Mass Casualty Management in hospital emergency units: guidance on palliative care

This document provides practical, ethically grounded guidance for integrating palliative care into Mass Casualty Management (MCM) in hospital emergency units, with a focus on identification, triage, and compassionate management of patients unlikely to survive due to resource constraints or medical futility. It outlines the use of an expanded "blue category" to designate patients in need of comfort-focused care, offering clinical criteria, spatial and staffing considerations for the "Blue Zone," and a comprehensive checklist of essential supplies.

Objectives

After reading this document, learners will be able to:

1. Describe the role of palliative care in mass casualty incidents (MCIs).
2. Recognize and triage patients who would benefit from palliative care during MCIs.
3. Describe effective strategies for symptom management in MCIs.
4. Describe compassionate communication and decision-making in MCIs.
5. Identify and access palliative care resources during MCIs.

Overview

Palliative care is a specialized approach that focuses on improving the quality of life of patients—children and adults—and their families when facing life-threatening illness or injury. The primary goals are to relieve pain and provide physical, psychosocial and spiritual support. Palliative care includes end of life care but is not limited to this scope. It is a fundamental component of universal health coverage and should be integrated into health systems at all levels of care.

Palliative care must be integrated into MCIs to ensure the relief of suffering, uphold human dignity, and provide appropriate care for those unlikely to survive or in need of symptom management when curative interventions are not feasible. In situations where healthcare resources are overwhelmed and not all patients can receive life-saving treatment, palliative care provides an ethical, compassionate approach. This includes access to essential medications such as opioids for pain and difficulty in breathing, trained staff to provide care, and protocols to guide symptom management and communication, ensuring no one is abandoned in crisis.

In the context of MCIs, palliative care will most often be applied to patients who are expected to die within hours to days due to the severity of their illnesses or injuries, given the currently available resources. The provision of palliative care is a moral and ethical obligation that must be thoughtfully integrated into the MCM framework, from triage to treatment, so that patients who are unlikely to survive or are experiencing serious health-related suffering receive the care that effectively addresses their needs.

Resources during MCIs, including those for palliative care, are scarce and overwhelmed. Provision of palliative care in this context requires acknowledging limitations and shifting the focus to comfort-centred care to alleviate symptoms for patients unlikely to benefit from resource-intensive medical or surgical interventions, thereby ensuring that available resources are prioritized for those with the greatest chance of survival or recovery. Palliative care is a vital resource in MCIs and allows for every patient to receive dignified care aligned with their needs, regardless of prognosis.

As with many aspects of MCI management, the decision to implement a blue zone and triage patients as blue is difficult and has significant consequences for patients, families and health workers. Staff should be consulted in the development of the facility MCI plan, which should have explicit detail on the blue zone.

Triaging for palliative care using the mass casualty Integrated Interagency Triage Tool (MC-IITT)

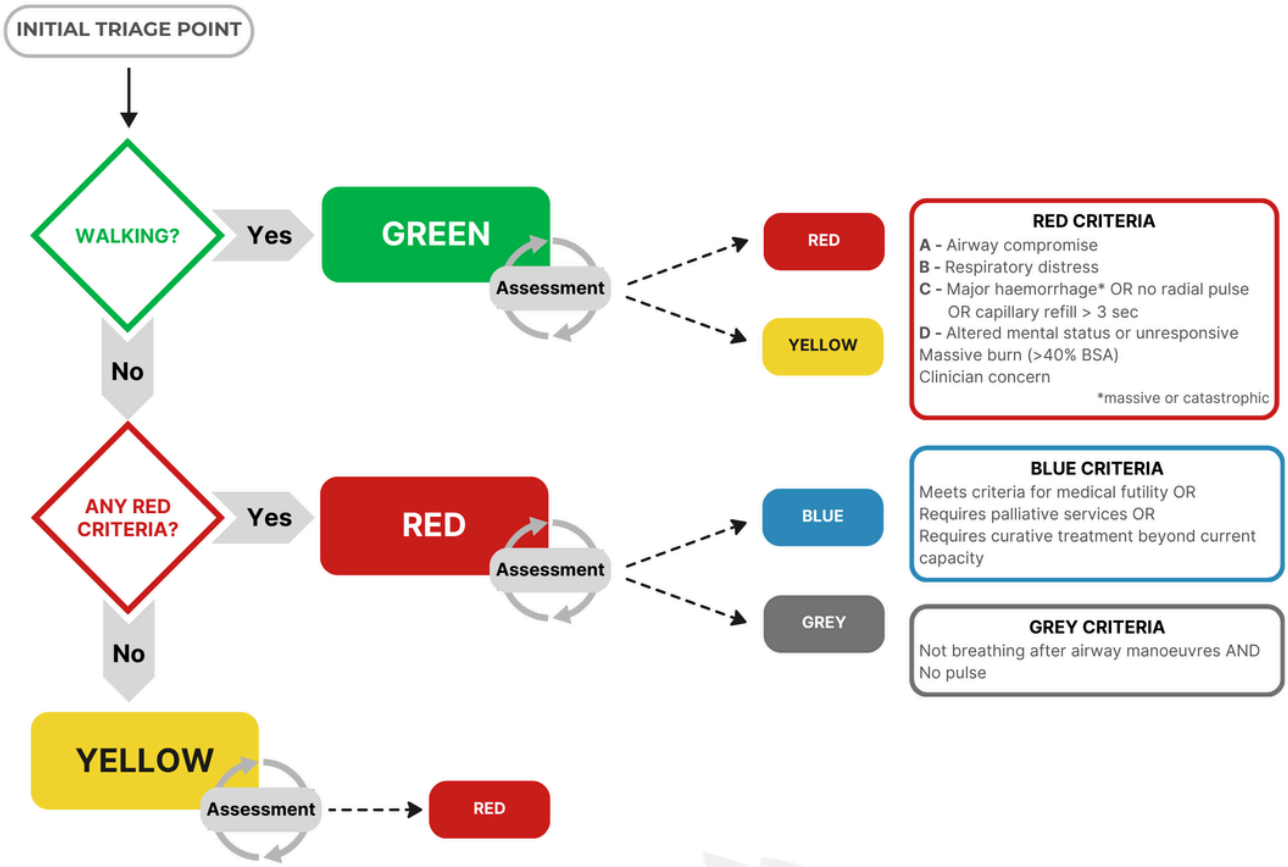

Figure 1. MC-IITT

In the MCM course, we teach that in incidents where the demand for care significantly outstrips available resources, the blue category may be used for patients who have life threatening conditions that meet criteria for medical futility or require curative treatments beyond the current capacity. This decision should be made by senior clinicians only. Blue patients still require management of pain and other distressing symptoms. This document provides expanded guidance for these patients.

MC-IITT - blue criteria

The blue criteria from the MC-IITT – as detailed below – are intended to serve as decision-making guidance rather than prescriptive rules. Each MCI will require adaptations and locally agreed upon criteria to fit the specific context: as patient numbers, injury types and severity will vary, so will the amount and scope of available medical resources.

BLUE CRITERIA
Meets criteria for medical futility OR
Requires palliative services OR
Requires curative treatment beyond current capacity

Figure 2: MC-IITT blue criteria

Meets criteria for medical futility: patients for whom survival is likely not possible despite maximal intervention, even in normal day-to-day situations. This definition will be based on clinical indicators that vary with each MCI. In each MCI, decisions may also be based on senior, experienced clinician judgment. Specifics will change, but examples may include:

- Massive burns: >70% TBSA;
- Devastating brain injury: GCS 3 with non-survivable head trauma, extensive exposed brain matter, posturing;
- Polytrauma with multiple organ failure.

Requires palliative services: this includes patients with pre-existing terminal conditions who now become injured or patients with severe injuries with no curative options, where the therapeutic goal shifts to ensuring comfort and maintaining dignity. Examples may include:

- Known terminal illness (advanced cancer, end stage organ failure) now with acute decompensation or severe injury;
- Severe pain, difficulty in breathing, or shock that cannot be managed by acute interventions.

Requires curative treatment beyond current capacity: this covers patients who may survive with maximum service availability but who cannot receive this in the MCI setting due to limited resources (where other patients who have higher chance of survival require the same resources). Examples may include:

- Non-compressible haemorrhage without available surgical services/operating theatre or blood products (or transfusion deemed futile given extent of blood loss);
- Multi-system trauma with loss of airway protection without available ventilators.

Palliative care space (blue zone)

The space for palliative care patients should be physically separate from the triage area and red zone. It is ideally close to the red zone to allow for easy movement of patients between the two zones but should have physical separation. An ideal environment for palliative care is quiet, with emphasis placed on privacy and comfort.

Consider minimizing noise from foot traffic, monitors, voices, and pay attention to ambient conditions including light and temperature. The space should have access to stretchers or beds for patient comfort, as well as chairs or other seating options for family members and other visitors. The zone should be separate from, though with easy access to, the morgue or other designated temporary areas for decedents in anticipation of patient death.

Family members will want to spend time with loved ones, and consideration should be given to the layout of the available space, provision of private spaces for sharing end of life moments and the provision of a waiting area. Ideally, the space should be accessible for those with disabilities.

Blue zone staffing

At a minimum, two experienced providers should oversee the blue zone. These providers should be credentialed to administer medications and should be able to re-prioritize as necessary and escalate care for patients when the situation changes. The primary objectives for these personnel are to:

- regularly re-assess patient condition,
- effectively identify and manage pain and other distressing symptoms and
- communicate effectively with patients and family members.

Staff working in the blue zone should receive training on self-care due to the potential moral distress associated with working in this area. Following an MCI response, debriefing is an important component of staff well-being. Staff well-being should be actively addressed and include a multi-level organizational strategy that promotes resilience and wellbeing at the individual, team, and system levels.

Whenever possible, psychosocial providers (e.g. social workers, counsellors, psychologists) and spiritual care providers should be readily available and have access to the blue zone to provide psychosocial and spiritual support to patients, families and – post event – staff.

Management of family is often a particularly difficult challenge. Adequate numbers of trained security personnel should be available to ensure safety and crowd control, promote privacy, and manage distressed patients or family members. Consider use of social workers to help manage family members.

Palliative care actions

Palliative care involves management of pain and other physical symptoms using essential medications, effective communication, and psychosocial or spiritual support. These actions should be delivered in a respectful and culturally sensitive manner with attention to individual patient's values and preferences. Local laws and customs should also be considered – for example, in some settings opioid administration is limited to certain cadres of senior staff.

This section outlines practical palliative care interventions that can be implemented in resource-strained settings and adapted as patient needs and system capacity evolve. Regular reassessment is critical, as changes in a patient's condition or resource availability may alter care plans.

Physical Care

- Patient positioning
  - Pillows or blankets to help position patients to relieve pain and allow for secretions to passively drain from the mouth
- Cover wounds and injured body parts as much as possible to minimize family distress
- Physical space: quiet, comfortable, private, temperature and noise control
- Access to food and hydration as desired

Medications

Pharmaceutical therapy includes addressing the main symptoms of the dying process, including pain, difficulty in breathing, anxiety, and agitation.

- Opioids and other analgesics
- Benzodiazepines
- Hyoscine or Glycopyrrolate for end stage respiratory secretions
- For severe symptoms, resources should be available to provide medications via the subcutaneous (preferred), intranasal or intravenous route.

Psychological and spiritual care

- Effective communication: provide clear and honest information about the patient's condition, available treatments, and how these are expected to help. Information should be given to both the patient and family members (when available and welcomed by the patient).
- Providers should be trained to show empathy and use active listening skills
- Maintain privacy and autonomy: keep the area separate from areas of other medical care
- Ensure patient's preferences are known and respected
- Ensure awareness of cultural practices related to death and dying
- Involve local spiritual care providers and religious leaders when applicable, including in MCI planning.

It is essential to re-triage regularly as patient conditions and/or available resources change, resulting in a change in patient prioritization and/or treatment options. All patients should be reviewed as the MCI moves into recovery phase, as resource availability may have changed and more active management may be pursued for some patients.

Blue zone kit

The table lists the type of equipment and medication that may be included in a blue zone kit for use in an MCI.

Group	Item
Administration	Patient logbook for registry of arrival and destination
Administration	Important telephone number/radio frequency list
Administration	Head lamp
Administration	Bed sheets
Administration	Curtains or moveable dividers
Administration	Blankets, sheets, linens, or cloths
Administration	Potable water
Administration	Protocols for communication, clinical care and other aspects of management
Infusion	Tourniquet, venous
Infusion	Syringes
Infusion	Saline and water ampoules
Infusion	Ringer lactate, 1l
Infusion	Needles
Infusion	IV occlusive dressings
Infusion	IV infusion set
Infusion	IV cannula
Infection prevention and control	Sharps disposal
Infection prevention and control	Rub-in hand disinfectant 500ml
Infection prevention and control	Protection goggles
Infection prevention and control	Iodine povidone, 10%, solution, 1l, bottle.
Infection prevention and control	Gown, surgical, disposable, sterile
Infection prevention and control	Glove, surgical, sterile
Infection prevention and control	Glove, examination, latex, non-sterile
Infection prevention and control	Contaminated waste bag
Infection prevention and control	Apron, plastic
Other	Urinals disposable
Other	Thermal blanket
Resuscitation	Yankauer suction catheters
Resuscitation	Tube, suction, straight, sterile, disposable
Resuscitation	Tube, gastric, conical tip, sterile, disp.

Resuscitation	Trauma shears
Resuscitation	Syringe 60ml catheter tip
Resuscitation	Suction, foot operated
Resuscitation	Suction tubing and connectors
Resuscitation	Suction collection bottle
Resuscitation	Scalpels, disposable #22
Resuscitation	Oxygen tubing and connectors
Resuscitation	Oral airways
Resuscitation	Nasopharyngeal airway, single use
Resuscitation	Mask, surgical
Resuscitation	Mask, oxygen
Resuscitation	Lubricating jelly 42g, tube
Resuscitation	Catheter, urinary, foley, w/ balloon, sterile, disposable
Resuscitation	Bag, urine, 2 l, w/ tap + non-return valve, graded, sterile
Vitals and point of care diagnostics	Stethoscope, adult
Vitals and point of care diagnostics	Sphygmomanometer portable - digital or manual
Vitals and point of care diagnostics	Pulse oximeter, fingertip
Vitals and point of care diagnostics	Glucometer test strips
Vitals and point of care diagnostics	Glucometer - battery operated
Vitals and point of care diagnostics	Blood pressure cuffs for sphygmomanometer
Vitals and point of care diagnostics	Blood lancet for capillary blood sampling
Wound care	Cotton wool, 1kg, 100% cotton, hydrophilic
Wound care	Compress, gauze, 20 x 20 sterile
Wound care	Compress, gauze, 10 x 10 cm, non-sterile
Wound care	Burns dressing
Wound care	Bandage, gauze, 10cmx4m, elastic, non-sterile
Medication	Red zone medication set (according to organization policies)
Medication	Opioid analgesics
Medication	Non opioid analgesics
Medication	Antiemetics
Medication	Anxiolytics
Medication	Oxygen
Medication	Lubricant, lips/eyes
Medication	Hyoscine or Glycopyrrolate