion of individual facilities as care returns to traditional cadences. The MO HCC will facilitate debriefings and collect lessons learned for After-Action Reports (AARs) within 90 days of an event, ensuring the plan undergoes a comprehensive annual review.

7.1 Framework

1.1.1 Patient Surge

In healthcare, **patient surge** refers to a sudden, significant increase in the number of patients seeking medical care that exceeds the normal operating capacity of a facility or system. It's the "tipping point" where a hospital moves from business-as-usual to emergency management.

Key Components of Patient Surge

To manage a surge, healthcare providers focus on the "Four S's":

- **Staff:** Having enough doctors, nurses, and support personnel to handle the influx.
- **Stuff:** Ensuring there are enough supplies (PPE, ventilators, medications, oxygen).
- **Space:** Converting non-clinical areas (cafeterias, hallways, or tents) into patient care zones.
- **Systems:** Adjusting protocols, such as triaging more strictly or postponing elective surgeries.

Types of Surges

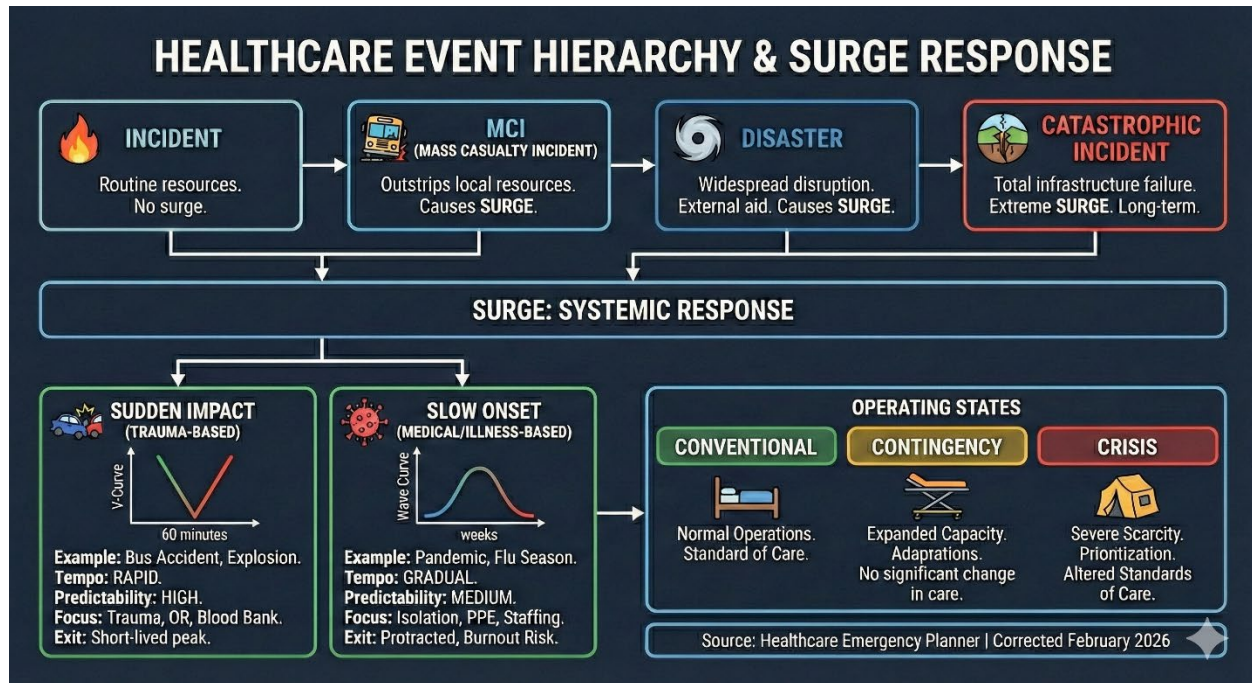
There are generally two ways a surge manifests:

1. **Sudden Impact:** A discrete event that causes an immediate rush of patients, such as a multi-car pileup, a building collapse, or a mass casualty incident.
2. **Slow Onset:** A gradual but steady increase that eventually overwhelms the system, typically seen during a flu season or a pandemic.

Surge Capacity vs. Surge Capability

While they sound similar, experts distinguish between the two:

- **Surge Capacity:** The ability to manage a higher *volume* of patients.
- **Surge Capability:** The ability to manage patients with *specialized needs* (e.g., victims of a chemical attack, radiation exposure, or a highly infectious disease).



7.1.2 Shifting the Paradigm: From Crisis to Quality

For years, the healthcare disaster community has relied on the Institute of Medicine (IOM) framework of Conventional, Contingency, and Crisis Standards of Care. While foundational, this model often carries a "failure" stigma—implying that once you enter "Crisis" mode, you have lost control.

The **Minimum / Better / Best (MBB)** framework reframes this. Instead of defining what we *lack*, it defines the **standard of care we are currently providing** relative to our available resources.

Why the Transition Matters

The move to MBB isn't just about semantics; it's about **psychological safety** and **operational clarity** for responders on the front lines.

1. Removing the Stigma of "Crisis"

The word "Crisis" can trigger a sense of defeat or legal anxiety among clinicians. "Minimum" care acknowledges that while resources are scarce, the care being provided is still intentional, ethical, and follows a validated protocol.

2. Scalability and Fluidity

Traditional standards are often viewed as "toggles"—you are either in conventional mode or you aren't. MBB recognizes that a hospital might be at "Best" for surgical services but at "Minimum" for ICU bed capacity simultaneously.

3. Clearer Benchmarking

The MBB framework encourages planners to define exactly what constitutes the "Minimum" for specific interventions (e.g., ventilator ratios, PPE reuse, or triage protocols). It creates a visible "floor" that prevents the degradation of care into "sub-minimum" or unsafe territory.

Key Takeaway: The MBB framework empowers responders to maintain the highest possible quality of care within the constraints of their environment, focusing on what *can* be done rather than what is missing.

THE MINIMUM-BETTER-BEST (MBB) FRAMEWORK FOR HEALTHCARE SURGE



THE GOAL: WE ALWAYS STRIVE FOR BEST. WE PREPARE FOR BETTER. WE MUST HAVE A PLAN TO SURVIVE AT MINIMUM. | Source: Healthcare Emergency Planner | February 2026

Patients should, if possible, be taken to a casualty collection point and re-triaged. A HCC member with EMResource MCI Alert status should work with the designated transportation unit leader to load balance where patients are taken with appropriate capabilities and capacity.

Casualty collection points both in the field and at the first receiver facility are encouraged. Patients should be triaged and/or re-triaged at the casualty collection points.

General Principles followed:

- Triage or re-triage all patients at field casualty collection points.
- Provide visual indicator of patients' triage status such as colored triage tape, triage bands, or triage tags.
- Keep minors and caregivers together whenever possible.
- A transport officer should be assigned at the casualty collection point to record and oversee transport to the appropriate initial hospital facility. The transport officer should maintain a [HICS 254 – Disaster Victim/Patient Tracking](#) Tool or equivalent process, such as Pulsara if available, on the scene to support patient tracking.
- All patients should be triaged or re-triaged upon coming into the hospital casualty collection point or treatment area. IF triage cards are utilized, every effort should be made to keep their initial triage card (if utilized) with them to endpoint care (as defined in this circumstance as hospital admission or collected upon discharge).
- Hospitals will provide a medical screening exam and care for impacted patients within their own facilities protocols. Hospitals should provide a [HICS 259- Hospital Casualty / Fatality Report](#); Hourly for the first 4 hours of the MCI event, then every 2 hours for the initial 8-hour response window. HICS 259s should be completed every 4 hours throughout the remaining initial 24 hours. HICS 259 should be completed every 8 hours until all patients have been appropriately cared for based upon the resources available.
- A transport officer at the hospital should be assigned to record and oversee the movement of patients to other treatment sites or funeral homes. The transport officer should maintain a [HICS 255- Master Patient Evacuation Tracking](#) form to support patient tracking.

7.2.2 START & Jump START

1. START Triage (Simple Triage and Rapid Treatment)

Developed for adult patients, START is one of the most widely used triage algorithms in the United States. It relies on a rapid, three-point clinical assessment known as the RPM method: Respirations, Perfusion, and Mental Status. Assessment and categorization should take less than 60 seconds per patient.

- Step 1: The "Walking Wounded" (Minor / Green) Patients who can hear instructions and walk to a designated area are immediately categorized as Minor. They are reassessed later.
- Step 2: Respirations (R) If the patient is not breathing, manually open the airway. If they still do not breathe, they are categorized as Deceased/Expectant (Black). If they breathe faster than 30 breaths per minute, they are Immediate (Red).
- Step 3: Perfusion (P) If the radial pulse is absent or capillary refill takes longer than 2 seconds, the patient is Immediate (Red). Any visible life-threatening bleeding is controlled at this stage with a hasty tourniquet.
- Step 4: Mental Status (M) If the patient cannot follow simple commands (e.g., "squeeze my hand"), they are Immediate (Red). If they pass all RPM checks but cannot walk, they are Delayed (Yellow).

2. JumpSTART Triage (Pediatric Patients)

Children are physiologically different from adults; they are much more likely to experience primary respiratory failure rather than sudden cardiac arrest. The JumpSTART algorithm modifies the START criteria for children (typically ages 1 to 8, or those who appear to be pre-pubescent) to account for these differences.

- Key Difference 1: Rescue Breaths If a pediatric patient is apneic (not breathing) after the airway is opened, the provider checks for a palpable pulse. If a pulse is present, the provider delivers 5 rescue breaths (approx. 15 seconds). If breathing resumes, they are Immediate (Red). If not, they are Deceased/Expectant (Black).
- Key Difference 2: Respiratory Rates The normal respiratory rate for children is higher. JumpSTART categorizes respirations less than 15 or greater than 45 breaths per minute as Immediate (Red).
- Key Difference 3: Mental Status (AVPU) Because young children may not follow complex commands, JumpSTART uses the AVPU scale (Alert, Voice, Pain, Unresponsive). If a child is inappropriately responsive to pain (e.g., posturing) or unresponsive, they are Immediate (Red).
- Special Consideration for Infants: Infants carried by "walking wounded" adults are not automatically categorized as Green. They require an individual secondary assessment to ensure they do not have masked injuries.

Parameter	START (Adult)	JumpSTART (Pediatric)
Respirations	> 30 / min = Immediate	< 15 or > 45 / min = Immediate
Apnea (Not Breathing)	Open airway -> No breath = Expectant	Open airway -> Pulse present -> Give 5 breaths -> No breath = Expectant
Perfusion	Cap refill > 2 sec or no radial pulse = Immediate	No palpable pulse (peripheral or central) = Immediate
Mental Status	Cannot follow simple commands = Immediate	Inappropriate response to pain (posturing) or Unresponsive = Immediate

7.2.3 SALT Sort, Assess, Life-Saving Interventions, Treatment/Transport

SALT is a widely adopted, evidence-based mass casualty triage system. Endorsed by the CDC and numerous national trauma organizations, it is designed to be simple, rapid, and easily applied by all levels of responders.

Step 1: Sort (Global Sorting)

This step quickly organizes the chaos by prioritizing who needs assessment first based on simple voice commands.

- **Walk:** "Anyone who can hear me and needs medical help, walk to [designated area]." (Assessed 3rd)
- **Wave:** "Anyone who can hear me but cannot walk, wave your hand or move your leg." (Assessed 2nd)
- **Still:** Those who do not move or respond. (Assessed 1st - highest priority for immediate evaluation).

Step 2: Assess & Life-Saving Interventions

Providers perform rapid, individual assessments and provide immediate, easily applied interventions before moving to the next patient.

- **Interventions include:** Applying tourniquets, opening the airway (including two rescue breaths for pediatric patients), needle decompression for tension pneumothorax, and administering auto-injector antidotes.

Step 3: Treatment and Transport (Triage Categories)

After the rapid interventions, patients are categorized based on their physiological status and resource needs. This fits seamlessly into the "minimum, better, best" framework during a surge, guiding where limited resources are directed.

- **Immediate (Red):** Severe injuries, but highly survivable with rapid intervention.
- **Delayed (Yellow):** Serious injuries, but can wait a short time for care without immediate threat to life.
- **Minimal (Green):** Minor injuries; "walking wounded."
- **Expectant (Grey/Black):** Injuries incompatible with life, or survival is highly unlikely given the *current* availability of resources. They receive comfort care and are reassessed if the resource picture improves.
- **Dead:** No breathing after opening the airway (and considering rescue breaths for children).

2.1.4 30 & 2 CAN DO Method

Based off of START methodology, this method quickly identifies who is **"Immediate" (Red Tag)** versus **"Delayed" (Yellow Tag)** by focusing on three primary physiological parameters: Respirations, Perfusion, and Mental Status.

If a patient can walk, they are already triaged as **Green (Minor)**.

For those who cannot walk, you apply these three tests:

1. "30" - Respirations

- The Test: Check the breathing rate.
- The Limit: 30 breaths per minute.
- The Action: * If the patient is breathing over 30 times per minute,
- they are tagged **Red (Immediate)**.
 - If they are breathing under 30, move to the next step.
 - *(Note: If they aren't breathing, you reposition the airway once. If they still don't breathe, they are **Black/Deceased**).*

Parameter	"Red" Threshold	"Yellow" Threshold
30 (Respirations)	> 30 bpm	< 30 bpm
2 (Perfusion)	> 2 seconds	< 2 seconds
Can Do (Mental Status)	Cannot follow commands	Can follow commands

2. "2" - Perfusion (Capillary Refill)

- The Test: Check how long it takes for color to return to the fingernail bed after a squeeze.
- The Limit: 2 seconds.
- The Action: * If capillary refill takes longer than 2 seconds (or the radial pulse is absent), they are tagged **Red (Immediate)**.
 - If it is under 2 seconds, move to the final step.

3. "Can Do" - Mental Status

- The Test: Give a simple command, such as "Squeeze my hand" or "Close your eyes."
- The Action: * If they cannot follow the command (altered mental status), they are tagged **Red (Immediate)**.
 - If they can follow the command ("Can Do"), they are tagged **Yellow (Delayed)**.

7.2.4 Pulsara at Triage

Demobilization occurs at the discretion of the impacted facilities as resources are released and patient care returns to a traditional cadence.

- **Coalition Role:** The MO HCC facilitates the return of shared regional assets and ensures that eICS missions are formally closed.
- **Transition:** The Coalition moves from Active or On Alert status back to Normal Operations (Steady State) after all regional resource needs have been met or transitioned to long-term recovery programs.

7.3 Trauma Combat Casualty Care – TCCC / TECC

Originally developed for the battlefield, **TCCC** focuses on the most common causes of preventable death (hemorrhage, tension pneumothorax, and airway obstruction). Its civilian counterpart, Tactical Emergency Casualty Care (TECC), adapts these for high-threat civilian environments.

- **Civilian Adaptation:** Hospitals can use TCCC/TECC principles to train "all-staff" (including non-clinical) on immediate life-saving interventions like tourniquet application and wound packing during the initial "hot" or "warm" zones of a facility MCI.



[Deployed Medicine \(TCCC/PCC\)](#)

7.4 Joint Trauma System (JTS) Clinical Practice Guidelines

The JTS serves as the "Center of Excellence" for military trauma, providing evidence-based Clinical Practice Guidelines (CPGs) for everything from burn management to crush injuries.

- **Civilian Adaptation:** Facilities can use JTS CPGs as a "shelf-ready" resource for injuries rarely seen in daily civilian practice but common in MCIs (e.g., blast overpressure injuries or complex ballistic trauma).



[Joint Trauma System CPGs](#)

7.5 Prolonged Casualty Care (PCC)

PCC (formerly Prolonged Field Care) is the management of a patient by a provider when evacuation is delayed or impossible. It focuses on maintaining physiological stability over hours or days with limited equipment.

- **Civilian Adaptation:** In a massive surge, a "Stage 1" hospital may become a "holding" facility if the regional Level 1 trauma center is at capacity. PCC provides a framework for "nursing care" in non-traditional spaces and long-term stabilization without specialized ICU resources.



[Prolonged Casualty / Field Care Guidelines](#)

7.6 Military Trauma Surgery Guidelines

These guidelines prioritize Damage Control Surgery (DCS)—performing only the most essential life-saving maneuvers to stop bleeding and contamination—over definitive repair.

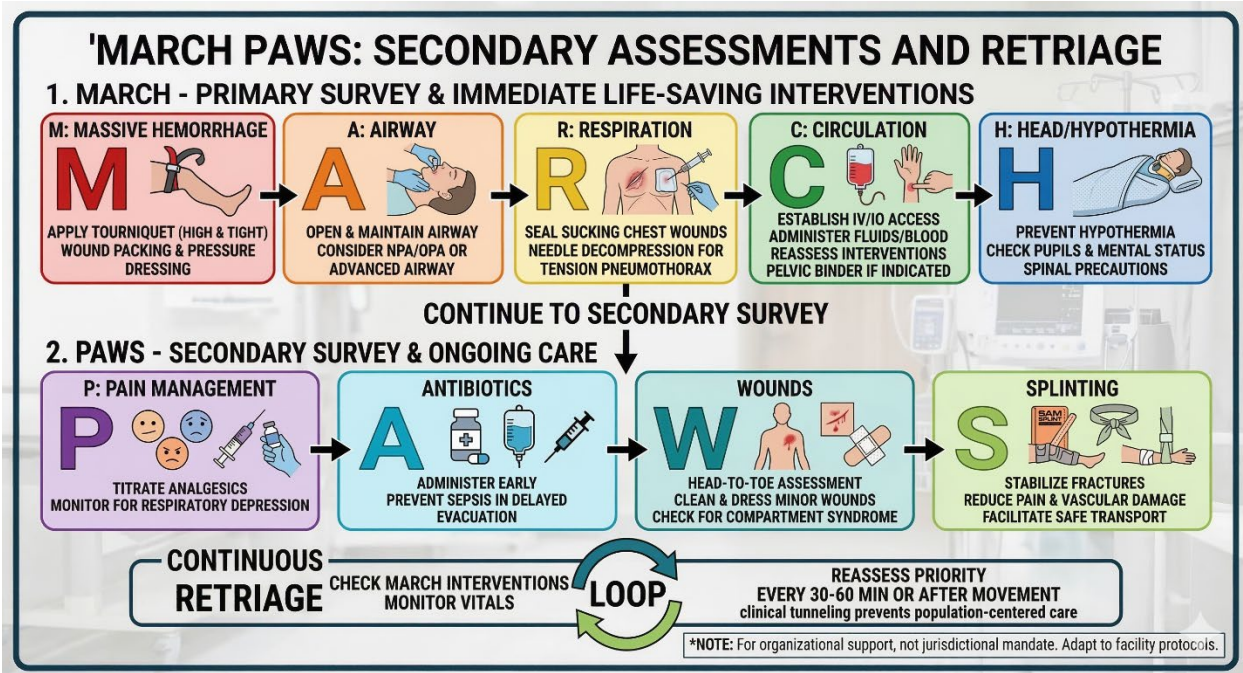
- **Civilian Adaptation:** During an MCI, surgeons may shift to Mass Casualty DCS (mcDCS), where the goal is to maximize the number of "survivable" patients by shortening operative times and deferring complex reconstructions to a later date.



[Surgical Combat Casualty Care](#)

7.7 Key Terms and Concepts to Consider

- **MARCH Algorithm:** A prioritization sequence used in TCCC/TECC: **M**assive Hemorrhage, **A**irway, **R**espiration, **C**irculation, **H**ead/Hypothermia. It replaces the traditional "ABC" to prioritize life-threatening bleeding first.



- **Austere Care:** Medical care provided in environments lacking the traditional infrastructure, supplies, or specialty staff found in a standard hospital setting.
- **Role of Care:** A military concept (Roles 1–4) defining the level of medical capability at a location. Civilian entities can adapt this to define "Transfer Roles" between rural clinics (Role 1/2) and tertiary hospitals (Role 3/4).
- **Expectant Triage:** A category for patients whose injuries are so severe that they are unlikely to survive given the *current* resource constraints. In a surge, these patients are provided comfort care to allow resources to be directed to "Immediate" patients.
- **Teleconsultation:** A core PCC skill; using remote experts to guide bedside providers through complex procedures or long-term management when specialists are unavailable.

7.8 Telehealth

The role of telehealth is evolving as a function of medicine in disasters. MO HCC members are encouraged to leverage existing telehealth arrangements. In addition, the Pulsara consult feature may be used to support disaster telehealth if agreeable and in use by both entities.

7.9 Transportation

Self-transport to the closest facility should be anticipated for individuals who are able to leave the scene of the incident.

EMS mutual aid will be immediately available, followed by the rostering of EMS strike teams from across the state and region. EMS coordination should be facilitated through the EMS Mutual Aid Coordinator and their established structure. EMS Mutual Aid Coordinators may utilize their own eICS incident and other tools to facilitate the management of EMS resources and share information to the HCC's eICS incident as appropriate.

7.10 Resources



SECTION 8: PEDIATRICS

OVERVIEW

Nearly all incidents have an impact to pediatric populations. A disaster or mass casualty event that significantly impacts the pediatric patient population, including obstetrical and neonatal patients, can occur at any time with or without notice. The size, number and scope of what defines a pediatric MCI will vary considerably based upon geographical location, type, available resources and proximity to specialty care within the Missouri Healthcare Coalition.

A pediatric view of facilities with pediatric capabilities is available on EMResource. A pediatric Immediate Bed Availability query is available to facilitate real time information sharing, bed placement and surge capacity across the state as needed. Facilities and services receiving pediatric designations will be added as they become available. EMS entities and their operational capabilities and contacts, including pediatric designations re available in EMResource to support pediatric patient transport needs.

READINESS vs PREPAREDNESS

The MO HCC, distinguishes between Readiness and Preparedness and recognizes that a strong readiness framework supports the preparedness framework.

- **Readiness** (The "Now" or "everyday" State): This is Facility-Based. It refers to the immediate capability of a single facility, unit or clinician to provide safe, high-quality care to a patient at any moment. It is about having the right staff, the right stuff, and the right space *today*.
- **Preparedness** (The "What If" State): This is System-Based. It refers to the strategic, coordinated ability of the entire facility, system or HCC to handle a surge, a disaster, or a crisis that exceeds normal daily operations. It is about scalability, communication and regional logistics.

All MO HCC members are asked to strive to be pediatric ready.

8.1 Pediatric Surge Plan

The MO HCC follows the national EIIC guidelines in expanding and supporting pediatric surge care.

SURGE PLAN SUMMARY				
Tier	Criteria	Patients Recommended	Surge Strategy	Count
TIER 1	Critical Care (NICU & PICU) 	All patients (Immediate Triage) 	Expand PICU & Peds Acute Acute for med/trauma 	4
TIER 2	Partial Peds (NICU / PICU) 	All patients (Triage - immediate) 	Trauma surge & intensive care overflow 	7
TIER 3	Pediatric Acute Beds 	All patients (following T1 & T2) 	Expand Peds Acute care 	13
TIER 4	Peds Designated (No Acute/ICU beds) 	Ideally >8 yrs (Respiratory, fractures, surgery) 	Adult Med/Surg/ICU beds marked and moved out 	4
TIER 5	No Peds Designation (No Acute/ICU) 	Stable patients over age 8. 	Transfer patients based on specialty 	24
TIER 6	ER Only / Specialty Hospitals 	Use as a specialty resource	N/A 	5

8.2 EMS

Emergency Medical Services (EMS) Pediatric Patient Transport

- Pediatric incidents that initiate outside of the facility should be coordinated through local EMS transport protocols and existing mutual aid agreements.
 - All EMS entities are encouraged to maintain and train on pediatric skills corresponding to their level of licensure and work towards EMSC designation when available.
 - Regional EMS Pediatric Emergency Care Coordinator (PECC) should be encouraged and supported by the HCC when they are available.
 - EMS Pediatric Specialty transport services should be utilized as appropriate without delaying patient care and reserved for the most critical patient
- Frontline Healthcare Facilities
- All Healthcare facilities will maintain the ability to assess, stabilize and treat pediatric patients within their scope of care in accordance with EMTALA.
 - All Healthcare facilities will maintain transfer agreements with referral facilities that include transfer to a pediatric specialty hospital or facility with designated pediatric care capacity.
 - The facility and patient's physician have determined that transfer (either by ground or air) is appropriate and necessary.
 - Provide pertinent information to transport entity and receiving hospital regarding the patient's condition and care status, this will include frontline staff communicating with the designated transport officer and hospital receiving physician or designee.
 - All facilities are encouraged to maintain and train on pediatric skills and response, have a policy addressing pediatric care for Emergency Department and inpatient units, incorporate pediatric response into their emergency operations plan (EOP) and work towards EMSC designation when available.
 - Regional Pediatric Emergency Care Coordinator (PECC) at both the hospital and prehospital environments are encouraged and supported by the HCC.

[MO EMSC EMS EQUIPMENT LIST](#)

8.2.1 EMSC Pediatric Pre-Hospital Designated Entities

8.3 Hospitals

Hospital with Designated Pediatric Care Capacity

In addition to core capabilities of the frontline healthcare facility:

- Be available to accept patients from within Missouri.
- Be available to serve as a Pediatric, Neonatal or obstetrical subject matter expert for coalitions when requested.
- Maintain capacity to treat at least one triaged red pediatric patient.
- Maintain the capability to address behavioral health needs for patients and staff
- Maintain the capability to provide culturally and linguistically appropriate services during procedures and interventions.

Healthcare Coalitions (HCC)

- Coordinate local member resource needs.
- Assure engagement of regional 911/Public Safety Answering Point (PSAPs) in regional planning efforts.
- Provide updated information and training to healthcare facilities on routine basis. • At the time of transport and referral to assessment hospital, assist with coordination and communication relative to the transport and referral processes.
- The healthcare coalition within whose jurisdiction the event originates and from which patients are being transported to appropriate facilities or tertiary care centers will assume responsibility for activating the incident in eICS, thus alerting all pertinent parties and beginning the incident documentation.
- The HCC will assist with patient reunification as requested by their partner entities and/or the DHSS ERC.

[AAP Preparedness Checklist](#)

[AAP Pediatric Care in Community Hospitals](#)

8.3.1 MO HCC Pediatric Beds

Pediatric Bed Baseline

	NW Region	NE Region	Central Region	SW Region	SE Region	TOTAL NON URBAN
Pediatric Beds	10	2	39	133	45	229
Pediatric Surge	13	3	44	146	50	256
PICU Beds	0	0	13	28	0	41
PICU Bed Surge	0	0	14	31	0	45

NORTHWEST REGION				
Facility	Pediatric Trauma Center	Number of Pediatric Beds	Number of PICU Beds	Total Pediatric Surge Capacity
Community Hospital Fairfax	No	1	0	2
MOSAIC Life Care	No	8	0	9
NORTHEAST REGION				
CENTRAL REGION				
Boone Hospital Center	No	14	0	15
MU Women's and Children's	No	25	13	42
SOUTHWEST REGION				
Cox Medical Center Branson	No	8	0	9
Cox South	No	26	4	33
Freeman West	No	9	0	10
Mercy Hospital Joplin	No	11	12	25
Mercy Hospital Springfield	No	28	12	44

Nevada Regional Medical Center	No	2	0	3
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Facility	Pediatric Trauma Center	Number of Pediatric Beds	Number of PICU Beds	Total Pediatric Surge Capacity
SOUTHWEST REGION cont.				
Mercy Hospital Lebanon	No	3	0	4
Phelps Health	No	18	0	20
Texas County Memorial Hospital	No	10	0	11
SE REGION				
Poplar Bluff Regional Medical Center	No	24	0	26
Saint Francis Medical Center	No	8	0	9
Mercy Southeast Hospital	No	8	0	9

8.4 Role of Clinics and FQHCs

8.5 Role of LPHAs

Community health
Vaccination
Infant and youth feeding

8.6 Obstetrics Place Holder

Obstetrical Beds

Obstetric Beds Available Baseline:

	NW Region	NE Region	Central Region	SW Region	SE Region	TOTAL NON URBAN
Baseline	36	22	82	179	95	414
10% Surge Capacity	42	24	90	199	104	459

NORTHWEST REGION				
Facility	Level of OB Care Provided	Number of OB Beds	OB Surge Capacity	Associated NICU
Cameron Regional Medical Center	Basic (Level1)	4	5	No
Community Hospital Fairfax	Basic (Level 1)	2	3	No
Hedrick Medical Center	Basic (Level1)	1	2	No
MOSAIC Life Care	Specialty Care (Level 2)	24	26	Yes
MOSAIC Medical Center Maryville	Basic Care (Level 1)	5	6	No
NORTHEAST REGION				
Hannibal Regional Hospital	Basic (Level 1)	6	7	No
North East Regional Medical Center	Basic (Level 1)	14	15	No
Scotland County Hospital	Basic (Level 1)	2	2	No
CENTRAL REGION				
Boone Hospital Center	Subspecialty Care (Level 3)	48	53	Yes

Capital Regional Medical Center	Basic (Level 1)	12	13	No
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Facility	Level of OB Care Provided	Number of OB Beds	OB Surge Capacity	Associated NICU
Lake Regional Health System	Specialty Care (Level 2)	10	11	No
SSM Health Saint Mary's	Basic (Level 1)	12	13	No
Women's and Children's Hospital (MUHC)	Subspecialty Care (Level 3)	0	0	Yes

SOUTHWEST REGION

Citizens Memorial Hospital	Basic Care (Level 1)	8	9	No
Cox Medical Center Branson	Basic Care (Level 1)	14	15	No
Cox Monett	Basic Care (Level 1)	7	8	No
Cox South	Subspecialty Care (Level 3)	32	35	Yes
Freeman West	Subspecialty Care (Level 3)	24	26	Yes
Mercy Hospital Aurora	Basic Care (Level 1)	5	6	No
Mercy Hospital Joplin	Specialty Care (Level 2)	19	21	Yes
Mercy Hospital Springfield	Subspecialty Care (Level 3)	36	40	Yes
Nevada Regional Medical Center	Basic Care (Level 1)	11	12	No
Missouri Baptist Sullivan Hospital	Basic Care (Level 1)	3	4	No
Phelps Health	Basic Care (Level 1)	16	18	No

Texas County Memorial Hospital	Basic Care (Level 1)	4	5	No
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SOUTHEAST REGION				
Facility	Level of OB Care Provided	Number of OB Beds	OB Surge Capacity	Associated NICU
Missouri Delta Medical Center	Basic Care (Level 1)	12	13	Yes
Poplar Bluff Regional Medical Center	Basic Care (Level 1)	38	42	No
Saint Francis Medical Center	Subspecialty Care (Level 3)	24	26	Yes
South East Hospital	Specialty Care (Level 2)	17	18	Yes
Ste Genevieve County Memorial Hospital	Basic Care (Level 1)	4	5	No
Level of Care Provided Based upon ACOG Definitions: Level 1 (Basic) Level 2 (Specialty Care) Level 3 (Subspecialty Care) Level 4 (Perinatal Health Centers) ACOG Levels of maternal care				

8.7 NICU Place Holder

Neonatal Care

Neonatal Beds Baseline

	NW Region	NE Region	Central Region	SW Region	SE Region	TOTAL NON URBAN
Baseline	36	20	161	258	146	621

10% Surge Capacity	42	22	177	309	161	711
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Facility	Level of Neonatal Care Provided	Number of Neonatal Beds	Number of NICU Beds	Total Neonatal Surge Capacity
NORTHWEST REGION				
Cameron Regional Medical Center	Basic (Level 1)	4	0	5
Community Hospital Fairfax	Basic (Level 1)	2	0	3
Hedrick Medical Center	Basic (Level 1)	1	0	2
MOSAIC Life Care	Specialty Care (Level 2)	24	0	26
MOSAIC Medical Center Maryville	Basic (Level 1)	5	0	6
NORTHEAST REGION				
Hannibal Regional Hospital	Basic (Level 1)	6	0	7
North East Regional Medical Center	Basic (Level 1)	14	0	15
Scotland County Memorial Hospital	Basic (Level 1)		0	
Facility	Level of Neonatal Care Provided	Number of Neonatal Beds	Number of NICU Beds	Total Neonatal Surge Capacity
CENTRAL REGION				
Boone Hospital Center	Subspecialty Care (Level 3)	48	21	76
Capital Regional Medical Center	Basic (Level 1)	12	0	13

Lake Regional Health System	Specialty Care (Level 2)	10	0	11
SSM Health Saint Mary's	Basic (Level 1)	12	0	13
MU Women's and Children's	Subspecialty Care (Level 3)	0	58	64
SOUTHWEST REGION				
Citizens Memorial Hospital	Basic (Level 1)	8	0	9
Cox Medical Center Branson	Basic (Level 1)	14	0	15
Cox Monett	Basic (Level 1)	7	0	8
Cox South	Subspecialty Care (Level 3)	32	34	95
Freeman West	Subspecialty Care (Level 3)	24	24	53
Mercy Hospital Aurora	Basic (Level 1)	5	0	6
Mercy Hospital Joplin	Specialty Care (Level 2)		14	15
Mercy Hospital Springfield	Subspecialty Care (Level 3)		63	69

Facility	Level of Neonatal Care Provided	Number of Neonatal Beds	Number of NICU Beds	Total Neonatal Surgical Capacity
SOUTHWEST REGION cont.				
Nevada Regional Medical Center	Basic (Level 1)	11	0	12

Missouri Baptist Sullivan Hospital	Basic (Level 1)	3	0	4
Phelps Health	Basic (Level 1)	16	0	18
Texas County Memorial Hospital	Basic (Level 1)	4	0	5
SOUTHEAST REGION				
Missouri Delta Medical Center	Basic (Level 1)	12	0	13
Poplar Bluff Regional Medical Center	Basic (Level 1)	38	0	42
Saint Francis Medical Center	Subspecialty Care (Level 3)	24	36	66
South East Hospital	Specialty Care (Level 2)	17	15	35
Ste Genevieve County Memorial Hospital	Basic (Level 1)	4	0	5
Level of Care Provided Based upon State Definitions: Level 1 – Well New Born Nursery Level 2 – Special Care Nursery Level 3 – Level 3 NICU Level 4 – Level 4 NICU (surgical Capabilities for the most complex patients)				

8.8 Additional Resources

EIIC
EMSC
Laurie Childrens
PPN
Tools –



Section 9: CHEMICAL ANNEX

Overview and Planning Assumptions

Assumptions

- All hospitals with emergency departments are designated as “first Receiver” facilities for chemical and HAZMAT incidents and are equipped to respond to an initial incident.
- All frontline healthcare facilities, including any facility equipped for emergency care, such as hospital-based emergency departments and other emergency care settings including urgent care clinics and critical access hospitals, shall maintain procedures to respond to mass casualty incidents and coordinate local, regional, and state support through their individual Emergency Operations Plan.
- Fire and EMS Pre-hospital care providers will maintain Hazmat operational awareness within their own entity.
- Missouri partners will utilize the National Incident Management System (NIMS) and Incident Command System (ICS) to coordinate operations.
- As small scale and individual hazmat events are not a part of a HCC response, these are not addressed however the clinical care resources may be used to support patient care activities.

- Patient movement plans are outlines in the Missouri Patient Movement Plan.

9.1 Operations Medical Care

9.1.1 Chemical Incident Response & Coordination

Initial Consultation & Identification

Identifying the substance in question is the primary responsibility of on-scene responders; however, the specific agency in charge will vary based on local resources and response processes.

- First Call - [MO Poison Center](#): Clinical providers should immediately consult the Missouri Poison Center for 24/7 access to toxicology experts.
- Clinical Support Tools: If the chemical is unknown, providers should utilize the CHEMM Intelligent Syndromes Tool (CHEMM-IST 2.0) to guide initial treatment plans.
- Information Sharing: Once identified, substance information must be shared broadly through appropriate channels—including the HCC—to ensure the safety and situational awareness of all responding agencies.



Situational Awareness & Reporting

The Healthcare Coalition (HCC) supports the incident by collating data from multiple facilities to maintain a common operating picture.

- Incident Tracking: At the end of each operational period, the HCC should complete an [ICS 209M Incident Status Summary](#).
 - *Note:* Use the standard Burn MCI form but substitute chemical patient counts for "burn" numbers.
- Reporting Channels: This form must be shared with:
 - The DHSS Emergency Response Center.
 - WebEOC (as an incident update).
 - EMS Mutual Aid at the State Emergency Operations Center (SEOC).
- Patient Tracking: Upon request, the HCC may assist with patient tracking and family reunification. Partnerships with the American Red Cross can be leveraged to support these efforts.

9.1.2 Clinical Treatment & Support

Authority & Protocols

Patient treatment protocols remain the sole responsibility of the responding entity or the facility providing direct care. While the HCC may provide access to subject matter expert clinicians for consultation, all clinical orders and care remain the responsibility of the primary treating entity.

TCCC + CBRN = (MARCHE) ²			
	Hot Zone	Warm Zone	Cold Zone
Priorities	- Think Care Under Fire, sometimes agent is like effective fire "What is killing the casualty now, is it the agent or trauma?" The answer to this question dictates your treatments - Triage - Treat only immediate life-threats - Expose only what is needed to save life. - CRESS assessment. Identify nerve agent exposure. - If chemical contamination of a wound is suspected, expose perform rapid spot decontamination as soon as possible - Protect yourself and the casualty from the threat: time, distance, shielding, upwind, uphill, upstream - Heat injury from operating in PPE is common and may be unrelated to the agent. - Getting to the warm zone may require prolonged movement of the casualty. - A medic caring for chemical casualties is contaminated (dirty medic) and cannot cross to cold zone with patient until decontaminated. - In conventional TCCC, only massive hemorrhage is addressed during CUF. However, some chemical agents are rapid killers. Nerve agent antidotes and rapid decontamination must be administered as early as possible.	- Think Tactical Field Care "What is killing the casualty now, is it the agent or trauma?" The answer dictates your treatments - Triage - Provide only life-saving care, get them to the cold zone for definitive care. - Replace dirty tourniquets and decontaminate indwelling devices or replace as indicated. - Casualty may require advanced airway management and ventilator support - Perform cutout and thorough decontamination. - Perform treatments while decontamination is being conducted. "Expose to treat". - Assess circulation and administer resuscitation fluids per TCCC guidelines only if absent radial pulse - Countermeasures: administer specific treatments for life-threats as needed based on exposure and symptoms - Hypothermia is a threat due to exposure during decontamination. - Determine whether altered mental status is due to chemical agent or trauma	- Think Tactical Evacuation or Prolonged Field Care "What is killing the casualty now, is it the agent or trauma?" The answer to this question dictates your treatments. - Triage - Anticipate and mitigate hypothermia. - Receiving medical personnel may have little to no experience with CBRN. Ensure effective patient handoff. - Clean Medic (remains on cold zone side of hot line and not exposed to contaminated casualties)
TCCC	M: Massive Hemorrhage	M.A.R.: reassessment	(MARCHE) ² reassessment
	A: Airway, assess	C: Circulation and Shock Status	
	R: Respirations, assess	H: Hyperthermia, H: Head Wounds (altered mental status)	
CBRN	E: Extraction	E: Evacuation	
	M: Don Mask, Mask check	M.A.R.: reassessment	(MARCHE) ² reassessment
	A: Antidote (ATNAA/CANA)	C: Countermeasures (drips, nebulized medicines, etc.)	
	R: Rapid Shot Decontamination	H: Hyperthermia, H: Head Wounds (altered mental status)	
	E: Extraction	E: Evacuation	

Terms: (MARCHE)²: Massive hemorrhage/Mask, Airway/Antidote, Respiration/Rapid spot decontamination, Circulation/Countermeasures, Head/Hypothermia, Extraction/Evacuation
TCCC: Tactical Combat Casualty Care; CBRN: chemical, biological, radiological, nuclear; CRESS: Consciousness, Respirations, Eyes, Secretions, Skin PAPP: Powered Air Purifying Respirator;
SCBA: Self Contained Breathing Apparatus; ATNAA: Antidote Treatment Nerve Agent Auto-injector; CANA: Convulsant Antidote for Nerve Agent

Treatment Area Care (taken from chemm.hhs.gov)

[Re-Triage](#) post-decontamination, patients should be re-triaged and appropriate treatment and supportive care provided consistent with patient needs and available resources.

Advanced Treatment

Severe Exposure

- Review Airway, Breathing, Circulation, Disability, and Exposure. Place patient in the Left Lateral Position, preferably with head lower than the feet, to reduce the risk of aspirating stomach contents. Provide high flow oxygen, if available. Intubate the patient if their airway or breathing is compromised. Treat complicating injuries.
- Obtain IV access and give 1-3 mg, (0.02 mg/kg for infants) of atropine†* as a bolus, depending on severity. Set up an infusion of 0.9 % normal saline; aim to keep the systolic BP >80 mmHg and urine output >0.5 ml/kg/hr.
- Atropine should not be given IV if at all possible, **in a hypoxic patient** exposed to nerve agent or organophosphates. IV Atropine has regularly produced ventricular fibrillation in test animals in these clinical situations. Give at least the initial dose IM via autoinjector. Regular IM dosing may take 20-25 minutes to have a therapeutic effect.
- Record pulse rate, blood pressure, pupil size, presence of sweat, and auscultatory findings at time of first atropine dose.
- Give pralidoxime chloride†* 1- 2 g IV over 20-30 mins (25-50 mg/kg) into a second cannula; follow with an infusion of pralidoxime 0.5-1 g/hr (10-20mg/kg) in 0.9 % normal saline. If drips are unavailable repeat 2PAM Cl dose hourly X 2 PRN, then repeat Q6-12 h PRN.
- Do not give the loading dose too rapidly as it causes vomiting, tachycardia, and diastolic hypertension.
- Five minutes after giving atropine, check pulse, blood pressure, pupil size, sweat and chest sounds. If there has been no improvement, give double the original dose of atropine.
- Continue to review every 5 mins - give doubling doses of atropine if there has been no response. Once parameters have begun to improve, there is no need to double each dose.

- Give atropine boluses until the heart rate is > 80 bpm, the systolic BP >80 mmHg, (See [PEDIATRIC VITAL SIGN](#)) values and the chest is clear (while appreciating that atropine will not clear focal areas of aspiration). Sweating usually also stops. A tachycardia is not a contraindication to atropine since it can be caused by many factors. The pupils will commonly dilate; however, this is not a useful endpoint for initial atropinization because there is a delay to maximum effect. However, very dilated pupils are commonly an indicator of atropine toxicity. Test visual acuity.
- Once the patient is stable, start an infusion of atropine giving per hour around 10-20 % of the dose used to initially atropinize the patient. Observe the patient often to see if too much or too little is being given. If too little, cholinergic features will reappear after a while. If too much, patients will become agitated and pyrexial and develop absent bowel sounds and urinary retention. If this occurs, stop the infusion and wait 30-60 minutes for these features to settle before starting again at a lower infusion rate.
- Continue the oxime infusion until atropine has not been required for 12-24 hrs and the patient extubated.
- Continue to review respiratory function. Intubate and ventilate patients when the tidal volume or vital capacity fall below 5 ml/kg or 15 ml/kg, respectively, have apneic spells, or PaO₂ <8 kPa (60 mmHg) on FiO₂ of >60 %.
- Treatment of seizures - diazepam^{†*} or midazolam^{‡*} should be given to all patients having seizure activity, unconsciousness, diffuse muscle twitching, and if >1 organ is involved. The military gives diazepam as part of initial therapy for any seriously ill NA exposed patients. Utilized early, atropine may function as an anticonvulsant.

Benzodiazepines are the most effective seizure medication for nerve agent toxicity. Once seizures are under control, may repeat doses of diazepam or midazolam Q2-4 h PRN. If one benzodiazepine doesn't work initially, try the other. Consider continuous infusion of midazolam, ketamine/anesthesia for non-responsive status. EEG monitoring on a PRN basis.

- Review flexor neck strength regularly in conscious patients by asking them to lift their head off the bed and keep it there when pressure is applied to their forehead.
 - Any sign of weakness is a sign that the patient is at risk of developing peripheral respiratory failure (intermediate syndrome - seen occasionally with organophosphate toxicity/ not associated with nerve agent).
 - The tidal volume should be checked in such patients every 4 hrs. Values less than 5 ml/kg are an indication for intubation and ventilation.
- Treat agitation by reviewing the dose of atropine being administered and giving adequate sedation with benzodiazepines.
 - An antipsychotic, such as haloperidol, can be used but may be less effective for alcohol withdrawal, a frequent co- morbidity in self-poisoned patients.
 - Physical restraint of agitated patients in warm conditions risks severe hyperthermia - this is exacerbated greatly by atropine which inhibits normal thermoregulatory responses, including sweating. Adequate sedation is therefore important.
- Respiratory - bronchospasm - clinically appears like status asthmaticus, pulmonary edema - utilize oxygen, bronchodilators (watch for increased vulnerability to arrhythmias) ventilator etc. - use ALS
- Cardiac - monitor for arrhythmias – use ALS
- Fluids, electrolytes, nutrition - children have lower reserves of fluid and are more vulnerable to GI losses, correct acidosis, nursing mothers should pump and discard breast milk until cleared medically.
- Eye care - treat eye pain, miosis (atropine will not reverse miosis).
- Monitor frequently for recurring cholinergic crises due to leaching of fat soluble OPs from fat stores. Such crises can occur for several days to weeks post-ingestion of some OPs. Patients with recurring cholinergic features will need reloading with atropine.
- While this has not been demonstrated with nerve agent exposure, monitor for the potential development of intermediate syndrome (IMS). This is a syndrome of muscular paralysis occurring in conscious patients typically 24-96 hours (it may occur earlier or later) following ingestion of certain organophosphate agents

(following the acute cholinergic syndrome which was treated with atropine). Muscle weakness affects predominantly the proximal limb muscles and those supplied by the cranial nerves. IMS is often associated with respiratory failure.

- Ingestion Exposure - **Do not induce emesis** because of the risk of pulmonary aspiration of gastric contents which may result from abrupt respiratory arrest, seizures, or vomiting. Consideration of decontamination should only be considered after the patient has been stabilized and treated with oxygen, atropine, and an oxime. If the patient is alert and charcoal has not been given previously, administer slurry of activated charcoal (questionable efficacy). If the patient's condition is evaluated within two hours after ingestion of a substantial amount of OP and the patient is fully alert or intubated, consider gastric lavage (some Chinese studies recommend multiple lavages) [Gastric contents should be considered potentially hazardous by skin contact or inhalation and should be quickly isolated].
- Link to [Key Acute Care Adult Medications section](#)
- Link to [Key Acute Care Pediatric Medications section](#)
- Link to [Nerve Agent Treatment - Autoinjector Instructions](#)

9.1.3 [Lab Considerations](#)

[Discharge and Sample Follow up Instructions](#)

[Management of the Deceased](#)

9.1.4 Medical Counter Measures

[Missouri CHEMPACK Guidance](#)

MO HCC Regional Chempack plans can be found in the EMResource Library.

Individual entities requesting a Chempack asset should notify the DHSS Emergency Response Center and the State Emergency Management Agency to coordinate rapid deliver of the needed resource. This request should be made and first indication of possible need as for some providers a Chempack could remain a hour or further away. Requesting entities should also simultaneously notify the facility with the Chempack on site.

Mutual aid agreements can be used for pharmacy resources until chempack and other medical countermeasures can be obtained.

[Contingency Medical Countermeasures for Treating Nerve Agent Poisoning](#)

9.2 Just-in-Time Resources

To support immediate clinical care, the following resources are available

- **[HHS CHEMM Tool](#)**: Comprehensive chemical emergency management and treatment guidelines.
- **[ATSDR](#)** – [Agency for Toxic Substances and Disease Registry](#) also provides extensive treatment resources for responders at all levels.
- **[CHEMM Toxidrome Cards](#)**: Quick-reference visual aids for identifying exposure symptom

- [Acute Exposure to Solvents, Anesthetics, or Sedatives \(SAS\) Toxidrome](#) (PDF - 573 KB)
- [Anticholinergic Toxidrome](#) (PDF - 534 KB)
- [Anticoagulants Toxidrome](#) (PDF - 574 KB)
- [Cholinergic Toxidrome \(also called Pesticide or Nerve Agent Syndrome\)](#) (PDF - 571 KB)
- [Convulsant Toxidrome](#) (PDF - 547 KB)
- [Irritant/Corrosive Toxidrome, Ingestion](#) (PDF - 552 KB)
- [Irritant/Corrosive Toxidrome, Inhalation](#) (PDF - 573 KB)
- [Irritant/Corrosive Toxidrome, Topical](#) (PDF - 560 KB)
- [Knockdown Agent - Cellular Asphyxiant Toxidrome](#) (PDF - 566 KB)
- [Knockdown Agent - Simple Asphyxiant Toxidrome](#) (PDF - 594 KB)
- [Opioid Toxidrome](#) (PDF - 181 KB)
- [Stress-Response/Sympathomimetic Toxidrome](#) (PDF - 551 KB)

9.3 Telehealth & Regional Support

For MO HCC entities utilizing **Pulsara**, telehealth capabilities and electronic clinical support may be available to assist with real-time consultation and patient coordination.

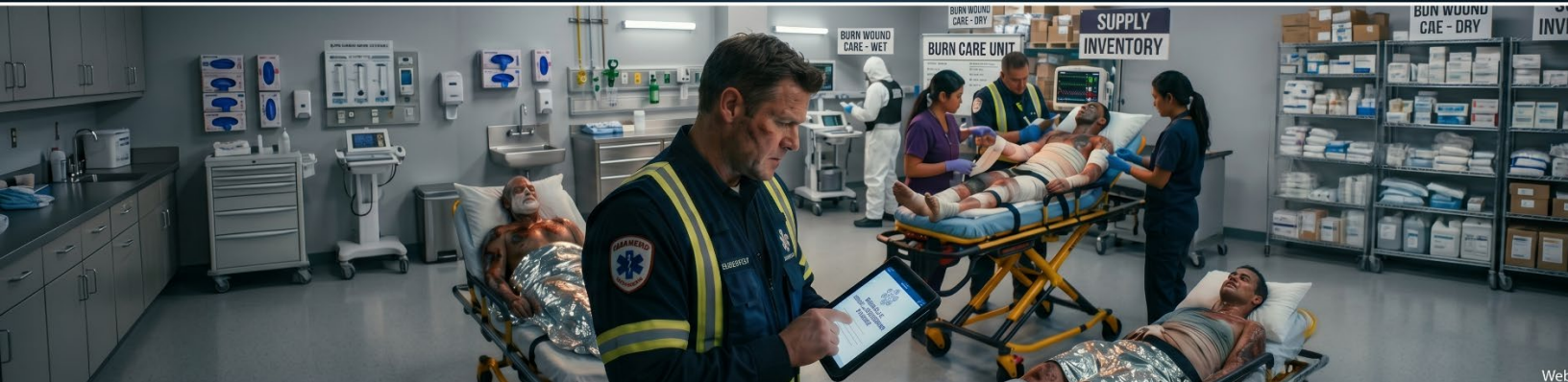
The RDHRE 7 maintains a [Chemical Response Team](#) that provides additional information, situational awareness resources and information on how to activate regional, state and federal response systems.

9.4 Demobilization and Recovery

Demobilization will occur at the direction of the leadership of the primarily impacted HCC entities. Demobilization of resources and entities should be recorded in all applicable eICS incidents as they leave the immediate response. Regional HCC leadership should update eICS event logs or other documentation with the date and time the resources are fully restocked and returned to a “ready to be deployed” status.



MASS CASUALTY BURN PLAN



Section 10: BURN ANNEX

To provide a cohesive framework for the MO HCC, this section addresses mass casualty burn care. For situational awareness, a burn incident query template is also available for use during a burn MCI at the local, regional, state or burn region level. The MO HCC will work towards completing a [HICS 206M – HCC Medical Plan](#) to promote a common operating picture and gain clarity of situational awareness.

The Midwest Burn Region will communicate and collaborate with burn centers in the region, state, impacted facilities and the MO HCC as needed and requested.

To support the large number of medications needed in a MCI incident, especially around burn care, a [Drug Shortage calculator and Planning tool](#) is available to assist in determining pharmaceutical sharing needs between NUMO HCC members.

10.1 Operations Medical Care

10.1.1 Triage / Tracking

While each member of the Healthcare Coalition has their own triage process and will utilize the policy and procedure adopted by their organization, typically the members utilize START and JUMP START Triage.

Casualty collection points both in the field and at the first receiver facility are encouraged. Patients should be triaged and/or re-triaged at the casualty collection points.

10.1.2 General Principles followed:

- Triage or re-triage all patients at field casualty collection points.
- Provide visual indicator of patients' triage status such as colored triage tape, triage bands, or triage tags.
- Keep minors and caregivers together whenever possible.
- A transport officer should be assigned at the casualty collection point to record and oversee transport to the appropriate initial hospital facility. The transport officer should maintain a [HICS 254 – Disaster Victim/Patient Tracking](#) Tool on the scene to support patient tracking.
- All patients should be triaged or re-triaged upon coming into the hospital casualty collection point or treatment area. Every effort should be made for patients with triage cards to keep their initial triage card with them to endpoint care (as defined in this circumstance as hospital admission or collected upon discharge). Patients not previously issued a triage tag should be provided with a triage tag and number at this time.
- Hospitals will provide a medical screening exam and care for burn patients within their own facilities protocols. Hospitals should provide a [HICS 259-Hospital Casualty / Fatality Report](#); Hourly for the first 4 hours of the MCI event, then every 2 hours for the initial 8- hour response window. HICS 259s should be completed every 4 hours throughout the remaining initial 24 hours. HICS 259 should be completed every 8 hours until all patients have been appropriately cared for based upon the resources available.
- A transport officer at the hospital should be assigned to record and oversee the movement of patients to other treatment sites or funeral homes. The transport officer should maintain a [HICS 255- Master Patient Evacuation Tracking](#) form to support patient tracking.

The healthcare coalition may, if requested, assist with patient tracking and family connection. MO HCC partnerships with the American Red Cross can be used to support notification and reunification of patients. HCCs may be particularly helpful in collating information from various facilities and supporting incident response through situational awareness.

The Healthcare Coalition should work towards completing an [ICS 209M Burn MCI Incident Status Summary](#) at the end of each operational period to share with relevant partners.

10.1.3 Treatment

Patient treatment protocols remain with the responding entity and entity providing patient care. Subject matter burn clinicians may be available through the HCC for consultation. Orders and clinical care remain the responsibility of the entity assuming primary patient care. To support just-in-time burn care, especially in non-burn facilities, quick reference sheets from the Western Region Burn Disaster Consortium and The Joint Trauma System Clinical Care Guidelines for Burns have been provided as links here and in Appendix B.

- [Initial Assessment and Management](#)
- [0-48 Hours](#)
- [48-96 Hours](#)
- [Transfer and Transport Guidelines](#)
- [Adult Injury Guidelines](#)
- [Pediatric Burn Injury Guidelines](#)
- [Joint Trauma System Clinical Care Guidelines for Burns](#)

Crisis Standards of Care / Austere Environment Burn Care

- [Guidelines for Burn Care Under Austere Conditions – Airway, Ventilator, Fluid Management](#)
- [Guideline for Burn Care Under Austere Conditions Special Care Topics – Pain, Nutrition](#)
- [Guidelines for Burn Care Under Austere Conditions – Wounds](#)
- [Guidelines for Burn Care Under Austere Conditions – Blast Injuries, Chemical Burns](#)

10.2 Transportation

Self-transport to the closest facility should be anticipated for individuals who are able to leave the scene of the incident.

EMS mutual aid will be immediately available, followed by the rostering of EMS strike teams from across the state and region. EMS coordination should be facilitated through the EMS Mutual Aid Coordinator and their established structure. EMS Mutual Aid Coordinators may utilize their own eICS incident to facilitate the management of EMS resources and share information to the HCC's eICS incident as appropriate.

To support the potentially significant pharmaceutical needs for burn patients over longer distances, an [EMS Drug Calculator Tool](#) is available to facilitate safer patient care.

10.5 Special Considerations

10.5.1 Mental Health

First responder mental health can be supported through fire department chaplains, crisis incident stress management teams, state mental health strike teams and other standing processes developed by each Health Care Coalition Member entity.

Mental Health patients impacted by the burn MCI event will receive care that is prioritized taking into account their most immediate needs and the resources available at the receiving facility, including mental health services and referral options for continued mental health care and support.

10.5.2 Pediatrics

Burn MCI events with a significant number of pediatric patients, as defined by being under the age of 18, will trigger an EMResource Pediatric Bed Availability Query to support additional pediatric burn surge spaces. A pediatric subject matter expert can be added to the command staff, should the situation warrant.

10.5.3 Combined Injuries

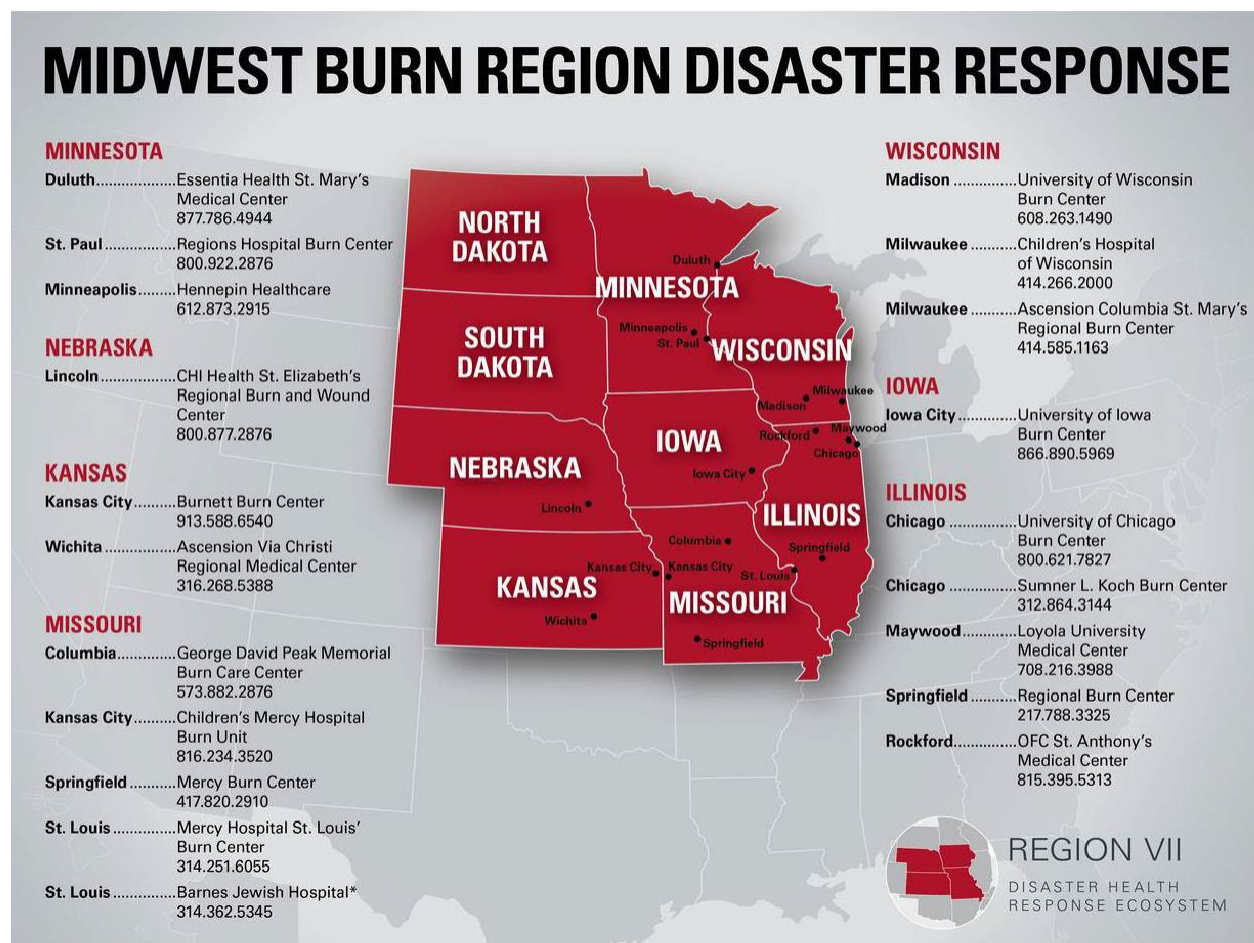
Combined injuries will be triaged and prioritized based upon resources and available beds. Every effort at stabilization and clinical care, both in the field and within hospital walls, is of primary importance. Communication and coordination of needed resources via eICS by all health care coalition members is encouraged to facilitate an appropriate response to the incident. MHA MO Healthcare Coalition liaisons will coordinate with other health care coalitions in Missouri, ESF support functions as they are activated with the state, and regional disaster response partners.

10.6 Demobilization and Recovery

Demobilization will occur at the direction of the leadership of the primarily impacted HCC entities. Demobilization of resources and entities should be recorded in all applicable eICS incidents as they leave the immediate response. Regional HCC leadership should update eICS event logs or other documentation with the date and time the resources are fully restocked and returned to a “ready to be deployed” status.

The Nonurban HCC will provide an opportunity for debriefing and collection of lessons learned to include in their respective HCC After Action Report (AAR) of the incident within 90 days of the initial event.

Burn Care Referral and Care Resources



Emergency Hotline Numbers

- 24/7 American Burn Association Disaster Response Contact: (301) 461-2442
- **Midwest Region:** *Regions Hospital Burn Center, MN* (800) 922-2876

10.7 Clinical Management Resources

- [Initial Assessment and Management](#)
- [0-48 Hours](#)
- [48-96 Hours](#)
- [Transfer and Transport Guidelines](#)
- [Adult Injury Guidelines](#)
- [Pediatric Burn Injury Guidelines](#)
- [Joint Trauma System Clinical Care Guidelines for Burns](#)
- [Guidelines for Burn Care Under Austere Conditions – Airway, Ventilator, Fluid Management](#)
- [Guideline for Burn Care Under Austere Conditions Special Care Topics – Pain, Nutrition](#)
- [Guidelines for Burn Care Under Austere Conditions – Wounds](#)
- [Guidelines for Burn Care Under Austere Conditions – Blast Injuries, chemical burns](#)

10.7 Resources

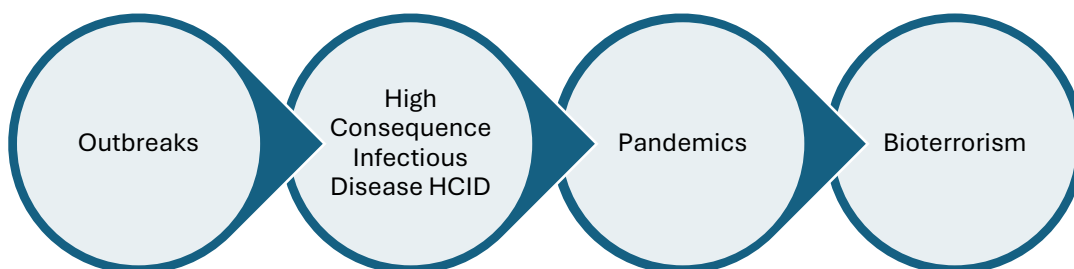


Section 11: INFECTIOUS DISEASES ANNEX

To provide a cohesive framework for the MO HCC, this section addresses four categories of infectious threats that, while sharing common response elements like personal protective equipment (PPE) and information sharing, require distinct operational strategies.

The Annex is structured to move from routine, localized events toward high-consequence or intentional threats, ensuring that members can scale their response based on the severity and origin of the pathogen.

The Four Pillars of the Infectious Disease Annex



1. Outbreaks

Outbreaks represent the baseline of infectious disease concern, typically involving a localized increase in cases of a known illness within a specific facility or community.

- **Operational Focus:** The primary goals are early detection through Sentinel Laboratories, rapid reporting to the Missouri Department of Health and Senior Services (DHSS), and regional situational awareness.
- **Coordination:** Local control remains paramount, with the HCC facilitating communication and sharing best practices among impacted members.

2. Pandemics

A pandemic involves the sustained, widespread transmission of an infectious disease across a large geographic area, often involving a novel or significantly mutated pathogen.

- **Operational Focus:** The response shifts toward Crisis Standards of Care and large-scale Surge Staffing strategies.
- **Coordination:** The HCC utilizes Non-Pharmaceutical Interventions (NPIs) and manages regional supply chains to address widespread shortages of critical resources like PPE.

3. Highly Hazardous Infectious Disease (HHID)

These are "High Consequence" pathogens—such as Ebola or Marburg—that possess high lethality and require extraordinary isolation and specialized transport protocols.

- **Operational Focus:** Emphasis is placed on the "Identify, Isolate, and Inform" workflow, utilizing specialized Level 2 National Special Pathogen System (NSPS) facilities for definitive care.
- **Coordination:** Response involves pediatric-capable, highly trained EMS teams and active monitoring of at-risk individuals by local public health agencies.

4. Bioterrorism

Bioterrorism involves the intentional release of biological agents (e.g., Anthrax, Ricin, or Botulism) to cause illness, death, or social disruption.

- **Operational Focus:** All hospitals with emergency departments act as First Receivers for CBRNE incidents. Initial detection often involves Field Testing by Fire/EMS Hazardous Materials teams.
- **Coordination:** This pillar requires deep integration with law enforcement (FBI), SEMA, and the Missouri National Guard's 7th CST for technical expertise and evidence preservation.

11.1 Concept of Operations

11.1.1 Surveillance

Each region of the MO HCC should request participation from their state Epidemiologist at their regularly scheduled meeting. HCC members who are experiencing outbreaks will be encouraged to provide awareness level information to other coalition members. Clinical SMEs will be tasked with monitoring for local, state, national and international outbreaks or concerns. Security SMEs and / or HAZMAT SMEs will be tasked with providing awareness of risks and events related to biological terrorism or attack. Platforms such as ESSENCE data will be utilized as available and appropriate.

11.1.2 Safety and Infection Control and Prevention

Maintaining partnerships with organizations such as ASHRE and MOSHE are of profound importance as all efforts to maintain life safety codes are crucial to the implementation of a sustainable response. In addition, these SMEs are able to inform and relay best practices and techniques related to engineering barriers and environmental controls. The nonurban HCC will continue to cultivate and maintain these relationships and provide training and education to members as appropriate.

11.1.3 Non-Pharmaceutical Interventions

Non-Pharmaceutical interventions, or NPIs, will center primarily around coordinated communication within all HCC partners. Established educational materials from the CDC will be used initially.

Personal, community and environmental NPIs will be preidentified and education as to their effectiveness communicated to HCC partners. PIOs will be cultivated to provide leadership and support appropriate sourcing of needed materials specific to the occurrence.

11.1.4 Surge Staffing

While mutual aid is a key component to addressing surge staffing needs, each member entity is encouraged to develop policies and procedures around the rapid onboarding of additional staff members and volunteers. [Healthcare Facility Onboarding Checklist](#) [Strategies for Managing a Surge in Healthcare Provider Demand](#)

11.5.5 Supply Chain, Supplies, Personal Protective Equipment (PPE)

Supply chain awareness and PPE supply needs can be communicated and filled within the HCC if the resources are available. General guidance to address shortages including crisis Standards of care will be communicated and status shared among HCC partners.

11.5.6 Deactivation and Recovery

When the need for coalition response has ended, all coalition members should be notified that the incident has ended through EMResource and eICS, or through another appropriate communication channel. If a coalition activated, the HCC may choose to move to an advisory or alert before completely ending the event as there may be a need for additional monitoring. The HCC should conduct an After Action Process and should revise any necessary plans.

As the healthcare coalition starts planning for termination and demobilization of coordination personnel and assets, a detailed assessment of communications needs, resources and limitations should be performed by a coalition member. These recommendations should be included in the incident command objectives, and timelines

for demobilization of MHA resources and mutual aid personnel should be maintained or released consistent with the best support for the incident.

11.2 OUTBREAKS

The management of infectious disease outbreaks within a healthcare system requires an intricate orchestration of clinical, logistical, and administrative resources. While high-consequence infectious diseases—such as Ebola virus disease or other viral hemorrhagic fevers—often dominate emergency preparedness planning due to their extreme mortality rates, non-high consequence infectious diseases frequently present a more pervasive and sustained operational threat to the healthcare infrastructure. Pathogens such as measles, mumps, pertussis, hepatitis A, and varicella, while possessing lower case-fatality rates in general populations, exhibit high transmissibility. They necessitate massive, resource-intensive contact tracing, environmental remediation, and medical countermeasure (MCM) distribution efforts that rapidly deplete local capacities. The burden of managing these outbreaks falls heavily upon an interdependent network of acute care hospitals, EMS, LPHAs, and long-term care (LTC) facilities.

The MO HCC supports communication, coordination and collaboration during these outbreaks as requested by MO HCC membership supporting ESF-8 activities. The MO HCC does not replace individual facility emergency operations plans, nor does it usurp the statutory authority of the Missouri Department of Health and Senior Services (DHSS) or local public health officers, who maintain the legal authority for quarantine and isolation under Missouri state law. The coalition acts as the vital connective tissue between clinical and public health sectors, brokering resources, standardizing situational awareness, and harmonizing the response to prevent systemic collapse when routine healthcare capacities are overwhelmed.

11.2.1 Disease Profiles, Transmission Dynamics, and Medical Countermeasures

To effectively coordinate a response, the MO HCC maintain a nuanced understanding of the specific pathogens that threaten the community. Non-high consequence infectious diseases generally refer to agents that are easily transmitted, frequently vaccine-preventable, and possess lower mortality in healthy adults, but which nonetheless require aggressive public health interventions to prevent community-wide transmission. The distribution and administration of medical countermeasures—primarily vaccines and prophylactic therapeutics—are central to mitigating these outbreaks.

Measles (Rubeola)

Measles is one of the most highly contagious airborne viruses known to humanity, with a basic reproduction number that makes it a persistent threat to under-vaccinated populations. The transmission dynamics of measles present severe challenges for healthcare facilities, as the virus can remain infectious in the air and on surfaces for up to two hours after an infected individual has vacated a shared airspace. This characteristic

means that a single undiagnosed measles patient in a hospital emergency department waiting room can expose dozens of patients, visitors, and healthcare personnel (HCP) before the index case is even isolated. In 2018, the state of Missouri experienced a notable measles outbreak with cases linked to international travel, highlighting the ongoing vulnerability of regional populations to imported pathogens.

The primary medical countermeasure for measles is the Measles, Mumps, and Rubella (MMR) vaccine. During an outbreak, the administration of the MMR vaccine acts as both a prophylactic measure for the unexposed and an effective post-exposure prophylaxis if administered within 72 hours of initial contact. In healthcare settings, robust infection prevention protocols dictate that exposed patients without presumptive evidence of immunity must be placed on Airborne Precautions from the fifth day following their first exposure through the twenty-first day after their last exposure.

The operational impact on healthcare staffing is profound: healthcare personnel lacking immunity who are exposed to measles must be excluded from the workplace during this identical 5-to-21-day window, regardless of whether they subsequently receive post-exposure prophylaxis. This prolonged exclusion period can decimate a facility's workforce, requiring the HCC to support emergency staffing solutions.

Mumps

Mumps is an acute viral disease characterized by fever, headache, muscle ache, and the hallmark swelling of the parotid salivary glands. Transmission occurs primarily through respiratory droplets and direct contact with infected saliva. While hospitalizations and deaths are exceedingly rare, the operational disruption caused by mumps outbreaks is significant, particularly in congregate settings such as university campuses, schools, and long-term care facilities. The 2016-2017 mumps outbreak at the University of Missouri, which resulted in over 193 cases among the student population, underscores a complex epidemiological challenge: the occurrence of expansive outbreaks in highly vaccinated populations.

The standard medical countermeasure for mumps is the MMR vaccine. However, the phenomenon of waning immunity necessitates the potential administration of a third, booster dose of the MMR vaccine during prolonged or severe outbreaks to control transmission among individuals who previously received the standard two-dose regimen. Because standard outbreak control measures for vaccine-preventable diseases are less effective when the majority of cases occur in fully vaccinated individuals, public health officials must rely heavily on rapid isolation and extensive contact tracing to break chains of transmission, placing a heavy burden on LPHA resources.

Pertussis (Whooping Cough)

Pertussis is a highly contagious respiratory tract infection caused by the bacterium *Bordetella pertussis*. It poses a particularly severe threat to infants and individuals with pre-existing cardiopulmonary conditions. Transmission occurs through aerosolized

respiratory droplets. The medical countermeasures for pertussis differ from viral pathogens, relying on antibiotic therapies (such as azithromycin, clarithromycin, or erythromycin) for both acute treatment and post-exposure prophylaxis.

The management of healthcare personnel exposed to pertussis requires precise occupational health protocols. For asymptomatic HCP who have been exposed, post-exposure antimicrobial prophylaxis is heavily recommended. If HCP interact with patients at high risk for severe pertussis and decline prophylaxis, they must be restricted from contact with those high-risk populations (furloughed or reassigned) for 21 days following their last exposure. Symptomatic personnel with known or suspected pertussis must be excluded from the workplace for 21 days from the onset of the cough, or until they have completed five days of appropriate antimicrobial therapy.

Hepatitis A

The Hepatitis A virus (HAV) causes an acute inflammation of the liver. Unlike bloodborne hepatitis strains, HAV is transmitted primarily through the fecal-oral route, frequently via the ingestion of contaminated food or water, or through direct contact with an infectious person. Outbreaks are often linked to poor sanitation, contaminated food handling, or transmission within specific at-risk populations. The incubation period is typically around 28 days, leading to clinical manifestations such as jaundice, dark urine, and profound fatigue.

Medical countermeasures for Hepatitis A include the Hepatitis A vaccine and human normal immunoglobulin (HNIG). Pre-exposure vaccination is the most effective preventive strategy, while post-exposure prophylaxis with the vaccine or immunoglobulin (depending on the age and health status of the exposed individual) is highly effective if administered within two weeks of exposure. Contact tracing efforts for HAV focus heavily on identifying whether the infected individual is employed in a sensitive occupation, such as food service, childcare, or healthcare. Because of the long incubation period and the potential for explosive outbreaks originating from a single food handler, the epidemiological investigation requirements for LPHAs during a Hepatitis A event are exceptionally demanding.

Varicella (Chickenpox)

Varicella is an acute infectious disease caused by the varicella-zoster virus, characterized by a pruritic vesicular rash. Transmission occurs via airborne droplets and direct contact with lesion aerosolization. The varicella vaccine serves as the primary medical countermeasure.

During a varicella outbreak in congregate settings like schools or long-term care facilities, the Advisory Committee on Immunization Practices (ACIP) recommends that individuals who have received only one dose of the vaccine receive a second dose for outbreak control. Exposed, non-immune individuals are typically excluded from congregate settings until the incubation period has passed or all active lesions have crusted over, necessitating strict

attendance management by school nurses and facility administrators.

Pathogen	Transmission Route	Primary Clinical Presentation	Primary Medical Countermeasures (MCMs)	Operational Impact & Infection Control
Measles	Airborne (viable up to 2 hours in airspace)	Maculopapular rash, fever, coryza	MMR Vaccine (Prophylaxis/PEP)	Airborne Infection Isolation Rooms (AIIR) required. Non-immune staff exclusion for Days 5-21.
Mumps	Droplet, direct contact	Parotitis, fever, myalgia	MMR Vaccine (Potential 3rd dose)	Droplet precautions. Highly disruptive in congregate settings due to waning immunity.
Pertussis	Droplet	Paroxysmal cough	Antibiotics (Treatment & PEP)	Droplet precautions. 21-day staff restrictions required without antibiotic PEP.
Hepatitis A	Fecal-oral	Jaundice, fatigue, dark urine	Hep A Vaccine, Immunoglobulin	Contact precautions. Immense contact tracing burden for food handlers and HCP.
Varicella	Airborne, direct contact	Vesicular rash	Varicella Vaccine (Treatment/PEP)	Airborne and Contact precautions. Exclusion until lesions crust over.

11.2.2 Sector-Specific HCC Support

To optimize resilience during an infectious disease outbreak, the HCC tailors its support strategies to the unique vulnerabilities and operational requirements of its members.

Acute Care Hospitals

Hospitals serve as the primary nodes for acute medical intervention and triage during an outbreak. Their most significant vulnerabilities involve sudden surges in patient volume, the rapid depletion of specific personal protective equipment (PPE), limitations in Airborne Infection Isolation Rooms (AIIRs), and the sudden loss of healthcare personnel due to exposure exclusions (e.g., the 21-day furlough for non-immune measles exposures).

The HCC's mechanism for supporting hospitals is the facilitation of robust, real-time information sharing. During a measles outbreak, a critical shortage of AIIRs may rapidly develop in community hospitals. The HCC utilizes platforms such as EMResource to continuously monitor the status of negative pressure rooms across the region. If a primary facility reaches capacity, the HCC supports the transfer of infectious patients to alternate facilities with available AIIRs, through quarries in EMResource.

The MO HCC can provide supply chain shortage support and work with stakeholders and partners for situational awareness, best practices, and the sharing of stockpiles through agreements and MOUs.

The HCC also plays a vital role in clinical knowledge transfer. Because non-high consequence diseases like measles or mumps may be infrequently encountered by frontline clinicians in the post-elimination era, the prompt identification and isolation of the index case are frequently delayed. The HCC disseminates standardized clinical screening algorithms and facilitates Just-In-Time (JIT) training resources. Evidence indicates that delivering urgent JIT training to interprofessional teams significantly increases compliance with new infectious disease workflow protocols and reduces healthcare worker exposure rates.

Local Public Health Agencies (LPHAs)

Local Public Health Agencies bear the statutory responsibility for epidemiological surveillance, disease investigation, quarantine enforcement, and contact tracing. During outbreaks of highly transmissible diseases like measles or hepatitis A, the sheer volume of exposures frequently leads to catastrophic capacity exhaustion within LPHAs. Tracing every individual who occupied a hospital waiting room during the two hours following a measles patient's departure, or tracking down every patron of a restaurant where a Hepatitis A-positive food handler worked, requires an exponential expenditure of labor hours.

The HCC can support LPHAs by augmenting their workforce and streamlining data acquisition through collaboration on data collection and supporting the potential use of Medical Reserve Corp volunteers.

The HCC also addresses the systemic friction of data sharing between clinical entities and

public health investigators. The HCC supports through awareness and collaboration, that LPHAs receive near real-time intelligence regarding suspected cases and potentially exposed individuals, drastically reducing the lag time between clinical suspicion and public health intervention. In addition, the HCC supports and encourages LPHAs to provide early awareness of outbreaks, risks and the use of alerting mechanisms to reduce the spread of the outbreak and support frontline worker safety.

Community-based Testing

Community-based testing can be supported through the HCC. Situational awareness, best practices should be shared as a part of the coalition briefing schedule. A recommended practice is to identify community-based testing sites on the regional eICS incident and update statuses as they are known in a routine cadence. Community testing will be led by the state health lab and DHSS as appropriate for organism and outbreak. HCC are encouraged to facilitate and support testing as they have capacity, training and expertise. A coalition best practice would be to create Just in Time Training templates for testing procedures specific to common venues and modalities in the region

Long-Term Care (LTC) Facilities

Long-term care facilities, including skilled nursing facilities and assisted living centers, represent arguably the most vulnerable sector within the healthcare continuum. The congregate living environment, combined with the advanced age and frequent immunocompromise of the residents, creates a fertile environment for explosive outbreaks. For LTCs, even non-high consequence pathogens like norovirus or seasonal influenza can yield devastating morbidity and mortality rates.

The HCC's support strategy for LTCs centers on proactive infection prevention and control and rapid response augmentation. The Centers for Medicare and Medicaid Services (CMS) mandates that every nursing facility employ a specially trained Infection Preventionist (IP). However, high turnover rates and resource constraints frequently leave LTCs without specialized IPC expertise. The HCC bridges this gap by connecting them with situational awareness, JIT education and a community to support their internal response efforts. Furthermore, the HCC connects LTCs with entities like Missouri's Quality Improvement Program for Missouri (QIPMO), these teams provide voluntary, non-regulatory, consultative visits to evaluate facility IPC practices, assess ventilation protocols, and optimize PPE usage before an outbreak occurs.

When an outbreak does manifest within an LTC, the evidence strongly suggests that symptom-based screening alone is fundamentally inadequate for controlling transmission; serial testing of both residents and staff is required to identify asymptomatic vectors. The HCC may assist LTCs in procuring the necessary testing modalities, or by coordinating community-based testing support via the state public health laboratory.

Should an LTC experience a critical staffing collapse due to illness or exposure exclusions, the HCC elevates the resource request to the state level, facilitating the deployment of emergency staffing strike teams or assisting in the safe transfer of uninfected residents to alternate facilities to prevent catastrophic care failures.

Emergency Medical Services (EMS)

Emergency Medical Services operate at the critical intersection of public health and acute care, serving as the primary conduit for patient transport. During an infectious disease outbreak, EMS agencies face profound risks of occupational exposure due to the uncontrolled environments in which they operate and the confined airspace of an ambulance cabin, which exacerbates the risk of airborne pathogens like measles and varicella.

The HCC's primary support mechanism for EMS involves awareness and information sharing. The HCC promotes the adoption of comprehensive infectious disease transport playbooks, ensuring that all EMS agencies have access to algorithms for pre-arrival dispatch screening, the selection of appropriate PPE ensembles based on the biological threat, and post-transport vehicle decontamination procedures.

11.2.3 Information Systems and Technological Interoperability

The efficacy of the Missouri HCC is entirely dependent upon the velocity, accuracy, and interoperability of the information it curates. During an outbreak, fragmented data streams lead to duplicated efforts, the misallocation of resources, and systemic inefficiencies. To combat this, the HCC relies on a tightly integrated suite of technological platforms to maintain a common operating picture across all member organizations and state agencies.

Information Sharing Platform	Primary Function	HCC Operational Utility During Outbreaks
EMResource	Real-time resource tracking and bed availability	Monitoring AIIR capacity, tracking ICU bed availability, and identifying PPE shortages across the regional hospital and LTC network.
eICS (Electronic Incident Command System)	Incident management and situational awareness	Creating event-specific virtual incidents to log status updates, track EMS strike team deployments, and share community testing site locations.
MO-HNS (Missouri Health Notification System)	Secure alerting and communication	Facilitating rapid, 24/7/365 emergency alerting between DHSS, LPHAs, clinics, and hospitals regarding emergent epidemiological threats.
WebEOC	Emergency operations center collaboration	Managing mission assignments, tracking

		resource requests, and distributing Incident Action Plans (IAPs) to emergency managers and state agencies.
Show-Me Response	Volunteer management and credentialing	Activating and tracking Medical Reserve Corps (MRC) personnel and Disaster Medical Assistance Teams (MO DMAT-1) for surge staffing.
Pulsara	HIPPA compliant, Pt specific communication and information sharing.	TBD

10.2.4 Unified Crisis Communications and the Joint Information Center (JIC)

The MO HCC strongly advocates for the establishment of a virtual Joint Information Center (JIC) during the earliest phases of the response. The JIC serves as the centralized nerve center for all crisis communications, consolidating public information officers (PIOs) from hospitals, LPHAs, emergency management agencies, and state health departments into a single, cohesive unit. This facilitates communicators from competing hospital systems, EMS, LPHAs and LTC entities sit at the same table to coordinate their narrative output.

The primary function of the JIC is the synthesis and dissemination of unified messaging. The MO HCC can assist in developing pre-scripted message templates and comprehensive communication toolkits tailored to specific diseases. During a measles outbreak, for example, toolkits containing fact sheets, social media graphics, and standardized public service announcement scripts may be distributed across the coalition membership. This ensures that even the smallest rural clinic or independent long-term care facility possesses the sophisticated resources necessary to communicate effectively with its patient population. The JIC also coordinates the timing of informational briefings, ensuring that internal stakeholders (physicians, nurses, facility administrators) receive critical clinical intelligence prior to the public release of that information, thereby maintaining the credibility of the healthcare workforce as the primary trusted communicators within the community.

11.3 PANDEMIC RESPONSE

Unlike localized outbreaks, a pandemic involves the sustained, widespread transmission of an infectious disease across a large geographic area, typically involving a novel or significantly mutated pathogen. Pandemics present a "Slow Onset" medical surge (as detailed in Section 7), characterized by a gradual but persistent increase in patient volume that ultimately threatens to overwhelm the healthcare system over a period of weeks to

months.

Pathogen	Transmission Route	Primary Clinical Presentation	Primary Medical Countermeasures (MCMs)	Operational Impact & Infection Control
Novel Influenza A <i>(e.g., Pandemic H1N1, Avian H5N1, H7N9)</i>	Droplet, airborne (during aerosol-generating procedures), and direct/fomite contact.	Fever, profound myalgia, severe pneumonia, and rapid progression to Acute Respiratory Distress Syndrome (ARDS).	Antiviral therapies (e.g., Oseltamivir, Baloxavir). Strain-specific pandemic vaccines (often requiring rapid deployment via the Strategic National Stockpile).	Droplet/Airborne Precautions. Rapid depletion of mechanical ventilators, oxygen supplies, and critical care beds. Demands massive public health coordination for rapid mass-vaccination campaigns (Points of Dispensing).
Novel Coronaviruses <i>(e.g., SARS-CoV, SARS-CoV-2)</i>	Airborne (aerosolized particles), droplet, and contact. High incidence of asymptomatic transmission.	Respiratory failure, systemic inflammation, coagulopathy, and multi-organ dysfunction.	Oral and intravenous antivirals (e.g., Paxlovid, Remdesivir). Targeted monoclonal antibodies. Novel vaccine platforms (mRNA, viral vector).	Airborne and Contact Precautions. Prolonged ICU lengths of stay severely strain conventional capacity. Triggers widespread supply chain disruptions for PPE (N95 respirators) and forces prolonged implementation of Contingency and Crisis capacity strategies.
Emerging Paramyxoviruses <i>(e.g., Nipah Virus)</i>	Direct contact with infected animals/secretions, droplet, and documented human-to-human transmission.	Acute severe respiratory infection rapidly progressing to fatal encephalitis and coma.	No licensed vaccines or specific FDA-approved therapeutics. Reliance entirely on intensive supportive care and investigational monoclonal antibodies.	Airborne and Contact Precautions. Requires strict isolation and intensive neurological/respiratory support. High case-fatality rates place extraordinary psychological and occupational health strains on frontline healthcare personnel.

Highly Pathogenic Avian Influenza (HPAI) <i>(e.g., A/H5N1)</i>	Direct contact with infected animals (poultry, dairy cattle, wildlife) or contaminated fluids/environments (e.g., unpasteurized milk). Human-to-human transmission is currently rare but represents a critical mutation risk.	Broad spectrum ranging from mild (conjunctivitis, upper respiratory symptoms) to severe (rapid-onset viral pneumonia, Acute Respiratory Distress Syndrome, and multi-organ failure).	FDA-approved antivirals (e.g., Oseltamivir) for acute treatment and Post-Exposure Prophylaxis (PEP). Federal stockpiles of pre-pandemic H5 vaccines and candidate vaccine viruses (CVVs) ready for rapid scaling.	Standard, Contact, and Airborne Precautions. Requires rigorous symptom monitoring and PPE enforcement for high-risk agricultural/dairy workers. LPHAs face a heavy burden tracking cross-species exposures, requiring hospitals to maintain aggressive triage protocols to identify recent zoonotic exposure history.
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During a pandemic, the MO HCC pivots its operational focus toward managing severe, prolonged resource scarcity, supporting facilities through their individual altered standards of care, and maintaining regional situational awareness as widespread shortages of staff, space, and supplies (PPE, ventilators, pharmaceuticals) materialize.

11.3.1 Operational Focus: The Minimum-Better-Best (MBB) Framework

As resources become exhausted during a prolonged pandemic wave, the MO HCC supports its member organizations in transitioning through the Minimum-Better-Best (MBB) framework. Rather than defaulting to the traditional, often stigmatized "Crisis Standards of Care," the MO HCC facilitates coordination based on this proactive model:

- **Best (Optimal/Conventional):** Standard operations and protocols are maintained. The HCC monitors early epidemiological indicators and supply chain stability.
- **Better (Stressed/Contingency):** Surges force adaptations (e.g., increased nurse-to-patient ratios, conversion of non-clinical spaces into patient care zones). The HCC actively brokers mutual aid and balances patient loads across the region.
- **Minimum (Scarce/Crisis):** Severe scarcity dictates that care standard modifications are required to save the greatest number of lives. The HCC serves as the critical node for scarce resource adjudication and state-level escalation.

11.3.2 Sector-Specific HCC Support and Actions

The MO HCC facilitates specialized support across all ESF-8 partners, ensuring that each sector maintains operational continuity.

Acute Care Hospitals & Clinics

Hospitals bear the brunt of the clinical surge. Their primary vulnerabilities involve the

rapid depletion of Airborne Infection Isolation Rooms (AIIRs), critical care beds, and healthy staff.

- **HCC Action:** The Coalition utilizes EMResource to continuously monitor and share bed capacity, operational statuses, and specific resource scarcities. The HCC coordinates virtual convening via eICS to allow hospital clinical leadership to share rapidly evolving treatment protocols, triage strategies, and strategies for cohorting infectious patients.
- **Pediatric Considerations:** Pediatrics are seen across all hospital ED departments and during surges, including pandemics, pediatric patients may need to be cared for in adult facilities or be held longer in the ED until bed placement is available. The MO HCC will work to coordinate and share training, resources and pediatric SME support. The MO HCC encourages hospitals to maintain pediatric readiness.

Long-Term Care (LTC) Facilities

LTCs represent the most vulnerable population centers during a pandemic. A failure in LTC infection control directly correlates to an immediate, overwhelming surge at local hospitals.

- **HCC Action:** The MO HCC prioritizes keeping LTC residents safely in place whenever clinically appropriate by facilitating access to emergency PPE supply chains and coordinating with entities like QIPMO for urgent infection prevention consultations. If an LTC experiences a critical staffing collapse, the HCC assists in escalating requests to prevent forced facility evacuations.

Local Public Health Agencies (LPHAs)

LPHAs manage the massive burden of community-wide Non-Pharmaceutical Interventions (NPIs), epidemiological tracking, and eventually, mass vaccination or prophylaxis campaigns.

- **HCC Action:** The Coalition serves as the centralized bridge between the clinical data generated by hospitals and the surveillance needs of LPHAs. The HCC supports LPHAs by coordinating messaging through a virtual Joint Information Center, ensuring the public receives unified guidance on community testing sites, quarantine protocols, and vaccination distribution.

The HCC may also support mass testing, treatment or POD sites as the need arises.

Emergency Medical Services (EMS)

EMS agencies face sustained operational tempos, dangerous occupational exposure risks, and extended turnaround times at overwhelmed hospital emergency departments.

- **HCC Action:** The HCC supports EMS by sharing standardized dispatch screening algorithms and modified transport protocols. To streamline patient handoffs and reduce ED bottlenecks, the HCC encourages the region-wide use of Pulsara for

pre-arrival notifications and secure, real-time telehealth consultations between EMS in the field and receiving facilities.

11.3.3 Coalition Information Management and Coordination

During a pandemic, the MO HCC operates as a virtual Emergency Operations Center to maintain the Common Operating Picture (COP).

- **Command and Control (eICS):** The MO HCC will activate a prolonged eICS incident to manage all tactical objectives, track resource requests and maintain the Master Activity Log. Routine, virtual situational briefings will be scheduled and announced through this platform.
- **Situational Awareness (EMResource):** Facilities are asked to maintain strict adherence to the Data Reporting & Frequency Matrix. Tracking the specific operational impact of the pathogen is vital for anticipating regional failure points before they occur.
- **Logistics and State Integration (WebEOC):** The MO HCC transitions logistical and non-medical support requests to the State Emergency Management Agency (SEMA) via the WebEOC bridge, ensuring local needs are visible at the state ESF-8 desk.

11.3.4 Resources

11.4 HCID

High Consequence Infectious Diseases (HCIDs), such as Viral Hemorrhagic Fevers, are characterized by high lethality and require extraordinary isolation measures. While they typically involve a smaller number of patients compared to a respiratory pandemic, the operational burden per patient is immense. The following table outlines primary HCID threats and their operational impacts on the MO HCC.

Pathogen	Transmission Route	Primary Clinical Presentation	Primary Medical Countermeasures (MCMs)	Operational Impact & Infection Control
Ebola Virus Disease (EVD)	Direct contact with blood/body fluids of a symptomatic or deceased person, contaminated objects, or infected animals.	Fever, severe headache, muscle pain, weakness, diarrhea, vomiting, and unexplained hemorrhage. Estimated 50-80% lethal.	Licensed Ervebo vaccine . FDA-approved monoclonal antibodies (e.g., Inmazeb, Ebanga). Intensive supportive treatment.	Strict Contact and Droplet Precautions (High-Level Isolation). Requires specialized Level 2 National Special Pathogen System (NSPS) facilities. Mandates specialized EMS

				transport with dedicated PPE caches.
Marburg Virus Disease (MVD)	Direct contact with blood/body fluids of infected persons or animals (e.g., Rousettus bats).	High fever, severe headache, severe malaise, rapid onset of severe watery diarrhea, abdominal cramping, and severe hemorrhagic manifestations. >25% lethal.	No licensed vaccine . Supportive treatment only. Investigational therapeutics under emergency use.	Strict Contact and Droplet Precautions (High-Level Isolation). Requires the exact same Level 2 NSPS escalation and specialty EMS transport coordination as Ebola. High burden on LPHAs for direct active monitoring of contacts.
Lassa Fever	Ingestion or inhalation of aerosolized urine/feces of infected <i>Mastomys</i> rats; human-to-human via direct contact with blood/body fluids.	Gradual onset with fever, general weakness. Can progress to facial swelling, fluid in the lung cavity, and bleeding from mucosal surfaces.	No licensed vaccine. Antiviral Ribavirin (off-label use). Aggressive supportive care.	Contact and Droplet Precautions. Requires robust LPHA tracking due to varying incubation periods (2-21 days). Frontline facilities must maintain strict adherence to isolation protocols while awaiting specialized transport.
Crimean-Congo Hemorrhagic Fever (CCHF)	Tick bites (<i>Hyalomma</i> ticks) or direct contact with infected animal blood/tissues during/immediately after slaughter; human-to-human via close contact with blood or secretions.	Sudden onset of fever, myalgia, dizziness, neck stiffness, backache, and photophobia. Followed by confusion, petechiae, and severe bleeding.	No widely approved human vaccine. Antiviral Ribavirin has shown some efficacy. General supportive care.	Contact and Droplet Precautions. Requires deep coordination between clinical entities, LPHAs, and agricultural sectors if the disease is locally acquired via tick vectors. Extreme caution is required during phlebotomy and line placements.

11.4.1 Planning Assumptions for HCID

- All frontline healthcare facilities, including any facility equipped for emergency care, such as hospital-based emergency departments and other emergency care settings including urgent care clinics and critical access hospitals, will maintain procedures to quickly identify and isolate patients with possible infectious disease. This includes maintaining adequate personal protective equipment (PPE) compatible with patient care for at least 24 hours.
- Some healthcare systems within the state may elect to transport a PUI to another hospital within their healthcare system prior to a decision to transport to the state-designated assessment hospital or while awaiting transport to the state-designated assessment hospital (should one be designated), due to capacities at frontline healthcare facilities within the healthcare system.
- For the MO HCC Barnes Jewish Hospital and the University of Kansas hospital system have self identified as potential Level 2 National Special Pathogen System, or NSPS, facilities to provide patient care and support. DHSS will coordinate resources and communications through EMResource and eICS, as well as telephonic communication.
- All individuals involved in the planning or actual movement of the patient will have the ability to stop the process should they perceive a safety concern without fear of punishment or personnel action. Any such decision must be immediately reported and discussed with appropriate organizational or facility hierarchy, public health and healthcare systems partners and DHSS to assure responder safety/health, as well as continued and appropriate patient care.
- Persons reported with nationally defined risk factors for High Consequence Infectious Disease, or HCID, ideally will be under active or direct active monitoring by a local public health agency (LPHA) which is routinely communicating a providing updates to DHSS.
- Persons with reported risk factors for HCID who develop consistent signs or symptoms for the disease will be designated a Person Under Investigation (PUI).
- The LPHA will assure the patient is informed they should not self-refer to the assessment hospital nor a frontline healthcare facility, but coordinate a decision to seek patient care through the monitoring LPHA.
- Should a PUI determine to seek patient care, the LPHA will appropriately notify the regional healthcare coalition and respective frontline healthcare facilities, as appropriate.

- It is recognized that not every patient will be compliant with this request, thus all partners should recognize that a PUI may present to the hospital for assessment and/or treatment via the emergency department, ambulatory clinic, at/or through the state or local public health department.
- All frontline healthcare facilities, including any facility equipped for emergency care, such as hospital-based emergency departments and other emergency care settings including urgent care clinics and critical access hospitals, shall maintain procedures to quickly identify and isolate patients with possible Ebola or another highly infectious disease. This shall include maintaining adequate personal protective equipment (PPE) compatible with caring for a patient with highly infectious disease for at least 24 hours.
- PPE caches consistent with the care of EVD PUIs have been placed with select, specialty care transport agencies which have volunteered to provide transport to PUIs.
- Some healthcare systems within the state may elect to transport a PUI to another hospital within their healthcare system prior to a decision to transport to the state- designated assessment hospital or while awaiting transport to the state-designated assessment hospital, due to capacities at frontline healthcare facilities within the healthcare system.
- Highly infectious Disease planning addresses a relatively small number of infectious patients. Crisis Standards of Care and Pandemic Plans will be leaned upon should a larger incident present itself.

11.4.2 Sector-Specific HCC Support and Actions for HCID

Unlike a widespread pandemic, a High Consequence Infectious Disease (HCID) event—such as Ebola Virus Disease (EVD) or Marburg—typically involves a very small number of highly infectious patients. The operational focus shifts entirely to the "Identify, Isolate, and Inform" workflow, stringent infection control, and the safe movement of a Person Under Investigation (PUI) to definitive care. The MO HCC supports its members through the following sector-specific actions:

Acute Care Hospitals & Clinics

All frontline facilities, including urgent care clinics and critical access hospitals, must be prepared to act as the first point of contact for an HCID patient, maintaining adequate PPE for at least 24 hours of care.

- **HCC Action:** The MO HCC supports frontline facilities by providing connection to other MO HCC members and state partners for education, planning and training. In the event of a PUI presenting to a facility the MO HCC can facilitate support and provide common operating picture to membership as well as technical assistance as the needed.

Emergency Medical Services (EMS)

Standard EMS transport is generally contraindicated for HCID patients due to the extreme risks of environmental contamination and the need for specialized isolation protocols.

- **HCC Action:** The Coalition coordinates directly with the select, specialty care transport agencies that have volunteered to transport PUIs. The MO HCC helps ensure these agencies have rapid access to the specific HCID PPE caches strategically placed within the state, and facilitates the safe handover protocols between the frontline facility, the specialty EMS team, and the receiving NSPS hospital.

Local Public Health Agencies (LPHAs)

LPHAs are the lead entities for conducting active or direct active monitoring of individuals with nationally defined risk factors for an HCID.

- **HCC Action:** The MO HCC bridges the critical gap between public health monitoring and clinical operations. If a monitored individual becomes symptomatic and needs to seek care, the LPHA is asked to notify the Coalition, EMS and frontline facilities in advance. The HCC helps ensure the receiving facility can fully activate its isolation protocols prior to the patient's arrival, preventing exposure to staff and the general public.

Long-Term Care (LTC) Facilities

While less likely to be the initial entry point for an international traveler with an HCID, LTCs must be prepared to rapidly isolate staff or visitors who may have bypassed public health screening.

- **HCC Action:** The MO HCC provides LTCs with Just-In-Time (JIT) training and screening algorithms to identify risk factors (such as recent international travel to outbreak zones). Should an exposure occur, the Coalition immediately escalates the incident to DHSS and assists in securing the facility to prevent catastrophic spread among the highly vulnerable resident population.

10.4.3 Coalition Information Management and Coordination

Given the severe lethality and public anxiety associated with HClDs, information management must be tightly controlled, highly secure, and coordinated directly with state

authorities.

- **Command and Control:** DHSS serves as the primary coordinating agency for HCID resources and communications. The MO HCC supports this effort by utilizing EMResource and eICS to maintain situational awareness, monitor NSPS bed capacity, and coordinate logistics without compromising Protected Health Information (PHI).
- **Responder Safety Adjudication:** The MO HCC vigorously supports a culture of safety. If any individual involved in the planning or movement of a PUI perceives a safety concern, the Coalition supports their right to halt the process without fear of reprisal or personnel action. The HCC will immediately facilitate discussions between the facility hierarchy, public health, EMS partners, and DHSS to resolve the safety issue while ensuring continued, appropriate patient care.
- **Pulsara:** Pulsara use is encouraged between MO HCC entities for continuity of patient care until the patient(s) arrive at tertiary care. This also facilitates a list of individuals who have participated in patient care for contact tracing and monitoring by either facility infection Preventionists and/or LPHAs.

11.4.4 Patient Care and Clinical Management

Clinical Autonomy and Medical Control

Patient care will remain strictly under local control. The Missouri Healthcare Coalition (MO HCC) does not provide medical control or dictate clinical care protocols. All clinical orders, interventions, and treatment decisions remain the sole responsibility of the primary treating entity, its medical directors, and the receiving assessment hospital. The Coalition's role is to openly share best practices, disseminate clinical updates, and work to coordinate any needed logistical support as requested by coalition members.

11.4.4.1 Telehealth and SME Consultation

Given the rarity and clinical complexity of High Consequence Infectious Diseases (HCIDs), frontline clinicians at critical access or community hospitals often require immediate, specialized guidance during the initial isolation phase.

- **HCC Action:** The MO HCC encourages the use of secure, HIPAA-compliant platforms like Pulsara to facilitate real-time telehealth consultations between frontline providers and infectious disease Subject Matter Experts (SMEs). This allows for rapid clinical decision support from designated Level 2 NSPS facilities while the Person Under Investigation (PUI) is being stabilized and prepared for specialized transport.

11.4.4.2 Regulated Medical Waste and Environmental Decontamination

The clinical management of an HCID patient generates highly infectious, Category A regulated medical waste, which presents a significant operational and environmental hurdle for frontline facilities.

- **HCC Action:** The Coalition will support facilities in navigating the complex federal and state regulations addressing the safe transport and storage of on- and off-site regulated medical waste. Health-care facilities are instructed to dispose of medical waste regularly to avoid accumulation. If storage is temporarily required, the HCC will reinforce the standard that medical waste must be kept in labeled, leak-proof, puncture-resistant containers under conditions that minimize or prevent foul odors. The storage area must be well-ventilated and inaccessible to pests. The HCC will assist in connecting facilities with specialized vendors and disseminating pathogen-specific CDC and OSHA disposal guidelines.

11.4.4.3 Patient Tracking and Movement

The movement of an HCID patient is highly restricted and requires specialized, bio-containment transport assets.

- **HCC Action:** While the overarching patient movement protocols are outlined in the Missouri Patient Movement Plan, the MO HCC will utilize eICS and EMResource to maintain a secure, closed-loop tracking system for the PUI. This ensures all involved transport agencies, receiving teams, and the DHSS Emergency Response Center maintain accurate, real-time situational awareness during the transfer.

11.4.4.5 Pediatric Clinical Support

HCID presentations in pediatric populations require specialized assessment tools and equipment that are frequently absent from standard adult-centric community caches.

- **HCC Action:** Recognizing that there are no standalone pediatric caches of supplies in Missouri, the MO HCC will coordinate the rapid deployment and utilization of regional MCI trailers, which contain integrated pediatric supplies. This ensures that frontline facilities isolating a pediatric PUI have the appropriate right-sized equipment necessary to maintain the "Minimum-Better-Best" standard of care while awaiting specialized transport.

11.4.5 Resources

11.5 BIO TERRORISM

11.5.1 Planning Assumptions for Bioterrorism

- All hospitals with emergency departments are designated as “first Receiver” facilities for Chemical, Biological, Radiologic, Nuclear and Explosive (CBRNE) Incidents and are equipped to respond to an initial threat or incident.
- All frontline healthcare facilities, including any facility equipped for emergency care, such as hospital-based emergency departments and other emergency care settings including urgent care clinics and critical access hospitals, will maintain procedures to quickly identify and isolate patients with possible infectious disease. This includes maintaining adequate personal protective equipment (PPE) compatible with patient care for at least 24 hours.

11.5.2 Patient Care/Management

Patient care will be local control. The Healthcare coalition does not provide medical control, but will openly share best practices, clinical updates and work to coordinate any needed support as requested by coalition members.

Medical Countermeasures

	LETHALITY	VACCINE	TREATMENT	RESOURCES
Anthrax (inhalation)	High	Licensed	Antibiotics	Anthrax – CDC Vaccine Information and additional resources

Plague (<i>Yersinia pestis</i>)	High unless treated within Antibiotics 12–24 hours (pneumonic) Lives for up to 1 year in soil	Not Current NIH Plague Vaccine: recent progress and prospects 2019	Antibiotics Early treatment and prophylaxis with streptomycin or gentamicin or the tetracycline or fluoroquinolone classes of antimicrobials would be advised.	CDC Plague Landing Page NIH Plague as a Bioweapon CDC Recommended Antibiotic Treatment for Plague
Tularemia (<i>Francisella tularensis</i>)	Moderate	Not current – Under Development	Antibiotics	CDC Consensus Statement: Tularemia as a Biological Weapon Medical and Public Health Management
Marburg (Viral hemorrhagic fever)	>25% lethal	No	Supportive treatment only	NETEC Resources for MVD
Ebola (Viral hemorrhagic fever)	50–80% lethal	Licensed Ervebo	Supportive Treatment	FDA Ebola Preparedness CDC Ebola Virus Disease for Clinicians NETEC
Smallpox (<i>Variola major</i> virus)	High to moderate Very stable Licensed Supportive $\geq 30\%$ lethal	Licensed		Smallpox Vaccination: Information for Healthcare Providers

Botulism (Clostridium botulinum toxin)	High without Stable for weeks in Licensed Antitoxin if respiratory support	Licensed (availability uncertain)	Antitoxin if administered quickly respiratory support	BAT (Botulism Antitoxin Heptavalent) BabyBIG (Infant botulism antitoxin) Video how to mix and administer botulism antitoxin
Q fever (Coxiella burnetii)	Very low	Not licensed in U.S.	Antibiotics	
Ricin (Ricinus communis)	High (injected)	Investigational	No antidote	DHSS Response to a Ricin Incident LPH and Medical Officials



SECTION 12: RADIATION INCIDENTS

12.1 Overview

Missouri Nuclear Facilities

All but one nuclear facility, which is being decommissioned, are located within the boundaries of the MO HCC. In addition, an incident at the Cooper Nuclear Facility in Nebraska could impact the MO HCC mainly in the NW Region.

Operating Nuclear Power Reactors – Callaway Plant

Fuel Cycle Facilities – None

Uranium Recovery Facilities – None

Operating Research and Test Reactors

- University of Missouri/Columbia – Columbia, MO
- University of Missouri/Rolla Pool – Rolla, MO

Facilities Outside of the NUMO HCC Regions

Operating Nuclear Power Reactors – Cooper Nuclear Station

Facilities Undergoing Decommissioning - Sigma-Aldrich

Missouri has 2 RITN facilities, neither of them are within the bounds of the MO HCC. However, both locations should be used should need arise. They are:

- Barnes Jewish Hospital in Saint Louis, MO for adult patients
- The Children's Mercy Hospital in Kansas City, MO for pediatric patients

Regional RITN facilities that are within the transfer pattern for MO HCC members are:

- Nebraska Medicine in Omaha, NE for adults and pediatric patients

- University of Iowa Hospitals and Clinics in Iowa City, IA for adult and pediatric patients

12.2 Assumptions

Radiation incidents may be accidental in nature (e.g., industrial or transportation accident) or purposeful, require prolonged response and extensive resource management challenges.

- Substantial differences in response protocols and priorities exist between power plant/ industrial, terrorist (e.g., RDD/dirty bomb) and nuclear bomb detonation. The plan should emphasize the scenario(s) most relevant to the community.
- The coalition annex does not replace the need for protocols at each hospital and EMS agency.
- Different agencies may have authority over management of power plant, transportation, and terrorist incidents, including the authority to implement shelter-in-place and evacuation orders.
- The roles and responsibilities of agencies and organizations will change depending on the severity and scale of the incident and the respective level of activation by impacted jurisdictions and should be outlined ahead of an incident.
- Federal, state, and local emergency resources will all be needed during a large-scale event.
- Contamination assessments, proper PPE utilization, and decontamination efforts will be essential in protecting coalition partners, staff, and the public.
- Staff at coalition facilities may be impacted by exposure, fear of exposure, or family obligations (e.g., child/family care if schools are closed).
- Fear from the incident will cause a worried well surge to the emergency departments and pharmacies. Consider how limited understanding of radiation and nuclear contamination will contribute to public anxiety and will require multi-modal solutions.
- Public safety (e.g., police, fire, EMS) and other first responder personnel are considered a high-risk population; the implementation of protocols for monitoring control zones and effective contamination control measures will be essential for workforce protection.
- Federal resources (e.g., ambulance contracts, National Disaster Medical System [NDMS] teams) cannot be relied upon to mobilize and deploy for the first 72 hours.
- Management of contaminated waste from decontamination efforts should be

managed in consultation with SMEs, EPA, and local water authorities.

- Each facility or healthcare organization should understand expectations specific to them as part of the coalition. For example:
- Implementation of surge protocol specific to a radiation emergency will occur quickly- staff must be prepared to pivot operational procedures immediately.
- Initial trauma care should precede radiation injury management.
- Radiation contamination assessments will require rapid protocol and education implementation.
- Staff will need to evaluate real versus possible exposure, internal versus external contamination, and assess overall exposure levels for at-risk patients based on serial blood testing.

12.2.3 Surveillance, Tracking, and Situational Awareness

HICS forms 254 and 255 should be used for all patients contacts and reported through designated channels to jurisdictional authorities.

12.2.4 Jurisdictional Specific Communication

Members receiving official communication, instructions or sharable situational awareness are encouraged to share these communications as permissible with HCC partners. A virtual Joint Information Center among HCC partners to support PIOs and coordinated communication efforts is encouraged. This could be attained through a separate eICS incident with scheduled touch points. Regions of the MO HCC may maintain google drives for sharable PIO resources.

12.3 Operations and Medical Care

Medical operations and care is based upon the amount of exposure, contamination (both internal and external) and trauma related to the incident. Clinical Care Guidance is available in Appendix A.

12.3.1 Exposure

Radiation exposure occurs when all or part of the body absorbs **penetrating** ionizing radiation from an external radiation source, as shown in the illustration above. Exposure from an external source stop when a person leaves the area of the source, the source is shielded completely, or the process causing exposure ceases.

Radiation exposure also occurs after internal contamination, i.e., when a radio nuclide is ingested, inhaled or absorbed into the bloodstream.

This kind of exposure stops only if the radionuclide is eliminated from the body, with or

without treatment.

- An individual exposed only to an **external source** of radiation, as shown above, is **NOT radioactive or contaminated** and may be approached without risk, just like after a chest x-ray or CT scan.
- Radiation from external exposure alone is either absorbed without the body becoming radioactive, or it can pass through the body completely.
- This kind of exposure stops only if the radionuclide is eliminated from the body, with or without treatment.

An individual exposed only to an **external source** of radiation, as shown above, is **NOT radioactive or contaminated** and may be approached without risk, just like after a chest x-ray or CT scan.

- Radiation from external exposure alone is either absorbed without the body becoming radioactive, or it can pass through the body completely.
- Therefore, if a person is scanned with a [radiation survey monitor](#) after external exposure alone, the device will not register radiation above the background level.
- [Acute Radiation Syndrome \(ARS\)](#) may result if the dose from whole or partial body exposure is high enough.

12.3.2 External Contamination

External contamination results when radioactive material is deposited on skin, hair, eyes, or other external structures, much like mud or dust. External contamination stops when the material is removed by shedding contaminated clothes and/or completely washing off the contamination.

Types of external contamination

- **Full body:** entire person is covered with radioactive material, not necessarily homogeneously.
- **Partial body:** shielding blocks radioactive material from covering the entire person.
- Wound contamination with radioactive shrapnel
- With explosion of a [Radiological Dispersal Device \(Dirty Bomb\)](#), radioactive shrapnel or fragments can be propelled through the air and become embedded under the skin or in tissues or organs.
- Radioactive material can enter the blood stream or lymphatics (internal contamination).

12.3.4 Internal Contamination

Internal contamination results when radioactive material is taken into the body via inhalation or ingestion or open wounds.

Internal deposition of radioisotopes in organs results in local exposure at that location.

Internal contamination continues until the radioactive material decays, is flushed from the body by natural processes, or is removed by medical countermeasures.

Types of internal contamination

- **Via respiratory tract:** When aerosol particles are inhaled, those measuring <5 micrometers can reach the alveoli, whereas larger particles will remain in proximal airways. Tiny particles can be absorbed by the lymphatic system or the blood stream, or continue to irradiate locally until exhaled, removed, or depleted of their radioactivity.
- **Via digestive tract:** If swallowed, soluble radionuclides may be absorbed in the upper tract, whereas insoluble radioactive particles may affect the lower gastrointestinal (GI) tract. Depending on the specific radioisotope, particles in the GI tract may be lavaged, expelled, and/or removed using drugs.
- **Via radioactive dust in open wounds:** Small radioactive particles in open wounds may be absorbed into the body via blood or lymphatic channels.

12.4 Triage and Screening

Field Triage

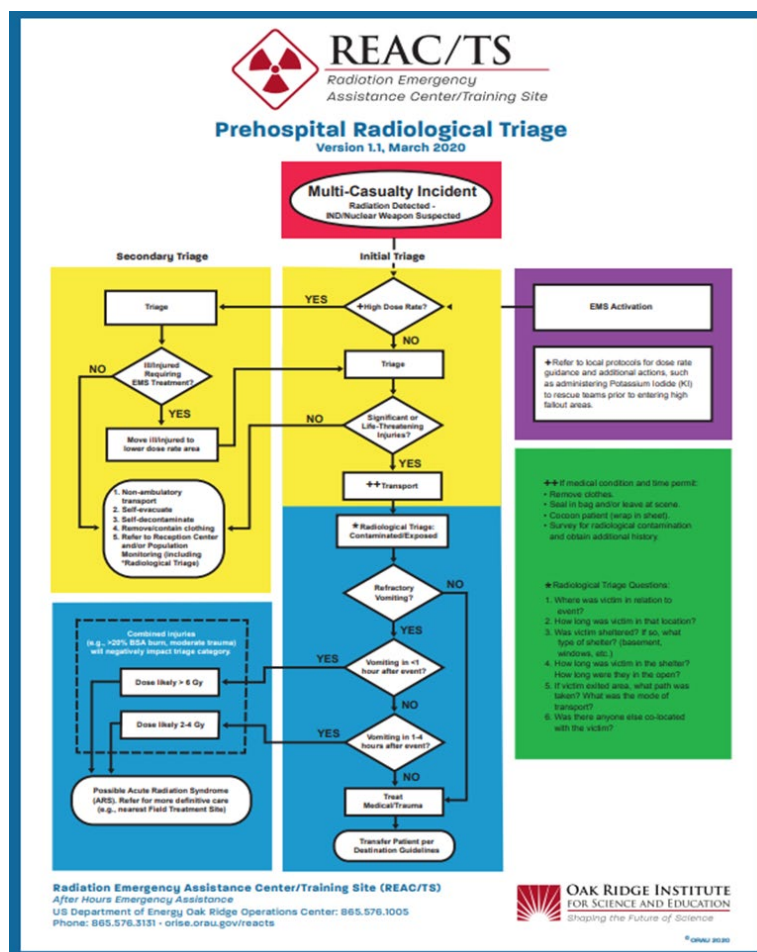
Radiological Triage is primarily performed in the pre-decontamination space either in the field or at the hospital casualty collection point. This triage is based on the patient's risk of having significant radiological contamination and encompass three main priorities:

1. Identify High Radiation Sources (or Hot Particles) – if not identified early and shielded, these can place the patient surrounding people and staff at risk for acute radiation injury. This should be accomplished through a Rapid Radiological Survey and results relayed to the Command and shared with the MO HCC.
2. Triage patients with traditional MCI protocols – START, Jump Start, or SALT triage as per facility protocol. Red patients should be provided with care without delay, or care delayed based on their radiological survey. Patients triaged yellow and green should receive a radiological survey consistent with patient numbers and resources available.

3. Identify people with significant radioactive contamination (>10,000 cpm, or 5mrem/hr) that require rapid decontamination and assessment for internal contamination.
 - a. When the amount of impacted individuals and responding resources permit, every patient should undergo a full-body radiological survey, the [Patient Radiological Survey Sheet from REACTS is available for supporting this assessment](#).
 - b. When the number of patients exceeds the capacity to conduct a full-body survey, a rapid radiological survey should be performed and patients directed to either decontamination areas or an alternate survey area.

Throughout the initial response period, HCC regional duty officers should work to communicate with hospitals to identify facilities needing to update their Bed Availability. MHA staff and/or HCC designee should work with EMS and hospital transportation officers / Unit Leaders to identify facilities with capacity and support patient tracking initiatives.

Pre-hospital Triage for Arriving Victims of Contamination Radiological Incidents



Hospital Triage for Arriving Victims of Contamination Radiological Incidents

The following steps require a minimum of 3-5 survey meters and staff trained on their use. Additional staff will be required for casualty collection points, medical triage, decontamination and security or designees for patient traffic and flow management.

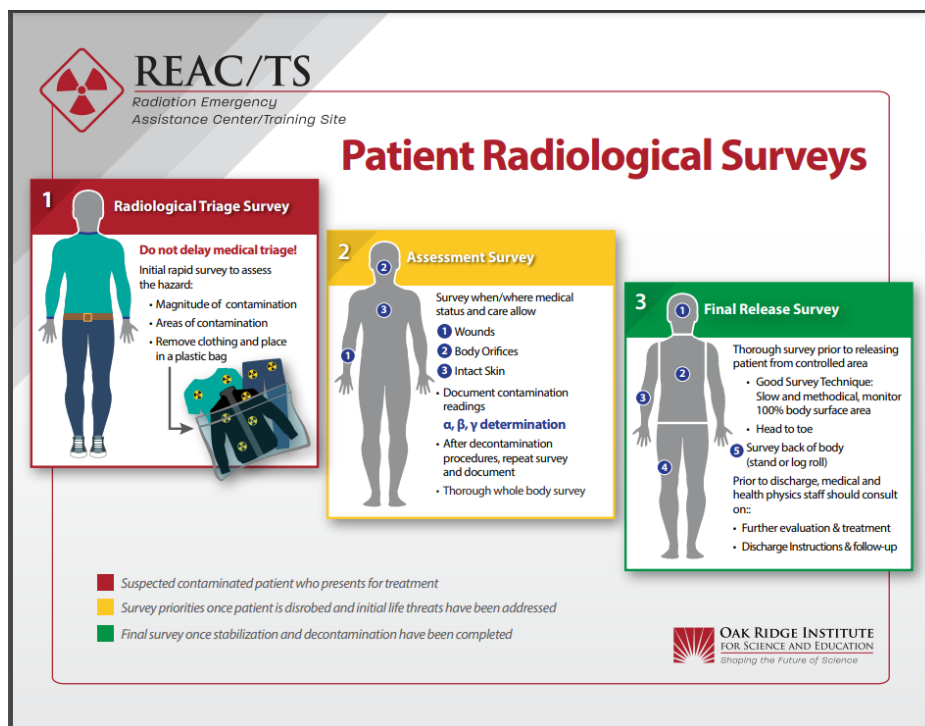
1. Patients arrive via ambulance, on foot, or other methods of transportation.
2. Initial rapid medical triage conducted by staff in full decontamination PPE. This triage is based upon triage screening procedures at the facility and use standardized tools such as START, Jump START or SALT triage methods.
 - a. RED Significantly injured or ill, with life threatening injuries, bypass conventional triage and are sent to RED CONTROL TREATMENT AREA. Prior to entry, clothing should be removed, and patients should be transferred to a clean stretcher. The Red Treatment Area Surveyor should conduct a radiation survey simultaneously with stabilizing medical treatment.
 - b. All others are sent to Pre-Decontamination Casualty Collection Points.
3. Pre-decontamination surveyors, also in full decon PPE, will assess victims arriving for high activity sources, and if time permits, conduct rapid radiological screening surveys. The following individuals should receive priority for decontamination showers:
 - a. Moderately injured/ill victims should go to head of the decontamination line (if possible, all wounds should be covered with waterproof dressing, and decontaminated in treatment areas)
 - b. Visual or measured facial or upper body contamination (especially if >10,000 cpm or 5 mrem/hr) without injury should also receive priority for decontamination.
 - c. Children and pregnant females
4. Post-decontamination survey should be conducted by the Post Decontamination Surveyor. These surveys should be documented. (See Post-Decontamination Survey Sheet).
 - a. If contamination is still present and > 200 cpm = 0.1 mrem/hr (this may be raised to 1000 cpm if the arriving group is large) then patients should be redirected to shower again if their medical condition will permit.
 - b. Continue process until 1) survey indicates level below 200 cpm or 2) unable to decrease contamination or 3) at least 3 showers have been conducted.

- c. If < 200 cpm, then patients be medically triaged by a clinician to **YELLOW** or **GREEN TREATMENT AREAS**.
5. In each treatment area, patients should be frequently medically reassessed and up triaged if their condition deteriorates.
6. In each treatment area, prior to discharge or disposition, all patients should have a repeat and documented Disposition Radiological Survey (See Post Decontamination Survey Sheet) as well as necessary follow up instructions, necessary treatment, and counseling.

Scarce Resource Triage

Available online at [REMM](#) or the [REMM APP](#). [Triage Tool Cards](#) are available.

Patient Radiological Surveys



[Patient Radiological Survey Sheet](#), [How to Use Radiological Survey Sheet](#)

[Hospital Triage Flow Chart for a Contaminating Radiation Incident](#)

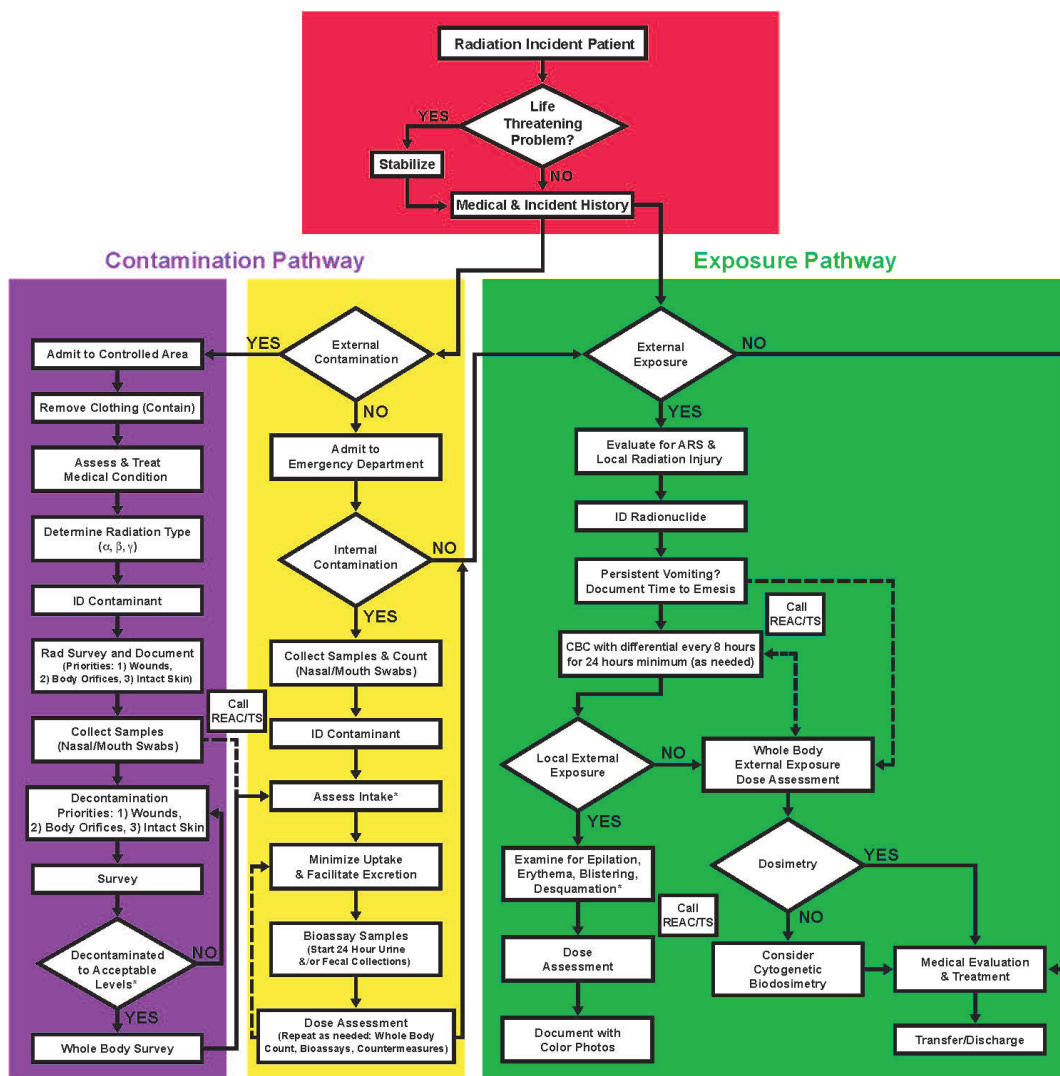


REAC/TS

Radiation Emergency
Assistance Center/Training Site

Radiation Patient Treatment

Version 3.1, March 2020



Radiation Emergency Assistance Center/Training Site (REAC/TS)

After Hours Emergency Assistance

US Department of Energy Oak Ridge Operations Center: 865.578.1005

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* Further guidance and information may be found on the REAC/TS website.

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12.5 Transport

Remember that if patient/victim transport is needed before decontamination can be completed, ensure that transport personnel wear proper [PPE](#), including [personal dosimeters](#).

1. Wrap contaminated areas or whole patient/victim in two layers of full-body sheets.
2. Preserve ability to observe and monitor patient fully during transport even though patient is wrapped.
3. Pay attention to the patient's body temperature
 - a. Avoid patient hyperthermia from 2 blankets on a hot day.
 - b. Avoid hypothermia on a cold day, especially if patient's clothes have been removed.
4. Following transport of contaminated patient/victim:
 - a. Ensure complete survey and decontamination of transport vehicle and equipment.
 - b. Ensure proper disposal of all contaminated equipment.
 - c. Arrange for survey and decontamination of responders, as needed.

[Handbook for Responding to a Radiological Dispersal Device: First Responder's Guide- The First 12 Hours](#)

[REAC/TS Just in Time Training for Ground and Air EMS Transports](#)

12.6 Treatment

- [Medical Aspects of Radiation Incidents](#)
- [CDC Acute Radiation Syndrome: A Fact Sheet for Physicians](#)
- [CDC Radiological Terrorism: Emergency Management Pocket Guide for Clinicians](#)

Safety and Control Measures

- PPE and personal dosimeters (if available) should be worn. Additional PPE may be requested through regional PPE caches, Hospital Mutual Aid, HCC agreements and the DHSS warehouse.
- Radiation [Donning](#) and [Doffing](#) posters are available from REAC/TS.



12.6 Special Considerations

12.6.1 Behavioral Health

Behavioral Health facilities will first address their existing patient population and staffing needs, including possible exposures and contamination. Unless there is significant exposure and gross contamination, patient decontamination should be through their internal established process and medical clinical consult through their physician with SME telehealth support if needed. Pt can be transferred as a last result. No behavioral health patient should be denied access to care or delayed care due to being in a behavioral health facility.

Behavior health facilities can play an active role in response to radiation events by supporting local facilities and communities by temporarily surging outpatient and emergency services if available.

Contributing to and vetting social media messages.

Providing press release statements that support mental health and positive coping strategies.

Examining what type of inpatient surge capacity may be a possibility, considering an 1135 waiver to expand capacity.

For facilities, staff and providers it is encouraged to provide the Disaster Distress Helpline 1-800-985-5990. [Psychological First Aid in Radiation Disasters](#) is also available.

12.6.2 Pediatric and At-Risk Populations

Pediatric patients have higher risk from radiation and nuclear incidents than adults because of their smaller size and developing bodies, which make them more susceptible to radiation poisoning and more likely to develop short- and long-term medical issues including mental health problems and certain cancers. Some of the medical implications for pediatric patients in radiation and nuclear incidents include acute radiation syndrome, psychological effects, cancer risks, and other late tissue reactions.

The American Academy of Pediatrics provides the following [recommendations](#) for pediatricians:

- Download information on how and when to use KI (potassium Iodine), and ensure the information is accessible in an emergency.
- The CDC [Internal Contamination Clinical Reference \(ICCR\)](#) Application for IOS and Android users. 
- When the risk of exposure to radioactive iodine is temporary, mothers can continue to breastfeed their infants if appropriate doses of KI are given to them within four hours of contamination; if not, they should be prioritized to receive other protective measures like evacuation.
- Monitoring children for contamination and decontamination should be done at a center equipped to perform these functions. Pediatric providers should ask local and state health departments about the location of community facilities that may be designated in real time (see [CDC Radiation Emergency](#)).
- Pediatric medical centers should ensure their facilities are equipped to receive and manage contaminated children (and accompanying adults). Inpatient centers should download the Internal Contamination Clinical Reference Application at [CDC Radiation Emergency](#).
- Pediatricians should provide ongoing assessment, treatment and specialist referrals for the mental health needs of patients/parents affected by radiation emergencies.
- Training of health professionals in managing mental health issues related to emergency events should be expanded. Accrediting agencies should include requirements for office training and preparedness, including KI administration to exposed children.

The American Academy of Pediatrics has published [After Pediatric Considerations Before, During, and After Radiological and Nuclear Emergencies](#) and identifies medical countermeasures for pediatric patients that are available and include:

Medical Countermeasure	Indication	Comment
Prussian blue	Enhances the fecal elimination of radioactive cesium or thallium by interrupting their enterohepatic circulation	Considered safe in children because it is not absorbed into the body. Not approved for ages <2 y. Use preemergency use authorization for ages 6 mo–2 y.
		Causes constipation and blue feces.
Pentetate calcium trisodium	Enhances the renal elimination of plutonium, americium, and curium	Approved in children. If >1 dose is needed, the zinc form is preferred.
Pentetate zinc trisodium	Enhances the renal elimination of plutonium, americium, and curium	Approved in children.
KI	Saturates the thyroid with stable iodine, which prevents the uptake of radioiodine.	See below

KI or Potassium Iodine

Age Group	Predicted Thyroid Gland Exposure, mGy	KI Dose, mg	# or Fraction of 130-mg Tablets	# or Fraction of 65-mg Tablets	Milliliters of Oral Solution, 65 mg/mL
>40 y	≥5000	130	1	2	2
18–40 y	≥100	130	1	2	2
Pregnant or lactating women	≥50	130	1	2	2
12–18 y ^a	≥50	65	0.5	1	1
3–12 y	≥50	65	0.5	1	1
1 mo–3 y	≥50	32	Use KI oral solution ^b	0.5	0.5
0–1 mo	≥50	16	Use KI oral solution ^b	Use KI oral solution ^b	

Medical Countermeasures for Treating the Hematopoietic Subsyndrome of ARS

Medical Countermeasure	Indication	Comment
Granulocyte colony-stimulating factor (filgrastim and pegfilgrastim)	Neutropenia	Approved for use in adults and children.
Granulocyte-macrophage colony-stimulating factor (sargramostim)	Neutropenia	The liquid formulations containing benzyl alcohol or lyophilized formulations reconstituted with bacteriostatic water for injection, USP (0.9% benzyl alcohol), should not be administered to neonates and young infants.
Antibacterials	Neutropenia	Follow guidelines provided by professional societies (eg, Infectious Diseases Society of America and the American Society of Clinical Oncology ^{65,66}).
Antivirals	Neutropenia	Follow guidelines provided by professional societies (eg, Infectious Diseases Society of America and the American Society of Clinical Oncology ^{65,66}).
Antifungals	Neutropenia	Follow guidelines provided by professional

Medical Countermeasure	Indication	Comment
		societies (eg, Infectious Diseases Society of America and the American Society of Clinical Oncology ^{65,66}).
Platelets	Thrombocytopenia	Irradiated and leukocyte reduced.
Packed red blood cells	Anemia	Irradiated and leukocyte reduced.
Stem cell transplant	Failure to respond to other therapies	Contact the Radiation Injury Treatment Network
	Absence of significant combined injuries or comorbid conditions	

12.6.3 Obstetrical and Perinatal Patients in Radiological Incidents

Obstetrical patients in radiological incidents will have many questions and require follow up support from their obstetrician and other care providers in the coming days, weeks, months and years. The following is provided from the CDC as a general information guide and general knowledge. MO HCC members are encouraged to provide referrals for follow up care to the patients established or intended establishment with their OB provider of choice. In addition, Telemedicine SME consultation may be advisable when possible, for the mental health of the mother.

Mothers who have been contaminated and are now in labor, every effort should be made to ensure a decontamination process prior to delivery if possible.

[Radiation & Pregnancy
Clinician Information](#)

[Clinical Care during
Pregnancy &
Delivery](#)

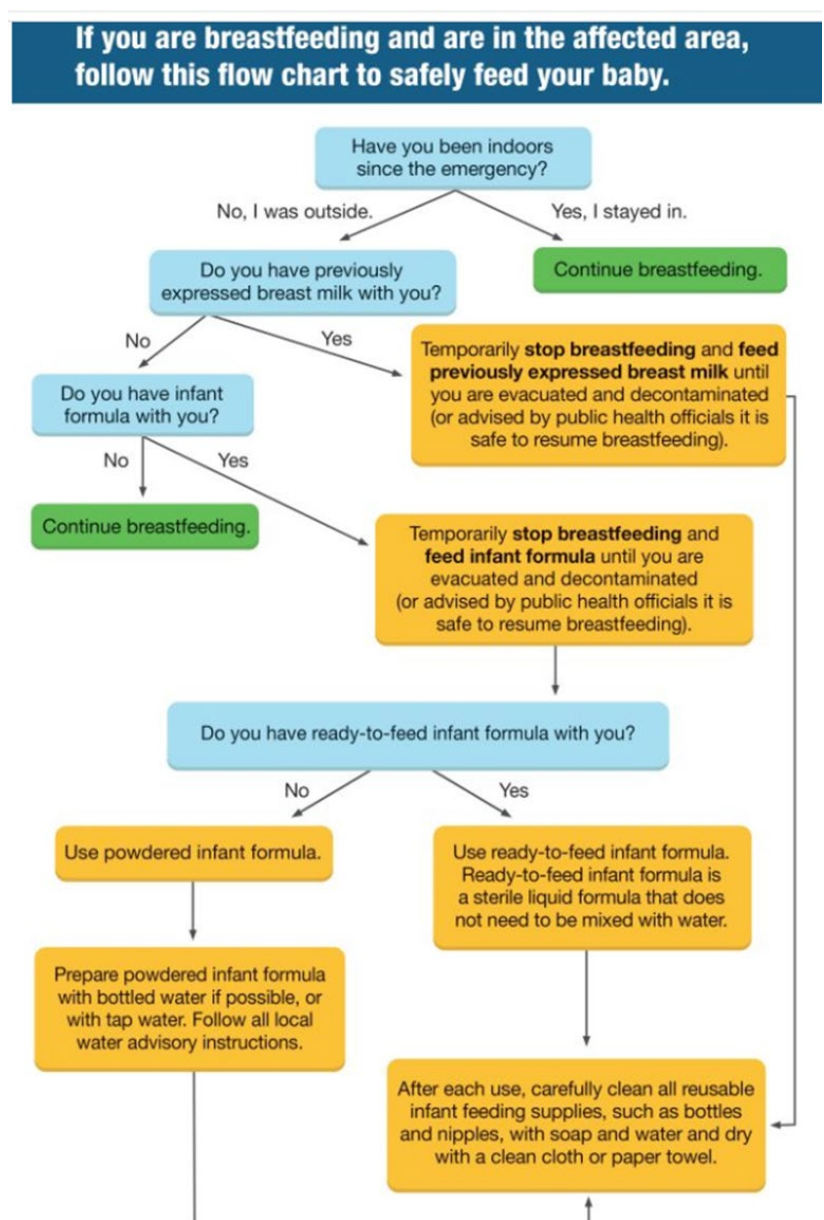
12.6.4 Infant Feeding

This issue is timely and relevant to the healthcare community and guidance will vary based on the type of incident and level of exposure and contamination of both the caregivers and the environment. The CDC provides an [Infant feeding in radiological Emergencies](#) landing page that is very helpful in addressing many of the questions in the initial period.

Generally speaking, for formula fed babies preprepared formula or formula mixed with bottled water is preferable until local officials declare tap water safe for drinking. Boiling water does not remove radiological contamination. If tap water is all that is available, infants should still be fed formula with that water unless told otherwise by local officials. It is safer than going out to look for bottled water or premixed formula. For breast fed babies, the CDC provides the algorithm below.

For all infants' hydration and nutrition is extremely important. If infant feeding supplies are not able to be washed safely or are not available, infant cup feeding is a viable option.

Use disposable cups and throw them away after each feeding.



12.7 Rehabilitation, Outpatient Follow-Up Services

Instructions for short-term monitoring of individuals released from the scene of a possible radiological/nuclear incident ([PDF - 53 KB](#))

Contact your personal physician as soon as possible to report:

- Any information you received from those who helped you during the incident.
- What happened to you during the incident
- Where you were at the time of the incident
- How long you were at the scene
- Whether you may have been shielded from radiation by buildings, vehicles, or other solid objects.
- Anything else you know or were told at the scene about your circumstances at the time.
- The results of any tests (like blood tests) you may have received at the incident scene or at another medical facility.
- Whether authorities at the scene recorded your information into the log of people involved in the event
- Your physician should consider performing a blood test called a CBC (complete blood count with differential).
 - If there is genuine concern that you could have been exposed to radiation, this should be done immediately.
 - The results of this test can help your doctor determine if radiation has affected your body's ability to make new blood cells.
- If your blood counts appear to be abnormal, your physician should consider repeating the test daily until the problem is clarified.
 - Abnormally low blood counts, especially the lymphocyte count, may be a sign that you were exposed to high levels of radiation.
 - Abnormal blood counts may not necessarily be due to exposure to radiation, however.
 - Exposure to high levels of radiation can cause a condition known as Acute Radiation Syndrome (ARS).

- If your CBC is abnormal and the results cannot be explained by other medical problems, your doctor should immediately contact a medical official responsible for helping people connected with the incident.

Instructions for all persons involved in a radiological/nuclear incident (victims, persons concerned they may have been victims, and all responders) ([PDF - 49 KB](#))

- Register with an official government agency (federal, state, tribal, or local) charged with collecting the names of all persons involved in the incident, so that appropriate monitoring can be arranged later.
- Monitoring is appropriate for all persons connected with the incident, including:
- Persons who had any radiation-related health effects identified at the time of the incident.
- Persons who may not have had radiation-related health effects at the time but who were near the scene.
- Persons who participated in incident/emergency response: e.g., health care providers, EMS personnel, hospital personnel, security personnel, etc.
- Listen for follow-up instructions from authorities managing the incident.
- Since every incident is different, you should try to find out what recommendations are made by authorities after more is known about the whole incident.
- Listen for how to contact officials who may be able to provide you with additional information or answer any questions you may have.
- It is normal to feel psychologically affected by the incident (fear, anxiety, depression, hopelessness, etc.) and you should speak with your doctor about these feelings.

12.7 Fatality Management

- In a [radiological/nuclear event](#), radioactive materials may [contaminate](#) the deceased.
- Evaluating the deceased with appropriate [radiation survey meters](#) can confirm or rule out contamination. Advice from a health physicist would be useful.
- Type of event may dictate timing of handling the deceased

- If cause of death secondary to nuclear weapon detonation: consider delaying recovery of remains for 1-2 days to allow decay of fission products.
- If cause of death secondary to explosive radiological dispersal device (RDD) (aka "[Dirty Bomb](#)"): no benefit to delaying recovery of remains.
- If the deceased is known or suspected to be contaminated, personnel engaged in handling of the body should be issued [personal protective equipment](#) (PPE) and a [personal dosimeter](#).
- All persons coming into contact with the deceased should be aware that other, more acutely hazardous agents, may be present.
 - Non-radiological contaminant hazards (e.g., chemical agents) may pose more significant risks to health and safety of persons handling the body.
 - Non-radiological contaminant hazards (e.g., chemical agents) may necessitate use of higher levels of PPE.
- Disaster Mortuary Operations Response Teams (DMORTs) from [HHS/NDMS](#) may be available to assist. Missouri [DMORT](#)

[Clinical Guidelines for Handling Radioactive Decedents](#)

[Clinical Guidance for Determining Deaths from a Radiation Emergency](#)

12.8 Deactivation and Recovery

The MO HCC will enter recovery phase after acute care and load balancing has occurred. This will be monitored through regular touch points and a daily status type in EMResource. It is anticipated that the larger the event the more delayed and drawn out the recovery to deactivation period will be. Best practice would be to initiate an eICS Recovery incident for coordination through deactivation. The initial incident can remain open until each facility enters that phase of operations.

It is recognized that with multiple locations and jurisdictions and facility types in the MO HCC entities will not make a simultaneous transition to the recovery phase. Recovery will be self-identified by each facility but broadly speaking would be when all service lines are reopened or determined to require long term abatement or repairs prior to coming back online.

12.9 Additional Resources

It is encouraged that all HCC entities incorporate radiological training into their routine preparedness work and at a minimum have updated printed resources and Apps downloaded on workplace devices for decision support tools.

[REAC/TS](#) – Radiation Emergency Assistance Center / Training Site

[RITN](#) – Radiation Injury Treatment Network

[REMM](#) – Radiation Emergency Medical Management

[CDC Radiological Emergencies Landing Page](#)

[CDC Medical Countermeasures for Radiation and Contamination](#)

[Radiation Surge Annex Pediatric Workshop WRAP-EM](#)

[REAC/TS Hospital Checklist for Radiation Emergencies](#)

Helpful Apps for HCC members



[REMM – Radiation Emergency Medical Management](#)

Guidance on Diagnosis and Treatment for Healthcare Providers



[ICCR – Internal Contamination Clinical Reference](#)



[REAC/TS Radiation Emergency Assistance / Training Center](#) Includes eGuide for The Medical Aspects of Radiation Incidents, 5th edition, Just in Time Training videos and radiation counter measures

APPENDIX A – ACRONYMS

Acronym	Definition
1135	1135 Waivers / Variances
AAP	American Academy of Pediatrics
AAR	After-Action Report
ABA	American Burn Association
ACIP	Advisory Committee on Immunization Practices
ACOG	American College of Obstetricians and Gynecologists
ADLs	Activities of Daily Living
AIIR	Airborne Infection Isolation Room
ALS	Advanced Life Support
ARDS	Acute Respiratory Distress Syndrome
ARS	Acute Radiation Syndrome
ASHRE	American Society of Heating Refrigerating and Air-Conditioning Engineers
ASPR	Assistant Secretary for Preparedness and Response
ATNAA	Antidote Treatment Nerve Agent Auto-injector
AVPU	Alert Voice Pain Unresponsive
BabyBIG	Infant botulism antitoxin
BAT	Botulism Antitoxin
BP	Blood Pressure
BPM	Beats Per Minute
CAN	Current Condition, Actions Taken, Needs
CANA	Convulsant Antidote for Nerve Agent
CBRN	Chemical Biological Radiological Nuclear
CBRNE	Chemical, Biological, Radiologic, Nuclear, and Explosive
CCHF	Crimean-Congo Hemorrhagic Fever
CDC	Centers for Disease Control and Prevention
CHEMM	Chemical Hazards Emergency Medical Management
CHEMM-IST	CHEMM Intelligent Syndromes Tool
CMS	Centers for Medicare and Medicaid Services
CONOPS	Concept of Operations
COOP	Continuity of Operations Plan
COP	Common Operating Picture
COVID-19	Coronavirus Disease 2019
CPG	Clinical Practice Guidelines

CPM	Counts Per Minute
CRESS	Consciousness, Respirations, Eyes, Secretions, Skin
CST	Civil Support Team
CVV	Candidate Vaccine Viruses
DCR	Damage Control Resuscitation
DCS	Damage Control Surgery
DECON	Decontamination
DHSS	Missouri Department of Health and Senior Services
DMAT	Disaster Medical Assistance Team
DMORT	Disaster Mortuary Operations Response Team
ED	Emergency Department
EEI	Essential Elements of Information
EEG	Electroencephalogram
EIIC	EMSC Innovation and Improvement Center
eICS	Electronic Incident Command System
EMS	Emergency Medical Services
EMSC	Emergency Medical Services for Children
EMTALA	Emergency Medical Treatment and Labor Act
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
ERC	Emergency Response Center
ESF-8	Emergency Support Function #8
EVD	Ebola Virus Disease
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FQHCs	Federally Qualified Health Centers
GI	Gastrointestinal
HAM	Amateur Radio
HAV	Hepatitis A Virus
HAZMAT	Hazardous Materials
HCID	High Consequence Infectious Disease
HCP	Healthcare Personnel
HEAR	Hospital Emergency Administrative Radio
HHID	Highly Hazardous Infectious Disease
HICS	Hospital Incident Command System
HHS	Department of Health and Human Services
HPAI	Highly Pathogenic Avian Influenza
HVA	Hazard Vulnerability Analysis
IAP	Incident Action Plan

ICCR	Internal Contamination Clinical Reference
ICS	Incident Command System
ICU	Intensive Care Unit
IM	Intramuscular
IMS	Intermediate Syndrome
IO	Intraosseous
IP	Improvement Plan
IPC	Infection Prevention and Control
IV	Intravenous
JIC	Joint Information Center
JIS	Joint Information System
JTS	Joint Trauma System
KI	Potassium Iodine
LPHAs	Local Public Health Agencies
LTC	Long-Term Care
MARCH	Massive Hemorrhage, Airway, Respiration, Circulation, Head/Hypothermia
MBB	Minimum / Better / Best
mcDCS	Mass Casualty Damage Control Surgery
MCI	Mass Casualty Incident
MCM	Medical Countermeasure
MGy	Milligray
MHA	Missouri Hospital Association
MICT	Medical Incident Coordination Team
MMR	Measles, Mumps, and Rubella
MO HCC	Missouri Healthcare Coalition
MO-HNS	Missouri Health Notification System
MOSHE	Missouri Society for Healthcare Engineering
MOSWIN	Missouri Statewide Interoperability Radio Network
MOU	Memorandum of Understanding
MREM	Millirem
mRNA	Messenger RNA
MUHC	Missouri University Health Care
MVD	Marburg Virus Disease
NATO	North Atlantic Treaty Organization
NDMS	National Disaster Medical System
NICU	Neonatal Intensive Care Unit
NIMS	National Incident Management System
NMSZ	New Madrid Seismic Zone
NPIs	Non-Pharmaceutical Interventions

NSPS	National Special Pathogen System
OB	Obstetrics
OP	Organophosphate
OSHA	Occupational Safety and Health Administration
PAPR	Powered Air Purifying Respirator
PAWS	Pain management, Antibiotics, Wounds, Splinting
PCC	Prolonged Casualty Care
PECC	Pediatric Emergency Care Coordinator
PEP	Post-Exposure Prophylaxis
PHI	Protected Health Information
PICU	Pediatric Intensive Care Unit
PII	Personally Identifiable Information
PIO	Public Information Officer
PPE	Personal Protective Equipment
PRN	Pro re nata / As needed
PSAPs	Public Safety Answering Points
PTT	Push-to-Talk
PUI	Person Under Investigation
QIPMO	Quality Improvement Program for Missouri
RDHRE	Regional Disaster Health Response Ecosystem
RDD	Radiological Dispersal Device
REAC/TS	Radiation Emergency Assistance Center/Training Site
REMM	Radiation Emergency Medical Management
RITN	Radiation Injury Treatment Network
RPM	Respirations, Perfusion, and Mental Status
RSV	Respiratory Syncytial Virus
RVI	Respiratory Virus Illness
SALT	Sort, Assess, Life-Saving Interventions, Treatment/Transport
SAS	Solvents, Anesthetics, or Sedatives
SCBA	Self Contained Breathing Apparatus
SEMA	State Emergency Management Agency
SEOC	State Emergency Operations Center
SME	Subject Matter Expert
START	Simple Triage and Rapid Treatment
TCCC	Tactical Combat Casualty Care
TECC	Tactical Emergency Casualty Care
USP	United States Pharmacopeia
VHF	Very High Frequency
WebEOC	Web Emergency Operations Center

WRAP-EM	Western Regional Alliance for Pediatric Emergency Management

APPENDIX B – HICS FORMS



Form Number	Form Name	Description
HICS 200	IAP Cover Sheet	The face sheet for the Incident Action Plan (IAP) providing the incident name and operational period.
HICS 201	Incident Briefing	Provides a summary of the situation and resources for the Incident Commander and incoming staff.
HICS 202	Incident Objectives	Defines the control objectives and strategies for a specific operational period.
HICS 203	Organization Assignment List	Lists personnel assigned to each position within the Hospital Incident Management Team (HIMT).
HICS 204	Assignment List	Documents specific tasks and resources assigned to a particular Branch or Section.
HICS 205A	Communications List	Contains contact information for all incident personnel and partner agencies.
HICS 206	Staff Medical Plan	Outlines the plan for providing medical care to incident personnel who become injured or ill.
HICS 206M	HCC Medical Plan	Used for regional coordination of medical standards and capabilities within the coalition.
HICS 207	Incident Organization Chart	A visual representation of the incident command structure and reporting lines.
HICS 213	Incident Message Form	Used to transmit formal messages and requests between sections or external agencies.
HICS 213RR	Resource Request Message	Standardized form for requesting equipment
HICS 214	Operational Log	Documents activities
HICS 215A	IAP Safety Analysis	Identifies potential safety hazards for incident personnel and lists mitigation strategies.
HICS 221	Demobilization Check-Out	Ensures personnel have returned equipment and completed logs before leaving the incident.
HICS 251	Facility System Status Report	A status report on the hospital's infrastructure
HICS 252	Section Personnel Time Sheet	Tracks the hours worked by staff assigned to a specific incident section.
HICS 253	Volunteer Staff Registration	Records credentials and contact info for spontaneous or disaster volunteers.
HICS 254	Disaster Victim / Patient Tracking	Logs each patient arriving at the facility
HICS 255	Master Patient Evacuation Tracking	A high-level log used by the Transport Officer to track all patients moved out of the facility.

HICS 256	Procurement Summary Report	Summarizes all incident-related purchases and expenditures.
HICS 257	Resource Accounting Record	Tracks the check-in
HICS 258	Hospital Resource Directory	A master list of vendors
HICS 259	Hospital Casualty / Fatality Report	Summarizes total injuries and deaths for reporting to the DHSS or Coalition.
HICS 260	Patient Evacuation Tracking	An individual form that stays with a specific patient during an evacuation.
IAPQS	IAP Quick Start	A short-form version of the IAP used for rapid onset incidents.