

MASS CASUALTY INCIDENT PLANNING

Introduction

This chapter focuses on the first hour after a mass casualty incident (MCI) and on the initial care and management of trauma patients. The hospital Emergency Operations Plan (EOP), its Incident Command, and inpatient surge capacity are critical to the success of an MCI response and are detailed in other chapters of this guidebook. The hospital MCI plan may be detailed in the body of the EOP or as an annex.

Historically, hospital emergency management planning for MCIs resulting in traumatic injuries has focused on emergency department (ED) activities; this chapter also includes considerations for emergency medical services (EMS), inpatient surge, surgical, supply chain, public information, family and staff support, and other issues that accompany an MCI response.

Decades of research on traditional disasters (e.g., those due to extreme weather or transportation incidents) found that of resulting injuries, approximately 85% are minor to moderate injuries and 15% are considered major injuries.^{1,2} However, in more recent years, a significantly higher percentage of critically injured patients have presented to hospitals following some mass shootings, changing long-standing assumptions about this ratio. Communities of any size are vulnerable to these unconventional hazards and all hospitals should be prepared for these uniquely taxing incidents in addition to the traditional risks identified in their hazard vulnerability analyses.

Authorities and Declaration

Key ED personnel (such as the supervising/lead physician in conjunction with the charge nurse) should be authorized to declare an MCI. Other personnel may be authorized to do so, but activation of the plan

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Related Resource

This chapter follows the format of ASPR TRACIE's [Hospital Mass Casualty Response Plan Considerations](#). Review this companion document for additional details and resources.

¹ Quarantelli, E. (1983). Delivery of Emergency Medical Services in Disasters: Assumptions and Realities.

² Auf der Heide. (2000). Disaster Response: Principles of Preparation and Coordination Online Edition, [Chapter 8](#).

should not rely on multiple personnel or those who are offsite. Depending on factors such as the size of the hospital and time of day, an MCI may be managed with available resources, in which case a declaration is not necessary. Conversely, ED personnel may need to activate the MCI plan despite numbers of patients who could normally be accommodated with available resources if the incident occurs concurrently with other events or at a time (particularly at night) when ED and surgical services may be under-resourced.

Personnel should have guidance on the number of casualties that would automatically trigger an MCI declaration but also have discretion for activating the hospital MCI plan based on whether patients can be safely cared for with the resources available. The size of the facility, its role in the community, and available staffing all factor into these thresholds. For a critical access or rural hospital, three critically injured victims arriving from a motor vehicle crash may be enough to trigger plan activation. For a Level 1 trauma center, ten critically injured victims from an incident may be a reasonable threshold.

When informed of an incident that, based on initial information, will exceed available resources (e.g., a mass shooting, explosion, or fire with multiple victims), the hospital should *not* wait to activate the MCI plan as this may result in delayed mobilization of resources. Canceling an activation is less risky than waiting for definitive information about the number of casualties and being overwhelmed. Good communication with EMS can help inform the ED about evolving incidents and provide adequate information to make a decision about disaster plan activation.

Canceling an MCI declaration based on updated information is different from concluding response operations, i.e., issuing an “all clear” after a disaster activation. The response may be ongoing in other areas of the hospital after it concludes in the ED. The Hospital Command Center should consider ongoing logistical, information, and policy management needs throughout the facility before issuing an all clear.

Alerting and Mobilization

Personnel responsible for declaring an MCI should understand the activation process, which typically starts by contacting the hospital operator or an on-campus public safety answering point. This declaration should then trigger the following actions (depending on specific organizational processes):

- Announce an MCI alert and Hospital Command Center activation overhead on the hospital campus.
- Notify additional on-campus staff through other mass notification means (e.g., message boards, computer screen alerts, alerts to operating room [OR] and other staff who may not hear overhead paging).
- Alert off-campus clinical and supervisory personnel via page/text/phone call to supplement on-campus staff. At night, audible alarms/phone calls may be required to wake staff.

Related Resources

For more information, review the ASPR TRACIE [Mass Violence/Active Shooter Incidents Tip Sheets](#).



- Mobilize resources to the ED (e.g., stretchers, wheelchairs, pre-designated medications, MCI kits).
- Implement facility access controls (e.g., station security personnel at pre-determined entrances and exits).

From the Field

One hospital experienced a fire that compromised access to their single disaster storage room, creating problems with access to supplies needed to support the evacuation.

MCI paging groups often include nurses, physicians, and support staff from emergency medicine, surgery, anesthesia, respiratory, inpatient/critical care, blood bank, laboratory, radiology, security, emergency management, administration, supply chain, sterile processing, patient transportation, and environmental services.

While waiting for additional staff to arrive, rapid response teams, on-call teams, code team members, and others should be familiar with their pre-identified reporting role to the ED or other areas of the hospital. ED and OR staff reporting from home should go to their work areas *first* and then to the labor pool if not needed. EMS personnel may be of great help to the ED staff or to facilitate interfacility transfers if not needed at the incident scene.

Hospitals may consider initially only notifying staff who live within a certain distance from the hospital. For larger facilities, the first notification should *not* go to all personnel; the Hospital Command Center can determine whether additional staff would be helpful based on the incident and plan staffing for subsequent shifts/operational periods. The hospital should use the same notification pathway to cancel an MCI plan activation, if necessary, or to provide additional information to alerted personnel.

Personnel should know what actions they and their unit should take when an MCI is declared. Depending on the size of the facility, select in-house staff such as trauma surgery and orthopedics may report to the ED. OR staff should clear pre- and post-anesthesia space and hold additional non-emergency cases. Inpatient nursing staff should free up available space and prepare to receive hallway patients (or, depending on the hospital plan, send some staff to the ED to retrieve pending admissions). Inpatient units should also prioritize patients for expedited discharge or transfer to lower levels of care and be prepared to report this information to the Hospital Command Center.

Supplies

Many EDs store dedicated MCI supplies in the department. Command vests, radios, triage tags, job action sheets/job aids, disaster patient packets/paper documentation, and clipboards are some items that may support initial organization. The ED should be able to manage a large number of patients requiring emergency airway intervention, hemorrhage control (e.g., tourniquets), and management of open or closed chest wounds (e.g., chest seal supplies, needle decompression, chest tube/thoracostomy supplies). Many hospitals place these supplies on carts in or close to the ED for rapid deployment when needed. Separate bins of wound care and patient evaluation supplies may be used in triage or minor care areas. “Bedside boxes” or



bags containing supplies (in both pediatric and adult sizing) for initial intravenous access, hemorrhage control, chest decompression, and airway management can support initial management of any trauma patient outside usual critical care areas and when EDs rapidly become stripped of critical supplies during an MCI.

The ED may also maintain backboards and extra wheelchairs and stretchers. When an MCI alert occurs, these supplies should be brought immediately to the ED. This can be difficult off-hours and may require environmental services and other personnel to collect carts from locations such as same day surgery, clinics, or patient transportation.

Chest tube and suture trays should be maintained in sufficient quantity on a cart or in the ED where they can be rapidly accessed during an MCI. A major trauma center may wish to have 25-50 chest tubes and 100 or more suture trays available in reserve. When needed, a finger thoracostomy may be performed on intubated patients to reduce the time and resources required by formal tube thoracostomy; providers should be familiar with this technique and have necessary equipment available (e.g., scalpel, curved forceps). The hospital should have adequate surgical supplies for multiple, concurrent major procedures if they provide surgical services. A major trauma center should have 15 or more major trauma/laparotomy trays available. This includes adequate trays for emergency laparotomy as well as vascular emergencies. Disposable supplies are often contained in OR “trauma packs” that should be stocked in similar quantity to prevent circulators and other OR staff from having to assemble them on the fly during a disaster.

The hospital may have plans to set up temporary care areas (e.g., discharge waiting areas, alternate care spaces for inpatient care, triage, and minor treatment areas) after an MCI. Supplies for these areas should be located either in the area itself, on carts, or otherwise able to be rapidly mobilized to support the care role anticipated. In some cases, oxygen for multiple patients may be needed in triage and other areas. A multi-hub oxygen distribution system can provide mask oxygen to eight or more patients via a single wall oxygen outlet in a temporary care area.

Related Resource

Hospitals may not be sure how many supplies they should have on hand. The [Disaster Available Supplies in Hospitals \(DASH\) Tool](#) can help hospitals identify reasonable thresholds for stocking based on their role in the community.

The hospital pharmacy should have an initial list of medications (such as analgesia, sedation, paralytics, and antifibrinolytics [e.g., TXA]) likely to be needed urgently after an MCI in quantities that are not stocked in the ED. These should be pulled immediately and brought to a pharmacist or charge nurse in the ED since controlled substances are involved. A later pull can send tetanus boosters, antibiotics, and other supplemental medications to the ED.

Medication dispensing systems can pose particular challenges during disasters. Commonly used medications are often rapidly stripped from these machines, large volumes of patients and verbal orders complicate access prior to patient registration, and power loss can render the



machines useless. Manual entry keys should be in the pharmacy, if needed, and providers should understand how to quickly access medications other than through dispensing machines during disasters.

The demand on the hospital blood bank (particularly of Type O blood and AB+ plasma) may exceed supply and staff. Laboratory personnel and others may be cross trained to support the blood bank in addition to staff called in during a disaster. Whether the products are fresh or frozen can also have implications on time to mobilization, particularly

when multiple resuscitations are occurring. Hospitals should plan with their regional blood suppliers (and alternate suppliers, in case of overlapping markets) to rapidly send large amounts of blood product on request. Ideally, there should be several ways (e.g., public safety radio networks, prioritized cellular) to reach the blood supplier that do not rely on the hospital phone system, which may be overwhelmed. Education of providers (e.g., on the judicious use of massive transfusion protocols, rapid shift to type-specific products) can also help reduce demand on the blood bank during MCIs.

From the Field

Blood product demand may be extreme. In several recent mass shooting incidents, hospitals used more than 300 units of packed red blood cells.

All areas providing acute and surgical care should have phone numbers available for pharmacy, sterile/surgical supply, central supply (if different), and blood bank. Runners or staff from those areas should know where to bring the supplies (e.g., if the ED is quite large, have a central location for supply receiving and consider a supply officer at that location). Requests for supplies outside usual department needs should go through the Hospital Command Center.

The ED should have supplies to meet the needs of pediatric patients. Minimum guidelines set out by specialty societies such as the American Academy of Pediatrics are a good starting point for identifying necessary categories of supplies but are not sufficient for disaster response.³ Hospitals should consider their local hazards relative to pediatric incidents. Patients younger than age eight are particularly challenging from an equipment size standpoint. Respiratory and intravenous access supplies for those ages have no substitutes during resuscitation, thus, a relatively large supply of the equipment should be kept on hand to meet the needs of the smallest patients.

Equipment for specialized responses such as thermal burns and chemical or radiation exposures that may complicate an MCI (either alone or in addition to trauma) is addressed in other chapters of this guidebook.

³ Remick, K., Gausche-Hill, M., Joseph, M., et al. (2018). [Pediatric Preparedness in the Emergency Department](#). *Pediatrics*. 142(5):e20182459

Security and Traffic Control

The hospital may have a small number of security staff and should ask for support from community law enforcement resources, but these resources may be difficult to obtain due to obligations at the incident scene. Thus, plans should be in place to use other staff to monitor entrances or help direct traffic as required. Staff expected to fulfill these responsibilities should be trained ahead of time for their anticipated roles. Community Emergency Response Teams (CERT) and other volunteer organizations may be able to provide rapid support in some communities.

Access controls should be implemented during MCIs to prevent hostile actors, visitors, media, and others from entering the campus through alternate entrances, including by “piggybacking” with entering staff. Additional screening may be implemented depending on the incident and hospital policy. Some hospitals use electronic systems that can deactivate badge access, but increased screening may also be accomplished through manual methods. Reducing the number of entrances to the hospital also reduces the number of staff required to monitor these entrances. Staff reporting from outside the hospital should know which entrances to use during a disaster.

Depending on the size and location of the ambulance arrival area, portions of the parking lot, driveway, or street may need to be closed/secured for ambulance use and traffic may need to be rerouted to enable the flow of EMS and private vehicles transporting patients. Portable barricades, cones, high visibility vests, temporary lighting/flashlights, signage, barrier tape, necessary vehicles, and other supplies should be immediately available to support these activities. At some hospitals, additional landing zones for rotor-wing aircraft may need to be established on grass or paved areas. Checklists and supplies for establishing these alternate landing areas should also be included with facility disaster supplies.

Registration and Documentation

Registration of the patient in the electronic health record (EHR) should occur as rapidly as possible, but the number and pace of patients frequently overwhelm formal registration. Rapid registration, radio frequency identification (RFID) bands, triage tags, or another system to ensure all patients coming through the door have an interim method of tracking until registration can be accomplished is critical so that patients are not “lost.” Registration clerks should be part of the disaster callback list. A rapid process for documenting unidentified patients is also important; this system should have easily differentiated designations (e.g., based on combinations such as “color, state” rather than a number as these can easily be confused). Ideally, temporary tagging/banding systems should be removed once the patient is registered or have space for a registration sticker to be affixed.

Some hospitals make a rapid registration process part of the triage workflow by stationing a registration clerk with the triage officer(s). The briefer the process, the better. Registration

should not be allowed to slow or back up the triage process during an MCI; an interim tagging/tracking method should always back up this plan.

In many cases, the volume of patients will preclude the use of standard EHR documentation. Paper charts for both minor injuries (including demographic information for the patient to fill out to enable back-registration) and critical care (basic documentation of vital signs, injuries, and interventions to accompany the patient to the OR or inpatient units) should be kept in the ED and used at the direction of ED leadership. Later, these can be entered or scanned into the EHR and provide the medical record for the patient's visit as well as associate the patient with a provider for billing and other purposes. Scribes, if used in the hospital, can assist with critical care documentation as well as serving as an incident scribe/assistant to the charge nurse or lead physician. Scribes should understand their disaster roles in advance of an incident.

From the Field

Many hospitals have disaster packets that may include pre-printed ID bands, laboratory labels (and sometimes laboratory tubes), registration, and charting materials, which expedite rapid registration and provide the forms needed for initial documentation.

Ideally, there should be some indication in the EHR of the patient association with the incident (particularly for those patients presenting on a delayed basis). This may be indicated by placing "disaster" as the chief complaint or another method. As soon as practical, a list of incident patients at the hospital should be generated and kept up to date for purposes of family reunification. If there are multiple hospitals in the area, sharing and/or combining these lists (including unidentified patient information) can facilitate family reunification at the regional level (e.g., through a community 311, American Red Cross, healthcare coalition, or other central mechanism) and prevent loved ones from calling multiple hospitals repeatedly.

Emergency Department Command and Control

Under the Hospital Incident Command System (HICS), the Casualty Care Unit Leader (also referred to as the ED Supervisor or a similar moniker) oversees all emergency care. This should be a default position (i.e., not assigned by the Incident Commander) and is often a physician or charge nurse (or one of several) responsible for activating the MCI plan. Prior to the Hospital Command Center being opened, this individual may need to act as the Incident Commander while also balancing patient care duties. This individual should don an identifying vest as soon as possible. A job action sheet/job aid may help them orient to key initial actions. As soon as practical, the Casualty Care Unit Leader/ED Supervisor should separate themselves from clinical care to supervise patient flow and interface with the Hospital Command Center.

The Casualty Care Unit Leader/ED Supervisor will appoint a triage officer and other roles as needed. Depending on the size and layout of the ED, the command structure may designate leaders (e.g., pod or team center leaders) to coordinate care and prioritize in the sub-sections of the ED. Some EDs also designate a supply officer, transport officer, pharmacy officer, and other positions. In all cases, these roles report to the Casualty Care Unit Leader/ED Supervisor.



and should provide situational awareness so that patients can be prioritized for computed tomography (CT), OR, and other interventions and ensure resource and staffing needs are tracked and addressed.

Initially, each provider may be responsible for multiple patients. Arriving staff from on or off-campus should check in with the Casualty Care Unit Leader/ED Supervisor or an area leader designated by a titled vest for assignment. The goal is to reduce the number of patients per provider, ideally to the point that every critically injured patient is monitored by at least one staff member who could stay with the patient through the initial care transitions to ensure continuity of assessment and effective handoffs. Additional personnel should be requested from the Hospital Command Center or the labor pool per the hospital EOP; those not needed in their work area or without a designated MCI role should report to the labor pool for assignment.

Triage

Primary triage occurs when the patient arrives at the ED. Depending on the configuration of the ED, more than one triage officer may be needed to monitor walk-in and ambulance arrivals. The triage officer(s) should receive assignment and briefing (including any known or suspected hazards/issues) from the Casualty Care Unit Leader/ED Supervisor, don their vest, and obtain tags/bands and other triage supplies.

Literature has shown that experienced triage providers make a difference in outcomes; an experienced provider should serve as triage officer whenever possible.⁴ For patients arriving via EMS, a very brief report should be taken as the patient is being reassessed. Initial triage should include a usual rapid trauma assessment (e.g., ABCDE of Advanced Trauma Life Support with exposure including a search for truncal penetrating trauma). Even if a patient is currently stable, penetrating torso injury (which may be subtle in blast injury) can be rapidly life-threatening. Optimally, the triage officer should have colored tags, wrist bands, or other ways of designating priority and noting initial injuries if they are not obvious (e.g., “GSW L armpit”).

The ED space plan should specify the cascading overflow of usual resuscitation spaces to other spaces that can provide critical care as the number of critically injured patients increases. For example, some areas of the ED may be designated for red/critical, yellow/moderate, or green/minor patients. Generally, minor injuries should be sent to a waiting area until space in the department can be used for their care. This may include the triage area, although hospitals may use their urgent care, adjacent clinic, pediatric ED, or another location for minor injury cohorting. Triage is dynamic and should re-occur when the patient arrives at their assigned area in the ED and frequently thereafter. This includes assigning adequate personnel in the minor care areas to ensure rapid detection of more complex injuries.

⁴ Frykberg, E. (2005). [Triage: Principles and Practice](#). Scandinavian Journal of Surgery. 94:272-278

In some cases, a patient may arrive in cardiac arrest or with injuries that are clearly not compatible with life (e.g., blast injury Glasgow Coma Scale 3 with open brain injury, hemicorporectomy). Generally, patients arriving in cardiac arrest (ideally, confirmed by ultrasound) during an MCI should not receive further care. Unconscious patients with apparent lethal injuries (e.g., gunshot wound to the head) should be placed in an area where they can be reassessed as resources allow. Triage personnel should not triage any awake patient to an “expectant” category.

Secondary triage is an important and less practiced prioritization of patients for resources after initial assessment and interventions. Depending on the setting (trauma center or referring hospital), this usually involves prioritization either for transport to a definitive care facility or to the OR. This usually occurs after initial ABC priorities have been managed and after basic initial diagnostics (e.g., ultrasound, plain film x-rays) have been performed. In general, patients with the simplest required lifesaving procedures should be prioritized for intervention. For example, intra-abdominal injury requiring the OR should be prioritized over chest injuries that do not respond to initial ED management with chest tubes/decompression or complex neurologic injuries. The hospital may wish to incorporate a formal prioritization system into the triage tag for these cases to ensure continuity between the ED and OR.

Prioritization for CT scans may also be an issue. Patients who are unstable without clear causative injury should be prioritized for pan-scan over those who are stable.

In some cases, secondary triage may mean deciding to stop resuscitation when the injuries are found to be so severe that the patient will not survive based on evolving knowledge of injuries and clinical status. In other cases, patients may be deprioritized based on extensive injuries that cannot be immediately addressed; these patients should be reassessed and interventions provided when resources allow. Palliative care should always be provided, and some hospitals have specific palliative care disaster response plans.

Tertiary triage occurs during definitive interventions. Generally, it is not an issue for the ED but may occur in the OR when, upon exploration, a patient is determined

From the Field

One key principle of triage is that graphic wounds and injuries to children tend to cause over-triage (i.e., triaging to a higher level than is appropriate). If hemorrhage is controlled to a destroyed extremity, these patients are usually a lower priority than those with shock and airway issues. Triage personnel should be mindful of these issues and avoid overloading critical care areas of the department.

From the Field

For hospitals that are sending MCI patients to a trauma center, discussion with a receiving physician may be very valuable in helping determine transport priority. This may be particularly important for combined burn/traumatic injuries and other more complex injuries, though consultation with a colleague whenever triage decisions are being made that are outside usual scope of practice is recommended.



to have injuries that are lethal or of a complexity that repair/continued resuscitation cannot be justified based on concurrent demands for resources (e.g., patient with complex vascular injuries that would require tremendous amounts of ongoing blood resuscitation and hours to repair with other operative cases pending).

Space and Care Adaptations

When an MCI is declared, ED, OR, outpatient, and inpatient spaces should prepare for incoming patients. Staff should understand any “rapid sign out” or other plans for ensuring that existing patients go to inpatient units without delay. Actions by space may include:

- **ED:** Gather stretchers, beds, and wheelchairs. Move ambulatory patients back to triage areas if possible. Move pending admits upstairs to hall beds. Move selected patients to chairs and hallway carts. Ensure patients understand delays in care may occur. Command staff should don vests and appoint triage and other positions as needed. Mobilize departmental supplies.
- **Surgery:** Hold additional cases. Ensure all personnel are aware to expedite current cases. Organize staff and pre- and post-operative areas for incoming casualties. Mobilize supplies for multiple rooms/cases. Ensure there is a “quarterback” surgeon to prioritize cases for the OR and manage throughput. Anesthesia personnel can also provide critical support for pre- and post-anesthesia patients who are awaiting OR or inpatient beds. Based on the scope of the incident, determine which non-emergency cases for the next day(s) will be canceled.
- **Outpatient:** Depending on the location and role of the outpatient services, prepare to receive selected incident casualties (e.g., minor trauma) or existing ED/triage patients.
- **Inpatient:** Activate surge discharge plans and move patients identified for discharge to hallway beds/carts/recliners. Prepare to receive existing ED patients along with incident patients per surge plans (described in the Surge Concepts chapter of this guidebook).

From the Field

Following the Las Vegas shooting, a major trauma center placed multiple patients in the resuscitation area with key staff in the center of a “hub” of patients with their heads toward the center and their feet pointed outward as “spokes,” allowing multiple patients to be monitored by a few providers. Longer oxygen supply tubing and other adaptations may be needed to facilitate this arrangement.

The Hospital Command Center can continue to tailor the response to the demand over time using a “surge grid.”

The ED should have a plan for when critically injured patients overflow usual resuscitation spaces. This may include use of other rooms/cubicles for designated overflow (ideally, larger spaces or those best equipped for resuscitation cases or in direct sight of the nursing station). Doubling beds in the resuscitation area or implementing other methods of providing care in that area, particularly when staffing is limited, can help manage overflow.



Moderately injured patients should be assigned to appropriate care areas (e.g., hallways and observation or procedural areas). Monitoring these patients is important as they can deteriorate over time.

An area should be pre-designated for the care of minor injuries. This area may require supplies and staffing depending on whether it is an existing clinic, urgent care, a conference room, or other space. Triage staff should be prepared to direct those with minor injuries to this location.

Radiology will be in high demand during an MCI. Radiology personnel should be on the MCI callback list to facilitate making additional scanners, ultrasound, and plain film portable imaging available as possible. Bedside ultrasound can be a rapid means of triage and can reduce the need for plain films and CT scanning. Ensure that patients are easily distinguishable and consider simplifying radiology orders to pan scan patients whenever possible to save time, reduce errors, and ensure that injuries are not missed. Radiology and “wet reads” should be performed on all emergency scans with feedback directly to the care provider. If offsite reads are being performed, a phone line may need to be kept open for reads. Ideally, a radiologist should be present onsite. Using downtime forms for rapid written interpretation and leaving those with the patient may be an effective short-term means of communicating findings.

From the Field

Following the Las Vegas mass shooting, a Level 1 trauma center stationed a surgeon in the CT scanner viewing room. Following a wet read on their imaging, patients were sent from CT to the OR, inpatient units, or the post anesthesia care unit (inpatient area overflow) and not back to the ED. This one-way flow was crucial to keeping ED space available for incoming casualties.

In some cases, multiple patients will arrive dead or die in the hospital. Hospitals should designate sufficient staffed and secured morgue space to accommodate a large number of deceased and move these patients there as soon as possible. Families may wish to view the deceased; the morgue space or adjacent space should permit this when appropriate. Close coordination with law enforcement and the medical examiner’s office is required to maintain bodies and belongings in accord with local practices and state law. Chaplaincy, interpretation, social services, and other behavioral health and support staff should be available to families. Medical personnel should be able to respond to the area with a code cart in case a family member experiences a medical emergency.

From the Field

Following the Las Vegas mass shooting, one trauma center used a procedure area adjacent to the ED for a morgue. This allowed private viewing of the deceased by family members and accommodated an honor guard and other needs resulting from the death of a responder.

Family Support

A Family Support Center (FSC) should be established upon MCI declaration so that a patient's loved ones can immediately be redirected away from the ED. Ideally, the FSC should be located close to the ED but not within it. The FSC should be large, with a common area and nearby private rooms and bathrooms. Staff should implement a sign-in and sign-out process to facilitate notification. Providing access to good cellular service, free wi-fi, chargers/outlets, and refreshments are all best practices. Social workers, interpretative services, chaplaincy, and behavioral health staff are key though others (e.g., healthcare coalition and clerical staff) can also provide operational support. Senior staff should provide regular updates and briefings and oversee the reunification of loved ones as they are matched with patients. Clinical and chaplaincy staff should provide death notifications in a private room.

Every MCI results in many phone calls to the hospital from loved ones seeking information on patients as well as persons who are *not* at the hospital. There should be a standard form to collect information from callers and loved ones presenting to the FSC in search of potential patients. Hospitals should also dedicate a telephone number and/or webpage to the response. Ideally, an FSC should include dedicated call-takers with access to the EHR/bed board and the standard information collecting forms for those seeking individuals who are *not* found in the hospital system. Hospital personnel should understand prior to an MCI that names and other information *may* be shared for family reunification and that this is not a Health Insurance Portability and Accountability Act (HIPAA) violation. Using pseudonyms during the initial registration process may delay being able to provide patient information to loved ones until real names are determined.

From the Field

In the District of Columbia metropolitan area, a dedicated website links to the area Health Information Exchange, which is activated at the time of a disaster. Members of the public can query patients by name and, if there is a match found, the system can display the name of the hospital where a patient by that name is registered.

A similar process to collect standard information should occur at the bedside of unidentified patients as soon as practical. In many cases, patients may lack identification (e.g., they left their purse or wallet at the scene) or have identification or belongings with them that are *not* theirs. Ideally, these forms and this process should be standardized across the hospitals in the area. Law enforcement should be made aware of unidentified patients per local policies. Patient information from the inpatient units should flow to the FSC and any community-based reunification process via a defined mechanism (e.g., 311, emergency management hotline, healthcare coalition reunification system).

The ED should have a process for identifying (e.g., by special wristband) pediatric patients and patients with special circumstances (e.g., fall risk, hard of hearing). Unaccompanied minors or those with parents injured to the point of not being able to care for them will need continuous monitoring. Once their care is complete, these children should be moved to a pediatric safe area until they can be reunited with guardians. This area should be secure, child-safe, staffed

adequately to supervise the number of children, and have policies for reunification, including recordkeeping of intake and discharge. Thresholds for releasing children to parents or guardians should be specified (e.g., recognition by child of parent visually and verbally, photos of child with parent/guardian provided by the family member). Depending on the situation, adult only hospitals may receive pediatric patients and vice versa. All hospitals should be prepared to treat patients of all ages during an MCI.

Visitor restrictions are important in the near-term after an MCI to decrease congestion in the ED and other areas and maintain safety. Family members at the bedside can, however, be very helpful in providing comfort and support. Consider allowing one visitor per patient. Signage and other mechanisms can help reinforce the policies.

Information Management

Information must be monitored and developed both internally and externally. Within the facility, information about the impact of the incident must be gathered, including number and names of patients related to the incident; the degree of critical injury/illness; the strain on the ED, surgical services, critical care, and supplies; and any infrastructure impacts. Communication systems may be impacted by the incident itself or by incident-related issues such as a large number of incoming calls jamming hospital switchboards. Notification of staff off-campus should not be dependent on hospital phone lines that may be overwhelmed during an MCI. Information about the impact on other hospitals in the area and EMS capacity is also important.

Updated information about the incident must be communicated on-campus to providers, but also to patients, loved ones, visitors, and other facility staff. This will require different messages and communication strategies. In some cases, important safety information must be communicated urgently on campus. For staff responding from home or at home, the initial alerts need to be followed by updates. The platform and urgency depend on the situation, but safety and traffic information may need to be passed along, as well as the status of the incident (e.g., if the activation is canceled or if adequate staff have already responded). Incident updates should be provided via a hotline, texts, emails, or other means to staff on a regular basis. Information about debriefs and support is also important to convey broadly. There may be a staff hotline or other means of providing current information via live operator or recording. The hospital should anticipate, however, that internal information is likely to be shared with the media.

External information needs will be significant. Media will request information and often show up to the hospital (and, in many cases, try to gain access).

From the Field

Following the 35W bridge collapse, major media was communicating that all healthcare providers should report to the trauma center when, in fact, there was more than enough staff on hand. Further, a television report stated that citizens could go to the emergency department to donate blood. Rapid communication to media outlets was able to correct these errant communications before they caused problems for the hospitals.

Designated areas for the press should be separate and a significant distance from the ED entrance and the FSC. Broadcast trucks must have a designated parking area and should not be allowed to block traffic near the hospital. The hospital or healthcare system's Public Information Officer (PIO) should provide appropriate information relative to the hospital response (and, ideally, in concert with any local authority messages) and schedule a press conference as soon as possible and at a regular interval. Media pressure will be intense and reporters are often unwilling to wait for standard press conferences. The hospital should also communicate whenever possible to the community via social media. Key initial messages may include reassuring the community that the hospital is functioning/adapting, telling people to avoid calling the hospital, directing family members seeking loved ones to hotlines or other resources, and, in some cases (e.g., a chemical incident), providing information on when and where to seek care. The hospital can also help reinforce local authority messages (e.g., to avoid certain areas).

Related Resources

ASPR TRACIE's [Tools and Templates for Healthcare Coalitions](#) lists plan and tabletop exercise templates and other tools to assist hospitals in planning with their healthcare coalition partners. The [MOCC Toolkit](#) can help ensure that healthcare assets are used effectively across a region, promoting consistent standard of care.

When a Joint Information Center (JIC) is operational, the PIO should ensure coordination of messages with the JIC. In some cases, joint press conferences may be held. The PIO should designate individual(s) to monitor social and traditional media for misinformation/rumors or questions that should be addressed. In many cases, well-meaning but inaccurate information that could adversely affect the hospital may be countered early. Hospitals that are part of a corporate system may have their messaging efforts coordinated/assisted by the system PIO.

Regional/Healthcare Coalition Integration

There will be an immediate and ongoing need for hospitals to communicate their capacity and functional status to EMS agencies, other hospitals, the healthcare coalition, and other regional partners. A mechanism for doing this should be in place and used on a routine basis. In some cases, having an EMS liaison in the ED at the major hospital(s) receiving patients from the MCI can help facilitate real-time status communication as well as secondary transfer management.

Determining the impact on the hospital versus other hospitals in the area is critical to evaluating the need for load-balancing (i.e., moving patients from an overwhelmed hospital to a hospital with more capacity). Healthcare coalitions can be a key coordinator of a regional healthcare response. They can obtain situational awareness for multiple hospitals in an area, determine potential need for emergency and delayed transfers, evaluate the need for moving supplies or other resources to harder hit facilities, and coordinate information between hospitals and with the community. Depending on their role, coalitions may be represented at the Emergency Operations Center (EOC) and be the liaison to healthcare. Know the healthcare coalition's capabilities and capacities to support MCI response in advance. If there is not a

healthcare coalition with a response role in the area, the hospitals should have an agreement about how they will communicate and coordinate, and who will represent them at the jurisdictional EOC in case resources are needed that cannot be obtained from partner facilities. These mechanisms should be practiced and the key personnel should be well-known so that there are trusted relationships in advance of an incident. Corporate command centers may also be involved with load balancing focused on their facilities.

In some cases, regional coordination of transfers for specialty patients (e.g., trauma, burn, pediatric, critical care) may be required. A medical operations coordination center (MOCC) should be used (ideally daily, but at least during disasters) to help determine the priority for transfers and ensure those who can benefit most from specialty resources obtain them. Regional specialty response plans should document assumptions about patient distribution. For example, in a mass burn incident, this might involve leaving patients with moderate burns that do not require surgical intervention in community hospitals and reserving burn center transfer for those with very large or critical area burns. Telemedicine support for facilities providing ongoing care for specialty patients who are usually outside their scope is a critical part of optimizing a regional approach.

Related Resources

ASPR TRACIE's [Mass Casualty Hospital Capacity Expansion Toolkit](#) can help hospitals develop quick reference sheets to guide response immediately following an MCI.

ASPR TRACIE Topic Collections
[Exercise Program](#)
[Incident Management Training and Workforce Development](#)

Education, Training, and Resources for Staff

This section concentrates on mass casualty education and training but should be part of a comprehensive emergency management plan. The training and exercise plan at the hospital should test the EOP across multiple response disciplines within the hospital. Education and exercises are often confined to the ED or leave out key participants such as OR staff (including anesthesia), blood bank, or environmental services. Disasters affect the entire facility and policies, training, and exercising should address hospital-wide impacts.

All staff who have a role in the response should have training and resources available to support their response. In many cases, this may be as simple as a card that hangs from their identification tag. For specific tasks (e.g., Chempack activation) or roles (e.g., HICS), additional resources may be needed that can take the form of printed, online, or app-based job aids or other resources. These should be very concise and geared toward initial actions, with specific job aids based on the hazard. For MCIs, in addition to job action sheets, the hospital may choose to use a set of prompts for leaders such as the CO-S-TR⁵ or other framework to help during the initial minutes to hours of an MCI response. Each area with a role in response should

⁵ Hick, J. (2010). [CO-S-TR Guide for Initial Incident Actions](#)

determine what resources are needed, where they are kept, and how they are used. Once these determinations are made and the resources developed, the hospital can educate frontline and leadership personnel on their use.

Education must be repeated or the materials drilled frequently enough to ensure competency during a response. This includes familiarity with the resources but also an understanding of how the response can expand and contract depending on the impact of the incident (i.e., flexibility and adaptation). The first hour of an MCI depends on each operational area to initiate the response actions in their area; they cannot wait for the Hospital Command Center to be activated. As the incident goes on, the role of the Hospital Command Center becomes more significant as the decisions and actions become less scripted and become more proactive rather than reactive (the goal of incident management).

Exercises should not be confined to an annual exercise that involves “victims” presenting to the hospital. Small, discussion-based exercises (e.g., at shift change huddles across all shifts) with frontline staff and leaders can increase comfort with their roles during an MCI. Smaller scale drills also play an important role. For example, a drill testing the FSC, taking existing patients to inpatient units from the ED at the start of a disaster, or activation of the blood bank component of an MCI response are key areas that may not receive adequate attention during a larger exercise.

Exercises should be designed to tax the response system and push into at least contingency care if not into crisis. A variety of objectives can test potential gaps or prior gaps that hopefully have been closed through a corrective action plan or other effort. The exercise does not need to be grand in logistical scale to be effective. Drills and exercises should be realistic, stress/test the key aspects of the response, and focus on testing operations/decision-making (do rather than tell). The most important goal of exercises is to ensure that frontline personnel and leaders have the knowledge and tools needed to effectively respond to an MCI.

Conclusion

MCIs are the main focus of most hospital EOPs, and rightfully so. They require a rapid and coordinated “all hands on deck” response, the primary components of which are dependent on the unit and department level rather than being directed by the Hospital Command Center. Therefore, planning for an MCI is a major effort, but the relationships, education, and resources built during the process form a foundation across the hospital that can help ensure patients receive the best trauma care possible.

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