



Michigan Department of Health and Human Services (MDHHS)

Appendix 9.6 Pediatric Medical Surge Plan

Annex 9 - Mass Casualty Care

MDHHS Emergency Operations Plan (EOP)

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## 1.0 Introduction

The Michigan Medical Surge Management Plan [Annex 9-Mass Casualty Care - Michigan Department of Health and Human Services (MDHHS) Emergency Operations Plan (EOP)] incorporates general medical surge planning as well as the legal authorities and other preparedness and response details.

### 1.1 Purpose

This State of Michigan (SOM) Pediatric Surge Plan serves to inform local and state governments; Regional Healthcare Coalitions (HCC); Health Care Organizations (HCO); Life Support Agencies (LSA); other relevant organizations; and stakeholders of the preparedness and response plans within SOM. This appendix to the Michigan Medical Surge Management Plan (Annex 9) is designed for all stakeholders involved in an emergency response within the state and/or adjacent states to help guide provision of medical care and other relevant resources to children during a disaster. The plan outlines general medical surge planning in the state of Michigan, as well as the legal authorities and other preparedness and response details.

Pediatric patients present to local community hospital emergency departments, not just the designated Pediatric Centers. In this plan the Michigan Trauma Administrative Rules will be followed with the definition of a pediatric trauma: *an injured or potentially injured individual this is, or reasonably appears to be, under 15 years of age*<sup>1</sup>. The definition will be expanded to include all children presenting ill or critically ill requiring care and stabilization.

While significant improvements have been made in readiness at both pre-hospital and emergency department settings, deficiencies remain. Everyday readiness, lack of consistency of care, and the need for improvement remain across the continuum of pediatric care. The ability of emergency departments (ED) to meet the needs of all patients, including children and adolescents, is an essential component of the State of Michigan's planning for the surge of pediatric patients during a mass casualty or medical surge incident.

Included in this plan, are recommendations for care, resource allocation during a surge that overwhelms a local healthcare organization, system decompression, and patient movement. The plan is intended to support, not replace an agency's existing policies.

According to the 2019, U.S. Census<sup>2</sup>, the United States has 73 million children under the age of 18. Children under the age of five make up 5.9% and children under the age of 15 make up 17.5% of the total population. The United States Census Bureau demographic statistics for 2019 reports the Michigan pediatric population under the age of 18 at 2.14 million. Children under the age of 15 make up 21.3% and children under the age of five make up 5.6%.<sup>3</sup>.

### Healthcare Facilities

Children's Hospitals in Michigan are listed in Table 1. They have pediatric capabilities including a Neonatal Unit (NICU), Pediatric Intensive Care Unit (PICU), Pediatric ED and Pediatric Trauma designation. Some are also Burn Centers (BCs) or Burn Surge Facilities (BSFs) capable of caring for

pediatric burn patients. Tertiary pediatric hospitals offer the highest level of care to children and are designated Level I Pediatric Trauma Centers.

**Table 1 Children's Hospitals in Michigan**

Region*	Name	Type	Pediatric Trauma	Phone Number
<b>2S</b>	Children's Hospital of Michigan	Tertiary	I	313-745-5437
<b>2S</b>	CS Mott Children's (University of Michigan)	Tertiary	I	877-475-6688
<b>6</b>	Helen DeVos Children's Hospital	Tertiary	I	866-989-7999
<b>1</b>	Sparrow Hospital	**ED/PICU/NICU/BSF	II	517-364-1000
<b>2N</b>	Corewell Health William Beaumont University - Children's Hospital	**ED/PICU/NICU/BSF	II	248-898-5000
<b>2S</b>	Ascension St. John Hospital	**ED/PICU/NICU	II	313-343-4000
<b>3</b>	Covenant Healthcare	**ED/PICU/NICU	II	989-583-6121
<b>3</b>	Hurley Children's Hospital	**ED/PICU/NICU/BC	II	810-262-9000
<b>5</b>	Bronson Children's Hospital	**ED/PICU/NICU/BC	II	269-341-6000
<b>7</b>	Munson Medical Center	**ED/NICU/BSF	n/a	231-935-5000
<b>8</b>	UP Health System – Marquette	**ED/NICU/BSF	n/a	906-449-3000

\*See **Attachment 2** for a map of the Regional Healthcare Coalitions

\*\*ED-Emergency Department, PICU-Pediatric Intensive Care Unit, NICU-Neonatal Intensive Care Unit, BSF-Burn Surge Facility, BC-Burn Center

This table represents the Children's hospitals in Michigan, including their regional locations and specialty care types.

<sup>1</sup> State of Michigan Trauma Administrative Rules. Rule 3, item b.  
[https://www.michigan.gov/documents/mdhhs/2016-062\\_HS\\_Final\\_Non-Strike-Bold\\_State\\_Wide\\_Trauma\\_System\\_572427\\_7.pdf](https://www.michigan.gov/documents/mdhhs/2016-062_HS_Final_Non-Strike-Bold_State_Wide_Trauma_System_572427_7.pdf). Accessed May 12, 2021

<sup>2</sup> Quickfacts. (2019). <https://www.census.gov/quickfacts/mi>. Accessed May 24, 2021

<sup>3</sup> Quickfacts. (2019). <https://www.census.gov/quickfacts/mi>. Accessed May 24, 2021

## 1.2 Scope

The plan provides command structure, communication protocols, processes, and procedures for intra-state, and/or inter-regional transfers of pediatric patients in a mass casualty incident (MCI), medical surge or public health emergency. It describes the operational intent when responding to a pediatric surge. It also details the coordination that has been developed for a response within Michigan before, during, and after a disaster involving pediatric patients creating a surge.

The plan:

- Provides standardized care guidelines.
- Provides guidance on decompression of pediatric tertiary or medical centers to increase the availability of critical care beds.
- Delineates pre-identified communication processes to support triage, treatment, and transfers during the incident.
- Facilitates safe pediatric decision-making for transfer.
- Supports coordination of transferring/transporting acutely ill/injured pediatric patients to tertiary or specialty care centers.
- Supports accurate tracking of pediatric patients.

### Planning Assumptions

- The MDHHS EOP has been activated, either partially or fully at the discretion of MDHHS leadership.
- MDHHS will follow the [MDHHS Emergency Operations Plan](#) and associated policies and procedures.
- During a disease outbreak, MDHHS will support the local public health department and healthcare organizations.
- The Regional Healthcare Coalitions (HCC) serve as the primary regional geographical organizational structure for preparedness and response.
- Local and regional healthcare systems have exhausted their capacity to care for pediatric patients and have implemented and exhausted all mutual aid.
- Requests for assistance through immediate bed availability<sup>4</sup> system decompression, telehealth consultations and coordination of pediatric patient movement will be considered once a Request for Medical Resources (RFMR) has been made as described in this plan.
- As described earlier, the definition of a pediatric patient in this plan includes an age range from birth to 15 years of age<sup>5</sup>. Since children within this age range comprise approximately one quarter of Michigan's population, it is assumed that pediatric patients would comprise approximately 25% of patients requiring care during/after an incident.

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<sup>4</sup> Michigan Immediate Bed Availability Decompression Strategy Guidelines and Toolkit  
[https://www.michigan.gov/documents/mdhhs/IBA\\_Guidelines\\_Document\\_617603\\_7.pdf](https://www.michigan.gov/documents/mdhhs/IBA_Guidelines_Document_617603_7.pdf)

<sup>5</sup> State of Michigan Trauma Administrative Rules. Rule 3, item b.  
[https://www.michigan.gov/documents/mdhhs/2016-062\\_HS\\_Final\\_Non-Strike-Bold\\_State\\_Wide\\_Trauma\\_System\\_572427\\_7.pdf](https://www.michigan.gov/documents/mdhhs/2016-062_HS_Final_Non-Strike-Bold_State_Wide_Trauma_System_572427_7.pdf). Accessed May 12, 2021. Healthcare providers will maintain use of standard precautions at a minimum.

- Hospital EDs<sup>6</sup> and EMS agencies<sup>7</sup> should be equipped with appropriate pediatric equipment and supplies.
- Pediatric capabilities should be identified for all verified and designated trauma centers, communicated, and integrated into hospital plans and EMS protocols prior to a disaster.
- In the initial stages of an MCI or medical surge that includes large numbers of ill and/or injured children, hospitals which do not routinely admit pediatric patients will be receiving children in the ED via direct transport by parents, guardians, bystanders, first responders and/or EMS.
  - All healthcare facilities may have to provide care to pediatric patients until adequate resources become available to allow for the transport of patients to pediatric tertiary or specialty care centers.
  - Medical and pharmaceutical supply shortages could affect patient treatment. The CHECC will work with the state vendors to mitigate shortages to meet the needs of the response.
  - For EMS providers, pediatric patients are generally considered low volume, high risk patients, therefore specific tools, clinical protocols, and training are required to mount an organized and effective response.
  - Having pre-developed pediatric specific referral and interfacility transfer agreements in place prior to a pediatric MCI or medical surge will facilitate appropriate and safe transfer in a timely manner.
  - A family reunification plan is critical to an organized and effective response to an incident involving pediatric patients. Patients and/or caregivers (guardians) should not be separated from their children for prolonged periods of time, necessitating an accurate tracking mechanism with the reunification plan.
  - The psychological impact of an MCI or medical surge will reach individuals that are not physically involved in the disaster or response. An MCI, medical surge or public health emergency involving children will create a larger behavioral health impact.
  - Behavioral Health will utilize trauma informed care for those physically affected, including families, communities, and healthcare workers. Behavioral Health services will be necessary to promote resilience during and after an incident.
  - Pediatric bed capacity including Pediatric Intensive Care Units (PICU), general medical beds, equipment and other information will be tracked in EMResource. This information will be updated routinely for situational awareness and more frequently during surge.

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<sup>6</sup> American Academy of Pediatrics. (2019). Guidelines for care of children in the emergency department checklist. [Resources Recommended for the Care of Pediatric Patients in Hospitals | Pediatrics | American Academy of Pediatrics \(aap.org\)](#) Accessed June 1, 2021.

<sup>7</sup> National Pediatric Readiness Project. (2020). Prehospital pediatric readiness EMS agency checklist. [Prehospital Pediatric Readiness Checklist V1.3 \(for PDF\) \(emscimprovement.center\)](#) Accessed June 1, 2021

### **Indicators and Triggers in the Concept of Operations**

- An MCI, medical surge or public health emergency involving pediatric patients that overwhelm current capacity, number of patients.
- Activation of a hospital or multiple hospital's disaster plans in response to a surge of pediatric patients. This includes assessing acuity of patients by triage category plus number of patients.
- Trauma versus mass illness.
- Inadequate pediatric healthcare facility resources (e.g., qualified and trained pediatric staff, limited or non-existent inpatient pediatric capabilities).
- Cadence of the evolution of the incident.
- Regional escalation to state CHECC
- Damage or threats to HCOs, impeding care of children.
- Requests from border state(s) or other Emergency Management Compact Assistance (EMAC) requests to assist with a surge of pediatric patients.

## 2.0 Concept of Operations

### 2.1 Activation

When an incident generates a pediatric patient surge and there are requests for assistance, MDHHS leadership will implement the Pediatric Medical Surge plan. Subject matter expertise may be requested from the Michigan Pediatric Tertiary Hospitals as needed to advise and/or direct operations, pertaining to system decompression, care guidelines, resource allocation and patient movement within the context of a pre-identified Incident Command System composition. They may assist with surge management, triage and patient care by offering consultative services and telemedicine.

### 2.2 Notifications and Communications

While appropriate and established communication and/or notification processes during an incident are important, providing emergency medical care to pediatric patients initially takes priority. Once the incident and/or patients are stabilized, healthcare facilities must communicate with the Regional Medical Coordination Center (MCC) to relay what processes (i.e., increased bed capacity beyond licensure) occurred as a result of the surge incident.

By contacting the HCC during the early stages of the incident, the MCC can be activated and can coordinate response activities including, resource requests, patient tracking between facilities etc.

Redundant communications, as well as mechanisms for patient tracking and situational awareness are provided by the state and discussed in detail in the Michigan Medical Surge Plan.

**Regional Healthcare Coalition** The impacted region will be contacted through their 24/7 Medical Coordination Center (MCC) email or phone (**Attachment #2**). Once the MCC is operational all partners will be notified via a Michigan Health Alert Network (MI HAN) message. The MCC will act as a conduit for information sharing with partners and the CHECC. Various methods of communication will be used, such as the MI HAN, Microsoft Teams, cell phone, landlines, 800 MHz radio or other mechanisms. The primary method of communication will be established with the request for medical resources.

### 2.3 Roles and Responsibilities

Local healthcare organizations, local health departments (LHD), regional, state and federal roles and responsibilities consistent with state and federal plans in a pediatric medical surge incident are defined in the Michigan Medical Surge Management Plan.



## 2.4 Operations – Medical Care

### Triage

#### *Pediatric Patient Triage and Transfer Coordination*

During an MCI with significant numbers of pediatric casualties, resources at healthcare facilities with pediatric critical care capabilities will quickly become exhausted. Sort, Assess, Life Saving Intervention, Treatment or Transport (SALT)<sup>8, 9</sup> Triage is the model used in Michigan. SALT triage is used in the pre-hospital setting. Standard pediatric trauma protocols are used in hospitals.

The *Pediatric Disaster Triage Guidelines (Attachment #3)* were developed to direct statewide triage during a disaster or medical surge when the plan is activated. It serves to identify types of pediatric specialty resources needed to ensure pediatric patients are transferred to the most appropriate healthcare facility. This is based on their pre-incident capabilities (through the self-assigned decompression categories), to deliver proper pediatric care. These guidelines are also used after a patient has arrived and received care at a healthcare facility to assist with interfacility transfers. These guidelines would not be used for field (EMS) triage.

The transferring facility will use these guidelines to triage their pediatric patients based on the criteria (includes interventions, conditions, and perinatal considerations) listed in the Pediatric Disaster Triage Guidelines. The criteria listed within the guidelines are not all-inclusive and does not replace clinical judgment. The responsibility for transfer decisions is made by the physician responsible for the care of the pediatric patient at the originating healthcare facility, who has identified that a higher level of care is needed and cannot be provided at the current location.

### Treatment Emergency Department

Treatment of pediatric patients in the emergency department should be based on the injury severity and level of criticality determined through initial patient assessment. The order in which patients receive care beyond the initial triage interventions should be as follows:

#### *Red-tagged patients (critical/unstable)*

- Place in the most acute (e.g.: resuscitation) beds of the pediatric or adult areas of the ED as necessary.
- They should be evaluated by an ED attending physician; considered for early transfer to PICU or pediatric ward attending physicians, if available (or arrange consultation with referral center)
- Alert surgery (pediatric, when available) or Trauma Team
- Place all other surgical specialties on standby as required/available.

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<sup>8</sup> Federal Interagency Committee on Emergency Medical Services. (2014). National implementation of the model uniform core criteria for mass casualty incident triage: A report of the FICEMS. <https://asprtracie.hhs.gov/technical-resources/resource/4673/national-implementation-of-the-model-uniform-core-criteria-for-mass-casualty-incident-triage-a-report-of-the-ficems#:~:text=The%20Model%20Uniform%20Core%20Criteria%2>

<sup>9</sup> Special Focus: SALT Mass Casualty Triage. (2008) Disaster Medicine and Public Health Preparedness. [https://umem.org/files/uploads/ems/salt\\_2008.pdf](https://umem.org/files/uploads/ems/salt_2008.pdf)

*Yellow-tagged patients (moderately injured or ill/potentially unstable)*

- Place in acute care beds in ED if possible—consider overflow to procedure areas and other locations per surge capacity plan.
- Reevaluate frequently and assign disposition in a timely manner.
- Ideally, providers assigned to patients should stay with that patient through the emergency department course if resources allow.
- When enough clinical staff are not available, an escort should be assigned to each unaccompanied child to maintain continuity and safety allowing children to be unsupervised should be avoided.

*Green-tagged patients<sup>9</sup> (minor or non-injured/stable)*

- Triage to secured waiting room, other large waiting area or clinic (if available) with supervision to ensure safety of unaccompanied children.
- Reevaluate frequently and provide discharge after care to an appropriately identified adult.

**Table 5: Emergency Department Patient Placement**

Color	Red	Yellow	Green
Category	Immediate life threat	Potential life threat (within hours)	No immediate life threat
Clinical	Altered mental status, respiratory distress, signs of shock, truncal penetrating injury	Generally non-ambulatory with an injury or injuries that may become life-threatening if untreated	Generally ambulatory with isolated injuries that should not be life or limb-threatening
Placement	Resuscitation area	Acute treatment and re-triage area	Waiting area/clinic/urgent care area <sup>9</sup>

Emergency evaluation and treatment of pediatric patients follows the general ‘ABCDE’ approach of trauma triage. Early analgesia should be provided including appropriate doses of narcotic analgesia where needed—this may be given via intranasal and other non-invasive routes. Intraosseous lines may be needed when IV access is difficult and adequate supplies of needles, drivers, and connections sets should be available. Comprehensive information about pediatric medical care is beyond the scope of this document.

Utilization of pharmacists is the primary method for ensuring correct medication dosage calculations. If a pharmacist is not available, providers should refer to course materials for Advanced Pediatric Life Support or textbooks such as Fleischer & Ludwig’s Textbook of Pediatric Emergency Medicine for more definitive information.

## **Inpatient Care**

### *For hospitals with PICUs:*

- Admit the most critical cases and/or youngest victims to PICU.
- Manage overflow patients in monitored beds on ward or adult medical or surgical ICUs.
- Expand ICU care to PACU, back to ED, or to monitored beds on pediatric unit with pediatric RNs.

If PICU services are unavailable or resources are exceeded, staff physicians will have to manage critical patients pending transport in consultation with outside pediatric experts (telephone or telemedicine) or with internal ED, anesthesia and/or adult critical care staff as needed. Providers with expertise in this area should be determined prior to the incident.

### *For hospitals with pediatric inpatient services:*

- Admit moderately injured or ill patients (and especially those < 8 years of age) to pediatric ward.
- Room patients of similar age together whenever possible.
- As more space is needed, add 1 bed per room, if possible.
- Consider cohorting older pediatric patients on adult wards, however pediatric patients should not room share with a non-parent adult.

### *For hospitals without pediatric inpatient services:*

- Arrange transfer to appropriate referral center.
- If transportation is delayed, provide care in consultation with outside technical experts at pediatric tertiary centers and involve community pediatric specialist input as possible.
- Consider ongoing care on adult unit appropriate for acuity.
- Children should not share rooms with nonparent adults.
- Rooms should be secured and easily observed.

## **Request for Medical Resources (RFMR)**

Healthcare facilities needing medical resources should contact their Regional MCC, for assistance. When Regional assets are exhausted a request would be made to the CHECC for assistance in obtaining the necessary equipment and supplies. The request process would include the MDHHS Emergency Management Coordinator (EMC) and State Emergency Operations Center (SEOC).

## **2.5 Access and Functional Needs**

There are many groups of individuals who will require special assistance during an MCI or medical surge resulting from access and functional needs/disabilities. Some of these needs include:

- Medical equipment requiring electricity (ventilators, various pumps, etc.)
- Behavioral/mental health (autism, obsessive compulsive disorder, and others)
- Chronic conditions (congestive heart failure, immunocompromised, renal disease, etc.)
- Pediatric dialysis (12 sites in Michigan)
- Pediatric long-term care
- Pediatric ventilator dependency units (5 sites)

- Sight impaired or blind
- Hearing impaired or deaf
- Limited English
- Homelessness
- Lack of transportation

Due to the needs of these individuals, it is important for emergency planners and public health officials to know and understand the community's demographic profile to determine which services and equipment will be needed in a disaster or emergency. Meeting with community partners, stakeholders, providers, constituents, and service recipients, including individuals with access and functional needs, will enhance emergency planners' and public health officials' abilities to develop plans that successfully integrate individuals with access and functional needs into hospital and local emergency management EOPs. In addition, these collaborative efforts will help educate community members with access and functional needs about the importance of personal preparedness plans.

**NOTE:** The [Social Vulnerability Index](#)<sup>11</sup> and [emPOWER](#)<sup>12</sup> provide data on vulnerable populations in a community which can be used during the planning.

## 2.6 Patient Tracking During Medical Surge

As pediatric patient movement occurs throughout Michigan and/or its border states, both for the acutely ill/injured patient being transported to pediatric tertiary/specialty care centers as well as for those patients being decompressed from pediatric tertiary/specialty care centers, tracking the location of the pediatric patient is crucial in reunification with their families, caregivers or guardians. Electronic patient tracking is available and maybe used (e.g., EMTrack). Manual tracking of patient movement through pre-identified forms or used in conjunction with the electronic system (EMTrack) is necessary to ensure families stay together whenever possible and are reunified promptly if separated.

1. **Purpose:** To assist in identifying, tracking, and reunifying pediatric patients during an incident.
2. **Responsibility:** At each healthcare facility the responsibility rests on the primary physician and/or nurse to ensure detailed tracking is done for each patient. Assistance may be required from support staff to ensure the appropriate documents are completed and integrated into the permanent Electronic Health Record (EHR) for the designated signature.
3. **Instructions:** Tracking data will be completed on ALL pediatric patients who arrive at a healthcare facility (hospital, clinic, Alternate Care Site), regardless of accompaniment of their parent/guardian, through EMTrack or paper forms. If electronic tracking is not utilized, pre-identified facility forms will be used to record a patient tracking number (assigned by the initial healthcare facility), demographic information, description of the child, a place to attach a photo of the child, accompanied and unaccompanied child information, medical history and disposition. The form should be copied. The original

form will accompany the patient if/when the patient is transferred to another facility and a copy should be kept as part of the sending facility's medical record. Each receiving facility will add their facility's information in the Patient Tracking Log section.

**NOTE: All attempts should be made to keep patient identification (ID) bands from previous facilities and triage tags from EMS on the patient.** If ID bands need to be removed, attach the removed band to the form under the Patient Tracking Log section. If triage tags are removed, ensure all information on the tag is incorporated into the patient's medical record or, if possible, place a photocopy of the tag in the patient's medical record.

## 2.7 Transfer Agreements

All hospitals should establish working relationships to provide pediatric medical care appropriate to the needs of injured children. The American College of Surgeons (ACS) and the State of Michigan (SOM) require written transfer agreements with burn centers.<sup>13</sup> Because most burn centers also have pediatric beds, there is a need to verify if the written burn agreements cover other special populations like pediatrics.

The American Academy of Pediatrics (AAP) Guidelines for Care of Children in the Emergency Department on which the Peds Ready requirements are based for Policies, Procedures, and Protocols for the ED states:

*"Hospitals<sup>14</sup> should have written pediatric interfacility transfer procedures and/or agreements that include processes for selecting the appropriate care facility for pediatric specialty services that are not available at the hospital."* These specialty services may include the following:

- Medical and surgical specialty care
- Critical care
- Trauma and burn care
- Psychiatric emergencies
- Obstetric and perinatal emergencies
- Child maltreatment (physical and sexual abuse and assault)
- Rehabilitation for recovery from critical medical or traumatic conditions
- Orthopedic emergencies
- Neurosurgical emergencies
- Reimplantation (replacement of severed digits or limbs)

<sup>11</sup> Joint Policy Statement: Guidelines for Care of Children in the Emergency Department. (2009). Reaffirm 2013. <https://pediatrics.aappublications.org/content/pediatrics/early/2009/09/21/peds.2009-1807.full.pdf>

<sup>12</sup> Nager, A. (2009). *Family Reunification Concepts and Challenges*. Clinical Pediatric Emergency Medicine. 10:3 (195-207).

The State of Michigan EMS and Systems of Care Division has developed a PowerPoint presentation on [Stabilization and Transfer of the Pediatric Trauma Patient based on the AAP Guidelines for Care of Children in the ED](#). An example Transfer Agreement Template can be found at **(Attachment #9)** Michigan Transfer Agreement Template.

## **2.8 Transportation**

The transportation needs during a large-scale incident involving children may be quite extensive. The transferring physician, staff, and receiving physician will work to identify the resources needed to transfer the pediatric patient(s) in the most efficient and safe manner available at the time. The receiving facility can assist the sending healthcare facility in identifying known transportation options that have pediatric capabilities, and available alternative methods for transporting pediatric patients. Contact the Regional Medical Coordination Center (MCC) when transportation options are depleted.

## **2.9 Reunification**

As a consequence of disasters, family reunification becomes one of the most challenging processes to plan for, implement, and accomplish. One critical piece in this process is to rapidly identify and protect displaced children in order to reduce the potential for maltreatment, neglect, exploitation, and emotional injury. A critical aspect of pediatric disaster response is to effectively address the needs of children who have been displaced from their parent or guardian.

The American Academy of Pediatrics/Massachusetts General Hospital Center for Disaster Medicine developed *Family Reunification Following Disasters: A Planning Tool for Health Care Facilities V 1*.<sup>in</sup> July 2018. This document has been distributed to the HCCs and LHDs to base their guidance documents on. The Planning Tool provides an in-depth look at reunification and forms that can be adapted to HCO plans.

## **2.10 Deactivation and Recovery**

Deactivation and recovery are a planned process that occurs as objectives are met and resources are released and returned (or replaced). Demobilization activities should be part of the planning at the beginning of an incident, including how the hospital will return to normal, or “new normal,” operations.

When it has been determined that patient loads are returning to normal, the appropriate authority will issue an order to terminate any special, ongoing operations that occurred during the pediatric medical surge. Staff will be notified. Property and business impact should be considered for returning the facility to normal operations. As the need for staff decrease, staff should report to debriefing area or their usual job as directed. Positions will be deactivated in a phased manner.

**Deactivation activities include:**

- **Demobilization of Equipment and Supplies** - All equipment should be returned to its designated location. Soiled materials should be disposed of properly in compliance with recommended procedures from internal/external authorities. Materials/supply unit leader will oversee these activities and coordinate cost matters with Finance/Administration Section. Supplies and/or equipment should be repaired, replaced, or repackaged as appropriate.
- **Other Demobilization Procedures** - Supervisors should be briefed by staff on any current problems, outstanding issues, and follow-up requirements. As necessary, provide required reports to regulatory agencies. Upon deactivation, ensure continued safety surveillance of staff and/or patients as needed. Staff should submit all non-patient documentation forms to the Planning Section Chief. All patient care forms should be submitted as well.
- **Debriefing** - Debriefing of staff involved in the incident will be conducted. Mental health staff will be available to assist as needed. Additional meetings may be conducted to identify lessons learned and procedural/equipment changes that are necessary. Staff should submit any comments for discussion and possible inclusion in the AAR including position descriptions, recommendations for procedure changes, and other accomplishments or issues.

## Special Considerations 3.0

### 3.1 Infection Control and Prevention

Information on the response to a pandemic is covered in the Michigan Pandemic Plan (revised January 2021) as part of the State EOP.

In an emergency caused by communicable disease, the management of children and their caregivers will be complicated by variables such as exposure and infectious status. In addition to the basic challenges of providing emergency shelter for a sudden influx of dependent children, hospitals will need to:

- Prevent exposure and contamination.
- Manage contact of cases.
- Separate, isolate and care for persons who are ill and/or possibly infectious.

In a large-scale communicable disease outbreak:

- Children and caregivers will arrive at hospitals in large numbers.
- Some will be symptomatic (cases) and some will have no symptoms but will have been exposed to their symptomatic family or caregivers (contacts).
- Cases and contacts will be separated because:
  - Ill caregivers accompanying asymptomatic children will require admission.
  - Asymptomatic caregivers may need to accompany an ill child into the clinical setting, leaving other children who are in their care in hospital custody.
  - Emergency conditions will delay the arrival of parents or alternate caregivers.
  - Hospitals will be required to provide temporary ad hoc shelter for exposed/asymptomatic child contacts to cases.
  - Hospital staffing will be reduced following the emergency, which will require parent/caregiver assistance on the clinical pediatric units.

#### Point-of-Entry Infection Prevention Measures

Once a hospital is alerted to the potential for severe communicable disease conditions, exposure prevention measures should be instituted at or before the point of entry to the facility. Rapid identification of symptomatic individuals will permit actions to protect the facility, its patients, visitors and the physical environment from exposure and contamination.

**Obtain case definition** from the local health authority to instruct screening, triage and reception staff in procedures related to:

- Symptom recognition.
- Mode of transmission.
- Specific infection and exposure prevention measures.

**Screen** to identify symptomatic individuals at or before the point of entry in order to implement exposure prevention measures.



**Conduct contact identification procedures** among persons accompanying an ill child or adult to the facility:

- As requested by the local health authority, obtain identification, and locate information for contacts.
- Ensure that children's identification bands include information about contact status.

**Instruct, observe, and supervise** to ensure that appropriate infection and exposure control measures are being followed by contacts, cases, personnel, and adult caregivers providing care to ill children.

**Mask** symptomatic adults and, as feasible, mask symptomatic children who are old enough to tolerate a surgical mask (generally, two years of age and older) to prevent the release of organisms into the environment. In addition, instruct accompanying adult caregivers to use standard precautions to manage the secretions of ill children who cannot be masked.

**Separate** persons with symptoms from persons who are asymptomatic; except exposed adult caregivers, who may need to remain with ill children to provide care and comfort. These adults will require instruction and supervision.

**Separate** contacts to ill individuals from persons who have not been exposed. Manage separation as follows:

- Place symptomatic individuals in single rooms either alone (if adults) or with prepared and instructed parent/caregivers of children, and if necessary and feasible.
- If possible separate symptomatic, masked individuals by at least three feet.
- If masking is not possible, instruct and supervise parents/caregivers in standard precautions and emphasize the importance of respiratory etiquette and hand hygiene.

**Cohort** masked symptomatic individuals in an area that is separate from asymptomatic individuals, preferably in a room that is large enough to permit social distancing and that has a door that can be closed.

- Symptomatic children who cannot be masked may be included in this cohort if Standard Precautions are employed, as advised by the hospital's infectious disease department and/or the local health authority.
- Ideally, cohort non-masked symptomatic individuals only when the diagnosis is confirmed and only if diagnoses are the same.

**Emergency cohort decisions:** In the absence of confirmatory diagnostic information, make decisions according to symptoms and epidemiology, as advised by the local health authority and/or the hospital's infectious disease department. Guidance from the Centers for Disease Control and Prevention (CDC), the Center for Medicare and Medicaid Services (CMS), Michigan Occupational Safety and Health Administration (MI-OSHA) and other federal entities must be followed.

**Cohort Procedures for Asymptomatic Exposed Children**

Cohort asymptomatic children and asymptomatic caregivers who have sustained the same exposure (the same apparent disease within roughly the same time period) as advised by the local health authority or the hospital infectious disease department. Certain diseases are infectious prior to symptom onset—seek guidance from the local health authority and/or the hospital infectious disease department about specific cohort restrictions.

### 3.2 Pediatric Burn <sup>13</sup>

#### Purpose

This section is to provide guidance for the care of the pediatric patients injured in a Burn Mass Casualty Incident (BMCI). The goals of the State of Michigan BMCI Surge Plan Pediatric Annex<sup>18</sup> are to:

- Provide highest level of care for a large number of pediatric burn patients.
- Expand ability to provide burn care.
- Prioritize use of limited resources.
- Support Michigan healthcare facilities caring for a surge of pediatric burn patients including:
  - ✓ Initial resuscitation
  - ✓ Airway control
  - ✓ Fluid management
  - ✓ Mechanical ventilation
  - ✓ Pain control
  - ✓ Wound assessment and management

#### Basic Treatment Considerations

Children have a greater surface area per unit of body mass than adults and require relatively greater amounts of resuscitation fluid. Children have a higher percentage of Body Surface Area (BSA) devoted to the head relative to the lower extremities.

- The ratio of BSA is highest at birth and diminishes as the child grows.
- The large head also contributes to greater heat loss.
- Pediatric skin is thinner and more permeable to toxins, which if present, will be absorbed faster and exert greater systemic effects.
- Smaller children have limited glycogen stores which can be rapidly depleted under stress; they should receive a maintenance fluid of D5LR, in addition to resuscitation fluids.

The pediatric patient is more vulnerable to weather conditions and toxic exposures because they are shorter and therefore closer to the ground. Their motor skills and cognitive reasoning may put them in harm's way because they cannot fully comprehend the dangers and the need to escape from a harmful situation. They may even gravitate towards the danger out of curiosity. They may become frightened of the first responders because of PPE gear as well as the fact that they are strangers. They may become separated from family members and will need assistance and supervision. They are also more vulnerable from a physiologic status.

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<sup>13</sup> State of Michigan Burn Mass Casualty Incident Surge Plan: Pediatric Annex. [www.MichiganBurn.org](http://www.MichiganBurn.org)

Pediatric Characteristic	Special risk during incident
Respiratory	Higher minute volume increases risk from exposure to inhaled agents.
Gastrointestinal	Higher risk of dehydration from vomiting and diarrhea after exposure to contamination.
Skin	Higher body surface area increases risk for skin exposure. Skin is thinner and more susceptible to injury from burns, chemicals, and absorbable toxins. Evaporation loss is higher when skin is wet or cold, making hypothermia is more likely.
Endocrine	Increased risk for thyroid cancer from radiation exposure.
Thermoregulation	Less able to cope with temperature disruptions, with higher risk for hypothermia.
Developmental	Lower ability to escape environmental dangers or anticipate hazards.
Psychological	Prolonged stress from critical events. Susceptible to separation anxiety.

### Fluid Resuscitation:<sup>14</sup>

#### EMS

Insert a large bore intravenous catheter (through unburned skin, if possible). Burns greater than 20% should have 2 large bore indwelling venous catheters, especially during transport. In the pre-hospital and early hospital settings, prior to calculating the Total Body Surface Area (TBSA) burned, the initial fluid rates<sup>20</sup> for patients with visibly large burns are based on patient age:

Under 1 year old: Contact the Hospital Medical Authority

1-5 years old: 125 mL Lactated Ringers (LR)/hour \*

6-13 years old: 250 mL LR/hour

14 years and older: 500 mL LR/hour

\*If LR is unavailable, 0.9% NaCl (normal saline) solution may be used as a substituted

#### Hospitals

The patient has their TBSA calculated (or recalculated), a history is obtained, physical examination including detailed airway assessment. Carbonaceous sputum singed nasal hairs, exposure to toxic gases and thermal airway burns must be established. The airway must be secured if any of the above signs are present. Fluids are calculated using the appropriate formula below. An exemplar table has been developed for pediatric fluid resuscitation. **(See Attachment 6).**

Pediatrics:  $\frac{TBSA \times \text{weight (kg)} \times 1.5}{8} = \text{Rate (mL/hr.)}$       Weight < 40 kg

Adult:  $\frac{TBSA \times \text{weight (kg)} \times 1.5}{8} = \text{Rate (mL/hr.)}$       Weight  $\geq$  40 kg

<sup>14</sup> State of Michigan Burn Mass Casualty Incident Surge Plan: Pediatric Annex. [www.MichiganBurn.org](http://www.MichiganBurn.org)

### 3.3 Behavioral Health

Children involved in a disaster suffer during and after the incident. Depending on the age of the child, their developmental stage, cognitive abilities, and whether the child is separated from his/her parent or guardian, a vast array of reactions may be seen. Many disaster victims require treatment strictly for psychological stress<sup>21</sup>. Working together with their local, regional, and state partners, public health and healthcare personnel can utilize the identified best practices in both hospital and shelter settings to screen for children suffering from psychological and emotional issues and provide appropriate intervention, stabilization, and treatment.

Reactions to disasters and the associated anxiety that accompanies it manifests differently according to the ages and developmental stage of the child. Behavioral Health professionals should be actively involved in recruiting and training personnel and possibly volunteers. HCCs can also assist by offering *Pediatric Psychological First Aid* courses as part of preparedness training. Behavioral Health professionals should also act as pediatric champions in the mental health system, and assist with communication efforts between patients, families, and caregivers. It should be determined if the child has parents or caregivers with them so they can be supported also.

#### Fostering Resilience

Some of the ways to help children cope with disasters include:

##### *Listen to them:*

- Ask the children what they know, what they heard or what their friends are saying.
- Ask children how they are feeling; they may feel angry, scared, sad or anxious.
- Let children know that you understand their feelings.
- It is important not to laugh at children's fears, even if they seem silly to you.
- Reassure them they will not be alone.
- Use "we" statements.
- Let them ask questions.
- When they ask questions, answer briefly and honestly.
- Remember: it's okay to answer, "I don't know".
- Encouragement to express them through drawing, painting and other forms of art.
- Use mechanisms of movement to draw out fears and concerns.

The eight *Psychological First Aid (PFA)* Core Actions<sup>15</sup> include:

- Contact and Engagement: To respond to contacts initiated by survivors, or to initiate contacts in a non-intrusive, compassionate, and helpful manner.
- Safety and Comfort: To enhance immediate and ongoing safety and provide physical and emotional comfort.
- Stabilization (if needed): To calm and orient emotionally overwhelmed or disoriented survivors.

- Information Gathering on Current Needs and Concerns: To identify immediate needs and concerns, gather additional information, and tailor Psychological First Aid interventions.
- Practical Assistance: To offer practical help to survivors in addressing immediate needs and concerns.
- Connection with Social Supports: To help establish brief or ongoing contacts with primary support persons and other sources of support, including family members, friends, and community helping resources.
- Information on Coping: To provide information about stress reactions and coping to reduce distress and promote adaptive functioning.
- Linkage with Collaborative Services: to identify available services needed at the time or in the future.

<sup>15</sup> [About PFA | The National Child Traumatic Stress Network \(nctsn.org\)](https://nctsn.org/about-pfa)

### 3.4 Decontamination (Attachment #8)

#### Purpose

These recommendations are intended to facilitate timely decontamination of children presenting to any hospital during a disaster or terrorist attack resulting in a need for decontamination. Children require special considerations that may not be addressed in a general Hospital Decontamination Plan.

#### General Guidelines

Infants and children have unique needs that require special consideration during the process of hospital-based decontamination, such as:

- The smaller the child, the higher the risk for hypothermia, airway management difficulties, and the ability to effectively decontaminate the child.
- The separation of families necessitates extra attention and care.
- Attention to airway management, must remain a priority in decontamination showers.
- Avoiding separation of families during decontamination, especially under conditions that involve large numbers of patients in a chaotic situation. Medical issues take priority.
- Older children may resist or be difficult to handle due to fear, peer pressure and modesty issues (even in front of their parents or caregivers).
- Since parents or caregivers may not be able to decontaminate both themselves and their children at the same time, decontamination (“hot zone”) personnel may be needed to assist them.
- Incorporating high-volume, low-pressure water delivery systems (e.g., handheld hose sprayers) that are “child-friendly” into the hospital decontamination showers.
- Risk of hypothermia increases proportionally in smaller, younger children when the water temperature in the decontamination shower is below 98°F.

#### Planning Tip: Estimate Child’s Age

*For decontamination purposes, children are divided into 3 groups by ages:*

1. *Infants and toddlers typically 0-2 years of age.*
2. *Preschool children typically older than 2 up to 6-8 years of age.*
3. *School aged children approximately 8-17 years of age.*

#### Decontamination Recommendations Based on Estimated Age Group

The following recommendations are based on the child’s estimated age based on appearance, since asking may be impractical due to the limitations of personal protective equipment (PPE) worn by decontamination team members and/or due to a large influx of patients.

- Undress child (by caregiver and hot zone personnel). If the child is able to undress without assistance, respect modesty and privacy if at all possible.
- Place child on stretcher or a restraining device (laundry basket).
- Escort child through the decontamination shower (by hot zone staff and caregiver).
- Directly supervise caregiver and child decontamination.
- Monitor airway.

- Child decontaminates him/herself, but goes through decontamination shower in succession with caregiver, or parent or classmates.
- Treatment or prevention of hypothermia (towels, gowns, warming blankets).
- Immediately give a unique identification number on a wristband (or equivalent).
- Triage to an appropriate area for further medical evaluation.
- Children and their parents or caregivers should not be separated unless critical medical issues take priority.
- Wet (soapy) infants and toddlers should NOT be picked up due to the potential for them to be dropped.

### **Infants and Toddlers (0-2 Years of Age)**

This is typically the most challenging group to treat. Special needs considerations are of the utmost importance in this group. Follow the guidelines below during treatment to assure the patient is properly and thoroughly decontaminated.

- It is not recommended that the child be separated from family members or adult caregivers.
- Caregivers should not carry the child because of the possibility of injury from a fall, or from dropping a slippery and squirming child.
- Non-ambulatory infants and toddlers should be placed in a laundry basket on a stretcher by hot zone personnel and undressed (using trauma shears if necessary).
  - All clothes and items that cannot be decontaminated should be placed in appropriate containers or bags as provided by the hospital and labeled.
- All non-ambulatory children should then be escorted through the decontamination shower by either the child's caregiver and/or decontamination personnel to ensure the patient is properly and thoroughly decontaminated.
  - Special attention must be paid to protect the child's airway while in the shower.
- Once through the shower, the child's caregiver or post decontamination ("cold zone") personnel will have a towel and sheets to dry off the child, and a hospital gown.
  - It is crucial to prevent or treat hypothermia by providing additional towels, gowns and/or warming blankets as necessary.
  - The child should immediately be given a unique identification number on a wristband and then triaged to an appropriate area for medical evaluation.

### **Preschool Aged Children (Typically 2 to 8 Years of Age)**

- Children ages two to eight years can walk and speak, yet (with considerable variations in physical characteristics) are clearly young, dependent children.
- Each child should be directly accompanied through the shower by either the child's caregiver or hot zone personnel to ensure the entire patient is properly and thoroughly decontaminated.
- The child should not be separated from family members or the adult caregiver, whenever possible.
- Ambulatory children should be assisted in undressing with help from either the child's caregiver or "hot zone" personnel.
  - All clothes and items that cannot be decontaminated should be placed in appropriate containers or bags as provided by the hospital and labeled.



- Non-ambulatory children should be placed on a stretcher by hot zone personnel and undressed (using trauma shears if necessary).
  - All clothes and items that cannot be decontaminated should be placed in appropriate containers or bags as provided by the hospital and labeled.
- Each non-ambulatory child on a stretcher should be escorted through the decontamination shower.
  - Toddlers should be placed in a laundry basket for their safety.
  - A parent, caregiver, or hot zone worker should assist with decontamination to ensure the patient is thoroughly and properly decontaminated.
- Once through the shower, each child should be given a towel and sheets to dry themselves, and a hospital gown.
  - Remember to prevent or treat hypothermia by providing additional towels, gowns or warming blankets as necessary.
  - The child should immediately be given a unique identification number on a wristband and triaged to the appropriate area for medical evaluation.

#### **School Age Children (Ages 8 -17 years)**

- The 8- to 17-year age group should be able to disrobe and function independently through the shower. The procedure should be explained.
  - They should also be grouped by gender for modesty issues.
  - It is important to protect the modesty of all children.
- Instructions should be given to each patient for complete decontamination.
  - Younger children can go through the decontamination process with a parent or caregiver if they do not understand the instructions.
  - Older children should go through in succession with parents, caregivers or classmates.
  - Non-ambulatory children should be placed on a gurney. The procedure should be explained. The child should be disrobed and moved through the decontamination process with one team member.
- Once through the shower, towels to dry themselves and a gown should be provided.
  - To prevent or treat hypothermia additional towels, warm or space/thermal blankets should be distributed.
  - The child should immediately be given a unique identification number on a wristband and triaged to the appropriate area for medical evaluation.

### 3.5 Evacuation

Lucile Packard Children's Hospital Stanford, a tertiary care freestanding hospital for pregnant women, babies and children, created an innovative and novel disaster tool designed for the movement of hospitalized patients. It can rapidly assess patient transport needs for partial or vertical evacuation called TRAIN™. Whether the need is to evacuate the facility or to prepare for increased surge capacity, a triage method is required to quickly and accurately assess patients for transport. This can be found at: <https://www.stanfordchildrens.org/en/research-innovation/train> and a larger version is in **(Attachment #7)**.

Transport	Blue/Car	Green/BLS	Yellow/ALS	Orange/CCT	Red/Specialized
Life Support	Stable	Stable+	Minimal	Moderate	Maximal
Mobility	Car/Carseat	Wheelchair or Stretcher	Wheelchair or Stretcher	Stretcher	Incubator or Immobile
Nutrition	All PO	Intermittent Enteral	Continuous Enteral or Partial Parenteral	TPN Dependent	
Pharmacy	PO Meds	IV Intermittent meds	IV Fluids	IV Drip x1	IV Drip ≥2
Life Support	Stable + =	Low flow oxygen			
	Minimal =	Oxygen hood, chest tube, etc.			
	Moderate =	CPAP/BiPAP/Hi-Flow, conventional ventilator, peritoneal dialysis, externally paced, continuous nebulizer treatments, etc.			
	Maximal =	Highly specialized equipment, e.g., Neonatal Ventilator, HFOV, ECMO, iNO, CVVH, Berlin Heart, wt ≤ 1.5 kg, specialized medical personnel, etc.			
Mobility	Car/Carseat =	Able to ride in automobile with age-appropriate restraints			
	Incubator =	Transport incubator with equipment for connecting to ambulance			
	Immobile =	Unsafe to move without special equipment e.g., neurosurgical/bariatric			

## 4.0 Additional Information

### 4.1 Immediate Bed Availability<sup>17</sup>/Decompression

Immediate Bed Availability (IBA) or decompression guidelines developed provide a framework to open beds in a medical surge incident by using strategies such as reverse triage to facilitate rapid discharge of stable patients and transferring patients who are stable but cannot be discharged. The Michigan IBA Decompression Strategy Guidelines and Toolkit contains general conceptual information about the models related to IBA, associated recommended checklists and templates that may be used by hospitals to achieve the nationally recommended goal of opening, a minimum of, 20% of the facility's *staffed* beds within four hours of incident notification to receive a surge of patients. It also provides information to assist with the development of documents and forms that can be adapted by each individual facility to aid in the process of decompression. *To accomplish future healthcare capabilities, each facility should have a plan in place to decompress their existing patient census to prepare to receive numerous patients. The toolkit assists with resources and recommendations.*

### 4.2 Pediatric Referral Resources – Laboratory and Epidemiology

There are established procedures for requesting laboratory/epidemiology consults through MDHHS. When a physician or a laboratory suspects the presence of a designated condition but does not have sufficient information to be certain that the condition or agent is present, the physician or laboratory must report the designated condition or agent as suspected. Upon confirmation of the disease or presence of the agent, the physician shall report the confirmation to the appropriate local health department as a case.

The Laboratory Response Network (LRN) in Michigan includes Reference Level Laboratories located in several regions of the state, including the MDHHS Bureau of Laboratories in Lansing. **If requesting a consult from the MDHHS Epidemiology or Laboratory divisions, they can be contacted 24/7/365 at their EMERGENCY PHONE NUMBER: 517-335-9030**

Additional information and contact numbers can be found at:

- MDHHS Laboratories: [http://www.michigan.gov/MDHHS/0,1607,7-132-2945\\_5103---.00.html](http://www.michigan.gov/MDHHS/0,1607,7-132-2945_5103---.00.html)
- MDHHS Epidemiology: [http://www.michigan.gov/MDHHS/0,4612,7-132-2945\\_5104---.00.html](http://www.michigan.gov/MDHHS/0,4612,7-132-2945_5104---.00.html)

<sup>17</sup>Michigan Hospital Preparedness Program. (2018). Immediate Bed Availability Toolkit. [https://www.michigan.gov/documents/mdhhs/IBA\\_Guidelines\\_Document\\_617603\\_7.pdf](https://www.michigan.gov/documents/mdhhs/IBA_Guidelines_Document_617603_7.pdf)

### 4.3 Pediatric Champion or Pediatric Emergency Care Coordinator<sup>18</sup> (PECC)

Hospitals **and EMS agencies have** individuals who are responsible for coordinating pediatric specific activities. This designated individual(s) who coordinates pediatric emergency care need not be dedicated solely to this role; it can be an individual(s) already in place who assumes this role as part of their existing duties.

The intent of designating and developing the role of a Pediatric Champion/PECC is to ensure that there is a dedicated individual(s) identified in the Emergency Department or local EMS agency that represents pediatric interest and performs the roles listed below:

- Ensures that the pediatric perspective is included in the development of EMS protocols.
- Ensures that fellow EMS providers follow pediatric clinical practice guidelines.
- Promotes pediatric continuing-education opportunities.
- Oversees the pediatric-process improvement.
- Ensures the availability of pediatric medications, equipment, and supplies.
- Promotes agency participation in pediatric-prevention programs.
- Promotes agency participation in pediatric-research efforts.
- Liaises with the emergency department pediatric emergency care coordinator.
- Promotes family-centered care at the agency. Emergency Departments
- Ensures that the pediatric perspective is included in the development of ED protocols.
- Ensures that fellow ED providers follow pediatric clinical practice guidelines.
- Promotes pediatric continuing-education opportunities.
- Oversees the pediatric-process improvement.
- Ensures the availability of pediatric medications, equipment, and supplies.
- Promotes ED participation in pediatric-prevention programs.
- Promotes ED participation in pediatric-research efforts.
- Liaises with local EMS agency pediatric emergency care coordinators.
- Promotes family-centered care in the ED.

#### **Purpose:**

The intent of designating and developing the role of a Pediatric Champion/PECC is to ensure that there is a dedicated individual(s) identified in each hospital ED and local EMS agency that represents pediatric interest and performs the roles listed below even if routine pediatric care is not provided. A hospital or agency does not have to have a single person performing the functions of a Pediatric Champion/PECC. The responsibilities can be fulfilled by two or more people.

The Pediatric Champion should be an individual(s) who is focused on the care of children and is responsible for coordinating pediatric specific activities. A designated individual(s) who coordinates pediatric emergency care need not be dedicated solely to this role; it can be an individual(s) already in place who assumes this role as part of their existing duties. The individual(s) may be a member of the Emergency Department (ED) staff, EMS agency, or work at a county or regional level and serve more than one agency.

It is the goal for each hospital in Michigan to have a Pediatric Champion/PECC in each hospital ED to serve as the facilitator for pediatric readiness and improved care, especially in those that do not routinely see children. An objective for EMS is to have a Pediatric Champion in each.

Some certifications of the individual(s) who might fulfill the Pediatric Champion/PECC role include, but are not limited to:

#### Hospital (ED)

- Registered Nurse (RN)
- Advanced Practice Nurse (APN)
- Physician Assistant (PA)
- ED Physician
- Trauma Coordinator
- ED Manager
- ED Clinicians
- Ancillary Medical Personnel (Respiratory, Radiology, etc.)

#### EMS Agencies

- Emergency Medical Technician (EMT)
- Paramedic
- Registered Nurse (RN)
- Advanced Practice Nurse (APN)
- Physician Assistant (PA)
- MCA medical director
- EMS Chief
- Training office
- Other Prehospital professionals
- Additionally, there could be a region wide individual(s) that performs the responsibilities as a PECC for EMS agencies

### **Responsibilities**

#### Emergency Departments

- Ensures that the pediatric perspective is included in the development of ED protocols.
- Ensures that fellow ED providers follow pediatric clinical practice guidelines.
- Promotes pediatric continuing-education opportunities.
- Oversees the pediatric-process improvement.
- Ensures the availability of pediatric medications, equipment, and supplies.
- Promotes ED participation in pediatric-prevention programs.
- Promotes ED participation in pediatric-research efforts.
- Liaises with local EMS agency pediatric emergency care coordinators.
- Promotes family-centered care in the ED.

## EMS Agencies

- Ensures that the pediatric perspective is included in the development of EMS protocols.
- Ensures that fellow EMS providers follow pediatric clinical practice guidelines.
- Promotes pediatric continuing-education opportunities.
- Oversees the pediatric-process improvement.
- Ensures the availability of pediatric medications, equipment, and supplies.
- Promotes agency participation in pediatric-prevention programs.
- Promotes agency participation in pediatric-research efforts.
- Liaises with the emergency department pediatric emergency care coordinator.
- Promotes family-centered care at the agency.

<sup>18</sup>A Pediatric Emergency Care Coordinator (PECC) is <https://emscimprovement.center/collaboratives/pecclc/what-pecc/>

## **Attachments**

## Attachment # 1

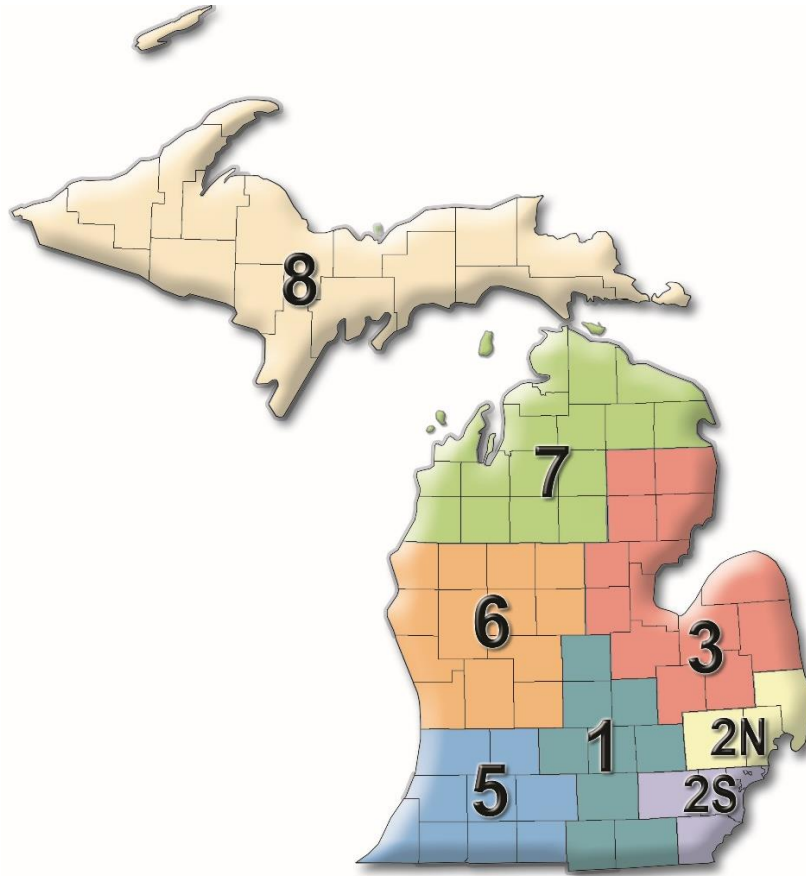
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- Center for Disease Control and Prevention (CDC)/Agency for Toxic Substances and Disease Registry (ATSDR) Social Vulnerability Index (SVI). <https://www.atsdr.cdc.gov/placeandhealth/svi/index.html>
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- Illinois Department of Public Health ESF-8 Plan: Pediatric and Neonatal Surge Annex (Public Version). (2017). [IDPH ESF-8 Plan: Pediatric and Neonatal Surge Annex July 2020 Public Version \(illinois.gov\)](https://www.idph.state.il.us/IDPH/ESF-8-Plan-Pediatric-and-Neonatal-Surge-Annex-July-2020-Public-Version)
- Michigan Pandemic Plan (revised January 2020).



Attachment # 2

Michigan Regional Healthcare Coalition Medical Coordination Centers



Region	Contact Name	MCC Email	MCC Phone
Region 1	Matt Price	<a href="mailto:d1rmrc@sbcglobal.net">d1rmrc@sbcglobal.net</a>	517-546-9111
Region 2N	Rick Drummer	<a href="mailto:RMCC@region2north.com">RMCC@region2north.com</a>	248-267-0535
Region 2S	Amy Shehu	<a href="mailto:email@2south.org">email@2south.org</a>	734-727-7289
Region 3	Jennifer Stefaniak	<a href="mailto:Region3HealthcareCoalition@saginawtuscolamca.com">Region3HealthcareCoalition@saginawtuscolamca.com</a>	989-899-7458
Region 5	Christina Benson	<a href="mailto:communications@westmichiganaircare.onmicrosoft.com">communications@westmichiganaircare.onmicrosoft.com</a>	269-337-2500
Region 6	Luke Aurner	<a href="mailto:Region6mcc@wmrmc.org">Region6mcc@wmrmc.org</a>	855-734-6622
Region 7	Amanda Reed	<a href="mailto:R7RMCC@mir7hcc.com">R7RMCC@mir7hcc.com</a>	989-732-5141
Region 8	Ed Unger	<a href="mailto:R8MCCr@Region8.org">R8MCCr@Region8.org</a>	866-273-2125

# Pediatric Disaster Triage Guidelines

2019

**Purpose:** Provide guidance to the transferring facility during statewide triage of patients to identify the most appropriate facility to receive transferred pediatric patients.

TRIAGE CATEGORY	POSSIBLE CRITERIA*		
	PEDIATRIC INTERVENTIONS	PEDIATRIC CONDITIONS	PERINATAL CRITERIA
<b>CRITICAL CARE (Pediatric Intensive Care/ Category 1 Hospitals)</b>	Invasive monitoring (either present or needed) (e.g., A-line, CVP, ICP)	Active seizures/status epilepticus Post cardiac arrest patients	Level III Perinatal Center Criteria <ul style="list-style-type: none"> <li>• Post cardio-pulmonary failure/arrest</li> <li>• Eclampsia</li> <li>• Active hemorrhage/heavy bleeding</li> <li>• Fetal parts or foreign bodies protruding from vagina</li> <li>• Diabetic coma/DKA</li> <li>• Altered level of consciousness</li> <li>• Multiple gestations (greater than twins) in active labor</li> <li>• Active labor in mothers &lt; 30 weeks gestation</li> <li>• Preterm, rupture of membranes &lt; 30 weeks gestation</li> <li>• Laboring mother with known antenatal fetus defect (e.g., cardiac, pediatric surgery)</li> <li>• Pre-eclampsia or hemolysis. Elevated Liver Enzymes, and Low Platelets (HELLP) syndrome</li> <li>• Other life-threatening conditions to mother or fetus</li> </ul>
	Continuous cardiac, NIPB and/or pulse oximetry monitoring	Dehydration, electrolyte imbalances and/or metabolic disturbances (unstable)	
	Immediate/emergent dialysis for acute or chronic renal failure	Shock responding inadequately to treatment (uncompensated)	
	IV drips 2 (e.g., insulin, inotropes, TPN, etc.)	Respiratory distress (responding inadequately to treatment)	
	Highly specialized equipment needs (HFOV-high frequency oscillator ventilators, ECMO)	Unstable vital signs	
	Conventional ventilator/BiPAP/CPAP/Hi flow oxygen (unstable)	Unstable cardiac rhythm disturbances	
	Continuous nebulizer treatments (not responding adequately to treatments)	Trauma (unstable): Spinal cord injuries; major pelvic fractures, blunt injury to chest or abdomen; significant penetrating wounds to head, neck, thorax, abdomen or pelvis	
	Externally paced	Trauma: Head injury with any of the following: cerebrospinal fluid leaks, open head injuries (excluding simple scalp injuries), depressed skull fractures, decreased level of consciousness	Pregnant women with > 10% TBSA burns (Request hospital with burn capabilities)
	Other highly specialized services needed	Trauma: Amputation proximal to the wrist or ankle	
	Other specialized equipment (e.g., LVADs)	Trauma (unstable): Fractures and deep penetrating wounds to an extremity with neurovascular or compartment injury	
		Burns ≥ 20 % TBSA (Request hospital with burn capabilities)	
		Other condition(s) requiring pediatric critical care specialty	

<b>INTERMEDIATE CARE (Pediatric Intermediate Care/ Category 2 &amp; 4 Hospitals)</b>	IV drip x I (e.g., insulin, inotropes, TPN)	Shock. responding adequately to treatment (compensated)	<b>Level II-E Perinatal Center Criteria</b> <ul style="list-style-type: none"> <li>Active labor in mothers &gt;30 and &lt;35 weeks gestation</li> <li>Multiple gestations (no more than twins) in active labor</li> <li>Decreased fetal movement</li> <li>Abdominal pain</li> <li>Preterm rupture of membranes &gt; 30 and &lt; 35 weeks gestation</li> </ul>
	Central lines (IJ, Subclavian, Femoral)	Stable cardiac rhythm disturbances	
	Intermittent cardiac, NIBP and/or pulse oximetry monitoring	Dehydration, electrolyte imbalances and/or metabolic disturbances (stable)	
	Continuous nebulizer treatments (responding adequately to treatment)	Respiratory distress (responding adequately to treatment)	
	Conventional ventilator. CPAP/BiPAP/Hi flow oxygen (stable)	Trauma (stable): Head injury, pelvic fractures, spinal cord injuries. blunt injury to chest or abdomen	
	Non-emergent hemodialysis for chronic renal failure	Trauma (stable): Fractures and deep penetrating wounds to an extremity with neurovascular or compartment injury	
		Trauma: Patient with chest tube. hemovac (stable)	Pregnant women with ≤ 10 % TBSA burns
		Burns ≥ 10% but ≤ 20% TBSA	
		Other urgent condition(s) requiring care	
<b>GENERAL CARE (Pediatric General Medical Care/ Category 2, 3 &amp; 4 Hospitals)</b>	Intermittent monitoring (e.g., pulse oximetry)	Pediatric Burns < 10%	<b>Level I or II Perinatal Center Criteria</b> <ul style="list-style-type: none"> <li>Active labor in mothers &gt; 35 gestation</li> <li>Stable gestational hypertension</li> <li>Premature rupture of membranes &gt; 35 weeks gestation</li> <li>Rule out rupture of membranes (ROM)</li> </ul>
		Fever (Stable)	
	Maintenance IV fluids or saline lock	Inpatient psychiatric resources	
	Low flow oxygen (up to 4L)	Other minor condition (s) requiring care	
	Nebulizer treatments q 4hrs or greater PO/IV meds		

**\*This list is not meant to be all inclusive and is to be used ONLY during disasters**

**October 2019**

## Medical Surge Stages

Surge Stages	Definition	Plan
<b>Stage I</b>	<p>Any incident in which local trauma/medical resources are overwhelmed with patients (example: 10-24 patients):</p> <ul style="list-style-type: none"> <li>Have <math>\leq 10\%</math> patient surge.</li> <li>Qualitative or quantitative nature of injuries exceed local capacity to provide effective care.</li> </ul>	<ul style="list-style-type: none"> <li>Individual healthcare facilities will manage pediatric patients.</li> <li>Regional MCC will communicate with MDHHS CHECC who contacts the SEOC.</li> <li>The CHECC will communicate with the MCC who provides consultation and assists in coordination of bed availability for the impacted healthcare facilities.</li> <li>Tertiary Pediatric Children's Hospitals will manage as many critical patients as resources permit.</li> <li>Children's hospitals with PICU and medical-surge floor capabilities will assist in the care of critically ill/injured patients.</li> <li>Community hospitals may have to care for pediatric patients for an extended period of time resulting from a lack of resources in the Children's Hospitals.</li> </ul>
<b>Stage II</b>	<p>Any incident in which regional trauma/medical resources are overwhelmed with patients (example: 25 – 75 patients):</p> <ul style="list-style-type: none"> <li>Have <math>\geq 20\%</math> patient surge.</li> <li>Qualitative or quantitative nature of injuries exceeds defined capacity of the region.</li> </ul>	<ul style="list-style-type: none"> <li>See Stage I plan.</li> <li>Children's Hospitals in neighboring states in close proximity to the incident may assist in the management of as many patients as resources permit.</li> <li>Non-pediatric healthcare facilities may be utilized as needed to care for stable pediatric patients until transfer to a higher level of care can be arranged. Preferably this would be within 72 hours.</li> <li>Telemedicine and telephone consultations can be coordinated to assist non-pediatric healthcare facilities in caring for patients.</li> <li>If existing trauma/medical resources are exhausted, patients will be referred utilizing process outlined in Stage III (see below).</li> </ul>
<b>Stage III</b>	<p>Any incident in which state trauma/medical resources are overwhelmed with patients (example: &gt; 75 patients or the potential to have &gt; 75 patients exists):</p> <ul style="list-style-type: none"> <li>Have <math>\geq 35\%</math> patient surge.</li> <li>Qualitative or quantitative nature of injuries exceeds defined capacity of the state.</li> </ul>	<ul style="list-style-type: none"> <li>See Stage II above.</li> <li>Tertiary pediatric centers will manage as many patients as resources permit who meet transfer criteria.</li> <li>Patients may be transferred to more distant hospitals in Michigan and neighboring states.</li> <li>If Great Lakes Healthcare Partnership (GLHP) assistance is unavailable or transport is not feasible, community hospitals will be utilized to house lower acuity patients.</li> </ul>

## Potential Medical Surge Response Strategies

	Conventional Capacity	Contingency Capacity	Crisis Capacity
Medical Surge Capacity Capability Tiers	Tier 1	Tier 2 Tier 3	Tier 4 Tier 5 Tier 6
Supplies	<ul style="list-style-type: none"> <li>Stockpiled supplies used</li> <li>Medical Supply Chain able to resupply on request</li> </ul>	<ul style="list-style-type: none"> <li>Hospital MOUs</li> <li>Regional Equipment, Supply, and Pharmaceutical</li> <li>Caches</li> <li>MEDDRUN/CHEMPACK</li> </ul>	<ul style="list-style-type: none"> <li>State Caches</li> <li>Strategic National Stockpile (SNS)</li> <li>Great Lakes Healthcare Partnership (GLHP)</li> <li>Emergency Medical Assistance Compact (EMAC)</li> <li>Allocation of Scarce Medical Resources</li> </ul>
Space	<ul style="list-style-type: none"> <li>Cancel elective procedures</li> <li>Use in-place bed additions</li> <li>Begin surge discharge</li> </ul>	<ul style="list-style-type: none"> <li>Clear patients from pre-induction and procedure areas</li> <li>Fill all available beds</li> <li>Bed availability reporting (EMResource)</li> </ul>	<ul style="list-style-type: none"> <li>Place patients in hallways or lobby areas</li> <li>Activate Alternate Care Sites (ACS), Casualty Transport System (CTS)</li> <li>MI-TESA Medical Unit</li> </ul>
Staffing	<ul style="list-style-type: none"> <li>Use all staff trained to care for pediatrics to provide care</li> </ul>	<ul style="list-style-type: none"> <li>Request pediatric trained staff from regional hospitals</li> <li>MI Volunteer Registry</li> <li>Medical Reserve Corps (MRC)</li> <li>Emergency Care Task Force</li> <li>Ambulance Strike Teams</li> <li>MI-MORT</li> </ul>	<ul style="list-style-type: none"> <li>GLHP</li> <li>EMAC</li> <li>National Disaster Medical System (NDMS)</li> <li>Michigan Volunteer Registry</li> <li>Utilize staff not trained for pediatric care</li> </ul>

Attachment # 6

**Pediatric Burn Fluid Resuscitation Calculations<sup>27</sup>**

Patient Weight	TBSA burn	Calculation	Estimated 24h Resuscitation Total (NOT including maintenance fluids)	Fluid type (dependent on patient weight)
8 kg	20%	3 x 8 x 20	480 ml	D5 LR
8 kg	40%	3 x 8 x 40	960 ml	D5 LR
8 kg	60%	3 x 8 x 60	1,440 ml	D5 LR
8 kg	80%	3 x 8 x 80	1,920 ml	D5 LR
10 kg	20%	3 x 10 x 20	800 ml	LR
10 kg	40%	3 x 10 x 40	1,200 ml	LR
10 kg	60%	3 x 10 x 60	1,800 ml	LR
10 kg	80%	3 x 10 x 80	2,400 ml	LR
20 kg	20%	3 x 20 x 20	1,200 ml	LR
20 kg	40%	3 x 20 x 40	2,400 ml	LR
20 kg	60%	3 x 20 x 60	3,600 ml	LR
20 kg	80%	3 x 20 x 80	4,800 ml	LR
30 kg	20%	3 x 30 x 20	1,800 ml	LR
30 kg	40%	3 x 30 x 40	3,600 ml	LR
30 kg	60%	3 x 30 x 60	5,400 ml	LR
30 kg	80%	3 x 30 x 80	7,200 ml	LR
40 kg	20%	3 x 40 x 20	2,400 ml	LR
40 kg	40%	3 x 40 x 40	4,800 ml	LR
40 kg	60%	3 x 40 x 60	7,200 ml	LR
40 kg	80%	3 x 40 x 80	9,600 ml	LR
50 kg	20%	3 x 50 x 20	3,000 ml	LR
50 kg	40%	3 x 50 x 40	6,000 ml	LR
50 kg	60%	3 x 50 x 60	9,000 ml	LR
50 kg	80%	3 x 50 x 80	12,000 ml	LR

<sup>27</sup> State of Michigan Burn Mass Casualty Incident Surge Plan. [www.MichiganBurn.org](http://www.MichiganBurn.org)

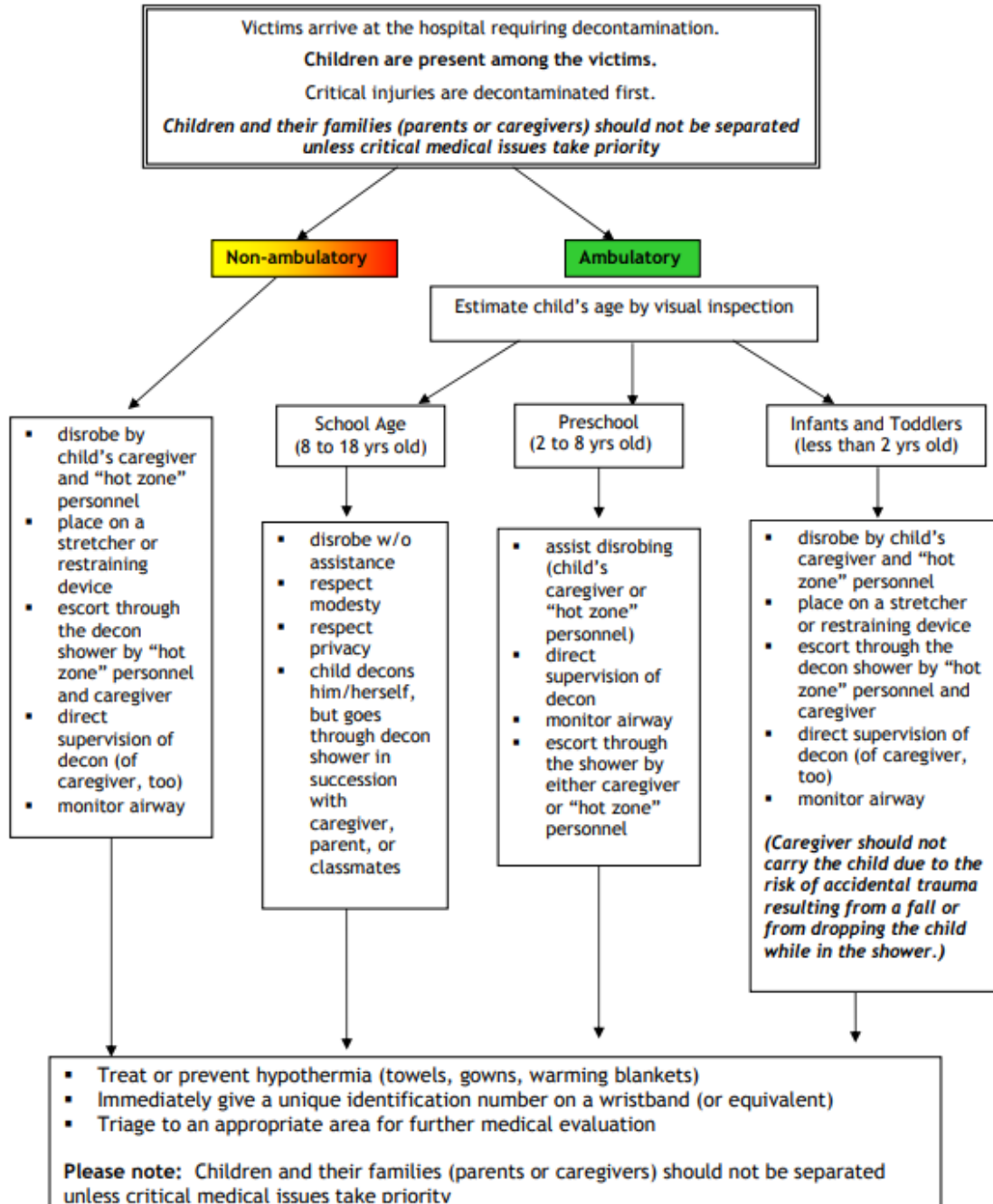
Attachment # 7

**Triage by Resource Allocation for IN-patients [TRAIN™] Tool  
Neonatal/Pediatrics<sup>28</sup>**

Transport	Blue/Car	Green/BLS	Yellow/ALS	Orange/CCT	Red/Specialized
Life Support	Stable	Stable +	Minimal	Moderate	Maximal
Mobility	Car/Car seat	Wheelchair or Stretcher	Wheelchair of Stretcher	Stretcher	Incubator or Immobile
Nutrition	All PO	Intermittent Enteral	Continuous Enteral or Partial Parenteral	TPN Dependent	
Pharmacy	PO Meds	IV Intermittent meds	IV Fluids	IV Drip x 1	IV Drip $\geq 2$
Life Support	Stable + =	Low flow oxygen			
	Minimal =	Oxygen hood, chest tube, etc.			
	Moderate =	CPAP/BiPAP/Hi-flow, Conventional Ventilator, Peritoneal Dialysis, Externally paced, continuous nebulizer treatments, etc.			
	Maximal =	Highly specialized equip., e.g., Neonatal Ventilator, HFOV, ECMO, iNO, CVVH, Berlin Heart, wt. $\leq 1.5$ kg, specialized medical personnel, etc.			
Mobility	Cars/Carseat =	Able to ride in automobile with age-appropriate restraints			
	Incubator	Transport incubator with equipment for connecting to ambulance			
	Immobile =	Unsafe to move without special equipment e.g., neurosurgical/bariatric			

<sup>28</sup> Stanford Children's Health, 2020, Lucille Packard Children's Hospital Stanford, TRAIN Consortium  
<https://www.stanfordchildrens.org/content-public/pdf/train/train-final-neo-peds.pdf>

## Hospital Decontamination and the Pediatric Patient MODEL PROTOCOL ALGORITHM





## Transfer Agreement Template

This agreement is made and entered into by and between [YOUR FACILITY NAME, CITY, STATE], a nonprofit corporation (hereinafter called "YOUR FACILITY") and [RECEIVING FACILITY NAME, CITY, STATE], a nonprofit corporation, (hereinafter called "RECEIVING FACILITY"):

WHEREAS, both [YOUR FACILITY] and [RECEIVING FACILITY] desire, by both means of this Agreement, to assist physicians and the parties hereto in the treatment of trauma patients (e.g., burn, traumatic brain injuries, spinal cord injuries, pediatrics); and whereas the parties specifically wish to facilitate: (a) the timely transfer of patients and information necessary or useful in the care and treatment of trauma patients transferred, (b) the continuity of the care and treatment appropriate to the needs of trauma patients, and (c) the utilization of knowledge and other resources of both facilities in a coordinated and cooperative manner to improve the professional health care of trauma patients.

IT IS, THEREFORE, AGREED by and between the parties as follows:

1. PATIENT TRANSFER: The need for transfer of a patient from [YOUR FACILITY] to [RECEIVING FACILITY] shall be determined and recommended by the patient's attending physician in such physician's own medical judgment. When a transfer is recommended as medically appropriate, a trauma patient at [YOUR FACILITY] shall be transferred and admitted to [RECEIVING FACILITY] as promptly as possible under the circumstances, provided that beds and other appropriate resources are available. Acceptance of the patient by [RECEIVING FACILITY] will be made pursuant to admission policies and procedures of [RECEIVING FACILITY].
2. [YOUR FACILITY] agrees that it shall:
  - a. Notify [RECEIVING FACILITY] as far in advance as possible of transfer of a trauma patient.
  - b. Transfer to [RECEIVING FACILITY] the personal effects, including money and valuables and information relating to same.
  - c. Make every effort within its resources to stabilize the patient to avoid all immediate threats to life and limbs. If stabilization is not possible, [YOUR FACILITY] shall either establish that the transfer is the result of an informed written request of the patient or his or her surrogate or shall have obtained a written certification from a physician or other qualified medical person in consultation with a physician that the medical benefits expected from the transfer outweigh the increased risk of transfer.
  - d. Affect the transfer to [RECEIVING FACILITY] through qualified personnel and appropriate transportation equipment, including the use of necessary and medically appropriate life support measures.
3. [YOUR FACILITY] agrees to transmit with each patient at the time of transfer, or in the case of emergency, as promptly as possible thereafter, pertinent medical information and records necessary to continue the patient's treatment and to provide identifying and other information.
4. [RECEIVING FACILITY] agrees to state where the patient is to be delivered and agrees to provide information about the type of resources it has available.
5. Bills incurred with respect to services performed by either party to the Agreement shall be collected by the party rendering such services directly from the patient, third party, and neither party shall have any liability to the other for such charges.

- 6 This agreement shall be effective from the date of execution and shall continue in effect indefinitely. Either party may terminate this agreement on thirty (30) days' notice in writing to the other party. If either party shall have its license to operate revoked by the state, this Agreement shall terminate on the date such revocation becomes effective.
- 7 Each party to the Agreement shall be responsible for its own acts and omissions and those of their employees and contractors and shall not be responsible for the acts and omissions of the other institutions.
- 8 Nothing in this Agreement shall be construed as limiting the right of either to affiliate or contract with any hospital or nursing home on either a limited or general basis while this agreement is in effect.
- 9 Neither party shall use the name of the other in any promotional or advertising material unless review and written approval of the intended use shall first be obtained from the party whose name is to be used.
- 10 This agreement shall be governed by the laws of the State of *[INSERT STATE]*. Both parties agree to comply with the Emergency Medical Treatment and Active Labor Act of 1986, and the Health Insurance Portability and Accountability Act of 1996 and the rules now and hereafter promulgated thereunder.
- 11 This Agreement may be modified or amended from time to time by mutual agreement of the parties, and any such modification or amendment shall be attached to and become part of the Agreement.

YOUR FACILITY

RECEIVING FACILITY

SIGNED BY:

SIGNED BY:

\_\_\_\_\_  
DATE:

\_\_\_\_\_  
DATE:

## Attachment # 10

### Resources and Links

Abuse and Neglect Hotline - Child Intake Phone: 855-444-3911

[https://www.michigan.gov/mdhhs/0,5885,7-339-73971\\_7119---,00.html](https://www.michigan.gov/mdhhs/0,5885,7-339-73971_7119---,00.html)

American Academy of Pediatrics Guidelines for Care of Children in the Emergency Department  
[Joint Policy Statement—Guidelines for Care of Children in the Emergency Department | Pediatrics | American Academy of Pediatrics \(aap.org\)](#)

Centers for Disease Control and Prevention/Agency for Toxic Substances and Disease Registry. (2021). CDC/ATSDR Social Vulnerability Index.

<https://www.atsdr.cdc.gov/placeandhealth/svi/index.html>

CSHCS Family Phone Line at 1-800-359-3722

[The Family Center for Children and Youth with Special Health Care Needs \(Family Center\) \(michigan.gov\)](#)

EMSC Innovation and Improvement Center: Pediatric Domains and Considerations for Every Hospital's Disaster Policies. [Pediatric Disaster Preparedness Toolkit • EIIIC \(emscimprovement.center\)](#)

Family Reunification following Disaster: A Planning Tool for Healthcare Facilities. American Academy of Pediatrics and Massachusetts General Hospital Center for Disaster Medicine  
[AAP-Reunification-Toolkit.pdf](#)

Health and Human Services emPOWER Program Platform. <https://empowerprogram.hhs.gov/>

MDHHS Behavioral Health and Developmental Disabilities Administration

[https://www.michigan.gov/mdhhs/0,5885,7-339-71550\\_2941-146590--,00.html](https://www.michigan.gov/mdhhs/0,5885,7-339-71550_2941-146590--,00.html)

Michigan Burn Surge Website

[MiBurnVer24\\_peds.pdf \(michiganburn.org\)](#)

Michigan Children's Specialized Healthcare Services (CSHCS) [The Family Center for Children and Youth with Special Health Care Needs \(Family Center\) \(michigan.gov\)](#)

Michigan Department of Health and Licensing Affairs

[https://www.michigan.gov/lara/0,4601,7-154-89334\\_72600\\_72603---,00.html](https://www.michigan.gov/lara/0,4601,7-154-89334_72600_72603---,00.html)

Michigan Emergency Operations Plan

[https://www.michigan.gov/documents/msp/MEMP\\_portfolio\\_for\\_web\\_383520\\_7.pdf](https://www.michigan.gov/documents/msp/MEMP_portfolio_for_web_383520_7.pdf)

Michigan Guidelines for Ethical Allocation of Scarce Medical Resources and Services During Public Health Emergencies in Michigan

[2022 MDHHS Ethical Guidelines \(michigan.gov\)](#)

Michigan Immediate Bed Availability Decompression Strategy Guidelines and Toolkit  
[https://www.michigan.gov/documents/mdhhs/IBA\\_Guidelines\\_Document\\_617603\\_7.pdf](https://www.michigan.gov/documents/mdhhs/IBA_Guidelines_Document_617603_7.pdf)

National Center for Missing and Exploited Children (NCMEC) Unaccompanied Minor Registry  
[National Center for Missing & Exploited Children \(missingkids.org\)](https://www.missingkids.org)

**Acronyms**

Acronym	Definition
AAP	American Academy of Pediatrics
ACS	American College of Surgeons
APHL	Association of Public Health Laboratories
BC	Burn Center
BEPESOC	Bureau of Emergency Preparedness, EMS and Systems of Care
BMCI	Burn Mass Casualty Incident
BSF	Burn Surge Facility
CDC	Centers of Disease Control and Prevention
CHECC	Community Health Emergency Coordination Center
CO <sub>2</sub>	Carbon Dioxide
D5LR	Dextrose 0.5% Lactated Ringers
DEPR	Division of Emergency Preparedness and Response
DET	Division of EMS and Trauma
ECMO	Extracorporeal Membrane Oxygenation
ED	Emergency Department
EIIC	EMS Improvement and Innovation Center
EMAC	Emergency Management Assistance Compact
EMC	Emergency Management Coordinator
EMHSD	Emergency Management & Homeland Security Division
EMS	Emergency Medical Services
EOP	Emergency Operations Plan
FDA	Federal Drug Administration
HCC	Healthcare Coalition
HCO	Healthcare Organization
HHS	Health and Human Services
HIPAA	Health Insurance Portability & Accountability Act
HPP	Hospital Preparedness Program
IBA	Immediate Bed Availability
kg	kilogram
LEOC	Local Emergency Operations Center
LHD	Local Health Department
LMA	Laryngeal Mask Airway
LR	Lactated Ringers
LRN	Laboratory Response Network
LSA	Life Support Agency
MCC	Medical Coordination Center
MCI	Mass Casualty Incident
MDHHS	Michigan Department of Health & Human Services
MEMP	Michigan Emergency Management Plan

MI CIMS	Michigan Critical Incident Management System
Acronym	Definition
MI HAN	Michigan Health Alert Network
MPSCS	Michigan Public Safety Communication System
NICU	Neonatal Intensive Care Unit
PAHPA	Pandemic and All-Hazards Preparedness Act
PAHPRA	Pandemic and All-Hazards Preparedness & Reauthorization Act
PAHPAIA	Pandemic and All-Hazards Preparedness and Advancing Innovation Act
PECC	Pediatric Emergency Care Coordinator
PHS	Public Health Service
PICU	Pediatric Intensive Care Unit
PPE	Personal Protective Equipment
RFMR	Request for Medical Resources
SOM	State of Michigan
SEOC	State Emergency Operations Center
TBSA	Total Body Surface Area
TRAIN™	Triage by Resource Allocation for In-patients Tool™
U of M	University of Michigan