Michigan Department of Health and Human Services (MDHHS)

Appendix 9.3 - Michigan Guidelines for Implementation of Crisis Standards of Care and Ethical Allocation of Scarce Medical Resources and Services
During Emergencies and Disasters

Annex 9 – Michigan Medical Surge Plan
MDHHS Emergency Operations Plan (EOP)

June 2022

Contents

Revision Tracking

Revision Date	Person Revising	Overview of Revisions
8/26/10	Lance Gable and the original Ethics Advisory Committee (EAC)	Drafted
10/26/12	Lance Gable and the original EAC	Incorporating substantial updates to the Guidelines and adding Attachments 1, 2, and 3.
11/16/12	Lance Gable, the original EAC	Incorporating minor edits and changes along with incorporating external comments. (this was the version that was online for years)
12/10/2020	Lance Gable	Making major updates to the Guidelines and Attachments 1, 2, and 3.
1/21/2021	Lance Gable and the new EAC	Incorporated edits and updates.
4/29/21	Jennifer Lixey-Terrill, Lance Gable, the new EAC	Incorporated edits and formatting as well as incorporated external comments.
5/4/21	Jennifer Lixey Terrill	Added Attachments 1, 2, and 3
5/7/21	Jennifer Lixey-Terrill, Lance Gable, and the new EAC.	Incorporated Guidance Documents to Attachment 2.
8/21/21	Lance Gable and Jennifer Lixey	Updates to verbiage
11/29/21	Lance Gable	Minor updates incorporating external comments.
06/16/22	Lance Gable, the new EAC	Added Attachments 4 and 5.

Plan Distribution List

Plan Holders

MDHHS Director
MDHHS Chief Medical Executive
MDHHS Public Health Administration (PHA) Administrative Deputy Director
MDHHS Bureau of EMS, Trauma, and Preparedness (BETP) Director
MDHHS BETP Division of Emergency Preparedness and Response (DEPR) Director
MDHHS BETP Division of EMS and Trauma (DET) Director
MDHHS Emergency Management Coordinator (EMC)
MDHHS Community Health Emergency Coordination Center (CHECC)
Michigan State Police (MSP) Emergency Management and Homeland Security Division (EMHSD) Director
Michigan State Emergency Operations Center (SEOC)
MDHHS Disability Office

Electronic versions are maintained on BETP Shared Drive and Michigan Health Alert Network within the MDHHS Emergency Operations Plan (EOP). The plan will be posted on the MDHHS website and will be available to the Healthcare Coalitions and the general public.

Plan Organization

The "Michigan Guidelines for Implementation of Crisis Standards of Care and Ethical Allocation of Scarce Medical Resources and Services During Emergencies and Disasters Response Plan," follows the emergency management guidelines and responsibilities set forth in the existing Michigan Emergency Management Plan (MEMP) and chain of command structure. The plan is incorporated within the Medical Surge Management Plan, Annex 9, of the MDHHS EOP within the Michigan Department of Health and Human Services MDHHS EOP. The Community Health Emergency Coordination Center (CHECC) Operating Procedures Manual also provides supporting documentation for this plan.

Plan Maintenance

This plan has been developed in coordination with local, state, regional, and federal partners and is continually updated and revised as situations change and new information and resources become available. The plan is, at a minimum, to be reviewed and updated annually. The review and update of the plan incorporates any changes reflective of existing guidance, lessons learned from real world incidents or exercises, and changes in policies and procedures.

All plan holders receive revisions and updates as they are published and are given the opportunity to review and provide comments. Authority for review and acceptance of this plan rests with the MDHHS.

Introduction

Purpose

The Michigan Guidelines for Implementation of Crisis Standards of Care and Ethical Allocation of Scarce Medical Resources and Services During Emergencies and Disasters Response Plan serves to inform local, state, and federal governments; Regional Healthcare Coalitions (HCC); relevant agencies and organizations; and other stakeholders of the preparedness and response plans specific to a mass casualty incident within the State of Michigan.

Scope

This plan describes the operational intent when responding to a mass casualty incident and details the system that has been developed for operations within Michigan before, during, or after a mass casualty incident.

Coordination, Administrative Preparedness, and Communications

Community Health Emergency Coordination
The CHECC coordinates statewide health-related emergency activities by providing real-time public health information, lending subject matter expertise to inform decision-making, orchestrating the mobilization of health resources, and providing situational awareness to and from the SEOC when activated. In doing so, the CHECC interacts with public health and healthcare partners to render support and assistance, such as mutual aid, equipment and supplies, and risk communication information. The CHECC is staffed primarily by MDHHS personnel with appropriate SME augmentation and operates in full compliance with the National Incident Management System (NIMS).

The CHECC Manual includes a document titled, "CHECC Activation Planning Considerations," that is maintained with the MDHHS EOP "Annex 2 – Direction and Control." This document defines the activation of the CHECC through various stages, to include the return to routine operations. Furthermore, this document identifies key activities associated with each stage of activation and provides considerations for the prioritization of activities during long term response and recovery operations.

These planning considerations aim to assist decision makers in determining the appropriate stage of CHECC activation in response to a public health or medical emergency. The identification of indicators, triggers, and activity prioritization are included within the document and strengthen the CHECC's ability to transition between stages while continuing to support requests for assistance and critical coordination of activities throughout sustained long-term efforts.

CHECC Administrative Preparedness
CHECC procedures for the procurement of resources is assigned to the Finance Section. During an emergency response, the MDHHS Grants, and Purchasing Division will work with CHECC Finance Staff to give requests for resources related to the emergency priority and special handling to meet the needs of the situation.

Finance staff assigned to the CHECC will determine how MDHHS will capture and report the cost of response operations, submit requests for reimbursement, and provide other necessary information

regarding budget and finance operations. CHECC procedures include actions for retroactive reimbursement for early preparedness efforts.

Communication
In the event of an emergency involving mass casualties resulting in the need to plan for ethical considerations of scarce resources, MDHHS would activate the MDHHS Emergency Operations Plan's Annex 05: Crisis and Emergency Risk Communication Plan (CERC). The CERC Plan, outlines an all-hazard communication model designed to capture broad elements of a public information response. The plan outlines how MDHHS would develop messages, coordinate outreach, and disseminate information to the public, response partners, and stakeholders. The CERC plan and all appendices are stored on Michigan Health Alert Network (MIHAN) (*path: Documents/Michigan Agencies/MDHHS/EOP/Annex 05_Crisis_Emergency Risk Comm Plan*).

During a mass casualty incident, the communications staff in the CHECC will work with subject matter experts and partners to respond to requests for materials, update the MDHHS website, facilitate coordination of conference calls as needed, and provide situational awareness. This will also include the notification of additional counties being considered as part of the outbreak. A sample notification script is attached and may be utilized via the MIHAN and/or email listservs.

Situation Overview

The Concept of Operations create a framework for the direction, control, and coordination of activities for the Guidelines for Implementation of Crisis Standards of Care and Ethical Allocation of Scarce Medical Resources and Services During Emergencies and Disasters Response Plan. The following sections capture the key information and recommendations for operationalizing those elements.

Planning Assumptions

The following assumptions will affect the functioning of the medical surge management system. These assumptions reflect the laboratory testing, notification, surveillance, prophylaxis, and treatment of a confirmed or mass casualty incident within the state and will have a direct impact on the public health and healthcare response.

- During an outbreak, MDHHS will support the local public health department response.
- MDHHS will follow NIMS and its approved EOP policies and procedures.
- Healthcare providers will maintain use of standard precautions at a minimum.

Roles and Responsibilities

The agencies listed below are responsible for overseeing and implementing the Guidelines for Implementation of Crisis Standards of Care and Ethical Allocation of Scarce Medical Resources and Services During Emergencies and Disasters Response Plan in direct alignment with the Emergency Support Function (ESF) #8: Public Health and Medical Services, described within the MEMP, to coordinate health-related assistance during an incident with health impacts.

- Federal Level Responsibilities
    - The US Department of Health and Human Services (DHHS) will provide assistance for state and local public health, hospitals, and impacted healthcare organizations.

- State Level Responsibilities
    - MDHHS will assist with the coordination of public health actions, in consultation with the Governor's office, to include issuing recommendations, which includes EMS, health care, and other settings across the continuum.
    - MDHHS will provide HAV subject matter expertise to other state agencies and external partners.
    - MDHHS will request medical countermeasures (MCM), when necessary, to include purchasing vaccine.
    - MDHHS will coordinate risk communications to partners.
    - MDHHS will assist local public health partners in the detection, investigation, intervention, and recovery.
    - MDHHS Regional Epidemiologists will monitor surveillance systems and work with local health departments to support case investigations and liaise with MDHHS subject matter experts.
    - MDHHS BOL will provide guidance to clinical laboratories and assist as requested on expediting transport of specimens to the state laboratory.

- o   Michigan Occupational Safety and Health Administration (MIOSHA) will assist in issues involving worker safety, to include providing waste management, sanitation practices, and Personal Protective Equipment (PPE) standards.

- • Regional Level Responsibilities
  - o   Healthcare Coalitions (HCC) and healthcare facilities will support planning, training, and exercises to prepare for and respond to natural and manmade emergencies and disasters.
  - o   HCC will coordinate regional response efforts including sharing situational awareness with the CHECC. This includes operating the Regional Medical Coordination Center (MCC), if activated.
  - o   HCC will provide situational awareness to impacted jurisdiction(s) Local Emergency Operations Center (LEOC).
  - o   HCC will provide situational awareness and facilitate information sharing to and from healthcare organization (HCO) partners.
  - o   HCC will facilitate communication from their HCOs to ensure that MDHHS has updated information and situational awareness.

- • Local Health Department Responsibilities
  - o   LHDs will implement control measures with the impacted community, to include but not limited to public health advisories, vaccination clinics, and education.
  - o   LHDs will manage public vaccine and enroll vaccination providers into key databases.
  - o   LHDs will maintain situational awareness with MDHHS.
  - o   LHDs will maintain communication between healthcare, law enforcement, and municipalities and will assist with the coordination of public health actions.
  - o   LHDs will provide situation awareness to their LEOC and partners as appropriate.
  - o   LHDs will provide risk communications to the media and the public as necessary.

Reporting Essential Elements of Information (EEI)

Essential elements of information must be reported to MDHHS (and possibly the Department of Health and Human Services (DHHS), the Centers for Disease Control and Prevention (CDC), state and local emergency management, and local public health). MDHHS, in collaboration with Subject Matter Experts (SME), will determine what the EEIs will entail, and will communicate those requirements to applicable entities as necessary.

Concept of Operations

Executive Summary

The Michigan Guidelines for Implementation of Crisis Standards of Care and Ethical Allocation of Scarce Medical Resources and Services during Emergencies and Disasters (Guidelines) presented in this report provide guidance to decision-makers throughout the state of Michigan to assist in making choices about resource and service allocation and prioritization during situations of scarcity that may arise during public health emergencies. These Guidelines do not present a rigid or formalized series of instructions, but rather a set of criteria that can be employed by decision-makers in various circumstances during an emergency or disaster that impacts public health, using their best professional discretion. These Guidelines align with the application of Crisis Standards of Care that may arise during emergencies or disasters. These Guidelines align with the incident management systems such as the Incident Command System (ICS) used by Emergency Management, Public Health, and Healthcare Facilities which are compatible with the National Incident Management System (NIMS).[1] The Guidelines were originally drafted in 2012 but have been revised in 2021 to incorporate updates and changes reflecting medical resource and service scarcity during the COVID-19 pandemic.

This executive summary will provide a brief overview of the Guidelines. The full Guidelines provide additional depth and detail to the discussions of these challenging issues. The full Guidelines should be read and understood before they are implemented.

Applicability of these Guidelines

The Guidelines incorporate the following understandings that help define their scope and purpose:

- Emergencies and scarcity. Emergencies and disasters that impact public health give rise to unique challenges that can lead to, and be exacerbated by, scarcity of medical resources and services.
- Anticipating scarcity. The likely conditions during emergencies—including conditions of medical resource and service scarcity—may be anticipated even in emergency circumstances that arise from sudden, extraordinary, or temporary events.
- Duty to plan and provide guidance. Emergency planners have an ethical duty to plan for and provide guidance related to the ethical allocation of scarce medical resources and services during emergencies or disasters. The duty to plan includes consideration how plans and their implementation will impact communities that are less resourced and that experience racism and bias.
- Crisis Standards of Care. The Guidelines apply to serious emergencies or disasters that impact public health, not everyday scarcity of medical resources and services. Therefore, the Guidelines envision allocation decisions being made in circumstances where crisis standards of care are anticipated or have been implemented. Table 1 below describes some of the types of shortages that can force a move to crisis standards of care. The transition between conventional, contingency, and crisis standards of care is rarely well-defined. The need for crisis standards of care can shift as new resources become available or get depleted.

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[1] More information about NIMS is available at https://www.fema.gov/emergency-managers/nims.
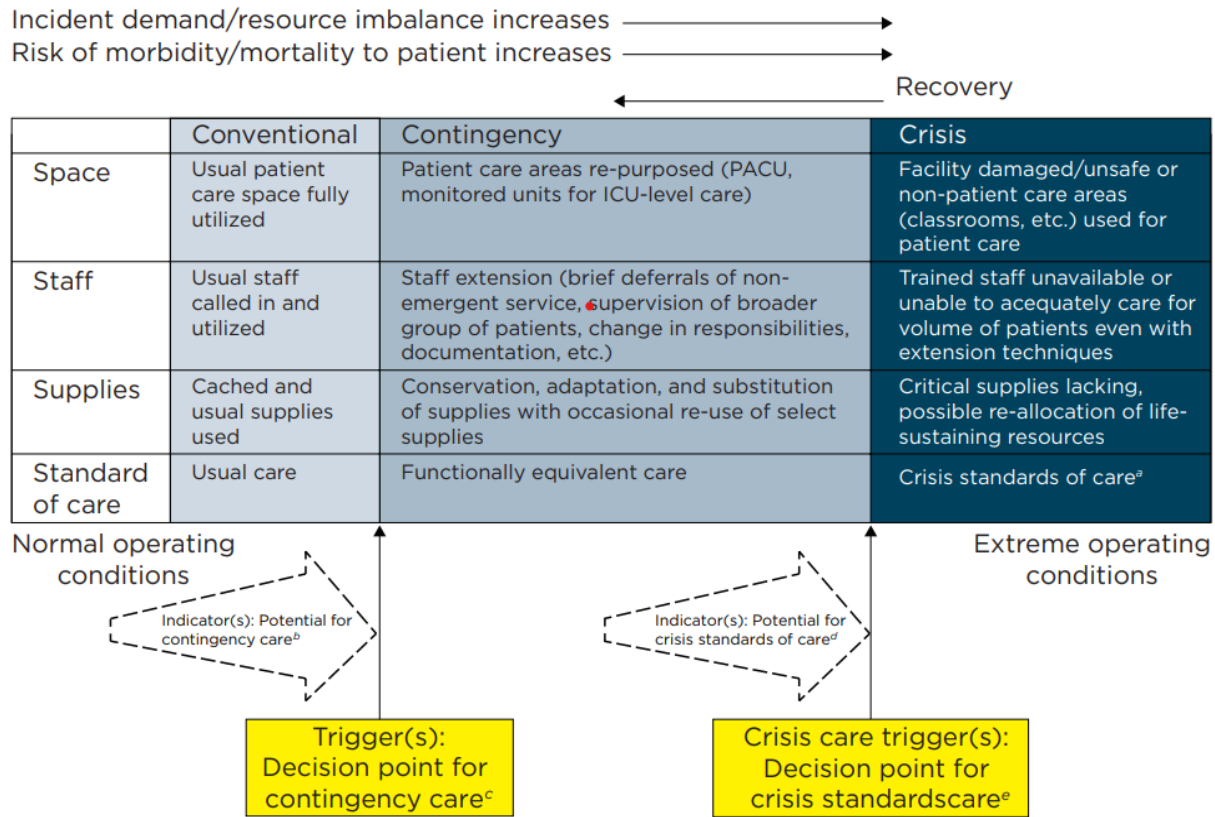
Figure 1

Source: Institute of Medicine, Crisis Standards of Care: A Toolkit for Indicators and Triggers (2013).

- Guidelines apply to multiple decision-makers. The Guidelines apply broadly and are meant to inform allocation decisions made by decision-makers at different levels of government and as well as the private and nonprofit sectors.
- Guidelines apply to all scarce medical resources and services. The Guidelines apply to allocation decisions affecting all medical resources and services that may become scarce during an emergency or disaster, including medicines, vaccines, medical equipment, medical devices, personal protective equipment, space, staff, and supportive capacity for health-related functions. However, allocation decisions will differ based on the type of resource and other circumstances.
- Guidelines consider effects on individuals and populations. The Guidelines employ ethical principles that take into account both individual health and population health.
- Guidelines comply with law. The Guidelines should be implemented in ways that comply with all relevant laws at the federal, state, and local levels.

Goals

The Guidelines recognize three salient goals in determining the allocation of scarce medical resources and services during emergencies and disasters.

- Efforts should be made to protect and maintain the public's health through *minimizing morbidity, mortality, and suffering*.

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- Decision-makers should strive to *sustain a functioning society* through actions to preserve the capacity to deliver health care, public health, public safety, and other social services and critical infrastructure. Efforts to promote trust, transparency, and understanding among the public regarding allocation decisions—including through education and information sharing—also support this goal.
- Decisions about how scarce medical resources and services are allocated should *ensure equity*.

These goals are listed in no order of hierarchy – all are equally important to achieve and should be pursued concurrently.

Ethical Considerations

The committee identified numerous underlying ethical considerations that guide the structure, procedures, and recommendations outlined in these Guidelines. These ethical considerations include **beneficence** (preserving the welfare of others through affirmative acts to promote well-being and save lives); **utility** (achieving the greatest good for the greatest number); **fairness** (applying consistent and non-discriminatory policies); **equity** (seeking fair and just treatment, access, distribution, and opportunity for all people while pursuing better outcomes for historically and currently disadvantaged populations); **transparency** (providing open access to information and decision-making processes); **accountability** (holding decision-makers responsible for their actions); **veracity (**truth-telling); **respect for persons** (upholding individual autonomy, privacy, dignity, and bodily integrity); **proportionality** (demanding policies necessary and proportional to the scope and severity of the circumstances); **solidarity** (recognizing shared obligations and social cohesion); and **stewardship** (preserving the effectiveness and impact of these resources and services as best as possible).

Allocation Criteria

Acceptable Allocation Criteria
The Committee identified two general criteria considered acceptable for guiding allocation decisions: medical prognosis and supporting critical infrastructure. These criteria should be considered in conjunction with each other when evaluating allocation decisions.

- Medical prognosis. Medical prognosis may be used to determine priority of access to scarce medical resources and services during emergencies and disasters. Decision-makers should consider the patient's medical condition, the likelihood of a positive medical response, the relative risk of harm posed by not treating the patient, and other indications of short-term survivability and favorable medical outcomes.[2] Decision-makers should take steps to evaluate the criteria and algorithms used for assessing a patient's prognosis to ensure that biases are not affecting clinical judgments.
- Supporting critical infrastructure. Workers who perform essential functions that support critical infrastructure, i.e., those deemed critical for the ongoing functioning of society may receive priority access to scarce medical resources and services. Essential personnel may include:
  - health care workers who are directly treating patients affected by the emergency or disaster (doctors, nurses, etc.).
  - personnel key to responding to the emergency or disaster (first responders, public health scientists, etc.).

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[2] Additional guidance on approaches to evaluate medical prognosis to make allocation decisions is provided in Attachment 2, which provides specific guidance for hospitals and other health care facilities. See, in particular, pages 65-90.

- personnel key to public safety (police, fire, military, etc.); and
- personnel key to other critical infrastructure (energy grid, telecommunications, food access, etc.).

Applying the Acceptable Allocation Criteria. The acceptable allocation criteria (medical prognosis and supporting critical infrastructure) may apply to several different groups of people. Scarcity may require additional decisions to be made regarding the prioritization of scarce medical resources and services within and across these groups. The type of resource scarcity may be relevant to determining priority for essential personnel compared with others at risk. The decision whether to differentiate between types of resources in granting priority to essential personnel relative to others should be assessed further by decision-makers implementing these Guidelines.

Problematic Allocation Criteria
The Committee identified three criteria—*lottery*, *first-come/first-served, and age*—that could be considered to make medical resource and service allocation decisions, but only under limited circumstances due to problematic ethical concerns related to their application. The Committee acknowledges that reasonable decision-makers may disagree on whether these criteria are appropriate to use. Yet, these criteria may be useful if scarcity requires prioritization between people who would be indistinguishable based on the acceptable criteria of medical prognosis and supporting critical infrastructure.

- Lottery: A lottery approach gives each eligible person an equal random chance to be selected to receive scarce medical resources or services. Characteristics include truly random, and therefore fair, allocation across the population. But a lottery does not allow targeting of resources for maximum population health benefit, could be complicated to administer, and is not necessarily equitable. The Committee considered the use of a lottery approach as a tiebreaker between potential recipients of scarce medical resources and services in the event that all other criteria are equivalent, and scarcity persists.

- First come/First served: This approach favors those with existing informational, social, and economic advantages, and may exacerbate disparities in both access to medical resources and outcomes. However, it is the easiest to administer and generally accepted in non-emergency situations. Therefore, use of this approach should be limited. This approach maybe the only approach possible during an emergent situation. It would not be ethical to withhold resources from a patient who has an immediate need to preserve them for a future patient who may not materialize.

- Age: Granting priority to access scarce medical resources or services based on numerical age, quality-adjusted life-years, disability-adjusted life-years, or some other measurement based upon longevity or functioning raises several difficult issues. It may be fair to allow a younger person to have the chance to live to an older age, given that older people have already had the opportunity to experience those phases of life. But this approach goes against equality in the sense that it is making an explicit differentiation between people based on numerical age. Due to these concerns, the Committee recommends that age may only be used as a factor for scarce resource allocation in the very rare circumstances where no other approach will suffice to differentiate between similarly situated individuals and such an approach has received public

approval and does not offend notions of fairness and equity. In some cases, prioritization of scarce resource based on age range may be acceptable to meet public health policy goals, such as prioritizing older adults for access to limited COVID-19 or influenza vaccine if supported by morbidity and mortality data.[3] Any use of age to differentiate between individuals or groups to prioritize access to resources must comply with relevant anti-discrimination laws.

Unacceptable Allocation Criteria
The Committee identified several criteria that are unacceptable to consider as a basis to deny or justify a lesser priority to access scarce resources or services during emergencies and disasters, due to their inherent lack of equity and fairness, potential for abuse or discrimination, or irrelevance to achieving the goals set out in these Guidelines.

- Social characteristics: Social characteristics, including but not limited to age (with very limited exceptions), color, criminal history, disability, ethnicity, familial status, gender identity, height, homelessness, immigration status, incarceration status, marital status, mental illness, national origin, poverty, race, religion, sex, sexual orientation, socio-economic status, substance use disorder, use of government resources, veteran status, or weight, should not be used as a basis to deny or justify a lesser priority to access scarce resources or services during emergencies or disasters. Categorization of people according to these types of characteristics is often used as pretext for favoritism, discrimination, and reduced access for minority groups. Therefore, use of social characteristics as allocation criteria is unacceptable, unless such characteristics are being considered as part of a deliberate effort to improve equity in access to scarce resources such as application of the CDC's Social Vulnerability Index[4] or the Area Deprivation Index.[5]

- Social worth: The discussion of acceptable allocation criteria recognizes that limited categories of people who provide specific social functions, namely groups of identified essential personnel, may be granted priority access to scarce resources and services during an emergency or disaster. However, beyond these limited categories, factors that take into account a person's social worth are not acceptable to consider for allocation decisions. Social worth criteria are generally unacceptable because they can lead to unfair decisions based on subjective determinations of a person's background or characteristics, which can in turn lead to stigma, bias, corruption, or nepotism in allocation decisions. Unacceptable factors under this category would include but are not limited to job status, training or education, social standing, personal or familial relationships, belief systems, political affiliations, or any other measurement of a person's social standing. In particular, the Committee found unacceptable any sort of decision-making process that considered a person's ability to pay for medical resources or services as relevant to prioritizing resources or services. Similarly, it would be inappropriate for providers of medical resources and services to consider the financial or economic consequences of a person's ability to pay in making allocation decisions for scarce medical resources or services unless such considerations are being made to improve equity in access to scarce resources.

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[3] For example, the Advisory Committee on Immunization Practice has recommended, and the CDC has accepted, guidance that gives higher priority for older adults to receive COVID-19 vaccine due to increased risk of morbidity and mortality. See Kathleen Dooling et al., The Advisory Committee on Immunization Practices' Updated Interim Recommendations for Allocation of COVID-19 Vaccine—United States, December 2020, 69(5152) MMWR 1657-1660 (January 1, 2021), https://www.cdc.gov/mmwr/volumes/69/wr/mm695152e2.htm?s_cid=mm695152e2_w

[4] Available at https://www.atsdr.cdc.gov/placeandhealth/svi/index.html.

[5] Gopal K. Singh, "Area Deprivation and Widening Inequalities in US Mortality, 1969–1998", *American Journal of Public Health* 93, no. 7 (July 1, 2003): pp. 1137-1143. https://doi.org/10.2105/AJPH.93.7.1137.

Implementation

- Efforts should be made to eliminate scarcity prior to having to implement allocation guidelines. At all levels of planning, from the state government to individual health care institutions, efforts should be made to acquire sufficient levels of medical resources and services to alleviate the need for rationing these resources and services whenever possible through coordinated plans to share, stockpile, and estimate needed resources in advance of an emergency or disaster scenario. There is an obligation to participate in planning and exercises designed to improve preparedness. Leaders of all areas involved in response should be required to have training in management of emergencies. The implementation of these Guidelines should only occur after all reasonable efforts to avoid scarcity have been explored and crisis standards of care have been imposed.

- The probability of scarcity occurring should be assessed and planning should occur to prepare for scarcity.

- Criteria should be offered to determine when scarcity exists and when prioritization guidelines should be used. The Guidelines should only go into effect after conditions of scarcity have developed and crisis standards of care have been recognized as being in effect using the following factors:
  - Nature of scarcity
  - Duration of scarcity
  - Severity of scarcity

  State government, local government, EMS, and health care organizations should develop clear triggers to indicate when circumstances necessitate the use of contingency or crisis standards of care. These procedures and standards should be shared with MDHHS and MDHHS should be notified when they are applied.[6]

- Fair and transparent processes and information sharing. Allocation decisions made under conditions of scarcity should adhere to clear and specific processes to ensure that these decisions are not being made in an unjust or discriminatory manner.

- Prioritization guidelines and decisions should be reviewed continuously and periodically assessed. The policies and practices that emerge from these Guidelines should receive ongoing scrutiny from leaders and planners at all levels to assure their relevance to the circumstances at hand. Special attention should be given to ensure that the results of allocation decisions do not perpetuate or exacerbate disparities in access or outcomes, especially related to racial or ethnic minority groups, people with disabilities, or other potentially vulnerable groups that might face disadvantages or discrimination in accessing scarce resources and services. Periodic reassessment of an individual patient's qualifications to receive, or be excluded from receiving, scarce medical resources and services pursuant to these Guidelines also should be undertaken.

- Prioritization guidelines should be used consistently across the state. Consistency in implementation of the Guidelines will promote fairness in access to scarce resources and services and will defuse allegations of favoritism and efforts to "venue-shop" for medical resources and services. However, local conditions may require allocation decisions to deviate from statewide guidance under some

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[6] See INSTITUTE OF MEDICINE, CRISIS STANDARDS OF CARE: A TOOLKIT FOR INDICATORS AND TRIGGERS. Washington, D.C.: The National Academies Press (2013).

circumstances. Decision-makers who are departing from common guidance should only do so after careful deliberation and documentation.

- Decisions to implement prioritization should be made by persons removed from the clinical context. To minimize conflicts of interest and difficult interactions at the clinical care level between health care providers and patients, decisions regarding when to apply these Guidelines should be made by decision-makers removed from the clinical context whenever possible. At an institutional level, this could take the form of an expert Scarce Resource Allocation Committee (SRAC) to assess the situation and make allocation decisions, or through the development of regional or state-level coordination. Health care professionals should not be required to determine which patients qualify as essential personnel. This determination should be made by decision-makers removed from the direct clinical relationship.

- Palliative care and other supportive resources should be provided consistently throughout an emergency or disaster. Access to palliative care and other supportive resources and services should be provided to individuals who will not have access to some scarce medical resources and services based on allocation decisions.

Michigan Guidelines for Implementing Crisis Standards of Care and Ethical Allocation of Scarce Medical Resources and Services during Emergencies and Disasters

I. Introduction to the Guidelines

Effective emergency preparedness requires thoughtful planning and proactive anticipation of the likely needs of various sectors of the population during an emergency or disaster that impacts public health. Decision-makers must carefully consider the development and implementation of practical and evidence-based methods for effective response and recovery initiatives. This report, developed by the state of Michigan, through the efforts of the Michigan Department of Health and Human Services (MDHHS) Bureau of EMS, Trauma, and Preparedness (BETP), seeks to supplement ongoing emergency preparedness planning by examining key ethical issues that may arise during emergency preparedness and response. Considering the ethical implications of allocating scarce resource has relevance and timeliness in 2020-2021 as the ongoing COVID-19 pandemic threatens health and lives across Michigan.

Public health preparedness efforts raise numerous challenging questions. What should health care and public health professionals do when necessary medical resources and services are in short supply during an emergency or disaster? When should crisis standards of care go into effect? How can decision-makers ethically allocate scarce medical resources and services during emergencies? How can they ensure that our decisions about allocation are effective, humane, fair, and consistent with our ethical values and goals? Answering these questions presents a difficult task, which this report undertakes.

The Michigan Guidelines for Implementing Crisis Standards of Care and Ethical Allocation of Scarce Medical Resources and Services during Emergencies and Disasters (Guidelines) presented in this report seek to respond to these questions and to provide insight into how decision-makers throughout the state of Michigan can make tough choices about resource and service allocation and prioritization if such decisions become necessary. These Guidelines will provide a template from which health care practitioners, partners and institutions in the health sector, and local and state officials can plan for situations involving an acute scarcity of medical resources and services. The Guidelines also will serve as a tool that will assist decision-makers at all levels in making difficult decisions related to allocation of medical resources and services in times of emergency-induced scarcity when crisis standards of care apply. These Guidelines align with the incident management systems such as the Incident Command System (ICS) used by Emergency Management, Public Health, and Healthcare Facilities, which are compatible with the National Incident Management System (NIMS).[7]

The Guidelines were initially developed as a part of an expansive project that sought to gain consensus on ethical issues relating to allocation of scarce medical resources and services during emergencies. The primary objectives of this project were: 1) to engage in a collaborative process to address ethical issues related to allocating scarce medical resources and services that may arise during emergencies or disasters that impact public health; and 2) to develop ethical guidelines and other support materials that meet the needs of state, regional, and local partners who may be faced with making difficult decisions during an emergency or incident that leads to scarcity of needed medical resources and services. The work of updating this guidance took on renewed importance in 2020 as Michigan faced the unprecedented public health challenge of COVID-19, which continues to threaten our health care and

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[7] More information about NIMS is available at https://www.fema.gov/emergency-managers/nims.

public health capacity. This current version of the Guidelines and all other materials produced through this project are the result of a state level, multi-disciplinary committee.

The approach adopted by these Guidelines reflects the concerns expressed in other reports that have considered the ethical, legal, and practical aspects of allocating scarce medical resources and services during emergencies or disasters.[8] These guidelines are meant to complement other state of Michigan guidance on responding to emergencies or disasters that impact public health.

The Guidelines take a broad approach to addressing scarcity of resources and services during emergencies or disasters. They are structured to be applicable to emergencies or disasters serious enough to require the imposition of crisis standards of care but will apply to emergencies of varying types and will provide guidance to assist in allocation decisions affecting multiple types of resources. Many states have addressed the ethics of scarce resource allocation with regard to specific types of emergencies (e.g., pandemic flu)[9] or specific types of resources (e.g., ventilators or vaccines),[10] while other states have developed more general crisis standards of care guidelines based on national guidance. These Guidelines adopt the general approach and provide a model that can be applied in numerous different circumstances to address the ethical allocation of a wide range of potentially scarce resources, while acknowledging that different types of resources might require different approaches to achieve ethical prioritization.

Creating an ethical allocation framework that can be applied to multiple emergency situations and varying types of medical resource and service scarcity presents a daunting challenge. To achieve this standard, the Guidelines must simultaneously be flexible enough to provide useful guidance in a variety of circumstances and also sufficiently concrete to provide meaningful support in specific situations. The Ethical Allocation Committee approached this quandary by providing both general goals and ethical criteria in the body of the Guidelines as well as more specific information in the report's appendices applying these ethical criteria in various situations.

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[8] Most influential are three reports on crisis standards of care produced by the Institute of Medicine between 2009 and 2013. INSTITUTE OF MEDICINE, GUIDANCE FOR ESTABLISHING CRISIS STANDARDS OF CARE FOR USE IN DISASTER SITUATIONS: A LETTER REPORT (2009) https://www.ncbi.nlm. nih.gov/books/NBK219958/; INSTITUTE OF MEDICINE, CRISIS STANDARDS OF CARE: A SYSTEMS FRAMEWORK FOR CATASTROPHIC DISASTER RESPONSE (2012), https://pubmed.ncbi.nlm. nih.gov/24830057/; INSTITUTE OF MEDICINE, CRISIS STANDARDS OF CARE: A TOOLKIT FOR INDICATORS AND TRIGGERS. Washington, D.C.: The National Academies Press (2013). Two more recent reports by the National Academies of Sciences, Engineering, and Medicine also provide important context for these issues. NATIONAL ACADEMIES OF SCIENCES, ENGINEERING, AND MEDICINE, FRAMEWORK FOR EQUITABLE ALLOCATION OF COVID-19 VACCINE (2020), https://doi.org/10.17226/25917; NATIONAL ACADEMIES OF SCIENCES, ENGINEERING, AND MEDICINE, RAPID EXPERT CONSULTATION ON CRISIS STANDARDS OF CARE FOR THE COVID-19 PANDEMIC (2020), https://doi.org?10.17226/25765.

[9] Ethics reports produced by authors in Canada as well as the states of Minnesota and Indiana, all of which focus on pandemic influenza. Dorothy W. Vawter et al., "For the Good of Us All: Ethically Rationing Health Resources in Minnesota in a Severe Influenza Pandemic" (2009). Available at: http://www.ahc.umn.edu/mnpanflu/preliminary/rationing/home.html. Indiana State Department of Health. 2008. *Confronting the Ethics of Pandemic Influenza Planning: Communique from the 2008 Summit of the States*. Available at: http://www.bioethics.iu.edu/communique_2008_summit_of_the_states.pdf

University of Toronto Joint Centre for Bioethics. (2005). *Pandemic influenza and ethics – stand on guard for thee: Ethical considerations in preparedness planning for pandemic influenza.* Available at: http://www.utoronto.ca/jcb/home/documents/ pandemic.pdf.

[10] New York, for example, has produced an allocation planning document dealing specifically with ventilators. See New York State Workgroup on Ventilator Allocation in an Influenza Pandemic (2007). *Allocation of ventilators in an influenza pandemic: Planning document draft*. Available at; http://www.health.state.ny.us/diseases/communicable/influenza/pandemic/ventilators/docs/ventiltaor_guidance.pdf

The Guidelines focus on the state of Michigan and are designed to provide targeted guidance to practitioners and officials. From its inception, this project has endeavored to ensure that ethical discussions reflect the values and decisions of the residents of Michigan. Consistent with this goal, these Guidelines have been developed with extensive input from representatives from a variety of constituencies across the state, reflecting a diversity of expertise, geography, and knowledge.[11]

The Guidelines consider the ethical implications of allocating scarce medical services as well as scarce medical resources. While the availability of medical resources (such as medication, medical equipment, ICU beds, health care personnel) and medical services (such as routine wellness care, elective surgery) is often closely connected, the factors in making these allocation decisions may raise different ethical and practical considerations.

These Guidelines are not envisioned as a formalized series of instructions but rather a set of criteria that can be employed by decision-makers in various circumstances during an emergency or disaster, using their best professional discretion. It is expected that these Guidelines will be utilized to develop more detailed allocation plans at various levels throughout the state. Thus, the criteria offered within these Guidelines are meant to be adaptable and functional. However, extreme, or unforeseeable circumstances may challenge the foundations of the framework. In those situations, decision-makers will be expected to use their professional training and prudence to guide allocation decisions. The criteria offered here may have to be amended to address unforeseen circumstances and should be periodically reviewed and updated to incorporate new information gained from practical experience. Successful implementation of the Guidelines will demand ongoing deliberation, transparency, public education and input, and careful evaluation and oversight.

II. Applicability of the Guidelines

There are many relevant ethical and practical considerations to be taken into account in developing appropriate guidelines for allocation of scarce medical resources and services during emergencies and disasters. The sections below outline some of the factors being used to inform the discussion of the Guidelines.

- <u>Emergencies and scarcity.</u> Emergencies and disasters that impact public health give rise to unique challenges that can lead to, and be exacerbated by, scarcity of medical resources and services. During an emergency or disaster that implicates crisis standards of care, health conditions could be dire and may require health workers, government officials, and others to make difficult decisions regarding allocation and prioritization that differ from decisions made under normal conditions. Hospitals and other providers of health services may have to resort to triage techniques and supplies, space, and staff may have to be rationed or repurposed due to scarcity. Emergency preparedness laws and policies recognize that the legal and operational environment changes during emergencies and disasters.[12]

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[11] These Guidelines took into account other efforts to address the ethical issues that may arise during an influenza pandemic at the regional and hospital levels in Michigan. Three reports in particular were helpful in our initial drafts of these Guidelines: 1) Spectrum Health, Caring for the Community: Preparing for an Influenza Pandemic, Ethics Committee Report (2009) further referred to as "Spectrum Ethics Report"; 2) University of Michigan Hospitals and Health Centers Pandemic Planning Committee Ethics Team, Guidelines for Allocating Life-Saving or Critical Resources During a Pandemic (working draft, August 28, 2009) further referred to as "University of Michigan Ethics Guidelines"; and 3) William Beaumont Hospital, Protocol for Allocation of Scarce Critical Care Resources During a Pandemic Influenza Emergency (draft December 16, 2009) further referred to as "Beaumont Ethics Protocol."

[12] The Michigan Public Health Code (MCL §§ 333.1101 et seq.) and the Michigan Emergency Management Act (MCL §§ 30.401 et seq.) both have detailed provisions for authorizing legal powers during emergencies and disasters.

- Anticipating scarcity. The likely conditions during emergencies and disasters that impact public health may be anticipated even in emergency circumstances that arise from sudden, extraordinary, or temporary events. Some types of emergencies or disasters are likely to give rise to predictable scarcity in medical resources and services, such as a natural disaster that temporarily disrupts health care systems or an infectious disease pandemic that overwhelms hospital capacity in an entire region of the country for a period of time. In other cases, emergencies or disasters may occur without advance warning, pose unanticipated and extraordinary threats to health, and last for an uncertain duration. Since many of the consequences that may arise during emergencies or disasters are foreseeable, planning and preparedness efforts, along with proper implementation and response, can alleviate scarcity and mitigate some of the negative impacts of the emergency. Use of incident management systems such as the Incident Command System (ICS) used by Emergency Management, Public Health, and Healthcare Facilities, which are compatible with the National Incident Management System (NIMS), help with communications and coordination, sharing of resources, and managing the response.

- Duty to plan and provide guidance. Emergency planners have an ethical duty to plan for and to provide guidance related to the ethical allocation of scarce medical resources and services during emergencies or disasters. Conditions of medical resource and service scarcity are often foreseeable during emergency or disaster situations. Therefore, emergency planners have an obligation to plan for and provide guidance to aid decision-makers in navigating the difficult ethical issues that pertain to prioritizing scarce resources and services during emergencies and disasters that impact public health. The duty to plan includes consideration how plans and their implementation will impact communities that are less resourced and that experience racism and bias. Since allocation decisions impact health across the population and may greatly affect the ability to achieve important public health goals, public health officials at the state level should take a leading role in promulgating this guidance to ensure consistency, visibility, and accountability. Beyond the state-level guidelines provided in this document, other persons and organizations engaged in emergency planning and the provision of health care and public health services should prospectively consider providing targeted ethical guidance to their respective constituencies regarding the ethical allocation of scarce medical resources and services during emergencies and disasters. Moreover, developing specific guidance for specific types of scarcity related to specific emergencies and disasters can be useful in providing closely tailored guidance to address specific situations, such as responses to the COVID-19 pandemic.[13] The duty to plan also includes the duty to learn from actual events. All participants in the emergency response should be required to participate in after action review and planning for future events. This will avoid recuring problems by clearly documenting failures and weaknesses in the system and using this review to improve the system.

- Crisis Standards of Care. The Guidelines apply to emergencies and disasters that impact public health, not routine or isolated shortages of, or capacity limitations on, medical resources and services. Therefore, the Guidelines envision allocation decisions being made in circumstances where crisis standards of care are anticipated or in effect. The continuum of conventional care, contingency care, and crisis care provides an important framework for applying these Guidelines. Conventional capacity—in other words circumstance where supplies, staff, and space are available and can be used consistent with ordinary practices within an institution—do not require the kinds of allocation

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[13] The Michigan Department of Health and Human Services has developed a COVID-19 Practice Management Guide, available at https://www.michigan.gov/documents/coronavirus/COVID19_Practice_Management_Guide_Final_685523_7.pdf.

decisions described in these Guidelines.[14] Likewise, the Guidelines are not designed to apply to situations giving rise to contingency capacity, in which supplies, staff, and spaces are not used consistent with normal practices, but have been adapted to provide care that is functionally equivalent to usual patient care. Since contingency capacity situations can worsen to the point at which they require the application of crisis standards, it is essential that planning for the transition to crisis standards of care is considered as a part of contingency care decision-making.

Crisis standards of care apply in situations where "a substantial change in usual healthcare operations and the level of care it is possible to deliver" occurs.[15] For example, crisis standards of care may be required if some of the following criteria are met:

- Resources are unavailable or undeliverable to health care facilities.
- Crisis standards of care have been invoked by other health care delivery systems.
- Patient transfer is not possible or feasible, at least in the short term.
- Access to medical countermeasures (vaccines, medications, antidotes, blood products) is likely to be limited.
- Available local, regional, state, federal resource caches (equipment, supplies, medications) have been distributed and no short-term resupply of such stocks is foreseeable.
- Multiple health care access points within a community or region are impacted.

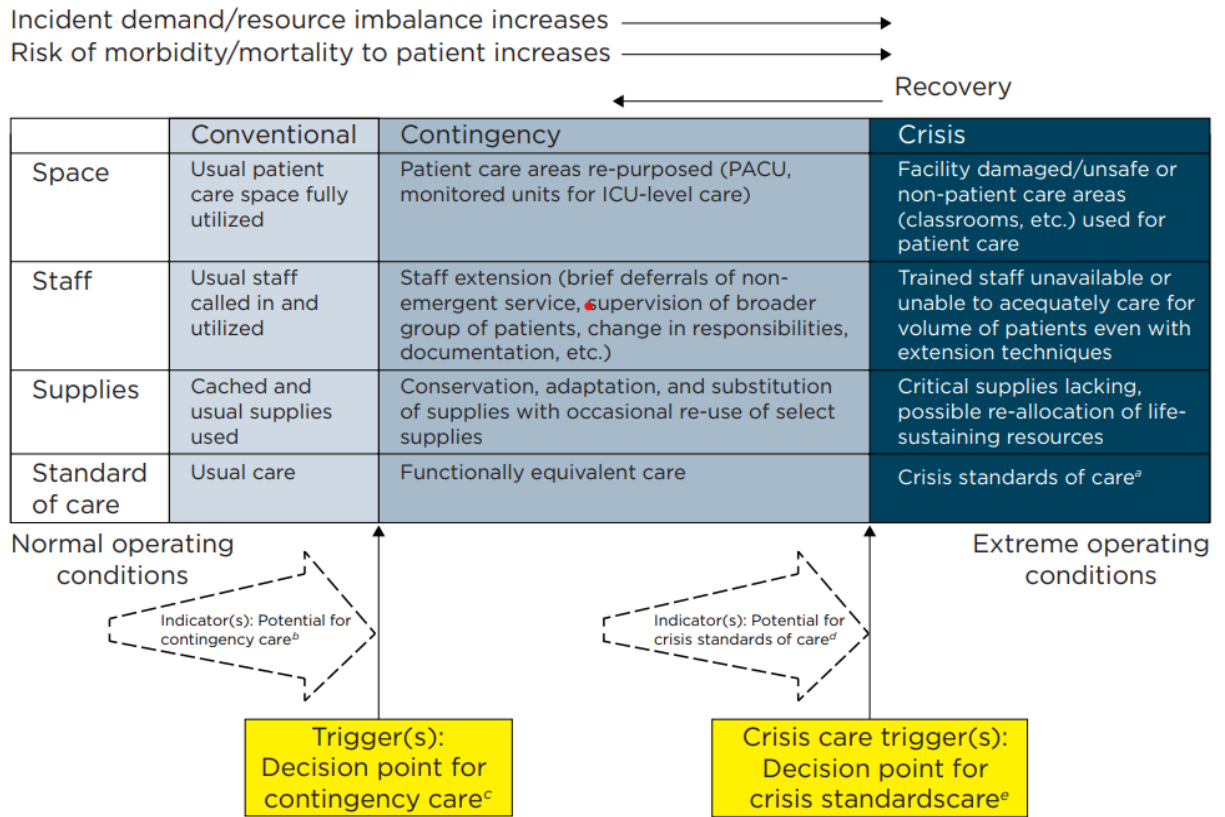Figure 1, on the next page, describes some of the types of shortages that can force a move to crisis standards of care. The transition between convention, contingency, and crisis standards of care is rarely well-defined. The need for crisis standards of care can shift as new resources become available or get depleted.

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[14] See IOM Report 2012, pp. 1-37 – 1-41.
[15] See IOM Report 2009. Figure is from IOM report 2013, p. 17.

Figure 1

Incident demand/resource imbalance increases ⟶
Risk of morbidity/mortality to patient increases ⟶

Recovery ⟵

	Conventional	Contingency	Crisis
Space	Usual patient care space fully utilized	Patient care areas re-purposed (PACU, monitored units for ICU-level care)	Facility damaged/unsafe or non-patient care areas (classrooms, etc.) used for patient care
Staff	Usual staff called in and utilized	Staff extension (brief deferrals of non-emergent service, supervision of broader group of patients, change in responsibilities, documentation, etc.)	Trained staff unavailable or unable to acequately care for volume of patients even with extension techniques
Supplies	Cached and usual supplies used	Conservation, adaptation, and substitution of supplies with occasional re-use of select supplies	Critical supplies lacking, possible re-allocation of life-sustaining resources
Standard of care	Usual care	Functionally equivalent care	Crisis standards of care[a]

Normal operating conditions — Extreme operating conditions

Indicator(s): Potential for contingency care[b]

Indicator(s): Potential for crisis standards of care[d]

Trigger(s): Decision point for contingency care[c]

Crisis care trigger(s): Decision point for crisis standardscare[e]

Source: Institute of Medicine, Crisis Standards of Care: A Toolkit for Indicators and Triggers (2013).[16]

These Guidelines are drafted to deal with the most severe circumstances: crisis capacity, where adaptive spaces, staff, and supplies are not able to be provided consistent with usual standard of care. In such circumstances, allocation decisions may need to occur under conditions of severe medical resource and service scarcity. The Guidelines consider, and are based on, these catastrophic and atypical circumstances of emergencies and disasters that imperil public health and the heightened risks to morbidity and mortality that may arise in these situations. Therefore, the Guidelines should apply to emergencies and disasters, which limits their application to severe events

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[16] Allocation of specific resources along the care capacity continuum.

NOTE: ICU = intensive care unit; PACU = postanesthesia care unit. For clarity, the figure focuses on indicators and triggers for the transitions from conventional to contingency to crisis; it is also important to consider indicators and triggers that guide the return to conventional care.

[a] Unless temporary, requires state empowerment, clinical guidance, and protection for triage decisions and authorization for alternate care sites/ techniques. Once situational awareness is achieved, triage decisions should be as systematic and well integrated into institutional process, review, and documentation as possible.

[b] Institutions may consider additional monitoring, analysis, and information sharing, and may prepare to implement select adaptive strategies (e.g., conserving resources where possible).

[c] Institutions implement select adaptive strategies and should consider impact on the community of resource use (i.e., consider "greatest good" versus individual patient needs), but patient-centered decision making is still the focus.

[d] Institutions continue to implement select adaptive strategies, but also may need to prepare to make triage decisions and shift to community-centered decision making.

[e] Institutions (and providers) must make triage decisions—balancing the availability of resources to others and the individual patient needs—and shift to community-centered decision making.

with the potential for widespread morbidity and mortality, such as a pandemic or natural disaster. The Guidelines are not meant to be applied to decision-making related to allocation of scarce medical resources in other, non-emergency situations.

- Guidelines apply to multiple decision-makers. The Guidelines apply broadly and are meant to inform allocation decisions made by decision-makers at different levels of government and as well as the private and nonprofit sectors. One complexity of making ethical decisions regarding allocation of scarce medical resources and services during emergencies and disasters is that decisions will, by necessity, be made on multiple levels: 1) at the individual level between patients and health care practitioners in both clinical and non-clinical settings; 2) at an institutional level within a hospital, clinic, or other health care sites; 3) at a local/regional level; 4) at the state level; and 5) at the national level. These Guidelines therefore consider who will be making the decisions at these respective levels and the effects of decisions from one level on the others. In addition, the Guidelines are designed to be useful to decision-makers at all levels. The Guidelines strive to complement and be consistent with other ethical guidance promulgated throughout the state of Michigan and nationally.[17] Importantly, while some allocation prioritization decisions will be made at the individual, local, or state levels, other decisions will be appropriately based on national-level guidance designed to effectuate fairness and consistency. For example, vaccine allocation prioritization will follow guidance from the CDC and ACIP.[18]

- Guidelines apply to all scarce medical resources and services. The Guidelines apply to allocation decisions affecting all medical resources and services that may become scarce during an emergency or disaster that affects public health. The Guidelines view medical resources broadly to include medications, biologics and vaccines, medical devices and equipment, medical supplies, space, staff, and supportive capacity for health-related functions. Medical services include the administration of medical care in a variety of settings by a variety of health care practitioners. While the ethical considerations relevant to allocating these various resources and services in differing situations will vary in application, the principles, goals, and strategies suggested by the Guidelines should apply to the full range of decisions and settings. Therefore, the Guidelines should inform both population-level resource and service allocation decisions and patient-level resource and service allocation decisions during emergencies and disasters that impact public health.

- Guidelines consider effects on individuals and populations. The Guidelines employ ethical principles that take into account both individual health and population health. Scarce medical resource and service allocation decisions have substantial population-level health effects as well as individual-level health effects. Therefore, decision-makers may need to consider the impact of their allocation decisions not only on individual patients at the point of care, but also on population health. The Guidelines recognize this consideration by incorporating ethical principles derived from individual bioethics and public health ethics. Furthermore, it is vital to consider how allocation decision affect and possibly exacerbate existing health disparities, particularly among racial and ethnic minorities and vulnerable populations, and to apply allocation decisions in ways that reduce these disparities[19]

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[17] The Guidelines are consistent with national guidance, including the five national reports listed in footnote 1 above. Also, see Department of Defense, Crisis Standards of Care COVID-19 Practice Management Guide (2020); and state guidance within Michigan, including the Michigan Department of Health and Human Services, COVID-19 Vaccination Plan (2020).

[18] See NATIONAL ACADEMIES OF SCIENCES, ENGINEERING, AND MEDICINE, FRAMEWORK FOR EQUITABLE ALLOCATION OF COVID-19 VACCINE (2020), https://doi.org/10.17226/25917.

[19] A detailed explanation of the relevant ethical considerations utilized in this Report is included in Section IV of this report.

- Guidelines comply with law. The Guidelines should be implemented in ways that comply with all relevant laws at the federal, state, and local levels.

III.   Goals

The Guidelines recognize three salient goals in determining the allocation of scarce medical resources and services during emergencies and disasters.[20] Efforts should be made to protect and maintain the public's health through *minimizing morbidity, mortality, and suffering*. Decision-makers should strive to *sustain a functioning society* through actions to preserve the capacity to deliver health care, public health, public safety, and other social services and critical infrastructure. Efforts to promote trust, transparency, and understanding among the public regarding allocation decisions also support this goal. Decisions about how scarce medical resources and services are allocated should *ensure equity*.

These three goals have equal importance and are not listed in any particular order of priority or hierarchy. The goals should be pursued concurrently and to the extent possibly, collaboratively, as true success requires achieving all of these goals. Tension among these three goals may arise in certain contexts and decision-makers may have different priorities at the clinical level versus the state level. Therefore, guidance should be directed accordingly to help at both levels. For instance, hospital-level decision-makers may seek guidance to help with situation management, while state-level officials may be focused on minimizing morbidity and mortality levels or fostering equity in the management of scarce resources.

The specific ethical justifications underlying these goals and the principles designed to achieve them are outlined in more detail below.

Minimizing morbidity, mortality, and suffering: The Ethics Advisory Committee came to a general consensus that protecting the public's health was an important goal. Some committee members suggested that this goal should be the primary factor in making allocation decisions. However, a focus on reducing morbidity and mortality alone is not a sufficiently robust goal to direct allocation decision-making. First, achieving this goal faces some inherent difficulties related to the uncertainties of assessing risk and predicting patient outcomes at the population level.[21] Moreover, emergencies and disasters that impact public health create risks to population health that go beyond the direct health impacts of the emergency. If critical services become unavailable and there is a fraying of the social order, health consequences may be exacerbated.[22]

Suggestions to minimize morbidity and mortality include:

- Employ evidence-based, scientific criteria for decision-making regarding resource and service allocation.
- Make allocation decisions based on medical prognosis of a good health outcome rather than by which patient is worst off at the time.

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[20] These goals are adapted from the approach proposed by the state of Minnesota. See Dorothy W. Vawter et al., "For the Good of Us All: Ethically Rationing Health Resources in Minnesota in a Severe Influenza Pandemic" (2009). Available at: http://www.ahc.umn.edu/mnpanflu/preliminary/rationing/home.html.

[21] For instance, the use of Sequential Organ Failure Assessment scores as the basis for determining patient prognosis for ventilator prioritization were found to have less predictive value for viral pneumonias than assumed. See Hick et al., Duty to Plan: Health Care, Crisis Standards of Care, and Novel Coronavirus SARS-CoV-2, NAM Discussion Paper (March 5, 2020).

[22] See "For the Good of Us All" at 14.

- Consider the impact on morbidity and mortality broadly, beyond just patients directly affected by emergencies and disaster that impact public health.

Sustaining a functioning society: The Committee determined that several considerations supported the goal of sustaining a functioning society. Targeting scarce medical resources and services to support the ongoing functioning of important critical infrastructure alleviates pressure on systems critical to societal functioning, including health care, public health, public safety, and other critical infrastructure sectors.[23] These systems provide needed services to the community, protect against civil disorder, and facilitate efforts to respond effectively to emergencies and disasters. Committee members also pointed out that the complexity of maintaining a functioning society may be too much to ask of these Guidelines but recognized the importance of producing guidance that supports efforts to achieve broader societal stability.

Designating categories of people with vital skill sets to perform necessary societal functions proved to be a difficult task, particularly since granting prioritization based on profession was generally objected to by the Committee. Some groups identified as essential to societal functioning included health care workers, emergency responders, energy workers, police, military personnel, sanitation workers, supply distribution workers, and manufacturers of medical supplies. Maintenance of the health care infrastructure itself was deemed a particularly high priority to the Committee.

An additional consideration for sustaining societal functioning centers on public acceptance of allocation decisions and the ethical justifications for those decisions. Members of the public should have access to information about allocation priorities and the methods by which allocation decisions will be made when crisis standards of care are in place. The public should also have an ample opportunity to comment on and provide input to emergency planners regarding these allocation priorities. Fostering transparency, accountability, and an informed populace will increase public support and confidence in the way that scarce medical resources and services will be allocated.

Suggestions to sustain societal functioning include:
- Identify specific groups that are essential to maintaining a functioning society and granting members of these groups some level of priority in accessing certain scarce medical resources and services.
- Provide a process for members of essential groups to be quickly and clearly identified.
- Provide a process for members of essential groups to receive access to medical resources and services that minimizes the need for individual health care professionals to have to make individual judgment calls about whether a person qualifies for priority access.
- Solicit public feedback on allocation and prioritization plans.
- Provide access to allocation guidance to members of the public through many forms of media.
- Counter misinformation that will undermine trust in allocation guidelines and plans.
- Alert the public promptly to any changes to prioritization plans.

Ensuring equity: The Committee included equity as a core goal based upon the fundamental role that equity plays in both ethical and legal discourse in our country. Equity recognizes the moral equality of all people and requires fair and just treatment, access, distribution, and opportunity for all people while pursuing better outcomes for historically and currently disadvantaged populations. Allocation decisions

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[23] See, for example, the U.S. Department of Homeland Security list of critical infrastructure sectors. https://www.cisa.gov/critical-infrastructure-sectors.

should appropriately take into account the fact that preexisting disparities and systemic racism create inequities across our society and that pursuing equitable outcomes in allocation decisions requires a recognition of and efforts to counteract such disparities, including taking steps to mitigate implicit bias in allocation decision-making. The Committee also acknowledged that tension may exist between what is equitable and what maximally reduces morbidity and mortality during an emergency situation.

Suggestions to ensure equity include:
- Outline equitable procedures for decision-making related to allocation decisions.
- Endeavor to reduce significant health outcome disparities across demographic categories in the population and across geographic regions of the jurisdiction, using tools such as the CDC Social Vulnerability Index[24] or the Area Deprivation Index[25].
- Develop an equitable process for allocating resources and services between individuals determined to have equal priority according to other allocation criteria.
- Consider and counteract existing disparities when making allocation decisions.
- Provide the highest level of medical care possible under the circumstances, including palliative care services.

IV. Ethical Considerations

The committee recognizes several underlying ethical considerations that guide the structure, procedures, and recommendations outlined in these Guidelines. These ethical considerations are not listed in any particular order of importance or priority. Rather, any or all of these considerations should be taken into account by those responsible for making allocation decisions during emergencies and disasters.

Beneficence is the duty to preserve the welfare of others through affirmative acts to promote well-being and save lives. In the context of emergencies and disasters that impact public health, beneficence requires that decisions regarding the allocation of scarce medical resources and services strive to protect the welfare of individuals and the community as a whole. The duty of health care professionals and health institutions to provide the best possible care and services to patients is grounded in beneficence as well as notions of professional competence. The related ethical consideration of **utility** suggests that decisions should be made in order to achieve the greatest good for the greatest number.

Fairness demands that the process and the criteria used for allocation of scarce medical resources and services during emergencies and disasters be consistent and non-discriminatory. **Equity** seeks fair and just treatment, access, distribution, and opportunity for all people while pursuing better outcomes for historically and currently disadvantaged populations. Equity recognizes that fairness and justice require consideration of underlying circumstances and that resources or support may need to be distributed differentially to achieve equal outcomes. **Procedural justice** requires that fair and clear processes be used to make allocation decisions, and that members of society are afforded a fair chance of access based on non-discriminatory criteria. **Distributive justice** in this setting requires that the scarce medical resources and services are fairly and equitably distributed across society. This may require making

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[24] Available at https://www.atsdr.cdc.gov/placeandhealth/svi/index.html.
[25] Gopal K. Singh, "Area Deprivation and Widening Inequalities in US Mortality, 1969–1998", *American Journal of Public Health* 93, no. 7 (July 1, 2003): pp. 1137-1143. https://doi.org/10.2105/AJPH.93.7.1137.

specific provisions to ensure that access to scarce resources and services is available to vulnerable populations and groups in society affected by disparities in access to health care. Allocation criteria based on fair and equitable factors will promote predictable and consistent decision-making. Equity supports the idea that certain groups may receive priority access to scarce resources and services according to appropriate factors such as increased medical risk or susceptibility, or a history of exclusion or disparate access to scarce medical resources and services.

Transparency, accountability, veracity, and **trust** are cornerstones to implementing a plan to allocate scarce medical resources and services during an emergency or disaster. **Transparency** refers to providing open access to information and decision-making processes. This allows the public to be aware of the content of and the rationale for allocation decisions and fosters both accountability and trust. In addition, transparency promotes understanding and the opportunity for comment and participation by interested members of the population. **Accountability** of those making allocation decisions also promotes thoughtful, fair, and consistent decisions. The ethical principle of **veracity**, or truth-telling, similarly bolsters trust and accountability, and can counter misinformation. Transparency, accountability, veracity, and fairness are necessary to create **trust** in the allocation processes and criteria. Generating trust helps to encourage compliance with and understanding of allocation decisions.

Respect for persons, the ethical notion that encompasses individual autonomy, privacy, dignity, liberty, and bodily integrity, must be upheld during emergencies and disasters. The decision to provide palliative care resources throughout a public health crisis even if treatment resources and services are not available comports with the ideal of preserving dignity and promoting comfort and care even in the face of resource scarcity.

Proportionality demands that any allocation decisions made be necessary and proportional to the scope and severity of the circumstances.[26] Allocation decisions made under conditions of resource or service scarcity will necessarily create burdens on those providing and receiving care. These burdens should be minimized as much as possible, and the level of health care provided should only be adjusted as little as necessary to address the immediacy of the situation.

Solidarity, the concept that we are all in this circumstance together, binds the community in a sense of shared sacrifice and social cohesion. Solidarity encourages members of the community to accept the validity of allocation decisions so long as they are made transparently and fairly. This notion supports community collaboration and cooperation. This sense of community also promotes the duty of health care workers to continue to provide care and services despite the difficulties created by the situation. As a result of such dedication, the community may reward health care workers for their efforts.

Finally, the principle of **stewardship** requires decision-makers at all levels to allocate scarce resources and services to preserve the effectiveness and impact of these resources and services as best as possible. This can be a challenge since it requires decision-makers to weigh competing duties to care for individual patients and to preserve adequate resources for the community and for future needs.[27]

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[26] See IOM report (2009) p. 32.
[27] See IOM report (2009) p. 30.

V. Allocation Criteria

A.   Acceptable Allocation Criteria

The Committee identified two general criteria considered acceptable for guiding allocation decisions: *medical prognosis* and *supporting critical infrastructure*. These criteria should be considered in conjunction with each other when evaluating allocation decisions. The sections that follow explain the substance of these two criteria and delineate how prioritization decisions regarding the allocation of scarce medical resources and services should be made when people meet one or both of these criteria.

- Medical prognosis. Immediate medical prognosis may be used to determine priority of access to scarce medical resources and services during emergencies and disasters. Decision-makers may consider the patient's medical condition, the likelihood of a positive medical response, the relative risk of harm posed by not treating the patient, and other indications of survivability and favorable short-term medical outcomes. Treating patients according to their medical prognosis directly supports the goal of reducing morbidity, mortality, and suffering. It is consistent with ethical principles of beneficence, utility, and stewardship. Decision-makers should take steps to evaluate the criteria and algorithms used for assessing a patient's prognosis to ensure that biases are not affecting clinical judgments. Decisions using medical prognosis as a basis for prioritization should only factor in a patient's immediate prognosis (e.g., whether the patient is likely to survive until discharge) and should not consider longer-term health implications. A focus on short-term, rather than long-term, prognosis ensures that allocation decisions do not become an inadvertent proxy for a patient's age, health status, or disability status.

- Supporting critical infrastructure. Workers who support critical infrastructure by performing essential functions, i.e., those deemed critical for the ongoing functioning of society, may receive priority access to scarce medical resources and services. The Committee agreed that workers who fall into these categories of people would be given priority because preserving these functions will facilitate two of our overall goals: sustaining societal functioning and reducing morbidity, mortality, and suffering. Essential personnel may include:

    - health care workers who are directly treating patients affected by the emergency or disaster (doctors, nurses, behavioral and mental health professionals, etc.).
    - personnel key to responding to the emergency or disaster (first responders, public health scientists, etic).
    - personnel key to public safety (police, fire, military, etc.); and
    - personnel key to other critical infrastructure (energy grid, telecommunications, food access, etc.).

    Giving priority to health care workers involved in treating and caring for the victims of an emergency or disaster serves the goals of sustaining societal functioning and minimizing morbidity, mortality, and suffering. With respect to this second goal, prioritizing health care workers has an aggregative effect on reducing morbidity and mortality: not only does providing health care workers priority access mitigate risks to the health and well-being of these critical workers; it allows them in many cases to continue to assist other sick individuals. Prioritization in this way is grounded on ethical notions of utility, beneficence, and efficiency. Many of these same justifications apply to the other categories of essential workers listed above. The Committee stressed however that prioritization of people performing essential functions as defined above is the only social characteristic or measure of

social worth that may be used in allocation decision-making. Other considerations of social worth are inappropriate to use as decision-making criteria.

As an example, people engaged in essential functions in response to the COVID-19 pandemic would include health care workers (both those directly treating COVID-19 patients and caring for other patients with time-sensitive medical or preventive health needs); public health personnel; public safety personnel and first responders; and critical infrastructure and support workers involved in the provision of utilities, sanitation, and food access, among others.

Applying the Acceptable Allocation Criteria. The acceptable allocation criteria of medical prognosis and supporting critical infrastructure may apply to a number of differently situated groups of people. Scarcity may require additional decisions to be made regarding the prioritization of scarce medical resources and services within and across these groups.

Federal guidance for allocation of scarce resources may supersede, or need to be coordinated with, the priorities outlined in these Guidelines. For example, the first vaccines to protect against SARS-CoV-2, the virus that causes COVID-19, were released under Emergency Use Authorization, under the authority of the FDA. Guidance about how the vaccine should be distributed was provided by the Advisory Committee on Immunization Practices (ACIP) to the CDC. Individual state health departments also gave guidance (based similar principles) to health systems, pharmacies, long-term care facilities and other vaccinating sites. This guidance involved a tiered allocation scheme that prioritized those most likely to be exposed (healthcare workers), those most likely to suffer severe disease (older persons with medical co-morbidities), with an eventual cascade to other groups based on additional empirical epidemiologic data. While there was some small latitude within an organization (some hospital systems, based on federal and state guidance and their own patient populations, chose to prioritize intensive care and emergency care workers), much of the allocation criteria were predetermined.

B. Problematic Allocation Criteria
The Committee identified three criteria—*lottery*, *first-come/first-served, and age*—that could be considered to make medical resource and service allocation decisions, but only under limited circumstances due to problematic ethical concerns related to their application. These criteria should only be used, if at all, as secondary allocation criteria to medical prognosis and supporting critical infrastructure. The Committee acknowledges that reasonable decision-makers may disagree on whether these criteria are appropriate to use. Yet, these criteria may only be acceptable to apply in circumstances where scarcity requires prioritization between people who would be indistinguishable on the basis of the acceptable criteria of medical prognosis and supporting critical infrastructure. These criteria should only be used with appropriate procedural protections to ensure that they are implemented equitably, fairly, and transparently, including advanced notice to the public that they will be used and explicit efforts to consider and counteract the potential for inadvertent bias or discrimination to result. This guarantee of adequate process comports with ethical notions of equity, fairness, transparency, accountability, veracity, and trust.

- Lottery: A lottery approach gives each eligible person an equal random chance to be selected to receive scarce medical resources or services. A lottery has two inherent characteristics: 1) if conducted correctly and without inappropriate influence or bias, it will lead to a truly random allocation across the population and 2) therefore it provides an allocation strategy that strongly

upholds the goal of fairness (although not necessarily equity). On the other hand, the random allocation approach advanced by a lottery is not conducive to minimizing negative health consequences or achieving maximal resource stewardship since it does not allow for resources to be targeted. In addition, a lottery requires top-down coordination and consistent application for it to be fair, and even with these controls may not achieve equitable outcomes. The Committee considered the use of a lottery approach as a tiebreaker between potential recipients of scarce medical resources and services in the event that all other criteria are equivalent, and scarcity persists. While the Committee generally supported the idea of using a lottery under these limited circumstances, the Committee did not come to a consensus on how such a lottery provision would be structured or implemented.

- First come/First served: Another alternative allocation approach—first come, first-served—presents several challenges from ethical and practical perspectives. This approach is potentially problematic as a sorting mechanism because it favors those with existing informational, social, and economic advantages, and may exacerbate disparities in both access to medical resources and outcomes. Nevertheless, it is the easiest approach to administer and generally accepted in non-emergency situations. This approach maybe the only approach possible during an emergent situation. It would not be ethical to withhold resources from a patient who has an immediate need to preserve them for a future patient who may not materialize. Given these concerns, the Committee only believes this approach is appropriate under limited circumstances where other criteria do not provide sufficient guidance for allocation decisions. Please see Table 3, below.

Table 3: Random sorting approaches – Pros and Cons

Approach	Pro	Con
Lottery	• Truly fair and completely random	• Not equitable, unless by chance • Not conducive to minimizing morbidity and mortality or stewarding resources • Potentially complex to administer
First come, first served	• Easy to administer • Widely accepted	• Not equitable since those with information and resource advantages will gain priority over those who do not

- Age: Granting priority to access scarce medical resources or services based on numerical age, quality-adjusted life-years, disability-adjusted life-years, or some other measurement based upon future longevity or functioning raises several difficult issues. Criteria based on longevity or functioning, such as age or quality-adjusted life years could provide additional stratification among the population to assist with allocation decision-making if all other factors are equal. The "fair innings" argument states that everyone should have the opportunity to live a full life, and therefore younger individuals should receive preference over older individuals. This approach comports with notions of equality in one sense and cuts against equality in another sense. It may be fair to allow a younger person to have the chance to live to an older age, given that older people have already had the opportunity to experience those phases of life. But this approach goes against equality in the sense that it is making an explicit differentiation between people on the basis of numerical age. It

also may undermine attempts to achieve intergenerational equity in allocation decisions and may violate legal anti-discrimination requirements in federal and state law.

Some commentators have tried to develop more sophisticated approaches and justifications for criteria based on longevity and functioning through the use of measurements such as quality-adjusted life years (QALYs) and disability-adjusted life years (DALYs). These measurements attempt to place a value on future life-years as opposed to just using numerical age as the relevant criteria. These approaches therefore adopt a different set of considerations, not just who will live the longest life, but also who will live the "best quality" life whether that is measured by health, self-satisfaction, or contributions to society. These approaches are problematic for some of the same reasons as the fair innings model and raise additional concerns because they may introduce subjective evaluations of quality of life into the calculation.

Due to these concerns, the Committee recommends that age may only be used as a factor for scarce resource allocation in the very rare circumstances where no other approach will suffice to differentiate between similarly situated individuals and such an approach has received public approval and does not offend notions of fairness and equity. In some cases, prioritization of scarce resource based on age range may be acceptable to meet public health policy goals, such as prioritizing older adults for access to limited COVID-19 or influenza vaccine if supported by morbidity or mortality data.[28] Any use of age to differentiate between individuals or groups to prioritize access to resources must comply with relevant anti-discrimination laws.

C. Unacceptable Allocation Criteria
The Committee identified several criteria that are unacceptable to consider as a basis to deny or justify a lesser priority to access scarce resources or services during emergencies and disasters. These criteria are highly problematic due to their inherent lack of equity and fairness, potential for abuse or discrimination, or irrelevance to achieving the goals set out in these Guidelines.

- Social characteristics: Social characteristics, including but not limited to age,[29] color, criminal history, disability, ethnicity, familial status, gender identity, height, homelessness, immigration status, incarceration status, marital status, mental illness, national origin, poverty, race, religion, sex, sexual orientation, socio-economic status, substance abuse disorder, use of government resources, veteran status, or weight, should not be used as a basis to deny or justify a lesser priority to access scarce resources or services during emergencies or disasters. Categorization of people according to these types of characteristics is often used as pretext for favoritism, discrimination, and reduced access for minority groups. Therefore, use of social characteristics as allocation criteria is unacceptable, unless such characteristics are being considered as part of a deliberate effort to improve equity in access to scarce resources such as application of the CDC's Social Vulnerability Index or the Area Deprivation Index.

- Social worth: The discussion of acceptable allocation criteria (in section V.A. above) recognizes that limited categories of people who provide essential functions needed to support critical infrastructure may be granted priority access to scarce resources and services during an

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[28] For example, the Advisory Committee on Immunization Practice has recommended, and the CDC has accepted, guidance that gives higher priority for older adults to receive COVID-19 vaccine due to increased risk of morbidity and mortality. See Kathleen Dooling et al., The Advisory Committee on Immunization Practices' Updated Interim Recommendations for Allocation of COVID-19 Vaccine—United States, December 2020, 69(5152) MMWR 1657-1660 (January 1, 2021), https://www.cdc.gov/mmwr/volumes/69/wr/mm695152e2.htm?s_cid=mm695152e2_w
[29] Age may be used as an allocation factor in very limited circumstances addressed in part V.B.

emergency or disaster. However, beyond these limited categories, factors that take into account a person's social worth are not acceptable to consider for allocation decisions. Social worth criteria are generally unacceptable because they can lead to unfair decisions based on subjective determinations of a person's background or characteristics, which can in turn lead to stigma, bias, corruption, or nepotism in allocation decisions. Unacceptable factors under this category would include but are not limited to job status, training or education, social standing, personal or familial relationships, belief systems, political affiliations, or any other measurement of a person's social standing. In particular, the Committee found unacceptable any sort of decision-making process that considered a person's ability to pay for medical resources or services as relevant to prioritizing resources or services. Similarly, it would be inappropriate for providers of medical resources and services to take into account the financial or economic consequences of a person's ability to pay in making allocation decisions for scarce medical resources or services unless such considerations are being made to improve equity in access to scarce resources.

VI.   Implementation

- Efforts should be made to eliminate scarcity prior to having to implement allocation guidelines.

    At all levels of planning, from the state government to individual health care institutions, efforts should be made to acquire sufficient levels of medical resources and services to alleviate the need for rationing these resources and services. Emergency preparedness planning can foster efforts to eliminate scarcity through the implementation of consistent and coordinated plans to share, stockpile, and estimate needed resources in advance of an emergency scenario. Additional strategies may include sharing resources with other entities and possibly transferring patients to other settings that will have access to adequate resources.[30]

    Despite the best efforts to avoid scarcity of medical resources and services during emergencies and disasters, it is inevitable that in some situations medical resources or services will become scarce, either due to unanticipated emergency circumstances, scientific limitations, or political and economic constraints on access to resources and services. The implementation of these Guidelines should only occur after all reasonable efforts to avoid scarcity have been explored. Additionally, as is further developed below, scarcity often occurs on a continuum and will vary over time. Conventional capacity may give way to the imposition of contingency strategies for conserving or repurposing resources as scarcity becomes more widespread, or the need for more drastic restrictions and limitations to address severe scarcity during a crisis situation.[31] The recognition that crisis standards of care may be imminent or in place should be a precondition for applying scarcity allocation protocols.

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[30] The Task Force on Mass Critical Care agrees with this provision. See Devereaux et al., Definitive Care for the Critically Ill During a Disaster: A Framework for Allocation of Scarce Resources in Mass Critical Care 133 Chest 51-66 (2008). Suggestion 4.2 states: "All attempts should be made by the health-care facility to acquire scarce critical resources or infrastructure, or to transfer patients to other health care facilities that have the appropriate ability to provide care (state, national, and even international). Critical care will be rationed only after all efforts at augmentation have been exceeded."

[31] See IOM Report 2012, pp. 1-37 – 1-41.

- The probability of scarcity occurring should be assessed and planning should occur to prepare for scarcity.

  Scarcity of medical resources and services may emerge through various mechanisms and circumstances during an emergency or disaster that impacts public health. The process of emergency preparedness planning should include assessing the likelihood of medical resource or service scarcity to materialize. There is an obligation to participate in planning and exercises designed to improve preparedness. Leaders of all areas involved in response should be required to have training in management of emergencies and disasters. Admittedly, in some situations this probability will be quite difficult to determine. Nevertheless, closely evaluating the potential for scarcity can assist with preparedness and allow for increased readiness should the Guidelines have to be put into place. Rigorous retrospective analysis of emergencies and disasters that result in scarcity will help with future preparations.

- Criteria should be offered to determine when scarcity exists and when prioritization guidelines should be used.

  The Guidelines should only go into effect after conditions of scarcity have developed and crisis standards of care are anticipated or have been implemented. State or local leaders should develop clear triggers to indicate when circumstances necessitate the use of crisis standards of care.

  Scarcity of medical resources and services during an emergency or disaster may take many forms. Whether sufficient scarcity exists to merit the use of prioritization guidelines with respect to a specific medical resource or service can be evaluated using the following factors:

  o Nature of scarcity
  o Duration of scarcity
  o Severity of scarcity

  o Nature of scarcity: What type of resource or service is in short supply? Is this a resource or service that can be adequately replaced by an alternative resource? In order to evaluate the intersection of complementary resources, decision-makers should weigh different allocation strategies to maximize all resources and services. Should, for example, staff forgo prophylaxis with oseltamivir during an influenza outbreak and use protective personal equipment instead in order to preserve the supply for sick patients?[32]

  The nature of the resource scarcity may be relevant to determining priority for essential personnel compared with others at risk. Priority access to resources for prevention, protection, and short-term treatment are ethically warranted in order to maintain health system capacity during an emergency. Even when essential personnel are not likely to be able to recuperate quickly enough continue to assist

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[32] See Harvard School of Public Health case study.

others during the emergency, priority access to scarce resources may be ethically appropriate based on considerations of utility, as such prioritization would be a strong incentive for essential personnel to participate in emergency response efforts despite the risks involved. However, essential personnel should not automatically have priority access to treatment resources needed for long-term recovery. The decision whether to differentiate between types of resources in granting priority to essential personnel relative to others should be assessed further by decision-makers implementing these Guidelines.

- o Duration of scarcity: What is the likely length of time that the scarcity will persist? If the scarcity is only likely to be of short duration (a few hours or days), then implementing crisis standards of care and the use of prioritization strategies may not be appropriate, although even a brief acute crisis could require the use of these criteria. Scarcity of specific medical resources or services may rise and fall over time. For example, during an influenza pandemic, vaccines may become more available over time as the production of a vaccine to combat a new flu strain is successfully produced, while antivirals may become more scarce, as initial stockpiles are used up.[33] Scarcity may fluctuate and occur over time in a long-duration emergency such as the COVID-19 pandemic, if successive waves of patients or disruptions in supplies of needed medications or equipment recur.

- o Severity of scarcity: How significant is the shortage of the medical resource or service? How widespread is this shortfall? How significant are the consequences of not being able to provide access to that resource or service? The severity of scarcity of a particular resource or service not only informs decision-makers of the relative restrictions that may be imposed on their access to the scarce resource or service, it may also dictate the appropriate allocation strategy for the resource or service.

These criteria can be assessed on a continuum. The greater the duration and severity of scarcity, the more likely that crisis standards of care are necessary and using the prioritization criteria will be warranted.

- Fair and transparent processes and information sharing.

    Any time there is a risk of crisis standards being implemented an institution or organization has a duty to notify public health officials. Allocation decisions made under conditions of scarcity should adhere to clear and specific processes to ensure that these decisions are not being made in an unjust or discriminatory manner. Members of the public should be forewarned of the possibility of medical resource and service scarcity, the means by which decisions will be made in those eventualities, and who will be accountable for making such decisions. These defined processes are essential to create public trust and to counter misinformation, and they should be followed by both public- and private-sector decision-makers. Appropriate procedural protections also include

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[33] Marcel Verweij, Moral Principles for Allocating Scarce Medical Resources in an Influenza Pandemic, 6 Journal of Bioethical Inquiry 159-169, at 161 (2009).

designated mechanisms to appeal allocation decisions. These and other process guarantees will foster equity, fairness, transparency, accountability, trust, and consistency in the application of these Guidelines.

- Prioritization guidelines and decisions should be reviewed continuously and periodically assessed.

  The policies and practices that emerge from these Guidelines should receive ongoing scrutiny to assure their relevance to the circumstances at hand. If scarcity abates, then measures to control access to medical resources and services pursuant to these Guidelines shall be discontinued. Once the Guidelines have been implemented, resource scarcity should be periodically reassessed by leaders and emergency planners at all levels (the timeline for which will be determined by the resource and the situation) to ensure continual allocation and reallocation in keeping with the tenets of these Guidelines. Special attention should be given to ensure that the results of allocation decisions do not perpetuate or exacerbate disparities in access or outcomes, especially related to racial or ethnic minority groups, people with disabilities, or other potentially vulnerable groups that might face disadvantages or discrimination in accessing scarce resources and services. In addition, retrospective evaluation of allocation decisions will help refine and improve allocation guidelines for use in future emergencies and disasters that generate scarcity.

- Prioritization guidelines should be used consistently across the state.

  Consistency in implementation of the Guidelines will promote fairness in access to scarce resources and services and will defuse allegations of favoritism and efforts to "venue-shop" for medical resources and services. Also, consistent application of the Guidelines can promote the goal of minimizing morbidity and mortality by fostering a coordinated public health response. MDHHS will provide guidance and assistance to help coordinate this response. However, local conditions may require allocation decisions to deviate from statewide guidance under some circumstances. Decision-makers who are departing from common guidance should only do so after careful deliberation and documentation.[34]

- Decisions to implement prioritization should be made by persons removed from the clinical context.

  To minimize conflicts of interest and difficult interactions at the clinical care level between health care providers and patients, decisions regarding when to apply these Guidelines should be made by decision-makers removed from the clinical context whenever possible. At an institutional level, this could take the form of an expert Scarce Resource Allocation Committee (SRAC) to assess the situation and make allocation decisions or through the development of regional or state-level coordination. These decision-makers should take into account the broader systemic, community, and population-level resource needs in determining whether implementation of these Guidelines is necessary to address the medical resource and service shortages created

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[34] IOM report (2009), p. 32.

by the specific emergency at hand. In addition, health care professionals should not be required to determine which patients qualify as essential personnel. This determination should be made by decision-makers removed from the direct clinical relationship, either by state or local government officials or by a designated committee within a specific institution. While health care professionals have a great deal of expertise in assessing a patient's medical prognosis, these professionals may be placed in a difficult position if they have to determine whether a patient requesting resources qualifies as a member of a prioritized essential personnel category or other prioritized groups.

- <u>Palliative care and other supportive resources should be provided consistently throughout an emergency or disaster.</u>

    When the guidelines are activated, it is possible that some individuals will not have access to some scarce medical resources and services based on allocation decisions. As a result, access to palliative care and other supportive resources and services should be provided to these persons in order to minimize pain and suffering. It is critical that palliative care professionals be available to care for patients who may not receive scarce medical resources and services. The overall management of the emergency or disaster will be strengthened by providing persons in need with compassionate pain management and means to alleviate their symptoms, as well as offering emotional support and grief and bereavement services to patients, family members, and the community.[35]

These Guidelines present a foundational set of goals, ethical considerations, allocation criteria, and implementation factors that can be applied in many types of circumstances where scarcity of medical resources and services occurs. The attachments that follow provide more detailed guidance for specific sectors likely to experience medical resource and service scarcity, including EMS providers, hospitals and health systems, state and local governments including public health departments, and long-term care facilities. The attachments also provide further information about legal issues that may arise when allocating scarce medical resources and services.

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[35] IOM Report 2012, pp. 1-78 – 1-85.

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ATTACHMENT 1: Specific Guidance for Emergency Medical Services and Medical Control Authorities

Introduction

The allocation of resources and services during emergency-induced situations of scarcity must be based on a sound ethical framework. Attachment 1 provides specific guidance to Emergency Medical Service (EMS) agencies and their Medical Control Authorities (MCA). The goal of this Attachment is to assist with planning for resource and service scarcity that may arise during public health emergencies. It applies the general ethical guidance offered in the Michigan Guidelines for Implementation of Crisis Standards of Care and Ethical Allocation of Scarce Medical Resource and Services during Emergencies and Disasters (Guidelines) to the specific context of EMS and MCA. Attachment 1 addresses in detail some considerations that may arise in this context. It also offers implementation strategies of the Guidelines in the EMS setting.

EMS agencies and their Medical Control Authorities should review the ethical framework presented in the Guidelines to ensure that their decision-making strategies for allocating scarce resources and services during emergencies and disasters comport with the principles and considerations outlined in the Guidelines.

This guidance is meant to be a resource for EMS agencies and their Medical Control Authorities. It is not a formalized series of instructions but rather a set of criteria that can be employed by decision-makers in various circumstances during emergencies and disasters using their best professional discretion. Thus, the criteria offered within these Guidelines are meant to be malleable, adaptable, and functional. It is presumed that EMS agencies and their Medical Control Authorities will adapt the approaches and strategies contained in this document to fit the circumstances of their specific facility.

Extreme or unforeseeable circumstances may challenge the foundations of the framework. In those situations, decision-makers will be expected to use their professional training and prudence to guide allocation decisions. The criteria offered may have to be amended to address unforeseen circumstances and should be periodically reviewed and updated to incorporate new information. Successful implementation of the Guidelines will demand ongoing deliberation, transparency, public education and input, and careful evaluation and oversight.

Background

Emergencies and disasters often lead to scarcity of medical resources and services. The history of epidemic outbreaks, natural disasters, and other mass casualty events has demonstrated the need to prepare for medical surge planning across all medical disciplines and systems. These types of emergencies and disasters could seriously impact the state of Michigan, its health care and public health systems, transportation systems, economy, and social structure.

Emergency medical services (EMS) may be faced with higher demands for services. EMS may experience problems similar to other health systems across the State, such as increased employee absenteeism, disruption of the supply chain, and increased rates of illness and death. Public Safety Answering Points (PSAP) or 911 dispatch centers serve as the public's point of access to EMS, law enforcement, and fire services, as well as an avenue for requesting many other services. Ensuring both the dispatch centers and EMS are well-integrated into medical surge planning and response is essential to the health and safety of the citizens during emergencies and disasters.

The EMS and PSAP/911 Systems will be part of a group of medical providers that will have to decide how they will respond to a significant influx of patients during and incident. It is of the utmost importance that they have the tools necessary to make ethically sound and important decisions with regard to allocation of scarce medical resources and services. The objectives discussed in this attachment will assist local and regional responders in making important decisions that protect the lives and safety of both responders and patients alike.

Ethical Framework: Key Considerations

The Guidelines developed for the State of Michigan discuss in detail the principles and methods used to develop the ethical framework, and the goals, ethical considerations, and allocation criteria. Several additional considerations applicable to EMS and MCA settings are highlighted below.

- Planning and preparation of health care professionals working in EMS settings to respond ethically and equitably to situations of resource scarcity underlie both professional and systemic obligations to provide competent and just care to patients.
- Preparing the community for the types of difficult allocation decisions that may arise through public engagement and education supports obligations of honesty and transparency and adds legitimacy to and accountability for these difficult decisions if they need to be made by EMS providers and their MCAs.
- Distributive justice cautions against applying different criteria to allocation schemes across different systems and communities served by different EMS providers and MCAs. Cooperation between Medical Control Authorities, EMS systems, hospitals, and health systems, local and state public health officials, and other entities participating in scarce medical resources allocation to develop equitable allocation guidelines, by contrast, supports fairness and distributive justice. The protection of disabled and marginalized individuals, as well as high-risk individuals and communities, including communities of color, older adults, the LGBTQ community, and indigenous, communities, in these circumstances is imperative. Therefore, criteria related to an individual's social identity and expected longevity to make allocation decisions should not occur.

The EMS Ethical Obligation

The National Association of Emergency Medical Technicians (NAEMT) has developed a number of important ethical obligations for EMS practitioners that hold themselves out to community as emergency response professionals working within EMS systems. EMS systems assume the important ethical duty to respond, "based on human need, with compassion and respect for human dignity, unrestricted by consideration of nationality, race, creed, color, or status; to not judge the merits of the patient's request for service, nor allow the patient's socioeconomic status to influence our demeanor or the care that we provide." EMS responders have a duty to provide medically acceptable care to all, consistent with the standards of the EMS system.[36]

EMS often determines priorities of care according to severity. During an emergency or disaster, EMS must adhere to set protocols and sound medical information, which may result in delaying or refusing transport for patients with minimal illnesses. In developing this triage system, EMS must consider equitable considerations to ensure fairness and equity, and avoid arbitrariness in allocation decisions, while allowing for adequate response to the ill and injured.

Beyond treatment, EMS personnel commonly deal with situations which require them to take on differing roles, which can create further ethical dilemmas. The EMS provider "must frequently interact and negotiate with reluctant patients, counsel those patients who ask for advice or refuse care, address requests for limitation of resuscitation, assume some degree of personal risk in the care of agitated, uncooperative, or infectious patients, deal with social and psychiatric challenges, and respond to a variety of unusual requests which may not be medical in nature."[37] In 1993, NAEMSP recognized three ethical principles that are meant to govern EMS personnel in their delivery of care. "The principle of justice implies that the system be fair and equitable. The principle of beneficence requires that actions and intentions are in the best interest of the patient. Respect for patient autonomy dictates that the requests of the patient are honored, and nothing is done which is contrary to the wishes of the patient."[38]

Training alone does not prepare the EMS provider to deal with ethical situations. Many learn by experience; prehospital providers are guided by clearly defined protocols. Coupling the above principles with established EMS protocols and educating EMS providers about ethical conflicts that may arise should promote the appropriate ethical resolution of dilemmas encountered by those who provide and direct EMS care during emergencies and disasters during times of scarcity.

Duty to Provide Care

EMS systems provide the community with important health care services, while presenting a unique and challenging environment for providers of these services. NAEMT states that to "conserve life, alleviate suffering, promote health, do no harm, and encourage the quality and equal availability of emergency

[36] National Association of Emergency Medical Technicians, Code of Ethics and EMT Oath, http://www.naemt.org/about-ems/emt-oath

[37] Ethics Committee, National Association of Emergency Medical Services Physicians, Ethical Challenges in Emergency Medical Services, 8(2) Prehospital and Disaster Medicine, 179-82 (April-June 1993). doi: 10.1017/s1049023x00040292.
[38] Id.

medical care."[39] EMS systems have a duty to provide care to the community as they pursue this mission. This duty applies across the spectrum of EMS services and from the moment a patient contacts 911, through dispatch, treatment, transportation, and release.

In order to limit potential ethical conflicts, EMS systems must establish policies and protocols that outline the duties of their personnel. The clearer these policies and protocols, the greater the likelihood of ethically sound care. These policies should include, when appropriate, assurances that EMS personnel will have access to adequate equipment, PPE, and training to offer timely and safe response, and provide patients with medically acceptable care, together, these policies outline the primary ethical duties of an EMS system. Additionally, the NAEMT notes that an EMS system has an additional "duty to maintain professional competence, striving always for clinical excellence in the delivery of patient care" for the safety of patients and providers.[40]

MCA and EMS agencies should coordinate with other health care providers and public health authorities to determine the scope of their responsibility for providing services in the community, including their role in providing emergency situation mitigation measures. EMS agencies should develop contingency plans to account for situation in which community mitigation strategies have varying levels of effectiveness. Moreover, public health, MCA, and EMS planners should be aware of ethical considerations surrounding decisions that may affect public perceptions and response to community mitigation strategies.

Illness, absenteeism, increased workload, and death during emergencies and disasters may impact an EMS agency's ability to satisfy demand for services. Planned flexibility in staffing patterns, recruitment, and just-in-time training programs may help augment the EMS workforce. As the provider of emergency medical triage in the prehospital setting, along with treatment and transport, EMS plays an important role in every community's effort to reduce morbidity and mortality from all sudden illness and injury. [41]

Efforts to develop ethically sound standards of care that allow EMS providers to deviate from their established, day-to-day treatment protocols support the evolving role of EMS while still providing for appropriate patient care. The State of Michigan will support EMS by establishing emergency protocols to guide care and operations. Local protocols may be established and approved by the State as appropriate. Standards of care may legally deviate from everyday treatment protocols during response to an emergency or disaster and will support mitigation of and response to affected patients. EMS plans should identify sufficient State legislative authority, administrative rules/regulations, and liability protection to support the role of EMS providers during emergencies and disasters. The MCA should provide for a system in which the treatment and protocols that EMS providers are authorized to use may be modified to reflect the evolving roles of EMS providers during an emergency incident that requires scarce medical resources. During this time the MCA should assure medical direction, appropriate education, and quality assurance. EMS agencies and providers should, through protocol, coordinate with their EMS Medical Directors, and working with local healthcare facilities, provide just-in-time training for their responders during emergencies or disasters. The practice of EMS providers should be based on the most up-to-date clinical recommendations and treatment protocols/information from appropriate medical and public health authorities.

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[39] National Association of Emergency Medical Technicians, Code of Ethics and EMT Oath, http://www.naemt.org/about-ems/emt-oath
[40] Id.
[41] Ethics Committee, National Association of Emergency Medical Services Physicians, Ethical Challenges in Emergency Medical Services, 8(2) Prehospital and Disaster Medicine, 179-82 (April-June 1993). doi: 10.1017/s1049023x00040292.

It is virtually impossible to create a scope of practice that takes into account every unique situation, extraordinary circumstance, and possible practice situation. This is further complicated by the fact that EMS personnel are an essential component of disaster preparedness and response. In many cases, EMS personnel are the only medically trained individuals at the scene of a disaster when other healthcare resources may be overwhelmed. If predictions about the surge of patients and the concomitant increase in absenteeism among EMS personnel become a reality, EMS providers' regular day-to-day practices may need to be modified during times of medical surge. [42]

Ethical Resource and Service Allocation Decision Process

Public health emergencies may require EMS providers to prioritize access to services for those patients most likely to benefit from evaluation and treatment. Ensuring adherence to this strategy may require EMS systems to alter standards of care to reflect the circumstances of each incident, including in some cases the adoption of patient triage and service protocols as outlined in this guidance document. The MCA will determine the EMS standard of care stage, as indicated in table 1 below. Section 20919 of the Public Health Code requires each MCA in the State of Michigan to establish written protocols. The protocols, once adopted by the MCA and approved by MDHHS have the force and effect of law. "Licensed life support agencies and individuals are accountable to the MCA in the provision of emergency medical services as defined in protocols. Each participating and non-participating hospital within an MCA region shall follow all standards, policies, procedures, and protocols established by the MCA as approved by the Department. Each MCA shall submit to the department current protocols for department review and approval."[43]

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[42] Id.

[43] Medical Control Authorities. https://www.michigan.gov/mdhhs/0,5885,7-339-73970_5093_28508-132260--,00.html

Table 1. EMS procedures will follow the schedule below:

EMS Standard of Care Staging [44]	Stage – Green: 911 communications and/or pre-hospital response systems and/or hospitals **at or near capacity**	Stage – Purple: 911 communications and/or pre-hospital response systems and/or hospitals **beyond capacity**	Stage – Red: 911 communications and/or pre-hospital response systems and/or hospitals **and surge systems beyond capacity**
Expansion of EMS personnel	Combining services or cross coverage	Use of Echo car or triage officer	Use of medical first responder or CERT volunteers
Implementation of alternate transport	See Response Triage Table 2	See Response Triage Table 2	See Response Triage Table 2
Implementation of treat and release protocols	See Response Triage Table 2	See Response Triage Table 2	See Response Triage Table 2
Single responder vehicles	No	Yes	Yes
Call Triage	Yes	Yes	Yes
Response Triage	No	Caller Notification	Emergent Calls Only

EMS PROTOCOLS: Scope and Applicability[45]

The protocols presented in this document apply to emergencies and disasters in which there is a sustained shortage of EMS services and personnel. Plans exist to identify resources available locally through the MCA, regionally through the Medical Coordination Centers (MCC), and statewide through the Community Health Emergency Coordination Center (CHECC) in coordination with the State Emergency Operations Center (SEOC). When all Michigan based resources are exhausted, the state may request Federal assistance through the SEOC. Mobilization of external resources through mutual aid from local and regional partners to supplement EMS services in localized areas of disaster is the preferred approach.

The first protocol addresses patient triage, which includes alternate forms of transport and the treat and release of patients. The second protocol covers management of resources by standard of care staging, which includes personal protective equipment and antiviral distribution and use, the role of first responders, and the responsibilities of triage officers.

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[44] Adapted from the "North Dakota EMS, Emergency Medical Service Pandemic Surge Protocols and Public Safety Answering Point Pandemic Surge Protocols", 2010, http://www.ndhealth.gov/EPR/Publications/EMS-PSAP-Stages-for-Standards-of-care2.pdf
[45] This section of the document is adapted from the document "Emergency Medical Service Pandemic Surge Protocols and Public Safety Answering Point Pandemic Surge Protocols," published in 2010 by North Dakota's EMS.

Assumptions Related to Pandemic Influenza, COVID-19, or other Infectious Agents

During a pandemic illness outbreak there will be some assumptions that must be considered for EMS personnel to prepare. First, a moderate to severe outbreak has the potential to overwhelm health care providers and available resources will be inadequate to serve the number of patients needing care, resulting in prioritization, and rationing. Moreover, the number of calls being received by 911 dispatchers will greatly increase, which in turn will markedly increase the number of responses requested of EMS. These calls are likely to be primarily health related, although public safety calls may also increase depending on the situation. The number of workers available to staff EMS and 911 call centers could dwindle as a result of the spread of illness (whether due to infection of workers themselves or secondary reasons, such as school closures or responsibilities to care for ill family members). Workforce shortages may have an especially severe impact on service capacity in rural areas, since personnel fulfilling EMS and phone operations in these areas are often volunteers or very few in number to begin with. Emergency planning efforts must account for these anticipated staffing shortages. Planners should also prepare to provide EMS units with personal protective equipment, pre-exposure prophylaxis, or other precautionary measures to protect EMS providers responding to highly transmissible respiratory illnesses.

Assumptions Related to Other Emergencies or Disasters

EMS Standard of Care
If the EMS system becomes overloaded during an emergency or disaster due to an increase in patients or a decrease in available staff, the MCA may adopt altered standards of care to guide EMS systems in their response decisions. For example, MCA may implement:

- a system of prioritization based on the condition reported to the dispatch center of an emergency call, which determines whether EMS personnel should initiate an on-scene response.
- a protocol that allows EMS personnel on-scene to determine the level of care required based on patient assessment.
- a modification of the usual staffing requirements, recognizing the increased workload and limitations on response due to limited availability of personnel and other resources.

Other emergency protocols developed at the State level not described here may be appropriate for an MCA to adopt and implement as well. Several specific scenarios are described in the sections that follow.

Triage of On-Scene Response by Standard of Care Stage

The most effective way to reduce the workload on EMS systems during a moderate or severe emergency or disaster is to limit the number of calls that must be responded to by EMS personnel. Given the importance of 911 dispatchers in this process, representatives from or familiar with 911 dispatch should be included in the planning stages for dispatch triage decisions. As noted above, during an emergency or disaster, the altered standard of care allows for such decisions to be made ethically. The diagram below identifies three scenarios under which a 911 dispatcher may triage calls consistent with the standard of care**.**

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                    ┌─────────────────────────┐
                    │  The 911 dispatch center may  │
                    │    triage calls in this manner:  │
                    └─────────────────────────┘
                                │
        ┌───────────────────────┼───────────────────────┐
┌──────────────────┐  ┌──────────────────┐  ┌──────────────────┐
│ No response based on │  │ Response by first responder who │  │ Response by an EMS triage │
│ information provided by the │  │ notifies the 911 call center of the │  │ officer who decides whether to │
│ caller to the 911 center │  │ nature of the event after an on- │  │ call in a response unit or │
│                  │  │ scene assessment │  │ recommend alternate │
└──────────────────┘  └──────────────────┘  └──────────────────┘
```
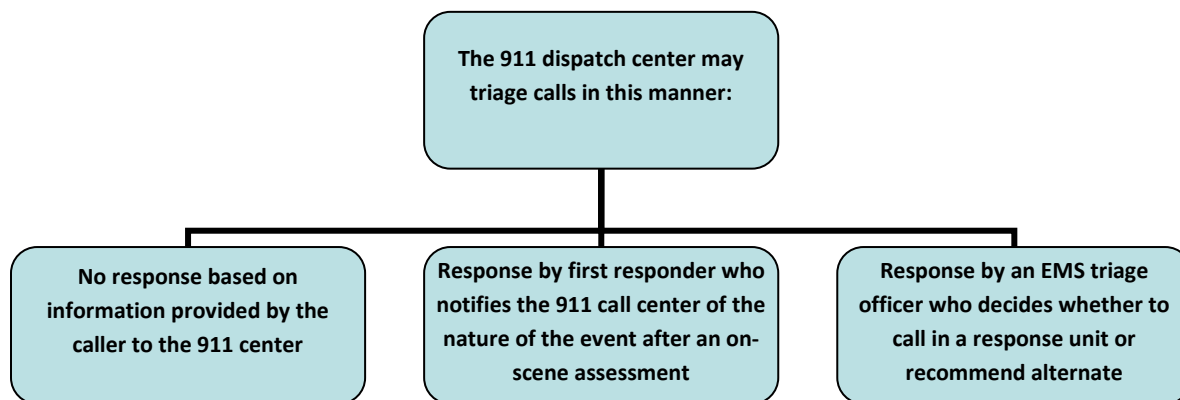
The content of the call and the availability of resources at the time will dictate which of the above response methods are appropriate for the call center to use. Triage decisions should be made with a goal of ensuring the best possible resource allocation with the available information Table 2, on the following page, outlines in detail a prioritization scheme to be applied to pre-scene information during emergencies or disasters. If the nature of the call is consistent with a response priority of zero, the 911 call center may choose not to send an EMS response. Although, the dispatcher's decision may have to be made with less than complete information obtained from the caller, the presence of a first responder or triage officer at the scene may improve the assessment of relevant circumstances to assist the dispatcher in making this decision. If the information comes into the 911 call center from an unreliable source, such as an intoxicated person, the decision to not send emergency responders would probably not be suitable. The distance between the responding unit and the response area may also be taken into consideration in making a response decision because of the extended time commitment of resources required when the response area is further from the responding unit. Additionally, in situations where an EMS system is faced with more severe emergencies requiring immediate assistance than it can handle, the system should request that the 911 call center identify additional EMS resources from existing mutual aid agreements that can respond immediately.

Table 2. Response Triage Based Information Available Pre-Scene to be Utilized by 911 Dispatch Centers[46] (Response Triage by Standard of Care[47])

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[46] http://www.ndhealth.gov/EPR/Publications/EMS-PSAP-Stages-for-Standards-of-care2.pdf

[47] The responding unit may ascertain whether sufficient resources are available to permit a higher level of care than that authorized by the state-recognized disaster standard of care. Alternatively, the EMS provider may implement a policy adopting the state-recognized disaster standard of care thereby designating that sufficient resources are not available to provide a higher level of care.

Notes: Priority One = Serious Life Threat; Priority Two = Life Threatening; Priority Three = Potential Life Threat; Priority Four = Non-life threatening[48]

*Threatening scene is a location in which the scene poses a potential danger to the health of the injured or ill person independent of the injury or illness itself (e.g., cold environment) or in which the person is trapped or pinned.

Patient Categories	Stage – Green: 911 communications and/or pre-hospital response systems and/or hospitals **at or near capacity**	Stage – Purple: 911 communications and/or pre-hospital response systems and/or hospitals **beyond capacity**	Stage – Red: 911 communications and/or pre-hospital response systems and/or hospitals **and surge systems beyond capacity**
Cardiac Arrest	Priority 1 Current Standards of Care	Priority 1 Current Standards of Care	Priority 0 Adult - No response Pediatric-Priority 1
Life threatening event, threatening scene*	Priority 1 Current Standards of Care	Priority 1 Current Standards of Care	Priority 1 * Alternate transport considerations if EMS delay anticipated
Life threatening event, non-threatening scene	Priority 2 Current Standards of Care	Priority 2 Current Standards of Care	Priority 2 * Alternate transport considerations if EMS delay anticipated
Non-critical ALS assessment	Priority 2 Current Standards of Care	Priority 3 Alternate transport considerations such as treat in place	Priority 3 Alternate transport considerations such as treat in place
Inter-facility transport unstable patient	Priority 2 Current Standards of Care	Priority 2 Current Standards of Care	Priority 3 Current Standards of Care
BLS Assessment/ unknown scene risk	Priority 3 Alternate transport considerations	Priority 3 Treat and Release considerations	Priority 4 Treat and release considerations
Inter-facility transport stable patient	Priority 3 Current Standards of Care	Priority 3 Alternate transport considerations or delayed transfer	Priority 4 Alternate transport considerations or delayed transfer
BLS Treatment	Priority 3 Alternate transport considerations	Priority 4 Treat and release considerations	Priority 4 Treat and release considerations
No acute illness or injury	Priority 3 Refer call, no on-scene response	Priority 4 Refer call, no on-scene response	Priority 4 Refer call, no on-scene response

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[48] Clawson JJ: Emergency Medical Dispatching. *In: Principles of EMS Systems.* Rousch WR,

Treat and Release

In simplest term, treat and release, is just as it sounds. After assessment, or treatment of a patient on site, the EMS unit decides no further treatment is required and does not transport the patient to a hospital or care facility. While the patient is free to pursue further care on their own, the EMS unit is under no obligation to provide transportation, even if no alternative transportation is available. Treat and release provides the patient with an assessment and adequate treatment on-site yet does not prevent EMS personnel from responding to other calls. Thus, treat and release may be utilized to preserve scarce resources for patients, and does not prevent the patient from pursuing further care independently.

There are several criteria that must be met before treat and release can be incorporated into EMS response: 1) the Governor must declare a disaster or emergency, 2) the protocols adopted by the MCA must include treat and release as an acceptable option, and 3) EMS personnel must not identify any "illness or injury likely to result in patient harm" if not transported to a hospital (or other health care provider) immediately. If all of the above conditions occur, after thorough evaluation and treatment of the patient, EMS personnel may release the patient and move on to other responses. It is advisable to have contact with medical control whenever possible for treat and release, treat in place, or transfer to an alternate destination.

Several alternative scenarios may challenge the straightforward treat and release criteria described above.

- If patient refuses treatment but other criteria are met for treat and release, patient may be released without treatment.
- If treat and release is not advisable, but resource constraints are severe, the next alternative is assessment for alternative transport.
- EMS personnel units always have the option to transport assuming resources permit.
- If transport is not available on scene, the EMS provider may conclude that the patient can be left pending arrival of the transport based if it is determined the conditions are sufficiently safe.
- If there are any questions about safety or whether or not to transport, the EMS provider should contact Medical Control for further direction.

Utilization of a treat and release protocol also is subject to some limitations to ensure that no patient suffers as a result of over-use or inappropriate use of this response protocol.

- Use of this protocol assumes that patients are provided the highest level of care available given resource scarcity.
- Application of the treat and release protocol is optional, not mandatory. Responding EMS personnel may employ this protocol under certain situations as defined by the MCA. However, the decision to employ this protocol comes within the judgment of the EMS personnel.

Alternate Transport

The alternate transport protocol is an option that may be available in some treat and release situations. This protocol is meant to cover patients in need of immediate assistance from a health care provider, as

determined by EMS personnel on-site. Thus, these patients need a higher level of care than patients meeting the treat and release criteria. Under this protocol, an alternative vehicle—operated by a family member, friend, or first responder—can be used to transport the patient instead of an EMS vehicle. Use of alternate transport ensures that EMS vehicles are available to respond to more urgent emergencies, or patients with higher medical priority.

The criteria applied to the alternate transport protocol resemble those necessary to employ the treat and release protocol: 1) the Governor must declare a disaster or emergency, 2) the MCA protocols must specify alternate transport as an acceptable option, and 3) the patient cannot have an illness or injury requiring treatment to prevent complications during the few hours after evaluation.   Once these three criteria are met the EMS unit must identify the alternate vehicle. This can be any vehicle, operated by a person acceptable to the patient, and capable of safely transporting the patient in a medically sound manner given the patient's condition. The action steps listed below outline criteria for assessment of the appropriateness of alternate transport. In the case of an emergency or disaster that evolves over time, the State will develop appropriate treatment and transport protocols for Medical Control Authorities to adopt, as occurred with the COVID-19 response.

Assessment for Alternate Transport and Action Steps
- Patient evaluation suggests that alternate transport is available within a reasonable time frame for the patient's condition and there is a reasonable expectation that deterioration will not occur.
- A person can be identified with a vehicle who is willing to transport the patient and can be reliably expected to do so.
- The transport vehicle has sufficient room for the patient.
- If transport is not available on scene, the EMS provider may assess whether the patient can be left pending arrival of the transport based on the safety of the scene.
- Full expectation that the transportation will occur in a timely manner (reliability); and,
- No anticipated problem with patient loading into the transport vehicle. [49]

Single Responders and Triage Officers

Single Responder
During emergencies or disasters where a shortage of EMS personnel exists, EMS systems may opt to send only one responder per vehicle in order to maximize the available resources. These single responders must be licensed EMS providers. Indeed, any use of untrained volunteers is not considered EMS response. However, in the dire circumstance when using a single responder does become necessary, that responder may call in a second person to assist with certain actions (e.g., loading a patient, driving the vehicle if the EMS provider must remain with the patient). Responder safety remains critical. The second person assisting with patient care should use the same PPE (personal protective equipment) required for the situation that is used by the EMS responder.

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[49] North Dakota EMS, Emergency Medical Service Pandemic Surge Protocols and Public Safety Answering Point Pandemic Surge Protocols, 2010. http://www.ndhealth.gov/EPR/Publications/EMS-PSAP-Stages-for-Standards-of-care2.pdf

Triage Officer

A Medical Control Authority and 911 dispatch center may coordinate to use a triage officer as a single responder on-site. This responder is meant to function as a typical EMS triage officer assessing for triage, treating, and stabilizing at the scene in preparation for transport, but not actually transporting the patients. After assessment, and treatment, the triage officer can make a transport decision, either by calling in an EMS vehicle, releasing the patient, or finding alternate transport. Because a triage officer does not provide transport, use should be limited to situations where transport is not expected given the call, or to severe emergencies where their role will be assessment and treatment pending arrival of transporting units.

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ATTACHMENT 2: Specific Guidance for Hospitals and Other Health Care Facilities

Introduction

The allocation of resources and services during emergency-induced situations of scarcity must be based on a sound ethical framework. Attachment 2 provides specific guidance to hospitals and other healthcare facilities to assist these entities in planning for resource and service scarcity that may arise during emergencies and disasters that impact public health. It applies the general ethical guidance offered in the Michigan Guidelines for Implementation of Crisis Standards of Care and Ethical Allocation of Scarce Medical Resource and Services During Emergencies and Disasters (Guidelines) to the specific context of hospital and healthcare facility settings and addresses in detail some considerations that may arise in this context. It also offers potential strategies for implementation of the Guidelines in hospital and healthcare facility settings.

Healthcare facilities, whether individual hospitals, multi-site health systems, or other health care delivery facilities, should review the ethical framework presented in the Guidelines to ensure that their decision-making strategies for allocating scarce resources and services during emergencies and disasters comport with the principles and considerations outlined in the Guidelines.

This guidance is meant to be a resource for hospitals and healthcare facilities. It is not envisioned as a formalized series of instructions but rather a set of criteria that can be employed by decision-makers in various circumstances during an emergency or disaster using their best professional discretion. Thus, the criteria offered within these Guidelines are meant to be scalable, adaptable, and functional. Some facilities may not have the capacity to implement all of the suggestions offered in this document. Others will choose to adopt different strategies that are nonetheless consistent with the ethical framework presented in the Guidelines. However, it is presumed that many hospitals and healthcare facilities will adapt the approaches and strategies contained in this document, tailored to fit the circumstances of their specific facility.

Extreme or unforeseeable circumstances may challenge the foundations of the framework. In those situations, decision-makers will be expected to use their professional training and prudence to guide allocation decisions. The criteria offered may have to be amended to address unforeseen circumstances and should be periodically reviewed and updated to incorporate new information. Successful implementation of the Guidelines will demand ongoing deliberation, transparency, public education and input, and careful evaluation and oversight.

These Guidelines should also fit within the incident command system which should include personnel trained in the National Incident Management System (NIMS) according to their roles and responsibilities. This structure will aid in the communications, coordination, command, and control of the hospital and other healthcare facilities in the preparedness and response.

Background

Emergencies and disasters have often led to scarcity of medical resources and services. The history of epidemic outbreaks, natural disasters, and other mass casualty events has demonstrated the need to prepare for mass medical care planning across all medical disciplines and systems. These types of emergencies and disasters could seriously impact the state of Michigan, its health care and public health systems, transportation systems, economy, and social structure. Hospitals and health care facilities will be faced with higher demands for services. These institutions and systems will experience problems similar to other health systems across the state of Michigan, including increased employee absenteeism, disruption of supply chains, and increased rates of illness and death.

Hospitals and other healthcare facilities will be part of a group of medical providers that will have to plan their response to a significant influx of patients in their respective areas. It is of the utmost importance that they have all of the tools necessary to make ethically sound and important decisions with regard to allocation of scarce medical resources and services. The objectives discussed in Attachment 2 will assist health care professionals in making important decisions that protect the lives and safety of both health care professionals and patients.

Ethical Framework: Key Considerations

The Guidelines developed for the State of Michigan discuss in detail the principles and methods used to develop the ethical framework, and the goals, ethical considerations, and allocation criteria to be used in making scarce resource allocation decisions during crisis standards of care. Several additional considerations applicable to hospital and other health care facility settings are highlighted below.

Professional and institutional obligations:

- An ethical scarce medical resource and service allocation scheme must respect the fundamental obligation of health care professionals to care for patients, sustaining rather than eroding relationships between patient and provider. Physicians, nurses, and other health care professionals and hospital workers must not abandon patients, and patients should not fear abandonment.

- Professional obligations to individual patients, however important, must not undermine a just and equitable distribution of scarce resources, for instance, by overly zealous advocacy. Rather, professionalism serves to constrain misrepresentation of clinical condition or circumstances that would lead to systematically unfair treatment. These considerations support the goals of minimizing morbidity, mortality, and suffering, and of ensuring equity.

- Health care professionals and their institutions have duties to plan and prepare for resource and service scarcity and to respond ethically to situations of resource scarcity. Each organization must proactively examine its plans for continuing to deliver care to the public during a mass casualty incident (MCI), and/or sustained medical surge, including how it would allocate scarce medical resources and services. Guidelines for rationing developed before they are needed allow time for reflection, public deliberation, and community support and should minimize arbitrary decisions that could inevitably lead to perceptions of unfair and inequitable treatment.

- Planning for a pandemic identifies actions (e.g., workforce training) that need to occur prior to the disaster.

- Leaders of organizations and those expected to fill leadership positions during crisis have a duty to be trained in incident management. Most hospitals have an incident management team and must drill to fulfill regulatory agency mandates, but specific planning to care for patients in an atmosphere of scarce resources, for at least some period of time while awaiting assistance, must be undertaken. The incident command system, aligned with the National Incident Management System (NIMS), is used by most organizations, and helps with common command protocols, language, and structure.

- Hospital leadership must have a thorough understanding of the local, regional, and state emergency plans, have active relationships with those organizations and exercise their plans. Planning for hospital surge, communications, public messaging, command and control, prevention of further casualties, business continuity, vulnerable population management, and security must take place in advance and be communicated to the members of the hospital organization. Hospital organizations should have a detailed understanding of the regional prehospital capabilities and those Emergency Medical Services (EMS) entity's plans for care delivery in a Major Medical Emergency (MME). All efforts should be made to coordinate with partners providing prehospital services, including EMS services and Medical Control Authorities (see Attachment 1).

Distributive justice and equity in hospital settings:
- Distributive justice requires fair and equitable access, distribution, and opportunity to benefit from scarce resources for all people while pursuing improved outcomes for historically and currently disadvantaged populations. Allocation schemes and criteria that differ substantially from hospital to hospital, for instance, could allow for more expansive access for wealthier communities and more restrictive access for poorer facilities or poorer communities. Substantially different policies could also encourage informed residents to "shop around" for greater access to scarce resources, as has occurred for scarce solid organs. Cooperation, not competition, led by healthcare institutions and professionals, must prevail during an emergency or disaster.

- Ethically sound responses to disaster must not exacerbate, and should help ameliorate, disparities in access to care even if they cannot repair prior inequities. Use of a "first come, first served" policy, for instance, favors those who are better informed and more mobile, and would exacerbate existing disparities, but may be the only option when the magnitude of future needs in unknown. Planners must designate appropriate resources for the most vulnerable who will suffer the greatest impact in any disaster. Hospital allocation strategies, for example, should consider how to supplement local resources according to indicators of need such as the CDC's Social Vulnerability Index.[50]

- The protection of disabled and marginalized individuals in these circumstances is imperative. Guidelines for scarce resource allocation in hospital settings must avoid covert or social value

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[50] Available at https://www.atsdr.cdc.gov/placeandhealth/svi/index.html.

judgments about those patients with pre-existing mental or physical disabilities. Guidelines must reflect our common duty to protect the rights of the disabled and marginalized populations.

Ethical Resource Allocation Decision Process Urban[51] Hospitals

Recognizing that each hospital organization is unique and planning for the allocation of resources should be proactive, this section proposes the composition and function of a Scarce Resource Allocation Committee (SRAC), Triage Officer Corps for hospital floors or units, and the Clinical Review Committee (CRC) which serves as a decision-making body and an appeals forum. Caregivers, physicians, and administrators will need clear guidance regarding how to distribute resources, and family members will need to know that a just and thoughtful process is in place.

Trigger Points
When an emergency or disaster that impacts public health is imminent, or has been declared by a relevant public health agency, the Medical Care Director, or his/her designee as predetermined in the Incident Management System, will direct the relevant emergency planning committees to:

- Identify resources which are likely to become scarce.
- Develop a method (or implement a previously developed method) for tracking such resources.
- Establish trigger points which indicate when conservation of a particular resource is necessary.

The trigger point is the point at which Crisis Standards of Care will apply. Whether a trigger point is met depends on the imminent depletion of a certain resource and will vary depending on the resource and the severity of the situation. The trigger point will be established based on the current and projected demand for a resource, and the current supply of this resource. As an example, during the 2009 novel influenza A pandemic outbreak, it became clear early on that N95 respirators and antiviral medications would quickly become scarce and decisions on usage needed to occur immediately. On the other hand, given the low morbidity and mortality associated with this virus in most healthy persons, staffing resources, beds, and ventilators did not need to be considered as scarce resources during this early period. During the early stages of the 2020 COVID-19 pandemic the same protective equipment scarcity was noted and changes in utilization were implemented. Lessons from the 2009 pandemic—such as maintaining stockpiles of medical supplies rather than relying on just-in-time ordering practices—were not institutionalized by hospitals or emergency planners, leading to shortages and delays in acquiring necessary resources.

Scarce Resource Allocation Committee (SRAC)
Once the trigger point is reached for a particular resource, the Incident Management Team must determine whether to activate the SRAC or a subset of the membership, dependent on the scarce resource.

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[51] This section provides a model for hospitals that have access to larger number of resources and personnel, described here as "Urban Hospitals." Of course, some hospitals in urban locations may not have access to sufficient resources to enact all of these recommendations and some hospitals outside urban settings will have the requisite resources to do so.

The SRAC should include leadership roles in clinical care (Chief of Staff, Nursing Director), the leadership in areas most likely to be faced with scarce resources (ICU Directors, Respiratory Care, Emergency Medicine, Admissions/Bed Coordination Center, Ambulatory Care Directors), experts in the ethics of health care delivery (ethicists), and experts in diversity, equity, and inclusion (DEI officers). This is one proposed structure for a SRAC but recognizing that some organizations would not have access to an ethicist, intensive care or ambulatory care leaders, such organizations should consider appropriate equivalent committee members.

In the event that consensus among members of SRAC cannot be reached regarding the assignment or conservation of a scarce resource, the Incident Commander will call for a vote. A voting scheme should be developed, with the Incident Commander given authority to decide in case of tie votes. Ad hoc advisors may be invited by SRAC members to provide expertise as needed. Ad hoc advisors may include representatives from the Office of the General Counsel, Pharmacy, Material Services, Epidemiology, Infection Prevention and Control, Human Resources, etc. Ad hoc advisors will not be permitted to vote in matters to be decided by the SRAC.

Figure 1, on the next page, outlines an example of the roles and composition of a SRAC in a well-resourced hospital.

Figure 1: Scarce Resource Allocation Committee (SRAC) Description

Category	Description
Statement of Purpose	SRAC should have the full authority within the institution to make necessary allocation decisions to assign or conserve resources for patient care.
Objectives	In the event of a shortage of services, supplies, or staffing, the SRAC should determine when and how these resources should be allocated or conserved. In addition, the SRAC will have responsibility for determining when Crisis Standards of Care will be activated and deactivated.
Scope	All supplies, equipment, staffing, and any other resource of the hospital or health system organization
Membership	In the event of a disaster declaration and/or the establishment of the Incident Management System (IMS), the SRAC structure should be consistent with this system, if possible. At this point, the Incident Commander (or designee) will chair the SRAC. The SRAC composition could include appropriate adult and pediatric representation from each of the following groups: • Medical Care Director or designee • Director of Nursing or designee • Ambulatory Care Medical Director or designee • ICU Medical Director(s) or designees • Respiratory Therapy Medical Director and Technical Director or designees • Emergency Medicine Medical Director or designee • Admissions/Bed Capacity Manager or designee • Ethicist • DEI Officer • Pharmacist Each position on the SRAC should be filled by 3 people who will rotate shifts on the committee if staffing resources allow. Those members who are off shift should be available to rotate on an appeals committee (see below) if needed.
Timeline	May be activated upon determination of one or more scarce resources.
Voting	In the event that consensus among members of SRAC cannot be reached regarding the assignment or conservation of a scarce resource, the Incident Commander will call for a vote. Voting consists of one vote for all members of the committee. For example, if the committee is constituted as described above, the incident commander and each of the eight groups would have one vote for a total of nine votes. A simple majority vote will be required, the Incident Commander given the authority to decide in case of tie votes. The SRAC may implement additional procedures such as secret balloting to avoid undue pressure on members.
Progress Reports	SRAC may meet face-to-face or remotely. All decisions made by the SRAC should be documented in meeting minutes, including the rationale for those decisions.

During a mild or time limited MME, the SRAC may only need to meet intermittently and some decisions on specific resource allocation may be left to specialty groups. For example, during the 2009 novel influenza A (H1N1) outbreak, decisions regarding antiviral distribution for treatment and prophylaxis within some health systems were left to a small group including Infectious Diseases, Employee Health, and Infection Prevention and Control. On the other hand, a severe pandemic or other MME, with more hospitalizations and a higher mortality rate might necessitate daily meetings of the SRAC to make recommendations for allocation of multiple scarce resources. The SRAC may be called upon to advise Incident Command or institutional leaders during recovery phases of the MME, such as opining on the prioritization of staff or patients for a vaccination, such as in the COVID-19 pandemic or mass medication dispensing after another type of outbreak or exposure.

Triage Officers
During a severe MME, such as a pandemic that leads to multiple scarce resources, a Triage Officer will be assigned to oversee a patient care area, such as an inpatient floor or unit. Triage Officers will be selected from available personnel who normally care for patients on that unit and identified by the hospital leadership based on the individual's leadership capabilities and clinical skills to meet the needs of the role. To minimize conflicts of interest and difficult interactions at the clinical care level between health care providers and patients, whenever possible triage officers should not be clinically treating currently admitted patients. Pre-identification and training of Triage Officers is recommended.

If Crisis Standards of Care Protocols need to be implemented to manage a scarce resource (i.e., ICU care or ventilators), the Triage Officer will notify the clinicians within their assigned units to communicate regarding Crisis Standards of Care Protocols and collect data about patient assessments as often as needed, but at least daily. The Triage Officers should communicate frequently with the Clinical Review Committee to assess the needs of all patients within the institution. Using the Crisis Standards of Care Protocols, the Clinical Review Committee and the Triage Officers will determine which patients no longer meet criteria for the use of a scarce resource. When a patient no longer meets criteria for a particular resource, the Triage Officer will advise the primary clinician to discontinue its use, consistent with legal and ethical guidance. Decisions to discontinue *any* intervention based on resource conservation will only occur after the SRAC has determined that conservation of that particular resource is necessary.

Clinical Review Committee
While decisions to discontinue life-sustaining interventions will be made in conjunction with the Triage Officers, in consultation with the primary clinician caring for the patient, any patient, family member or clinician (including the Triage Officer) can request consultation with the Clinical Review Committee (CRC). A proposed version of the makeup and purpose of the CRC is outlined in Figure 2, on the next page.

The CRC will have six functions:

1. The CRC will serve as a consultative body that will advise clinicians regarding clinical decision-making in complex patient care situations and identify principles that will serve as guidelines for triage officers.

2. The CRC will be involved in all decisions to discontinue a life-saving therapy.

3. The CRC will have real-time information on all currently available life-saving scarce resources in the hospital system. The CRC will also have a list of all patients who, based on objective clinical parameters, have the lowest chance of survival to hospital discharge.

4. The CRC will discontinue a life-saving resource for a particular patient, only when:
    - The life-saving resource has been depleted throughout the organization and cannot be obtained from any outside source.
    - Another person with a greater chance of survival to hospital discharge, based on objective clinical parameters that have been selected for triage guidelines, requires the same life-saving resource.

5. Once a decision to discontinue a life-saving scarce resource has been made for a particular patient the CRC will instruct the Triage Officer responsible for the patient to withdraw the life-saving scarce resource.

6. The CRC will be the final decision-making body for the appeal of Triage Officer clinical decisions. Decisions made by the CRC will be final and will be determined based on a review of available medical information. Some institutions may feel it is appropriate to have an appeal process even after CRC has considered the case, but should consider whether, in an MME incident, they will have the depth of expertise to staff multiple committees**.**

Figure 2: Clinical Review Committee

Category	Description
Statement of Purpose	To act as an advisory body for requested consults from the Triage Officer and act as a final decision-making body for all appealed Triage Officer decisions.
Objectives	Consultation: • Advice regarding clinical decision making in complex patient care situations. • Identify principles that serve as a guide for the Triage Officer. Appeals: • Resolve disputed cases of allocation of any scarce clinical resources
Scope	Any resource allocation decisions that require resolution.
Membership	The CRC will consist of appropriate adult and pediatric providers including the following: • Medical Care Director or designee • Triage Officer for that unit (non-voting) • Adult Triage Officer from another unit • Pediatric Triage Officer from another unit • Respiratory Therapy Medical Director or designee • Emergency Medicine Medical Director or designee • Nursing Director or designee (non-voting) • Social Work Director or designee (non-voting) • Ethicist, ad hoc advisor (non-voting) • DEI Officer, ad hoc advisor (non-voting) • Office of the General Counsel, ad hoc advisor (non-voting)
Timeline	Ad hoc activation
Progress Reports	All decisions will be documented in the patient's medical record. Additionally, the CRC will maintain a list of all patient names, registration numbers, and rendered decision.

Staffing Resources
Personnel may be the most important scarce resource in an MME, especially if the emergency lasts for weeks or months.   Equipment, medications, and vaccines cannot treat or prevent illness without trained personnel to prescribe, administer and oversee their use. Unlike material goods such as medicines, masks, and ventilators, personnel cannot be "stockpiled;" indeed, shortfalls in personnel could be exacerbated, for example, by communicable or infectious related absenteeism.

Most hospital organizations have mechanisms in place for planning human resource needs and strategies, the following ethical guidelines may be useful for allocating scarce human resources during an emergency:

1. As is the case for material resources, institutions should increase the "supply" of scarce human resources by prospectively training individuals whose current roles will be less urgently required during an MME to work in areas of likely shortfall and consider training community members as well.

2. Professional ethics for clinicians generally discourage or prohibit practice outside the scope of one's expertise. Similarly, legal, and ethical standards often prohibit laypersons from providing health services. During conditions of extreme scarcity of trained personnel, however, standards of competence may justifiably be lower than during normal conditions and legal provisions may allow for alterations in requirements for licensure and scope of practice in order to expand the supply of providers. Employing, for instance, a clinician who normally works in a specialty to instead work in primary care or providing community volunteers with focused training to administer vaccine could expand capacity and alleviate some of the scarcity of personnel.

3. Individuals who assume the risks and burdens of providing essential medical services such as direct patient care during a pandemic (e.g., extended hours and quarantine) should be prioritized to receive the highest level of appropriate protection (e.g., vaccine if available, protective gear in accordance with their level of risk exposure) to minimize their risk of infection.

4. Staff support measures are vital, especially during longer duration emergencies such as a sustain pandemic response. Staff moral distress, brought about by experiencing significant and repeated loss of life among patients as well as being in situations in which one feels impeded from doing what seems to be right, is an expected byproduct of triage situations where limited resources may be kept from those in apparent need. Hospital organization should plan to offer supportive services to affected staff.

5. **The allocation of scarce human resources should be done in a fashion consistent with the** guidelines for other resources.

Ethical Resource Allocation Decision Process Rural[52] Hospitals

Smaller hospitals, especially those in rural areas, are faced with limited resources and support from other agencies, potentially smaller, more distant local public health departments, limited technology, a greater reliance on volunteers, limited medical transport units, and greater distances from potential lifesaving or supportive resources.[53]

Advance planning may take a more critical role for medical surge, allocation of scarce resources, and implementation of crisis standards of care within this setting. Furthermore, these facilities should recognize their role to also plan to care for populations they might not normally treat, such as pediatrics, obstetrics, or critical care patients.

The members of the hospital's Emergency Management Planning Committee may also be called upon to be a part of a Scarce Resource Allocation Committee (SRAC). The SRAC should have the full authority to make necessary allocation decisions to assign or conserve resources for patient care in the event of a

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[52] As a contrast to the prior section, this section outlines guidelines for hospitals with less access to medical and personnel resource, here described as "Rural Hospitals." These hospitals may have limited access to resources and personnel, thus requiring committees and processes that are scalable according to availability.
[53] Manley et al., 2006, p. 80

shortage of services, supplies, or staffing. The SRAC should be responsible for determining when and how these resources should be allocated or conserved.

It is understood that not all rural hospitals have the staffing capacity to fill all the recommended positions in the SRAC. Therefore, it would be reasonable that the hospital leadership looks to different entities from the healthcare services in the community to fill those vacancies. The hospital may look to private healthcare providers such as local pediatricians or internal medicine physicians to help guide decisions in their area of expertise. Community religious leaders may fill roles that might normally be filled by hospital employed ethicists and pastoral care. Each hospital's executive and risk management committees must decide which roles they would like to have represented in the SRAC.

Furthermore, it may be advantageous in regional areas that have large numbers of rural hospitals to form a regional committee to include representation from all involved. This will help to ensure consistent decision making in all areas of the region as well as decrease the burden of dual functioning roles on the staff from the affected hospitals. This type of committee could consist of representation from regional Medical Control Authorities, local public health departments, Healthcare Coalitions and healthcare personnel from areas such as long-term care, pediatrics. This type of committee could be pre-identified and integrated into the regional emergency operational guidelines and would become active during times of scare medical resources.

Key issue planners should anticipate, to the degree possible, the types of health care needs and resource shortfalls that will occur and identify policy and operational adjustments that will be needed in response.

Ethical Planning includes Assessment for the Use of Alternative Care Sites
The State of Michigan has a long-established regional healthcare coalition planning structure in place. Each hospital organization should understand the capabilities of their institution and their regional healthcare coalition in the event of an MME. Understandably, rural regions with small hospitals may not have robust Alternative Care Site (ACS) and Medical Surge plans in place, but their leaders should be familiar with the region's capabilities within the Michigan healthcare preparedness framework. An ACS could potentially relieve some of the burden on the hospital if the patient surge could be managed with resources that are easily delivered in such a venue, such as minor respiratory care, IV fluids and medications, some noninvasive oxygen delivery and even humane palliative care for the dying.

Please reference the guidance documents below:

1. Guidance for Staffing
2. Guidance for Medication Administration
3. Guidance for Mechanical Ventilation
4. Guidance for Pediatrics
5. Guidance for Palliative Care
6. Guidance for Extra-Corporeal Membrane Oxygenation (ECMO) in Michigan

Staffing

Strategies for scare resource situations

Recommendations	Strategy	Standard of Care
Staff and Staff Related Supplies Planning • Have process and policies for disaster credentialing and privileges – include supervision plan, clinical scope of practice, orientation, medical record access, and verification of credentials. • Encourage employee personal preparedness planning including family and pets. • Cache adequate personal protective equipment (PPE) and supporting supplies. • Educate and exercise staff on institutional disaster response. • Educate appropriate staff on community, regional, and state disaster plans and resources. • Develop facility plans for shelter-in-place needs including family and pets. • Have a communications plan for all employees and patients / residents, including when operating under crisis standards. • Have a plan to address social factors that might prevent staff from reporting to work (transportation and housing). • Consider potential mental health needs of staff and have a plan to provide additional support.	Prepare	Conventional Contingency Crisis
Maximize Staff Time • Only hold critical meetings and reduce administrative responsibilities not related to incident. • Implement efficient and effective medical documentation methods appropriate to the incident. • Cohort patients with like conditions to conserve PPE, reduce donning and doffing time and frequency, or travel time between patients.	Conserve	Conventional Contingency Crisis
Find Supplemental Staff • Bring equivalently trained staff for response type from health system (including administrative positions), other health systems, Disaster Medical Assistance Team (DMAT), or other approved organizations; be aware of state-specific emergency waivers. • Have Incident Command report need for staffing resource specifics to local Emergency Management and the Regional Healthcare Coalition Medical Coordination Center. • Adjust work schedule (longer but less frequent shifts, etc.) if this will not result in skill/PPE compliance deterioration. • Allow family members/lay volunteers to provide basic patient hygiene and feeding.	Substitute Adapt	Contingency Crisis

Recommendations	Strategy	Standard of Care
Focus on Core Clinical Needs • Have trained staff concentrate on specific critical skills (ventilator, burn, etc.); specify job duties that can be safely performed by other medical professionals. • Have specialty staff oversee larger numbers of less-specialized staff and patients. Consider including Emergency Medical Technicians or new residents in planning. • Limit use of laboratory, radiographic, and other studies, to allow staff reassignment and resource conservation. • Reduce documentation requirements to minimum amount needed. • Cancel all non-essential procedures and visits. • Have a process to request waivers or protocol changes with the proper authorities.	Conserve	Contingency Crisis
Utilize Alternative Personnel • Utilize less trained personnel with appropriate supervision and just-in-time education (nursing students, Medical Reserve Corps, MI-Volunteer Registry) if authorized. • Activate facility disaster plan to optimize availability of all essential personnel including housekeeping, food service, laundry, maintenance, engineering, information technology, etc. • Utilize less trained personnel to take over portions of skilled staff workload for which they have been trained. • Provide just-in-time training for specific skills. • Contact recently retired staff. • Cancel non-urgent appointments and divert staff to emergency duties related to the incident and provide appropriate orientation and training.	Adapt	Crisis

Medication Administration

Strategies for scare resource situations

Considerations and Guidance	Strategy	Standard of Care

Cache/Increase Supply Level
 	
• Ideally, patients should have at least 30 days' supply of home medications and obtain 90-day supply if pandemic, epidemic, or evacuation is imminent.
• Examine formulary to determine commonly used medications and classes that will be in immediate/high demand. This may involve coordination with insurance companies/pharmacies.
• Increase supply levels of cache critical medications, particularly for low-cost items and analgesics.
  ○ **Analgesia:** Morphine, other narcotic, and non-narcotic (non-steroidal, acetaminophen) class injectable and oral (narcotic conversion tool at http://www.globalrph.com/narcoticonv.htm).
  ○ **Sedation:** Particularly benzodiazepine (lorazepam, midazolam, diazepam) injectables, ketamine, and anti-psychotic agents.
  ○ **Anti-infective:** Narrow and broad-spectrum antibiotics for pneumonia, skin infections, open fractures, sepsis (e.g.: cephalosporins, quinolones, tetracyclines, macrolides, clindamycin, penam class and extended spectrum penicillin, etc.), select antivirals.
  ○ **Pulmonary:** Metered dose inhalers (albuterol, inhaled steroids), oral steroids (dexamethasone, prednisone).
  ○ **Behavioral:** Metered Haloperidol, other injectable and oral anti-psychotics, common anti-depressants, anxiolytics.
  ○ **Health Other:** Sodium bicarbonate, paralytics, induction agents (etomidate, propofol), proparacaine/tetracaine, atropine, pralidoxime, epinephrine, local anesthetics, antiemetics, insulin, common oral anti-hyper tensive, diabetes medications, tetanus vaccine and tranexamic acid, anti-epileptics (IV and oral), hypertonic saline, and anti-diarrheal.
• Increase supply levels of cache of materials needed for administration of critical medications, e.g., IV pumps, syringes, saline solution.
	Prepare	Conventional
		
		Contingency
		
		Crisis

Use Equivalent Medications
 	
• Obtain medications from alternate supply sources (pharmaceutical distributors, pharmacy chains).
• Explore options to compound or obtain from compounding pharmacies.
  ○ **Pulmonary:** Metered dose inhalers instead of nebulized medications.
  ○ **Analgesia/Sedation:** Consider other medications (e.g., benzodiazepines, dexmedetomidine, etc.) for propofol substitution (and other agents in short supply).
	Substitute	

Considerations and Guidance	Strategy	Standard of Care
○ **Anti-infective:** Examples: cephalosporins, gentamicin, clindamycin substitute for unavailable broad-spectrum antibiotic. Target therapy as soon as possible based on organism identified. ○ **Other:** Beta blockers, diuretics, calcium channel blockers, ace inhibitors, anti-depressants, anti-infectives. - If available and efficacious, consider the use of newly developed medications and therapies.		
Reduce Use During High Demand - Restrict use of certain classes if limited stocks likely to run out (restrict use of prophylactic/empiric antibiotics after low-risk wounds, etc.) - Decrease dose; consider using smaller doses of medications in high demand/likely to run out (reduce doses of medications to allow blood pressure or glucose to run higher to ensure supply of medications adequate for anticipated duration of shortage). - Allow use of personal medications (inhalers, oral medications) in hospital. *Crisis only:* - Do without – consider impact if medications not taken during shortage.	Conserve	Contingency Crisis
Modify Medication Administration - Emphasize oral, nasogastric, subcutaneous routes of medication administration. - Administer medications by gravity drop rather than IV pump if needed. *Crisis only:* - Consider use of select medications beyond expiration dates, especially tablets/capsules. - Consider use of veterinary medications when alternative treatments are not available.	Adapt	Contingency Crisis
Restrict Allocation of Select Medications Allocate limited stocks of medications with consideration of regional/state guidance and available epidemiological information. This may include newly available medications, biologics, and vaccines. *Crisis only:* Determine patient priority to receive medication in limited stock.	Re-allocate	Contingency Crisis

Mechanical Ventilation

Strategies for scare resource situations

Considerations and Guidance	Strategy	Standard of Care
Restrict Allocation of Select Medications • Allocate limited stocks of medications with consideration of regional/state guidance and available epidemiological information. This may include newly available medications, biologics, and vaccines. *Crisis only:* • Determine patient priority to receive medication in limited stock.	Re-allocate	Contingency Crisis
Increase Hospital Stocks of Ventilators and Ventilator Circuits, ECMO or bypass circuits	Prepare	Conventional Contingency Crisis
Access Alternative Sources for Ventilators/specialized equipment • Obtain specialized equipment from vendors, health care partners, regional, state, or Federal stockpiles via usual emergency management processes and provide just-in-time training and quick reference materials for obtained equipment.	Substitute	Conventional Contingency Crisis
Decrease Demand for Ventilators • Increase threshold for intubation/ventilation. • Decrease elective procedures that require post-operative intubation or anesthesia machines. • Use non-invasive ventilatory support when possible. • Attempt earlier weaning from ventilator.	Conserve	Contingency Crisis
Re-use Ventilator Circuits • Appropriate cleaning must precede sterilization. • If using gas (ethylene oxide) sterilization, allow full 12-hour aeration cycle to avoid accumulation of toxic byproducts on surface. • Use irradiation or other techniques as appropriate.	Re-use	Contingency Crisis

Considerations and Guidance	Strategy	Standard of Care
Use Alternative Respiratory Support Technologies • Use transport ventilators with appropriate alarms, especially for stable patients without complex ventilation requirements *Crisis only:* • Use anesthesia machines for mechanical ventilation as appropriate/capable. • Use bi-level (BiPAP) equipment to provide mechanical ventilation. • Consider bag-valve ventilation as temporary measure while awaiting definitive solution/equipment (as appropriate to situation – extremely labor intensive and may consume large amounts of oxygen). • Consider splitting ventilators based on IC/RTT suggestions. • Consider proning as appropriate.	Adapt	Contingency Crisis
Assign Limited Ventilators to Patients Most Likely to Benefit if No Other Options are Available – see tables below for additional information on each step **Step one:** assess adult patient acuity using the Sequential Organ Failure Score (SOFA) scoring table and/or other parameters appropriate to the situation. The SOFA score is the currently preferred adult assessment tool, but other predictive models may be used depending on the situation. Note: Specific SOFA scores should never be used to deny a ventilator to a patient but should be used in combination with other factors to compare patients needing the resource. Higher baseline creatinine values in certain racial groups could influence SOFA value. (See Step 1 table below) **Step two:** compared to other patient(s) requiring and awaiting external ventilation/oxygenation, does this patient have significant differences in prognosis or resource utilization in one or more categories below that would justify re-allocation of the ventilator/unit? Factors listed in relative order of importance/weight. Injury/epidemiologic factors may have the highest predictive value in some cases and may also affect the predictive ability of the SOFA score. (See step 2 table below) **Step three:** Re-allocate ventilator/resource only if patient presenting with respiratory failure has significantly better chance of survival/benefit as compared to patient currently receiving ventilation. Follow additional regional and state/federal guidance and institutional processes for scarce resource situations. • Do **not** reallocate ventilators from a patient who has preexisting use of a personal ventilator for a long-term disability or health condition.	Re-allocate	Crisis

Step 1: SOFA Scoring Table

ORGAN SYSTEM	SCORE = 0	1	2	3	4
RESPIRATORY Pa02/FI02	> 400	≤ 400	≤300	≤ 200 with resp. support	≤ 100 with resp. support
HEMATOLOGIC Platelets	> 150	≤ 150	≤ 100	≤ 50	≤ 20
HEPATIC Bilirubin (mg/dl)	< 1.2	1.2 - 1.9	2.0 – 5.9	6 – 11.9	≥ 12
CARDIOVASCULAR Hypotension	None	Mean Arterial Pressure < 70 mmHg	Dopamine ≤ 5 or any Dobutamine	Dopamine > 5 or Epi < 0.1 or Nor-Epi ≤ 0.1	Dopamine > 15 or Epi > 0.1 or Nor-Epi > 0.1
CENTRAL NERVOUS SYSTEM Glasgow Coma Score	15	13 - 14	10 - 12	6 - 9	< 6
RENAL Creatinine	< 1.2	1.2 – 1.9	2.0 – 3.4	3.5 – 4.9	≥ 5.0

Step 2:

Criteria	Patient Keeps Resource		Consider Resource Re-allocation
1. Organ system function	Low potential for death (SOFA score ≤ 7)	Intermediate potential for death (SOFA score 8-11)	High potential for death (SOFA score ≥ 12)
2. Duration of benefit/prognosis	• Good prognosis based upon epidemiology of specific disease/injury • No severe underlying disease[54]	• Indeterminate/intermediate prognosis based upon epidemiology of specific disease/injury • Severe underlying disease with poor long-term prognosis and/or ongoing resource demand (e.g., home oxygen dependent, dialysis dependent) and unlikely to survive more than 1-2 years.	• Poor prognosis based upon epidemiology of specific disease/injury (e.g., pandemic influenza) • Severe underlying disease with poor short-term prognosis (e.g., life expectancy under 6 months eligible for admission to hospice).
3. Duration of need	• Short duration – flash pulmonary edema, chest trauma, other conditions anticipating < 3 days on ventilator	• Moderate duration – e.g., pneumonia in a healthy patient (estimate 3-7 days on ventilator)	• Long duration – e.g., ARDS, particularly in setting of preexisting lung disease (estimate >7 days on ventilator)
4. Response to mechanical ventilation	Improving ventilatory parameters over time[55]	• Stable ventilatory parameters over time	• Worsening ventilatory parameters over time

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[54] Examples of underlying diseases that predict poor short-term survival include (but are not limited to):
- Congestive heart failure with ejection fraction < 25% (or persistent ischemia unresponsive to therapy or non-reversible ischemia with pulmonary edema).
- Severe chronic lung disease including pulmonary fibrosis, cystic fibrosis, obstructive or restrictive diseases requiring continuous home oxygen use prior to onset of acute illness
- Central nervous system, solid organ, or hematopoietic malignancy with poor prognosis for recovery.
- Cirrhosis with ascites, history of variceal bleeding, fixed coagulopathy, or encephalopathy.
- Acute hepatic failure with hyperammonemia

[55] Changes in Oxygenation Index over time may provide comparative data, though of uncertain prognostic significance. OI = MAWP x FiO2/PaO2 where: OI = oxygenation index, MAWP= Mean Airway Pressure, FiO2 = inspired oxygen concentration, PaO2 = arterial oxygen pressure (May be estimated from oxygen dissociation curve if blood gas unavailable.)

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Pediatrics: Strategies for scarce resources situations

Strategies for scare resource situations

Considerations and Guidance	Strategy	Standard of Care
Planning and response considerations • Tertiary centers with inpatient pediatric, trauma/burn and PICU capability can provide consultation and transfer support based on patient needs. The following centers can provide real-time consultation in support of pediatric critical care when transfer is difficult or not possible or when highly specialized services (e.g., ECMO) are anticipated to be needed. • Pediatric patients will have to be stabilized (and in some cases treated, for 24 to 48 hours) at initial receiving hospital in major incident – all facilities must be prepared for pediatric cases. Preparedness for receiving children in the emergency department has been a focus of readiness initiatives, such as the Emergency Medical Service for Children National Pediatric Readiness Project, for many years. Readiness tools are available through EMSC Improvement, including a checklists and toolkits. (URL: https://emscimprovement.center/domains/pediatric-readiness-project/) • Tips for Talking with and Helping Children and Youth Cope After a Disaster or Traumatic Event: A Guide for Parents, Caregivers, and Teachers (samhsa.gov) • State of Michigan planners have created a pediatric surge annex, which should be familiar with hospital emergency department leaders and preparedness planners. • Microsoft Word - Children in Disaster_Toolkit.docx (michigan.gov) • Facility procedures for patient tracking, unaccompanied minors, and release of minors to family/caregivers. • Smaller incidents – facility-to-facility coordination. • Statewide incident impact: MDHHS will coordinate with health care coalitions to facilitate patient and resource distribution. **Space** • Once pediatric bed availability begins to decrease, the facility should consider how to conserve bed space and adapt any available space to accommodate pediatric overflow patients. • Maximize use of beds on pediatric unit and at pediatric centers noted in table below; review and prepare to stand up facility surge plans for pediatric patients (see state pediatric surge annex). • Prioritize transfer of children < 8 years of age and those with highly specialized needs to pediatric specialty centers. • Surge to non-pediatric, age-appropriate units within hospitals if possible.	Prepare Convene (conventional) Adapt (crisis)	Conventional Contingency Crisis

Considerations and Guidance	Strategy	Standard of Care
• Distribute non-critical and older pediatric patients from overwhelmed pediatric centers to other accepting facilities. • Expand acute outpatient care for the minimally injured/ill. • Consider coordinating movement to regional pediatric centers in adjoining states as required to assure appropriate ongoing care - in coordination with MDHHS and Great Lakes Health Care Partnership (FEMA V – MN, WI, IL, IN, OH, MI and city of Chicago) and/or National Disaster Medical System (NDMS) patient movement for catastrophic incident (unlikely to only affect pediatric portion of population). This will be coordinated through the Regional Medical Coordination Centers (RMCC), the MDHHS Community Health Emergency Coordination Center (CHECC), and the State Emergency Operations Center (SEOC).		
Outpatient Supply Planning • Wound Care (consider topical anesthetics for smaller children). • Splinting/strapping materials. • Oral Medications (supply liquid pain medicines). • Vaccines (especially age-appropriate tetanus). **Inpatient Supply Planning** • Airway equipment sufficient for number and age of victims, including rescue airway (ex.: laryngeal mask airways). • Vascular access equipment, including adequate quantity of intravenous cannulas and intraosseous needles. • References, charts, or other systems for size/weight-based equipment and drug dosing (reference book, wall charts, Broselow tape, or similar). • External warming devices. • State trauma system guidelines also identify pediatric equipment expectations. https://www.michigan.gov/documents/mdch/Tour_Checklist.Equipment.Level_III.7.21.15_494941_7.pdf https://www.michigan.gov/documents/mdch/Tour_Checklist.Equipment.Level_IV.7.21.15_494942_7.pdf		Contingency Crisis
Staff • Pre-incident pediatric medical/trauma critical care training should be conducted for physician and nursing staff expected to provide emergency care. Consider courses such as Advanced Pediatric Life Support, Pediatric Advanced Life Support (see summary of updates from American Heart Association below): https://cpr.heart.org/-/media/cpr-files/cpr-guidelines-files/highlights/hghlghts_2020_ecc_guidelines_english.pdf		Contingency Crisis

Considerations and Guidance	Strategy	Standard of Care
• Just-in-time training may be required in certain situations for non-pediatric nursing and physician staff reinforcing key points of pediatric or incident-specific patient care (including pediatric assessment triage, importance of fluid management, urine output parameters, principles of analgesia, etc.). • In a major incident, adjust pediatric physician and nurse staffing patterns as needed to provide supervision of other providers and staff to increase workforce. Pediatric critical care and pediatric hospitalists could supervise care at a higher level, delegating many bedside duties to other providers. Preparation of the emergency department along National Pediatric Readiness Program Guidance will allow pediatric patients to be stabilized, transported to a higher level of care if available, or shelter in place if appropriate. • MDHHS may work with in-state and adjacent state experts to provide consultation and just-in-time training to non-pediatric centers caring for pediatric patients (for example during pandemic), often using **virtual consultation technology.** • National Disaster Medical System and/or other supplemental support systems will have been stood up in widespread event.		

Consider availability of resources for:
 	
• Planning for pediatric surge may require reunification planning, including tracking of children (especially unaccompanied minors) (URL: https://www.aap.org/en-us/Documents/AAP-Reunification-Toolkit.pdf)
• Social work/ family support.
• Discharge support and planning, particularly for rehabilitation and other specialty follow-up.
• Family/caregiver accommodations.
• Psychological support for children, their families, and staff (do not under-estimate the increased stress and psychological impact of a pediatric incident, particularly a mass casualty incident, on health care providers).
 	
Resources:
 	
    • Wallet card for disaster first aid: (URL: https://www.nctsn.org/sites/default/files/resources/pfa_walletcard.pdf)
    • Disaster Mental Health for Children (PDF): https://www.aap.org/en-us/Documents/disasters_dpac_NPDCCschreiber.pdf
		Contingency
		
		Crisis

Considerations and Guidance	Strategy	Standard of Care
• After a Disaster: Guide for Parents and Caregivers (PDF): https://www.nimh.nih.gov/sites/default/files/documents/health/publications/helping-children-and-adolescents-cope-with-disasters-and-other-traumatic-events/19-mh-8066-helpingchildrencopewithdisaster.pdf **Behavioral Health Resources** • Ready Kids (URL: https://www.ready.gov/kids) • Caring for Children in a Disaster (URL: https://www.cdc.gov/childrenindisasters/) • Disaster Assistance (URL: https://www.disasterassistance.gov/) • The National Child Traumatic Stress Network (URL: https://www.nctsn.org/) • Behavioral Health Treatment Services Locator (URL: https://findtreatment.samhsa.gov/)		
Consider early transfer to a facility providing pediatric intensive care services for • Progressing respiratory symptoms/hypoxia, especially if cannot deliver continued care for children needing invasive or child-appropriate non-invasive positive pressure ventilation. • Shock, or need for ongoing resuscitation. • Critical trauma, including neurotrauma according to usual trauma triage criteria. • Patients with concomitant burns should be considered for transfer to a burn center; ABA verified burn centers will assist with triage to Level 1 Center or to burn capable centers. In a large burn emergency, the Michigan Burn Surge Coordinating Center may have been activated and will assist when needed. • Patients with complex underlying medical conditions may require consultation or special triage considerations.		Contingency Crisis
Provide stabilizing care (airway, fluid management, analgesia, etc.) – see Pediatric Triage Card (pg. 7) for initial priorities. **Special Considerations** • Airway/Breathing and Circulation (ABCs) are still critical – do not deviate from usual trauma/critical care priorities due to size/age/behavior concerns. • Pediatric airways are small; there is little room between partial and complete obstruction (early intubation for suspected burn injury to airway). • Age and height-based estimations are NOT always accurate – always be prepared with a range of equipment sizes, especially for airway interventions, including rescue airways such as laryngeal mask airway (or other supraglottic airway).		Contingency Crisis

Considerations and Guidance	Strategy	Standard of Care
• Assess skin color, capillary refill, and heart rate for signs of poor perfusion. Hypotension is a late sign of shock in pediatric patients. • Typically, pediatric patients respond to treatments more quickly than adults. Reassess frequently. • Pain is often undertreated in pediatric patients; treat with analgesics via weight-based guidelines. • Hypoglycemia and hypothermia are very common –anticipate, prevent, and correct as necessary. • Monitor IV fluids carefully to control volume delivered in smaller patients (e.g., IV pumps). • Double-check medication doses with team members, especially with medication drips as significant errors are common. **DO NOT** exceed maximum adult dose. • Assessment may be difficult due to age-related and communication-related issues – history from the family/caregivers may be critical. • Do not separate the child from family/guardian if at all possible. • Medical alert bracelets and care plans should be sought for all children.		
After stabilizing care, assess need for transfer • Plan for oxygen, fluids, and analgesia requirements in transport. • Consider need for airway intervention prior to transport. • Consider plans for caregivers/family transportation. • Regional transfer coordination may be required in major disasters – MDHHS BETP will assist regional health care coalitions and involve appropriate State and Federal (NDMS) resources as needed. Extent of incident (such as pandemic, major mass casualty incident) may necessitate children receiving care in non-pediatric centers. Readiness planning for this situation has been done on local, regional, and state levels. • Ensure that targeted medical record information (including name, allergies, medications given, current medications, age, and family contact information) is always with patient. • Arrange transport via air medical transport as appropriate – if multiple institutions impacted, coordinate with regional health care coalition and/or multi-agency coordination system.		Contingency Crisis
Michigan Bureau of EMS, Trauma and Preparedness State Protocols State Protocol for SALT triage during Mass Casualty Incidents (MCI) – see chart below (URL: https://www.michigan.gov/documents/mdhhs/Section_10_Special_Operations_604658_7.pdf)		Contingency Crisis

Table: Pediatric Centers and Capacity

Hospital Name	Location	Trauma Level Pediatric (ACS)/Burn Level (ABA)	Pediatric ICU Beds	Neonatal Beds	ECMO Pediatric Yes/No	Aeromedical or Pediatric Critical Care Transport
Children's Hospital of Michigan	Detroit Medical Center Detroit, MI	Level I/ABA Verified - 10 beds	48	39	Yes	Ground PANDA
C.S. Mott Children's Hospital	Michigan Medicine Ann Arbor, MI	Level I/ABA Verified - 16 beds (combined peds/adult can flex)	26	54	Yes	Survival Flight
Helen DeVos Children's Hospital	Spectrum Health System Grand Rapids, MI	Level I/Burn Center not ABA verified 8 beds; Combined peds/adult 8	30	108	Yes	Yes
Ascension St. John	Detroit, MI	Level II	8	17	Yes	Yes
Beaumont-Royal Oak	Royal Oak, MI	Level II	8	45	Yes	Yes
Covenant Healthcare	Saginaw, MI	Level II	10	55	No	Yes
Hurley Medical Center	Flint, MI	Level II/Burn not ABA verified Adult burn	12	23	No	Yes
Bronson Methodist Hospital	Kalamazoo, MI	Burn not ABA verified Adult burn	8	45	No	Yes
Sparrow Hospital	Lansing, Michigan	Level I Adult Trauma Center treating injured children	12	35	No	Yes

Table: Regional Pediatric Hospital Bed Data

Region	Peds Med-Surg	PICU	Burn
1-Central Lower MI	67	12	0
2N-SE Mich	99	8	10
2S-SE Mich	345	82	15
3-Thumb area	57	22	11
5-SW Michigan	57	8	0
6-Western MI	111	30	4
7-Northern Lower	29	0	0
8-Upper Peninsula	17	0	0
Total	**782**	**162**	**40**

SALT triage scheme. LSI = lifesaving interventions.

Step 1 – Sort:
Global Sorting

→ **Walk**
Assess 3rd

→ **Wave / Purposeful Movement**
Assess 2nd

→ **Still / Obvious Life Threat**
Assess 1st

Step 2 – Assess:
Individual Assessment

LSI:
- Control major hemorrhage
- Open airway (if child consider 2 rescue breaths)
- Chest decompression
- Auto injector antidotes

→ **Breathing**
- Yes → • Obeys commands or makes purposeful movements?
  • Has Peripheral Pulse?
  • Not in respiratory distress?
  • Major hemorrhage is controlled?
- No → **Dead**

All Yes → **Minor Injuries only?**
- Yes → **Minimal**
- No → **Delayed**

Any No → **Likely to survive given current resources**
- Yes → **Immediate**
- No → **Expectant**

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Pediatric Patient Assessment Model.

Initial Assessment of Risk Factor When Patient Arrives

- Hypoxia or respiratory distress
- Multiple Injuries or high energy mechanism

- Signs of hypoperfusion/shock (may be isolated to tachycardia)
- Altered mental status

*Consultation may be warranted for age <8 years, or underlying complex illness/disease (congenital abnormality, etc.)

If they do NOT have high risk factors:

Minor:

- Assessment, treatment, and observation.
- Address psychosocial needs; re-unify with family; support as needed.
- Discharge, if able, to secure environment if parent/guardian not accompanying.

If they do have high risk factors: Initial interventions

- **Airway –** Assess and position airway; airway interventions as needed. Children < 5 years have small airways that do not tolerate airway edema from inhalation injury. Reassess frequently, especially if in spine precautions.
- **Breathing –**Assess for evidence of respiratory distress (retractions, hypoxia, grunting). Provide oxygen, bronchodilators (e.g., albuterol, epinephrine) and other interventions as needed.
- **Circulation –** Assess for signs of hypoperfusion including capillary refill, vital signs, pulses, etc. Fall in blood pressure is late & end-stage. Treat signs of hypoperfusion aggressively with 20 mL/kg normal saline or lactated Ringer's (& 10 mL/kg packed red blood cells if hemorrhagic shock persists after initial crystalloid boluses), see Fluid Management below.
- **Disability** – Assess neurologic status (including sensation & motor) and need for cervical spine protection.
- **Decontamination –** Consider for chemical/radiologic – brush away loose material, then copious warmed water. Consult Poison Control Center at 1-800-222-1222.
- **Expose -** Remove clothing, jewelry and if mental status altered, contact lenses. Protect from heat loss, hypothermia more common in smaller children.
- **Fluids** – IV fluids (see Fluid Management below**).**

If initial intervention doesn't work, Secondary Assessment – Critical illness/ injury?

- Intubated or progressive respiratory failure.
- Multiple organ systems affected.

- Surgical emergency
- Evidence of shock

If they do not have critical illness/injury:

Secondary Priority for Transfer

- May have to manage in place awaiting transfer (24-48 hours) (e.g., isolated orthopedic injuries).
- Obtain consultation from pediatric referral center (during mass casualty incident MDHHS BETP may organize pediatric. coordination and consultation; teleconsultation may be available with pediatric specialty centers.
- Diagnostic studies as indicated (minimize ionizing radiation without omitting necessary studies).
- Monitor urine output and provide IV fluids (see Fluid Management).
- Infection control – providers should gown, glove and mask as appropriate for illness/ injury.
- Follow cardiorespiratory and renal function, neurological reassessments and maintain normoglycemia.
- Maintain body temperature.
- Analgesia using weight-based dosing.
- Psychological triage and support/family support/reunification as indicated

If they do have critical illness/injury:

High Priority for Transfer to Pediatric Center

- Continue fluid resuscitation; may have to transfuse.
- Requiring surgical intervention not available locally.
- Requiring complex ventilator support of possibly ECMO.
- Arrange transfer and consultation.
- Critical scarcity may preclude transfers, must continuously reassess as to resources, or even provide palliative care as only intervention based on scope of injury/nature of incident.

Fluid Management

Goals of Fluid Resuscitation: Normal vital signs, improved signs of perfusion, urine output 0.5-1 mL/kg/hr

Type	Fluids	Rates and Notes
Resuscitation Fluids	NS	Initial bolus 20 mL/kg, over 30-60 min. Repeat as needed
	PRBC's	Hemorrhagic shock 10 ml/kg if not responding to initial 20 ml/kg of crystalloid. May use O Neg (or O Pos for males) until the specific or crossed matched available
Maintenance Fluids, Maximum of 2400 ml/day	D10W	Newborn (first 48 hours): 3 ml/kg/hr
	D101/2NS	Neonate (28 days or less): 4 ml/kg/hr
	D5NS	Pediatric patient without renal compromise • 4 ml/kg/hr first 10 kg • 2 ml/kg/hr next 10 kg • 1 additional ml/ke/hr for each kg over 20 kg
Hypo-glycemic Treatment Over 15-30 minutes	D10W	Neonate with BG less than 45, give 3 ml/kg IV or IO
	D25W	Less than 4 years old with BG less than 60, give 2 ml/kg IV or IO
	D50W	4 or more years with BG less than 60, give 1 ml/kg IV or IO

PALLIATIVE CARE

Strategies for scare resource situations

Palliative care has a goal of providing the best possible quality of life for people facing the pain and stress of a serious, but not necessarily terminal, medical condition. It can be appropriate for patients of any age and at any stage of an illness - from diagnosis on - and can be provided along with treatments for the medical condition.

Principles of Palliative Care:
- **Palliative care should be provided to ALL patients.**
- **Focuses on human contact and comfort in addition to medical care. When circumstances require restrictions of visitation policies, special considerations should be made to promote the presence of loved ones at the end of life.**
- In a subset of patients, it may be the only care that is able to be provided due to the patient's prognosis and available resources.
- Increases the physical and mental well-being of the patient.
- Relieves symptoms and provides physical comfort measures such as control of pain, nausea, dyspnea, temperature regulation, and positioning.
- Assures respectful care, reassurance, and emotional and social support as possible.
- Relative cultural variables should be considered when offering palliative care.

Disaster Considerations
- Symptom support should be maintained in hospital and non-hospital environments – this will involve planning by outpatient entities such as hospice care, pharmacies, medical equipment providers as well as inpatient entities such as palliative care hospital-based programs.
- For existing hospice patients, the spectrum of care should be defined.
- For those designated to receive only palliative care key considerations are:
  - Expected survival - hours, days, or weeks – this helps to guide needs, referrals, and resources.
  - Required interventions - this helps guide location of care and support planning.
  - Basis for designation - if the decision for palliative care is based on the lack of a single resource, there must be a plan for re-assessment if the patient's condition improves or more resources become available (i.e., would they qualify to receive additional treatment if more resources become available and how are they contacted/monitored).
- Home health and other agencies will need to prioritize services relative to hospice patients during a disaster (as this can have significant impact on patient/family/agency planning).
- Supportive measures should be offered that maintain comfort, but do not prolong the dying process:
  - If death is inevitable, there may be no point in providing intravenous fluids.
  - **If death is not certain, other forms of support may be very reasonable as other resources become available.**

Considerations and Guidance	Strategy	Standard of Care
Communications and Coordination: • Close coordination between hospitals, home care agencies, and public health is required prior to and during disasters in which increased home care and at-home palliative and hospice services are expected. • Communications, including printed materials and a mechanism for ongoing situational awareness, are required during contingency and crisis events – this may involve conference calls or other means of keeping stakeholder agencies informed and up-to-date. • In major disasters requiring proactive triage to palliative care only, MDHHS may provide additional guidance and incident-specific resources, which may include a hotline for advice and consultation about palliative care issues. Additional resources for families providing home care would also need to be made available by local and state public health and major health care systems. *Communications with Families and Patients:* • Review advance care planning in the context of the current situation – proxy designations, advance directives • Describe palliative support as a quality of life and aggressive symptom management framework that is not related to hastening death or euthanasia, • Incorporate relevant cultural variables into palliative care plans. *Communications with Families and Patients (Crisis):* • Proactively provide families and patients with up-to-date information on the resources in shortage and any relevant triage criteria/processes being used, as well as any necessary infection prevention measures. • Explain the basis of triage decisions and any re-assessment or potential options. Re-frame goals of care with patient and family. • Maintain hope despite changes in treatment/goals - factors that often decrease hope include feeling devalued, abandoned, or isolated ("there is nothing more that can be done"), lack of direction and goals, and unrelieved pain and discomfort.	Prepare Adapt	Conventional Contingency Crisis
Inpatient Space: In crisis situations there may be a large number of patients that are receiving palliative care only – cohorted spaces may be an option for these patients. These areas should be: • Comfortable – the maximal physical comfort should be provided to patients and families and the environment and equipment should be as comfortable as possible given the resources available. • Private – as much privacy as possible should be planned for the patients and families.	Adapt	Conventional Contingency Crisis

Considerations and Guidance	Strategy	Standard of Care
Outpatient Space: Facilities should have plans in place with home health care agencies as well as plans for family provision of palliative care. This may include: • Home care/hospice agencies should prioritize services to those with the most limited support or more intensive support needs during a disaster (e.g., prioritize services to those requiring intravenous fluids or medications, oxygen, or other high-intensity therapies - if these can be maintained during the disaster). Phone banks and other indirect support services for families and patients.	Conserve Adapt	Conventional Contingency Crisis

Transitions:
• When inpatients are receiving palliative care as their only treatment, they must be cared for in a space appropriate to their remaining life expectancy (i.e., patients with hours to live would not be moved, and patients with days or weeks remaining would be moved to another inpatient area or to home/outpatient care).
• Access to pre-printed information for families guiding them in the provision of comfort care including: ◊ Analgesia and other medication dosing per physician or other instructions.
  • General information about prevention of decubitus ulcers and maintenance of comfort.
  • The dying process, what to expect, and what to plan for.
  • Resources that the family can use in case of questions or problems.
 	
Assure that appropriate infection prevention precautions are accounted for (e.g., droplet precautions).
	Substitute
	
	Adapt
	
	Conserve
		Conventional
		
		Contingency
		
		Crisis

Supplies: There is no substitute for pre-event stockpiling of medications to treat key symptoms. *Every* disaster will require significant quantities of analgesics. The availability of adequate pain and symptom relief should be a key area of disaster planning.	Prepare Adapt	Conventional Contingency Crisis

Considerations and Guidance	Strategy	Standard of Care
Inpatient and Outpatient: Anticipate the need for additional stocks of medications to provide analgesia and symptom relief for all patients. Inexpensive but critical medications to stockpile include: • Oral non-opioid analgesics (also valuable as anti-pyretics) • Opioid analgesics • Benzodiazepines • Anti-psychotics • Anti-emetics • Steroids • Diuretics Outpatient pharmacies should anticipate the need for increased supplies of these agents and support palliative care dosing of these agents that may be in excess of usual recommendations. Avoid stockpiling or hoarding in the setting of increased demand.	Prepare Adapt	Conventional Contingency Crisis

Considerations and Guidance	Strategy	Standard of Care

Staff
    • Physician and nursing staff expected to provide disaster palliative care should receive pre-incident palliative care training.
    • The facility should identify subject matter experts within their facility/area and obtain their input into palliative care planning. During a response, these experts can provide input on strategies and tactics, as well as provide overall clinical guidance and expertise.
    • Faith-based and other community resources for non-clinical support may be critical assets for those receiving care at home.
    • Spiritual resources should be made available to both patient and family if desired and feasible.
    • Just-in-time training should be provided to nursing and physician staff as required to acquaint them with palliative care priorities, medication dosing, and other issues.
 	
Staff, crisis:
    • Hospice agencies should have plans to adjust staff roles and triage services provided in response to increased demand.
    • If palliative care areas are activated, support these areas with staff that are comfortable with medication administration that can be supervised by staff with more experience. Precise recommendations on staffing are difficult as the needs of the patients can vary greatly, but every attempt should be made to provide adequate personnel to meet the comfort needs of patients – this may involve tiered use of professional and non-professional staff.
    • Additional staff may have to be drawn from other institutions or fields, or from the Michigan Volunteer Registry. These staff will also require just-in-time training
    • Regionally, palliative care teams that can support a facility in crisis or support additional outpatient care may be advantageous.
	Prepare
	
	Conserve
	
	Adapt
	
	Substitute
		Conventional
		
		Contingency
		
		Crisis

Special
 	
When triage to 'palliative care only' in disasters is not by patient choice, management of expectations and transitions is critical to the physical and mental well-being of patient, family, and providers.
• Consider availability of resources for:
    • Social work/family resources.
    • Spiritual support.
    • Psychological support for patients and their families.
	Prepare	Crisis

Considerations and Guidance	Strategy	Standard of Care
• Discharge and/or death support and planning. • Family/caregiver accommodations. • Psychological support for staff.		
Triage • The need for palliative care should be anticipated in all disaster scenarios. • Triage decisions may be required in minutes (multiple burn victims), over hours (many trauma victims), or over days or weeks (pandemic). • When it is clear that the volume of patients and current level of resources will require prioritizing some patients to palliative care only, triage criteria should be developed whenever possible, and a formal triage team put in place (proactive measures may not be possible in the early phase of an incident but should be implemented as soon as possible). • Location for palliative care should be optimized given the constraints of the incident – patients may be triaged to home, to other facilities, to inpatient units, or to other locations. • Triage is **dynamic**. As resources allow, it is critical to re-triage patients so that they may receive resources that have become available. Predicted prognosis does not equate with actual outcome in many cases.	Conserve Re-allocate Adapt	Crisis
Treatment *Provide Symptomatic Management* • Do not under-estimate the psychological impact on patients, caregivers, and family of these situations. All of these persons may require medical and non-medical treatment for anxiety, grief, complicated grief, post- traumatic stress disorder and mental health issues due to the stress of these events. • Treatment with appropriate doses of medication is important • Adapt with the medications and resources that are available. • Web resource for treatment: Michigan Home Care and Hospice Association https://www.mhha.org/ National Hospice and Palliative Care Organization https://www.nhpco.org/ ◊ For mild pain (unless contraindicated) use aspirin, acetaminophen, or nonsteroidal anti-inflammatory agents. ◊ If pain persists (mild to moderate) add oxycodone, hydrocodone, or similar oral opioids. ◊ If pain is not controlled, increase the opioid dose (may consider oral hydromorphone or morphine). ◊ Add adjuvant medications to medication regimen as possible/needed to reduce opioid requirements. • The patient's report of pain is the standard assessment tool to gauge if the pain management regime is adequate.	Prepare Adapt	Conventional Contingency Crisis

Considerations and Guidance	Strategy	Standard of Care
- Pediatric and unresponsive/non-verbal patients require alternate methods of assessment of non-verbal cues of distress. - Numerical distress or visual/analog scales can provide standardized assessment. - Adjuvant medical (anti-depressants, etc.) and non-medical treatments (acupuncture, etc.) may be valuable – expert consultation should be obtained in disasters where a longer timeframe allows these treatments to be implemented. - Medical Cannabis/cannabinoid class agents may offer symptom benefits for pain, nausea, anxiety. - Provision of non-medical comforts (company, quiet environment or music, pillows, etc.) is a critical component of palliative care and should be optimized according to patient needs. *Opioid Management Principles for Disaster Situations* - Oral morphine is the standard opioid from which potencies and conversion ratios are based for most other opioid medications. - Opioids can be given by almost every possible route – oral, sublingual, intravenous, intranasal, intramuscular, rectal, or subcutaneous. - Pain equivalence tables can vary. Incomplete cross tolerance exists when converting between different opioids – consider dose reductions of 25 – 50% for initial doses when switching drugs (depending on clinical circumstances). - Opioids typically do not have ceiling effects for analgesia. Limitations are usually related to side effects or intolerances. - Patients with sustained-release opioid needs usually require short-acting opioid for breakthrough pain as well as for dose-finding for long-acting opioid dose adjustments. Short-acting breakthrough dose should typically be 10 -15 % of total 24-hour daily requirement of the sustained-release opioid. - When dosing with opioids, remember common side effects and treat accordingly (e.g., constipation, nausea, pruritis, confusion, sedation). Respiratory depression is a rare event related to opioid dosing and usually occurs in the context of multiple drug class utilization, and other underlying chronic clinical conditions. - Fentanyl transdermal patches require good adipose stores to be effective, as the real physiologic reservoir is underlying adipose tissue. If patients are thin, think of other opioid options. - Best opioids to consider in the face of renal insufficiency include methadone, fentanyl, and dilaudid. - Breakthrough dose: 1/3 to 1⁄2 of the twelve-hour dose or 10-15 % of the 24-hour dose (if >3 breakthrough doses per 24 hr. period consistently required, consider reiteration of dose). - Once a patient has 2 or fewer breakthrough doses and a steady state of medication has been reached, then a continuous release equianalgesic opioid may be initiated. Always start with an instant release before switching to		

Considerations and Guidance	Strategy	Standard of Care
continuous release. Note that continuous release opioids do not have mg/mg equivalence - e.g., a patient requiring 60mg of morphine elixir each day would not be started on 60 mg of MS Contin as an equivalent dose. • Switch from fixed combination acetaminophen/opioids to a single entity opioid when acetaminophen dose > 3000 - 4000 mg/day or as weight appropriate. • Avoid fixed dose combination analgesics in pediatric patients, when possible, to allow more effective titration and avoid excess acetaminophen dosing. • Consider use of methadone where available particularly for outpatient management of pain. • For questions go to the Michigan Safer Opioid Prescribing Toolkit at: https://injurycenter.umich.edu/opioid-overdose/michigan-safer-opioid-prescribing-toolkit/		

EXTRA-CORPOREAL MEMBRANE OXYGENATION

Strategies for scare resource situations

Considerations and Guidance	Strategy	Standard of Care
The State of Michigan (SOM) has hospital systems which can offer Extra-Corporeal Membrane Oxygenation (ECMO) to patients with life-threatening conditions such as respiratory or cardiac failure. In a widespread public health emergency (PHE) that would result in many patients with respiratory failure unresponsive to the standard critical care techniques (ventilation, medications to manage circulation, renal replacement therapies), ECMO may be the only available escalation. − There are currently 6 centers in SOM providing ECMO (see list at end of document with contact information). − When an institution does not have available ECMO resources for a candidate patient, other institutions will be contacted to assist (escalation during high demand- see ECMO centers and algorithm) − During constrained times, consultation should be obtained prior to a facility cannulating a patient – − ECMO Centers in Michigan can be found at the Extracorporeal Life Support Organization Website at https://www.elso.org/ − This site lists a Center Directory: https://www.elso.org/Membership/CenterDirectory.aspx − The directory will list the contact information of all Centers in Michigan, USA, and Canada to facilitate referral during a PHE if normal referral patterns have been disrupted.	*Prepare*	Conventional Contingency Crisis
During an ongoing incident, such as a pandemic, proactive guidance may need to be developed or adjusted by the SOM ECMO Directors, SOM Incident Leaders and the health systems normally offering ECMO to account for: • event-specific changes in prognosis. • halting or modifying E-CPR programs (enhanced CPR). • disproportionate pediatric/adult needs for ECMO (e.g., patient selection when adult centers must provide pediatric ECMO and vice/versa). • limited supply of equipment (circuits, disposables, etc.) and brokering of same. • decision-making re: potential candidates from referring hospitals in need of inter-hospital transport (e.g., de-emphasize cannulation prior to transfer). • central transfer process for considering referrals of potential ECMO candidates, using tools such as EMResource.	*Prepare*	Conventional Contingency Crisis

Considerations and Guidance	Strategy	Standard of Care
• **Recommendations for Preparation**: Oxygenator/pump – there is no substitute for the pump. Once all available pumps are in use, there is no reserve. Additional pumps could be solicited as leased units or loaned units from inter-state facilities though in a national epidemic/pandemic. This is not likely to be helpful. • **Tubing/circuits/sheaths** – though the vascular sheaths for cannulation are widely available, the specific circuits for the pumps are proprietary and extremely expensive. Stocking additional circuits is an excellent idea, but unlikely given cost and may be a key limiting factor in nationwide incidents. Availability of the circuits through vendors may be limited during national event.	Prepare	Conventional Contingency Crisis
Access Alternative Sources for ECMO equipment or personnel • Obtain specialized equipment from vendors, health care partners, regional, state, or Federal stockpiles via usual emergency management processes and provide just-in-time training and quick reference materials for obtained equipment.	Substitute	Conventional Contingency Crisis
Decrease Demand for ECMO: • Selected surgeries may need to be deferred if possible if the need for post-operative ECMO is high. • Consideration should be given to earlier and more aggressive trials of lung recovery (weaning) during the veno-venous ECMO course to limit duration of therapy when demand is high.	Conserve	Contingency Crisis
Transportation of a patient on ECMO requires a specialized transport team including a perfusionist and/or trained nurse. • Ground, rotor-wing, and fixed wing ambulances may be used for transport but not all ambulances can accommodate an ECMO patient, the team, and the equipment. • Hospitals should identify critical care transport providers prior to an incident that can coordinate the movement of cannulated patients.	Conserve	Contingency Crisis

Considerations and Guidance	Strategy	Standard of Care
Triage and Communication in Contingency and Crisis • Some uses of ECMO are better characterized, allowing a degree of prediction about relative benefit and duration of use. • When ECMO demand is high and prioritization is necessary, those conditions with historically better outcomes and shorter duration of use should generally be prioritized. • When determining if a patient's use of ECMO will be curtailed, providers should assess the relative degree of benefit, anticipated (or actual) duration of use, and the patient's overall prognosis. • Patient and family members will be counseled that ECMO is a highly specialized resource and may have to be withdrawn depending on the patient's prognosis and response to treatment. • Patients should continue to receive all other forms of support (unless other support is subject to other allocation strategies) – this may include transitioning back to high-intensity mechanical ventilation. Routine palliative care team consultation should be considered for all ECMO patients. • Prognostic precision evolves as crisis continues. ECMO Centers, system leaders and SOM Incident leaders will re-evaluate priorities based on current evidence. • The amount of resources required to maintain ECMO patients both directly related to perfusion as well as support staff and supplies (e.g., blood products) may not be sustainable when critical care resources are stressed by an incident. At that point provision of ECMO may need to be restricted or discontinued to allow the resources to be reallocated to another patient. Framework for Prioritizing Common ECMO Indications During a Disaster, by Predicted Survival and Duration of Support – See table below	Conservation and Reallocation	Contingency Crisis
• **Stand down the offer of ECMO when PHE has reached crisis level**. • Assumption is that all above strategies have been enacted (preparation, conservation, substitution, adaptation, and reallocation), but need for general and critical care so intense that offering ECMO strips away space, staff, and equipment which, if ECMO is not offered, could serve more patients. • **Assumptions:** Capacity overwhelmed, all intensive care admissions are being screened along scarce resource framework and according to crisis standards and non-beneficial (some use "futile") care is being ceased to reallocate resources to patients with better likelihood of benefit. (ELSO guidelines, Abrams in Critical Care, Ehmann in Chest)	Cease the Use of ECMO	Crisis

Table: Framework for Prioritizing Common ECMO Indications During a Disaster, by Predicted Survival and Duration of Support

Tier (Predicted Survival)	Short Duration ECMO Anticipated (≤ 5 d)	Long Duration ECMO Anticipated (> 5 d)
Tier 1 (> 60%)	• Acute hypercarbic respiratory failure because of status asthmaticus • Cardiac arrest or cardiogenic shock because of severe accidental hypothermia (ie, extracorporeal rewarming) • Pediatric pre- and post-cardiotomy cardiogenic shock • Neonatal meconium aspiration syndrome	• Acute respiratory failure because of infection (especially influenza or coronavirus) with single organ failure • Acute respiratory failure because of trauma (drowning, pulmonary contusion, etc) with single organ failure • Pediatric myocarditis • Other neonatal indications (including sepsis, congenital diaphragmatic hernia, and persistent pulmonary hypertension of the newborn)
Tier 2 (30%-60%)	• Poisoning-induced cardiogenic shock • Massive pulmonary embolism	• Acute respiratory failure from any cause with multiorgan failure (including kidney injury requiring dialysis or hypotension requiring vasopressor support) • Pediatric/neonatal cardiac arrest from a cardiac etiology
Tier 3 (< 30%)	• Adult post-cardiotomy cardiogenic shock • Out-of-hospital, refractory cardiac arrest with favorable prognostic features (ie, extracorporeal CPR) • Cardiac arrest with non-shockable rhythm or unfavorable prognostic features (including most adults with in-hospital cardiac arrest)	• Bridge to lung transplantation for irreversible respiratory failure • Acute respiratory failure and severe immunocompromise (eg, stem cell transplant < 240 d posttransplant) • Cardiovascular collapse refractory to vasopressors in the setting of multiorgan failure of any cause (eg, septic shock)

ECMO = extracorporeal membrane oxygenation.

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ATTACHMENT 3: Specific Guidance on Legal Issues

The Michigan Guidelines for Implementation of Crisis Standards of Care and Ethical Allocation of Scarce Medical Resources and Services During Emergencies and Disasters must be applied in accordance with federal, state, and local law. Such governing law draws on Constitutional provisions, statutes, regulations, and court decisions. This attachment addresses four key legal issues relevant to the allocation of scarce medical resources during emergencies and disasters that endanger public health: 1) the authority of the government to declare emergencies and/or disasters; 2) licensing of health care professionals and institutions; 3) applicable standards of care; and 4) liability of health care professionals and volunteers operating under emergencies and disasters.

The Committee provides this attachment only as a guide. Also, statutes, regulations, and judicial interpretations may change over time. Health care professionals and institutions should consult with their respective legal counsel on specific questions, situations, and concerns they may encounter during an emergency or disaster that impacts public health.

1.   The ability to declare an emergency or disaster and the consequences of such a declaration

A number of different legal provisions grant government officials at the federal, state, and local levels the ability to declare an emergency or disaster. Typically, state-level decisions drive emergency response activities, since many of these activities are governed by laws grounded in the state's police power. In Michigan, the Public Health Code[56] and the Emergency Management Act[57] address the management of emergencies and disasters.[58] Both of these laws are construed broadly to allow state officials sufficient power to respond effectively to serious threats to the public's health and affect the ability to make allocation decisions about scarce resources during emergencies and disasters.

a.   Michigan Emergency Management Act (State law)

The Emergency Management Act establishes the powers of the Governor to declare an emergency or disaster and to undertake the necessary actions to deal with the emergency or disaster.[59] The Governor, after declaring a state of emergency or disaster for the entire state or a region of the state, may take any necessary and appropriate action under the circumstances, including suspension of regulatory statutes, orders, or rules related to the conduct of state business[60]; seizure of property (with compensation)[61]; control of access to and from affected areas[62]; as well as a selection of other specified powers.[63] A declared state of disaster or emergency declared under this act cannot last longer than twenty-eight days.[64] The governor can request an extension of the state of emergency or disaster for a

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[56] Michigan Compiled Laws (MCL) §333.1101, et seq.
[57] Michigan Compiled Laws (MCL) §30.401, et seq.
[58] Formerly, the Emergency Powers of the Governor Act, Michigan Compiled Laws (MCL) 10.31 et seq., also authorized the Governor to proclaim a state of emergency. The Michigan Supreme Court ruled that the EPGA was unconstitutional in *in re Certified Questions*, ___ Mich ___ WL 5877599 (Docket No. 161492, October 2, 2020). As a result of this ruling, the Governor may no longer declare a state of emergency under the EPGA.
[59] Michigan Compiled Laws (MCL) §30.403.
[60] Michigan Compiled Laws (MCL) §30.405(1)(a).
[61] Michigan Compiled Laws (MCL) §30.405(1)(d).
[62] Michigan Compiled Laws (MCL) §30.405(1)(g).
[63] Michigan Compiled Laws (MCL) §30.405.
[64] Michigan Compiled Laws (MCL) §30.403(3).

specific number of days that must be approved by resolution of both houses of the Michigan Legislature.[65]

This Act also permits county and municipal governments to declare a local state of emergency.[66] The power to declare a local state of emergency is vested in the chief executive official of the municipality or county, or person(s) designated by the locality's charter. A declared state of emergency may not be continued or renewed for a period greater than seven days without the consent of the governing body of the municipality or county.[67] These powers could be used to control access to scarce medications or other resources in the possession of state or local agencies or could be used to suspend normal regulations related to provision of medical resources.

b.   Michigan Public Health Code (State law)

The Public Health Code grants the Michigan Department of Health and Human Services (MDHHS) and local health departments a wide range of public health powers that may be exercised in responding to a declared emergency or disaster, including powers to isolate and quarantine infected or exposed persons[68]; to restrict movement and interaction of people through closure of roads, public venues, and schools, and suspension of public gatherings[69]; and to coordinate medical interventions such as disease screening and mass vaccination efforts.[70] The Public Health Code authorizes the issuance of emergency orders that can directly impact medical resource allocation.[71] For example, the Director of MDHHS issued an order limiting access to influenza vaccines to persons in high-risk categories (including young children, pregnant women, adults over 65, people with underlying chronic medical conditions, and health care workers involved in direct patient care) during an influenza vaccine shortage in 2004. Health providers who violated this order during the two months it was in effect, could have faced fines or sanctions imposed by the state.[72] Similarly, the Director of MDHHS issued many emergency orders during the COVID-19 pandemic including orders prohibiting gatherings, requiring wearing masks, and reserving N95 and surgical masks to healthcare providers and first responders when initially there was a shortage of those personal protective equipment.

c.   Stafford Act (Federal law)

At the federal level, several laws permit emergency or disaster declarations and authorize response efforts. The Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974[73] allows the President to declare an emergency or major disaster. A presidential declaration of emergency or major disaster under the Stafford Act usually occurs at the request of a state governor. A declaration allows for the federal government to provide assistance to state and local response efforts and to coordinate these response efforts if necessary. Under a Stafford Act emergency declaration, the response activities of all federal agencies are under the authority of the Federal Emergency Management Agency (FEMA) of the Department of Homeland Security (DHS). While the Stafford Act does not directly address issues of scarce resource allocation, the federal resources available through the Act and the federal coordination

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[65] *Id. See also In re Certified Questions. supra*.
[66] Michigan Compiled Laws (MCL) § 30.410(1)(b).
[67] *Id.*
[68] Michigan Compiled Laws (MCL) §333.2453.
[69] Michigan Compiled Laws (MCL) 333.2253(1).
[70] Michigan Compiled Laws (MCL) §333.9203.
[71] Michigan Compiled Laws (MCL) §333.2253.
[72] Michigan Compiled Laws (MCL) §333.2261.
[73] Public Law 93-288 and as codified as amended at 42 U.S.C. §§ 5121-5206 (2007).

authorized by the Act may impact the availability of federally controlled medical resources and personnel to members of the affected populations.

d.   Public Health Service Act (Federal law)

Pursuant to the Public Health Service Act (PHSA),[74] the Secretary of the United States Department of Health and Human Services (HHS) coordinates health and medical services during declared federal emergencies or major disasters. Additionally, the PHSA authorizes the HHS Secretary to declare a public health emergency, which permits the Secretary to take appropriate actions to respond through the provision of economic and logistical support, coordination, and expertise. By exercising these powers, HHS is able to expedite the availability of resources to alleviate a shortage. The PHSA gives HHS authority to coordinate activities related to vaccine development, stockpiling of medical resources, and immunization programs, as well as research and investigation into the cause, treatment, and prevention of the public health emergency. The PHSA allows the Secretary to initiate the process to use unapproved products or approved products for unapproved uses or to waive certain regulatory requirements.[75] The Public Health Security and Bioterrorism Preparedness and Response Act of 2002[76] amended the PHSA to establish the National Response Framework and the Strategic National Stockpile, as well as providing the HHS with the authority to suspend certain HIPAA (Health Insurance Portability and Accountability Act) and EMTALA (Emergency Medical Treatment and Labor Act) regulations during a public health emergency. On the national level, such powers authorize the HHS to effectively coordinate the appropriate federal resources to optimize response to the public health emergency when state and local resources may be diminished. The Public Readiness and Emergency Preparedness Act authorizes the HHS Secretary to issue a declaration which provides immunity for certain claims[77] and creates a compensation program.[78]

Formal declarations of a state of emergency, disaster, or public health emergency streamline access to potentially useful resources and may impact the required standards of care applicable to the response efforts (see section 3 below). Federal and state public health and emergency laws link a declaration of emergency to the provision of funds or specific aid to the area affected by the emergency, and in some instances provide the authority for directly imposing requirements on resource allocation decisions. Furthermore, these declarations may alter the legal environment in relevant ways that affect licensure and liability as described in the sections that follow.

2.   Licensing of Personnel and Institutions in Emergency Situations, or Instances of Shortage

Health care professionals must be licensed in the state of Michigan in their respective roles as physician, nurse, pharmacist, social worker, etc. to provide services. Such licensing requirements serve to protect the public from fraudulent practice as well as distinguish roles and competencies among health professionals. During an emergency or disaster, scarcity may require efforts to expand staff capacity to deliver the necessary services across health care and public health systems.

Several state laws in Michigan relax the normal professional license requirements under certain circumstances during an emergency or disaster. As a means of coping with medical professional

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[74] Public Health Service Act, 42 U.S.C. 201 et. seq. (2007) as amended.
[75] 42 U.S.C. 247d.
[76] Public Law 107-188, 42 U.S.C. 201, The Public Health Security and Bioterrorism Preparedness and Response Act of 2002.
[77] 42 U.S.C. 247d-6d
[78] 42 U.S.C. 247d-6e

shortages during a time of crisis these laws may allow licensed out-of-state health professionals to practice without specific Michigan licensure or other persons with professional training to perform certain professional tasks without meeting the usual licensure requirements.

- A Michigan license is not required for an individual who by education, training, or experience substantially meets the state's licensing requirements while rendering medical care in a time of disaster or while rendering medical care to an ill or injured individual at the scene of an emergency.[79]

- A Michigan license is not required for an individual deployed under the Emergency Management Assistance Compact who is licensed in another state party to the compact.[80]

- During a declared emergency or disaster, the Governor may suspend regulatory laws that impede the response to the emergency in an effort to expedite care, including licensure requirements.[81]

- The Michigan Emergency Management Act provides that if an emergency or disaster has been declared, health professionals have an expanded scope of practice provided that they practice "under the supervision of a member of the medical staff of a licensed hospital."[82]
- The Governor has the power to waive licensing requirements in the event that a health professional needs to provide services outside the normal scope of the license or a health care facility needs to expand space in excess of its existing license.[83]

- The Public Health Service Act permits the waiver of some health professional and health facility requirements set by Medicare and Medicaid. The Department of Health and Human Services can issue a waiver under section 1135 of the Social Security Act to waive requirements that health care professionals be licensed in state where they are providing services if they have an equivalent license in another state (this only applies for purposes of Medicare, Medicaid, and CHIP reimbursement).

- Section 1135 waivers can also be issued to eliminate EMTALA sanctions for transferring patients to alternative locations for medical screening.

These various provisions allow for the relaxation of licensing requirements for health professionals and health facilities during public health emergencies. Expansion of the availability of medical resources and services can be advanced by the use of these provisions, thereby reducing scarcity.

3. **The Government and Crisis Standards of Care During Emergencies or Disasters that Impact Public Health**

Professional standards of care are parameters established by law that outline the duty owed by a health professional to a patient. Professionals who violate the standard of care may be found liable for malpractice under state tort law. In the state of Michigan, all health professionals are expected to

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[79] Michigan Compiled Laws (MCL) § 333.16171(c).
[80] Michigan Compiled Laws (MCL) § 3.991, art. V.
[81] Michigan Compiled Laws (MCL) § 30.405(a). See also Executive Order 2020-39, since rescinded.
[82] Michigan Compiled Laws (MCL) § 30.411.
[83] Michigan Compiled Laws (MCL) § 30.405(a).

comport with the recognized standard of professional skill or care for those in their profession in the same or similar community in which they practice, under similar circumstances.[84] If the professional is a specialist, he or she must uphold the recognized standard of practice within that specialty given the available facilities under the circumstances.[85] Since circumstances under situations of scarcity during emergencies and disasters that impact public health differ from normal practice circumstances, what is expected of professionals under situations of scarcity will also differ. Regardless, the standard of care—acting consistently with the recognized professional skill or care under the circumstances—remains the same.

Since the level of care required to comply with the standard of care varies and changes according to relevant circumstances at the time and place of the act or omission in question, it can be affected by resource availability. For example, during an emergency or disaster that impacts public health the standard of care may change because circumstances of scarcity may constrain the options available to a health professional as resources are allocated according to emergency protocols and the Ethical Guidelines. Formally recognized emergency protocols and guidance, while not legally determinative, may provide persuasive evidence for the applicable standard of care during an emergency or disaster featuring scarcity.

In addition, state and federal law authorizes the government to change the scope of the standard of care during a declared emergency or disaster. An emergency or disaster declared by the Governor of Michigan allows for the establishment of emergency centers and protocols, including altered levels of care if appropriate, under the Emergency Management Act,[86] or the issuance of orders for the protection of public health that have the effect of altering the scope of the standard of care.[87] The MDHHS order limiting access to influenza vaccines to persons in high risk categories in 2004 (described above) provides another example of this power in action. In addition, in Executive Order 2020-39, the Governor temporarily suspended strict compliance with inspection requirements of life support vehicles and ambulance staffing requirements in response to the COVID-19 pandemic.

Federal law provides for exceptions to EMTALA during federally declared public health emergencies, which effectively changes the standard of care for many hospital emergency departments. EMTALA requires that all Medicare-participating hospitals with emergency departments provide certain basic medical screening, treatment, and stabilization for all patients arriving at the emergency department, regardless of ability to pay.[88] Hospitals who fail to comply with these requirements can face fines or civil liability. However, HHS may waive EMTALA requirements if there has been a Presidential declaration of emergency or major disaster under the Stafford Act or a declared public health emergency by the Secretary of HHS, and other procedural steps are followed.[89] Hospitals who qualify for the EMTALA waiver may direct or relocate patients to off-site locations or transfer patients who have not been stabilized.[90] Federal law is essentially recognizing that during declared emergencies, disasters, or public health emergencies, hospital emergency rooms may have difficulty in serving everyone. Taken together, these federal and state provisions greatly impact the expectation on health professionals as they make decisions related to the allocation of scarce medical resources during these emergencies or disasters.

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[84] Michigan Compiled Laws (MCL) § 600.2912(a).
[85] Michigan Compiled Laws (MCL) § 600.2912(b).
[86] Michigan Compiled Laws (MCL) § 30.402, et seq.
[87] Michigan Compiled Laws (MCL) §333.2251.
[88] 42 U.S.C. § 1395dd et seq.
[89] 42 U.S.C. § 1320b-5.
[90] *See* HHS, *CMS Memo: Emergency Medical Treatment and Labor Act (EMTALA) Requirements and Options for Hospitals in a Disaster*, Ref: S&C-09-52 (August 14, 2009).

The Pandemic and All-Hazards Preparedness and Advancing Innovation Act (PAHPAIA)[91] amended the Public Health Service Act in 2019.[92] PAHPAIA requires HHS to develop guidelines for all-hazards public health emergency preparedness and response for hospitals and health care facilities. These guidelines, when complete, will address medical surge practices, staffing, supplies, and medical triage. so that they may better prepare for and respond to national public health emergencies. Additionally, PAHPAIA establishes mechanisms to better fund and improve coordination between government, military, and private health sector institutions during emergency responses.

4.   Available Liability Protection for Staff and Volunteers During Emergencies or Disasters that Impact Public Health.

Tort liability can be a great concern of individuals and institutions responding during emergencies or disasters that impact public health. A number of different legal provisions in state and federal law provide protection from liability for health professionals and volunteers during emergencies or disasters. The reason for these protections is to incentivize volunteers to participate during these emergencies or disasters. Volunteers can help satisfy needs and fill shortages within the health system during conditions of scarcity. Without protection from liability volunteers may choose not to participate.

a.   Liability Protection Under Michigan Law

Michigan law provides liability protection for individuals, institutions, and organizations providing services during an emergency or disaster if certain conditions are met. These state liability protections, however, do not protect in most cases against liability arising from acts of wanton or willful misconduct or gross negligence.

- Michigan law provides immunity from liability if a healthcare professional (defined to include physicians, physician assistants, nurses, dentists, interns, and residents as well as selective allied health professionals) responds to a life-threatening emergency within a licensed medical facility when such a response is not part of his or her professional duties.[93]

- Similarly, the Michigan Good Samaritan Act[94] extends liability protection to physicians, physician assistants, licensed EMS providers, and nurses (both RNs and LPNs) who provide emergency care at an emergency scene, is uncompensated, and outside the hospital setting. The providers must have acted in good faith and have had no pre-existing patient relationship for the immunity to apply. If the Governor has declared an emergency or disaster, the director of the department of state police may issue a directive relieving persons or groups providing voluntary or private assistance from liability other than for gross negligence.[95]

- The Michigan Emergency Management Act also establishes liability protection for "state and nongovernmental disaster relief force workers or private or volunteer personnel

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[91] Public Law 116-22. *See* https://www.congress.gov/bill/116th-congress/senate-bill/1379/text.
[92] Public Law 93-288
[93] *See* Michigan Compiled Laws (MCL) 691.1502.
[94] Michigan Compiled Laws (MCL) § 691.1501(1).
[95] Michigan Compiled Laws (MCL) § 30.407(6).

engaged in disaster relief activity."[96] Under former Executive Order 2020-39, the Governor declared that any emergency medical service personnel or life support agency providing medical services in response to the COVID-19 pandemic is not liable for injuries sustained out of those service unless the injuries were caused by gross negligence.

- The Michigan Public Health Code carries many of the protections against liability for personnel dealing with emergencies within the state. While it does not provide protection against gross negligence, willful or wanton misconduct, or acts or omissions intended to injure the patient, the Code does provide liability protection for individuals serving in specified capacities. There are protections in place for first responders and EMS personnel[97], MDHHS representatives or health department employees[98], those persons participating in mass immunization efforts[99], and volunteer health professionals serving the uninsured if certain conditions are satisfied.[100]

- The Emergency Management Assistance Compact (EMAC) provides the immunity from liability for good faith acts or omissions of officers or employees of the state party rendering aid. Therefore, responders sent to Michigan from other states pursuant to EMAC can claim immunity from liability from any acts or omissions that are not considered willful misconduct, gross negligence, or recklessness.[101]

- In response to the COVID-19 pandemic, the Michigan Legislature enacted the Pandemic Health Care Immunity Act[102] which provides immunity from liability to healthcare providers and healthcare facilities supporting the State's response to the COVID-19 pandemic. Similarly, the Response and Reopening Liability Assurance Act[103] provided immunity to people who acted in compliance with federal and state law related to COVID-19 that had not been denied legal effect at the time of the person's conduct that allegedly caused the harm.

b.   Federal Liability Protection

The federal Volunteer Protection Act[104] (VPA) provides liability protection for the acts or omissions of volunteers working with non-profit and governmental agencies, provided that these volunteers are acting within the scope of their responsibilities, in compliance with state laws regarding the practice of such responsibilities, and not receiving compensation for their efforts other than reasonable reimbursement for incurred expenses. The VPA does not provide liability protection against willful, gross negligence, reckless or criminal misconduct. Additionally, in response to the COVID-19 pandemic, Congress enacted the Coronavirus Aid, Relief, and Economic Security (CARES) Act[105] which provided temporary immunity to volunteers providing COVID-19 emergency treatment. Taken together, the VPA,

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[96] Michigan Compiled Laws (MCL) § 30.411(3).
[97] Michigan Compiled Laws (MCL) § 333.20965(1).
[98] Michigan Compiled Laws (MCL) § 333.2228(2); MCL 333.2465(2).
[99] Michigan Compiled Laws (MCL) § 333.9203(3).
[100] Michigan Compiled Laws (MCL) § 333.16277(1).
[101] Michigan Compiled Laws (MCL) § 3.991, art. VI.
[102] MCL 691.1471 et seq.
[103] MCL 691.1451 et seq.
[104] 42 U.S.C. § 14501 et seq.
[105] 15 U.S.C. 116, section 3215.

the Michigan Good Samaritan Act, and Michigan's Public Health Code, supply a great deal of liability protection for those who volunteer to respond to emergencies and disasters within Michigan.

Additionally, individuals and entities engaged in designing, manufacturing, labeling, distributing, selling, donating, administering, etc. pharmaceutical countermeasures during a public health emergency may find protection under the Public Readiness and Emergency Preparedness Act (PREP Act), which modified the PHSA.[106] The PREP Act allocates resources, encourages development of response plans by state and local agencies,[107] allows for strategic stockpiles,[108] and includes provisions for the development of public health countermeasures.[109] Because the law encourages rapid development of countermeasures, specifically vaccines and other response drugs, the law protects from liability those persons and organizations who develop, manufacture, distribute, sell, or otherwise have involvement with these products.[110] This liability protection, while extremely broad, is intended to provide an incentive for expedited development of these necessary countermeasures without the usual FDA procedural and quality control safeguards, which may be waived in times of emergency.[111] Without these protective provisions a company which produces a vaccine which may not be effective, or has unforeseen side effects could be held liable for all harm caused by the drug despite its being used in an unintended way, or before testing could be completed. The PREP component also preempts state law, meaning that no state can afford less protection to these entities protected by a PREP act declaration. The act does not, however, protect companies or other entities from liability for "willful misconduct" as outlined in 42 U.S.C. § 247d-6d, which primarily focuses on intended harm. The Secretary of HHS must designate a specific countermeasure before these strong liability protections apply.[112] Currently there are very few such countermeasures recognized.[113] In addition, licensees administering COVID-19 testing services have immunity[114] under the Emergency Management Act. In summary, the PREP act provides protection for virtually everyone involved in the provision of medical and public health countermeasures. This very broad protection incentivizes the production of new countermeasure, which may reduce scarcity of medical resources during emergencies and disasters that imperil public health.

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[106] Part of the Public Health Service Act, 42 U.S.C. §247d-6d.
[107] 42 U.S.C. §247d-3a.
[108] 42 U.S.C. §247d-6b.
[109] 42 U.S.C. §247d-6a.
[110] 42 U.S.C. § 247d-6d.
[111] 42 U.S.C. §247d-6b.
[112] 42 U.S.C. § 247d-6d.
[113] The HHS PREP Act website details PREP Act declarations. *See* http://www.hhs.gov/disasters/discussion/planners/prepact/index.html.
[114] MCL 333.16113(3).

ATTACHMENT 4: Specific Guidance for State and Local Government Departments and Officials

Introduction

The allocation of resources and services during emergency-induced situations of scarcity must be based on a sound ethical framework. Attachment 4 provides specific guidance to state and local government departments[115] and officials in Michigan to assist these entities in planning for resource and service scarcity that may arise during emergencies and disasters that impact public health. This attachment applies the general ethical guidance offered in the *Michigan Guidelines for Implementation of Crisis Standards of Care and Ethical Allocation of Scarce Medical Resource and Services During Emergencies and Disasters* (Guidelines) to the specific context of public health, emergency management, and related government settings and addresses in detail some considerations that may arise in this context. This attachment also offers a set of indicators and triggers for assessing the need for implementing contingency or crisis standards of care, as well as potential strategies for implementation of the Guidelines in state and local public health, emergency management, and related government settings.

State and local government officials should review the ethical framework presented in the Guidelines to ensure that their decision-making strategies for allocating scarce resources and services during emergencies and disasters comport with the principles and considerations outlined in the Guidelines. The Guidelines should be implemented consistent with the provisions of the Michigan Emergency Management Plan, the MDHHS Emergency Operations Plan, the State of Michigan's collaboration with neighboring states in the Federal Emergency Management Agency's Region V, and all applicable legal requirements (see Attachment 3).

This guidance is meant to be a resource for state and local government departments and officials. It is not envisioned as a formalized series of instructions but rather a set of criteria that can be employed by decision-makers in various circumstances during an emergency or disaster using their best professional discretion. Thus, the criteria offered within these Guidelines are meant to be scalable, adaptable, and functional. Some public health departments or officials working within the state or local emergency management framework may not have the capacity to implement all of the suggestions offered in this document. Others will choose to adopt different strategies that are nonetheless consistent with the ethical framework presented in the Guidelines. However, it is presumed that many government departments and officials involved with allocation of scarce medical resources during emergencies or disasters will adapt the approaches and strategies contained in this document, tailored to fit the circumstances of their specific context.

Extreme or unforeseeable circumstances may challenge the foundations of the framework. In those situations, decision-makers will be expected to use their professional training and prudence to guide allocation decisions. The criteria offered may have to be amended to address unforeseen circumstances

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[115] The term "departments" is used in this document to refer to government departments, agencies, commissions, and institutional structures at the state and local levels that may make allocation decisions about scarce medical resources during emergencies and disasters.

and should be constantly reviewed and updated to incorporate new guidance, research, and best practices. Successful implementation of the Guidelines will demand ongoing deliberation, transparency, public education and input, and careful evaluation and oversight.

This guidance provides information about both the roles and processes of decision making by state and local government departments and officials in planning for and responding to circumstances where contingency or crisis standards of care may apply. It also provides substantive discussion of issues that could arise under emergencies and disasters that impact public health. However, these materials only provide a foundation and a starting point for the development of robust and adaptive policies for addressing crisis standards of care. This attachment should be used as a tool to assist in the creation of a strong infrastructure and well-designed, ethical policies for addressing resource shortages under crisis standards of care conditions. Additionally, this attachment should be used in conjunction with the other materials applied by the State of Michigan to address emergencies and disasters, including the Guidelines, other attachments, the Michigan Emergency Management Plan, and the MDHHS Emergency Operations Plan.

Background

Emergencies and disasters have often led to scarcity of medical resources and services. The history of epidemic outbreaks, natural disasters, and other mass casualty incidents has demonstrated the need to prepare for crisis standards of care across all medical and public health systems. These types of emergencies and disasters could seriously impact the state of Michigan, its health care and public health systems, transportation systems, economy, and social structure. Under situations of scarcity, government public health departments at the state and local levels likely will be faced with higher demands for services. These departments and the officials responsible for directing their activities may experience problems similar to other government agencies and health systems across the state of Michigan, including increased employee absenteeism, disruption of supply chains, and increased rates of illness and death among members of the population served by the department. Similarly, the emergency management framework at the state and local levels may need to address how to allocate scarce medical resources to members of the population that are being served during the response to an emergency or disaster.

Public health departments have important responsibilities to protect the public's health, responsibilities made harder in circumstances where there is a shortage of resources or a lack cooperation from the public. During emergency or disaster situations that generate scarcity, public health departments may face daunting challenges due to increased morbidity and mortality among members of the population and a corresponding increase in the need for public health services. Scarcity may affect public health departments directly through the limitation of agency capacity to provide essential public health services or indirectly as serious threats to public health strain the normal capacity of the agency to serve all that need assistance.

It is of the utmost importance that public health departments have the tools necessary to make ethically-appropriate decisions with regard to allocation of scarce medical resources and services. The objectives discussed in this attachment will assist state and local public health officials in both public health and emergency management settings in making important decisions that protect the lives and safety of public health workers and all members of the public.

Applicability of the Guidelines

The Guidelines outline several understandings that define their scope and purpose. The box below restates the factors described in more detail on pages 20-25 of the Guidelines:

1. Emergencies and disasters that impact public health give rise to unique challenges that can lead to, and be exacerbated by, scarcity of medical resources and services.

2. The likely conditions during emergencies—including conditions of medical resource and service scarcity—may be anticipated even in emergency circumstances that arise from sudden, extraordinary, or temporary events.

3. Emergency planners have an ethical duty to plan for and provide guidance related to the ethical allocation of scarce medical resources and services during emergencies or disasters.

4. The Guidelines apply to serious emergencies or disasters that impact public health, not everyday scarcity of medical resources and services. Therefore, the Guidelines envision allocation decisions being made in circumstances where Crisis Standards of Care are anticipated or have been implemented.

5. The Guidelines apply broadly and are meant to inform allocation decisions made by decision-makers at different levels of government and as well as the private and nonprofit sectors.

6. The Guidelines apply to allocation decisions affecting all medical resources and services that may become scarce during an emergency or disaster, including medicines, vaccines, medical equipment, medical devices, personal protective equipment, space, staff, and supportive capacity for health-related functions. However, allocation decisions will differ based on the type of resource and other circumstances.

7. The Guidelines employ ethical principles that take into account both individual health and population health.

8. The Guidelines should be implemented in ways that comply with all relevant laws at the federal, state, and local levels.

In addition to the considerations outlined above, six further understandings are applicable to the potential allocation of scarce medical resource and services by state and local public health departments and other government entities that may be involved in making decisions about the allocation of scarce resources.

9. Scarcity induced by an emergency or disaster that impacts public health may undermine the functional or operational capacity of state and local public health departments and challenge their ability to fulfill core functions. Consequently, scarcity may generate population health effects that may be much greater than those directly resulting from the effects of the scarce resource itself.

10. Decisions made by state and local public health departments and officials about scarce resource and service allocation will be integrally connected to similar allocation decisions by other government departments and officials, including those made by officials involved in the emergency management framework, and the private sector. Coordination between the public and private sectors will be integral to successful implementation of scarce resource allocation strategies.

11. The ethical obligations of state and local public health departments to support and protect population health may present distinct considerations when making allocation decisions under situations of scarcity. Additionally, the variation among local public health departments will influence the impact of public health service delivery.

12. The availability of public health data and expertise related to population health may inform allocation decisions across many other sectors.

13. State or local government decisions about scarce resource and service allocation may impact population-level health outcomes, and can exacerbate or mitigate the impact of emergencies and disasters on communities with higher social vulnerability.

14. Although the state's primary responsibility may be to allocate resources to its residents during emergencies or disasters with resource scarcity, if state needs are met, it may be reasonable to also consider allocating resources to other states or nations. If the relevant laws, policies, and permissions allow allocation to other states or nations, and other states or nations face significantly worse emergencies or scarcities, there may be strong ethical justification for allocating resources to them. This justification proceeds from the same considerations of equity and social justice that warrant statewide allocation decisions. Further, such reallocation of resources may be compelled or incentivized by the federal government.

Ethical Framework

The Guidelines developed for the State of Michigan discuss in detail the principles and methods used to develop the ethical framework and the goals, ethical considerations, and allocation criteria to be used in making scarce resource allocation decisions during crisis standards of care. Several additional ethical considerations applicable to government departments and officials are highlighted below.

- Planning and preparation of public health and emergency management officials to respond ethically to situations of resource scarcity underlie both professional and systemic obligations to provide competent and just services to all members of the population. While decision-making regarding resource allocation within public health departments is primarily focused on population-level concerns, some public health departments provide medical services to individuals as clients and must also factor in allocation decisions affecting these groups.

- Preparing the community for the types of difficult allocation decisions that may arise through public engagement and education, supports obligations of honesty and transparency, and adds legitimacy to and accountability for these difficult decisions if they need to be made in the future.

- Distributive justice requires fair and equitable access, distribution, and opportunity to benefit from scarce resources for all people while pursuing improved outcomes for historically and currently disadvantaged populations. Allocation schemes and criteria that differ substantially across different systems and communities may result in inconsistent and inequitable outcomes. Cooperation between state and local public health departments, Medical Control Authorities, EMS system, emergency management, hospitals, county commissioners, and other government officials and private sector entities through the development of consistent allocation guidelines, by contrast, supports fairness and distributive justice. The protection of disabled and marginalized individuals by pursuing distributive justice through equitable policies in these circumstances is imperative.

- Ethically sound responses to disaster must not exacerbate, and should help ameliorate, disparities in access to care even if they cannot repair prior inequities. Planners must designate appropriate resources for the most vulnerable who will suffer the greatest impact in any disaster. Allocation strategies, for example, should consider how to best combine state and local resources according to indicators of need such as the CDC's Social Vulnerability Index.[116]

- Prudent planning to increase caches of certain items proactively or to plan for contingency strategies to steward resources, can mitigate potential shortages and is key to ethical planning. Such cache establishment will require multidisciplinary planning and leveraging of resources.

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[116] Available at https://www.atsdr.cdc.gov/placeandhealth/svi/index.html.

Ethical Duties of Government to Plan, Prepare, and Coordinate

State and local government departments and officials have an ethical duty to plan, prepare, and coordinate with partners to address resource shortages that create crisis standards of care during emergencies or disasters. The Michigan Emergency Management Plan provides a detailed framework to augment state and local emergency response.

State and local public health departments also have an ethical duty to plan, prepare, and coordinate to address crisis standards of care that may occur during emergencies or disasters. At the state level, the Michigan Department of Health and Human Services already has developed a robust infrastructure for emergency response through the development of an incident command system (ICS) and continuity of operations (COOP) protocols through the MDHHS Emergency Operations Plan and liaisons with the State of Michigan Emergency Operations Center and the Community Health Emergency Coordination Center (CHECC).

MDHHS is well situated to take on a leading role in planning and implementing crisis standards of care guidance at the state level because of its expertise in public health; capacity to deliver and coordinate public health services and policy statewide; established relationships with the health care system, with federal, state, local, and tribal government entities, and with other relevant stakeholders that may be involved in a crisis standards of care responses; legal authority to protect public health; and role as the lead state department supporting Emergency Support Functions (ESFs) 6 and 8 under the National Response Framework.[117] MDHHS should consider the population health impacts of medical resource scarcity, which requires evaluating factors and implications that go beyond the impacts on individual or institutional actors.

Planning for a surge in public health need, communications, public messaging, command and control, prevention of further illness and injury, operations continuity, and vulnerable population management must take place in advance and be communicated by government departments to their employees and partners. Among other issues, state and local public health departments may wish to prepare plans to address resource allocation and continuity of operations involving mass vaccination strategies, mass distribution of medical countermeasures and other resources, emergency public health education, and assistance with fatality management.

Government departments should coordinate with other entities, organizations, and partners that participate in or are likely to be affected by scarcity in medical resources and services during emergencies and disasters. For example, while developing their plans, it is important that state and local public health officials develop a detailed understanding of emergency plans applicable in other local, regional, and state public health departments and foster constructive and ongoing relationships with those departments, as well as relevant Federal-level departments and officials. State and local public health officials also should forge ties with hospitals and other health care organizations and prehospital entities such as Emergency Medical Services (EMS), Medical Control Authorities (MCA), and regional

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[117] Emergency Support Function #6, Mass Care, Emergency Assistance, Housing, and Human Services Annex to the National Response Framework, available at https://www.fema.gov/sites/default/files/2020-07/fema_ESF_6_Mass-Care.pdf. Emergency Support Function #8, Public Health and Medical Services Annex to the National Response Framework, available at https://www.phe.gov/Preparedness/support/esf8/Pages/default.aspx.

Healthcare Coalitions to understand the capabilities of these organizations during conditions of scarcity. In addition, coordination with Emergency Management officials and infrastructure through the MEMP will be essential for an effective response. Consistent and coordinated response efforts implementing crisis standards of care should be pursued in all stages of the planning and implementation process. The full guidance for EMS settings can be found in Attachment 1, for hospitals and other health care facilities in Attachment 2, and for long-term care facilities in Attachment 5.

The National Academy of Medicine has recognized three levels of emergency care: conventional, contingency, and crisis. In conventional care situations local public health departments would continue to provide routine services consistent with ordinary uses of spaces, staff, and supplies.[118] In contingency care situations local public health departments will provide services and maintain capacity that is functionally equivalent to conventional care, but may use spaces, staff, and supplies in different ways to meet the demands of the emergency.[119] During a contingency situation, regional Healthcare Coalitions and local public health departments may begin to coordinate and share resources with each other and with MDHHS. A Regional Disaster Medical Advisory Committee (RDMAC) or the State Disaster Medical Advisory Committee (SDMAC) may play a role as well. Crisis capacity implicates the use of adaptive spaces, staff, and supplies sufficient to provide the best possible population health services under the circumstances.[120] In addition to receiving support and guidance from RDMAC and SDMAC partners, state and local public health departments may also seek support from the state emergency management agency, county commissioners, private sector partners, and interstate mutual aid. State and local public health departments should utilize historical knowledge, experience, and insights of community-based organizations to augment resource allocation planning and decision-making.

During emergencies and disasters, many state and local public health departments may have limited capacity concurrently with limited capacity in other related health settings, such as hospitals. Planning should account for potential situations where public health departments would pool resources with these other entities or take steps to train and repurpose personnel and/or volunteers to expand capacity. Such guidance would include a robust plan of how, where, and what a crisis standard of care would entail and what would be expected of public health officials and employees and some potential for augmenting their capabilities through advance or "just in time" training.

Implementation
The implementation of a scarce resource allocation plan within a public health department requires public health officials to engage in several discrete steps and to plan for different circumstances that may involve conventional, contingency, and crisis standards of care.

Public health departments possess different levels of capacity for providing public health services. Therefore, plans for scarce resource allocation should account for these differences. To assist public

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[118] IOM 2012, p. 4-12.
[119] Id.
[120] Id., at p. 4-13.

health departments in planning for crisis standards of care, the state should establish a State Disaster Medical Advisory Committee (SDMAC) to provide recommendations on issues of scarce resource allocation to the Michigan Department of Health and Human Services, and to other state-level agencies and officials upon request. Decision makers throughout MDHHS and within other government departments and private organizations will need clear guidance regarding how to distribute resources, and the public will need to know that a just and thoughtful process is in place for making these decisions.

Local public health departments may also coordinate with other local public health departments in their region and regional Healthcare Coalitions to develop Regional Disaster Medical Advisory Committees (RDMAC). RDMACs serve several functions.

- RDMACs will work with regional Healthcare Coalitions and local public health departments to develop guidelines for crisis standards of care and scarce resource allocation applicable to the issues and capacities relevant at the regional and local levels, yet consistent with the Guidelines and additional guidance of the SDMAC.

- RMDACs will provide specific guidance to regional Healthcare Coalitions and local public health departments, when applicable, on how to prioritize specific scarce resources during an emergency or disaster that impacts public health for their populations.

- RDMACs may serve an important coordination function between local public health departments and the local emergency management system and may provide a link between the SDMAC and these local public health departments.

- RMDACs may develop training and assessment materials to improve preparedness, education, and processes for making decisions about allocation of scarce resources. These materials should be developed in conjunction with the SDMAC.

The structure of RDMACs will be important to their successful function. RDMAC members should have some overlap with members of the SDMAC to ensure knowledgeable membership with adequate expertise and training, as well as a clear link to SDMAC materials and deliberations. The SDMAC and RDMACs should include members knowledgeable in emergency response; public health; medical and nursing care; long-term care; mental and behavioral health; pediatrics; palliative care; pharmacy; human services; social determinants of health; bioethics; diversity, equity, and inclusion; and law. The membership of the SDMAC and RDMACs may also include members with other expertise as relevant to the situation being addressed.

Establishing priorities for maintaining public health capacity and equity

Plans for scarce resource allocation should establish priorities for maintaining public health capacity and ensuring that available resources are distributed equitably. Plans should consider the primary functions of public health departments and the need to both respond effectively to the emergency threat to population health and to maintain ongoing capacity for other public health priorities. This attachment does not attempt to establish a prioritization of functions as a categorical statement. However, each RDMAC or public health department should engage in planning to prioritize functions under various likely shortage scenarios. Plans also should identify strategies on how to minimize the impact of scarcity on essential public health services and how to use the essential services to minimize the impact of scarcity. Much of this planning may already be in place within existing resources such as the continuity of operations (COOP) plans in place in all public health departments. Public health departments should review their COOP plans to ensure that they address scarce resource allocation and crisis standards of care. Government departments and officials should take steps to prevent medical resource scarcity whenever possible.

Trigger Points

Indicators and triggers may be used at the state or local level to assess when an emergency or disaster that may lead to scarcity is imminent. The SDMAC and RDMACs may play an important role in assessing indicators and triggers, determining when thresholds have been met to move to contingency or crisis standards of care, and determining when conventional standards of care can be resumed.

The tables that follow outline potential indicators and triggers in a variety of categories of potential resource scarcity as well as potential tactics that can be used to adapt and respond to scarcity.

Crisis Standards of Care

Public Health Indicators, Triggers, and Tactics for Transitions Along the Continuum of Care in a Slow-Onset Scenario

Indicator Category	Contingency	Crisis	Return Towards Conventional
Surveillance Data	**Indicators:** • Epidemiologic data identify significantly increased or novel activity. • Epidemiologic data may identify unusual population affected. • Trends over time indicate escalation and/or significant impact on the population and/or highly infectious and transmissible disease. **Triggers:** • Health care organizations having difficulties submitting data due to impact of medical surge volumes. The State of Michigan requires healthcare entities to submit data electronically or through their local health departments. • An increase of cases in emergency departments, hospital admissions, transmissions in the community, or increased rate of speed of infections. **Tactics** • Increase capacity to investigate indicators and collect data that will be transmitted to local health departments to attain improved situational awareness. Additional staff will help to increase efficiency and accuracy of reported data. • Work closely with Healthcare Coalitions and medical health partners to target data collection to key elements that are required by law or under MDHHS or governor's order. • Develop additional data elements based on incident and potential workload impact.	**Indicators:** • Epidemiologic data indicate benchmarks and thresholds for critical resources and maximum critical care capacity will be exceeded. • Communications from local medical examiner that morgue storage capacity has been exceeded. **Crisis Triggers:** • Epidemic curves continue to rise with unclear peak of cases. • Hospital data indicates significant shortages in capacity. • Surveillance has to be modified to highest priority or impact-only with minimal set of identifiers for future follow-up as identified by public health orders and communicable disease reporting rules. **Tactics:** • Executive and MDHHS leadership determine and distributes data capturing requirements for healthcare facilities to provide common operating picture and potential treatment/outcome information. • Surveillance data collection narrowed to only automated data streams related to incident unless additional information is needed through medical chart extraction. • Required electronic reporting could be modified to include additional data.	**Indicators:** • Epidemiologic data indicate sustained decrease in "new" incident-related reports, the outbreak appears to be in the descending part of the peak, and hospital daily census returns to pre-contingency/baseline levels. **Triggers:** • Electronic reporting mechanisms indicate return to normal reporting processes by health care organizations. **Tactics:** • Public health staff returns to pre-contingency workload and surveillance parameters. • Public health staff initiate "catch-up" work to capture health data from the prolonged incident; this is a critical role for public health for future incident response and demand forecasting. • Public health entities prepare for next infection peak/wave of pandemic.

Public Health Indicators, Triggers, and Tactics for Transitions Along the Continuum of Care in a Slow-Onset Scenario

Indicator Category	Contingency	Crisis	Return Towards Conventional
Communications Infrastructure **ESF #2 – Communications**	**Indicators:** • Need to communicate with public about potential for high-risk situation. **Triggers:** • Communications systems (Health Alert Network [MIHAN], telephone, etc.) disrupted within and external to jurisdiction. • Multiple requests for assistance from multiple agencies or jurisdictions. • Identified need to establish communication hotlines. • Requests for specialized services and needs for broad public communications. **Tactics:** • Work with established media and professional organizations to ensure consistent messaging. • State health implement statewide plans for nurse triage lines, 211, poison control support for callers related to event. • Coordinate risk communication strategies with governmental public information officials.	**Indicators:** • Continued need to communicate with public about high-risk, evolving situation. **Crisis Triggers:** • Prolonged and widespread communication (cellular, internet) outages render communication difficult. **Tactics:** • Use all established resources to coordinate and communicate health messages. • Increase availability of coordinated communications for gaps identified. • Focused review of communications strategies to identify gaps in targeted populations.	**Indicators:** • Decreased requests for messaging. • Decreased activity on established hotlines. **Triggers:** • Media and health care requests returning to "normal". **Tactics:** • Continue to provide appropriate levels of communication to the media, community, and impacted health care organizations.
Community Infrastructure **ESF #1 – Transportation** **ESF #3 – Public Works and Engineering** **ESF #5 – Emergency Management** **ESF #6 – Mass Care, Emergency Assistance, Housing, and Human Services** **ESF #7 – Logistics Management and Resource Support** **ESF #8 – Public Health and Medical Services**	**Indicators:** • Potential for disruption of community infrastructure within and external to jurisdiction. **Triggers:** • Multiple requests for assistance from multiple agencies or jurisdictions. • Interruption or contamination of water supply, food supply, transportation, or utilities. **Tactics:** • Coordinate governmental and private sector resources to reduce potential utility disruptions or water supply contamination. • Provide access to community infrastructure and services to alleviate shortages.	**Indicators:** • Local EOCs and state emergency operation center are fully activated statewide. • Water supply contamination. • Widespread and sustained utility disruption. **Crisis Triggers:** • Reports of disturbances at health care organizations or public shelters, etc. • Prolonged and widespread utilities (power, natural gas) outages. **Tactics:** • Coordinate governmental and private sector resources to alleviate utility disruptions or water supply contamination.	**Indicators:** • State and local EOCs no longer activated. **Triggers:** • Contamination or utility disruption has been resolved and community infrastructure restored. **Tactics:** • Continue to provide supportive services as needed for impacted areas and populations.

Public Health Indicators, Triggers, and Tactics for Transitions Along the Continuum of Care in a Slow-Onset Scenario

Indicator Category	Contingency	Crisis	Return Towards Conventional
Staff	**Indicators:** • Increasing absenteeism among public health staff; increased demand for staffing for community-based interventions, etc. **Triggers:** • Community-based interventions required (e.g., vaccine, countermeasure distribution, "flu centers"). **Tactics:** • Eliminate routine or non-life safety laboratory testing, surveillance of community organizations, etc. • Initiate Continuity of Operations planning to ensure that essential functions for local and state public health are implemented to support health care organization response. • Identify services to put on "pause" as personnel resources continue to decline. • Activate mutual aid/support plans from other agencies, disciplines, predesignated volunteer sources as required. • Off-load tasks onto technology as possible (e.g., hotlines rather than face-to-face assessments). • Change staffing patterns and hours.	**Indicators:** • Increasing absenteeism and inability to fulfill critical missions to community. • Increased demand for resources. **Crisis Triggers:** • Unable to fulfill critical missions (e.g., support alternate care sites) with appropriate staff. **Tactics:** • Eliminate all non-essential functions to support local and state response to the incident. • Reallocate any health professionals whose training allows them a more active role to support health care organizations. • Work with LARA to expedite licensing for out of state healthcare professionals. • Assist if needed in coordination of health volunteers to support public health and medical functions identified. • Triage personnel resources to services of most benefit (community vaccination, etc.). • Use just-in-time recruiting and training as required to fulfill missions. • Obtain regulatory relief as required to facilitate facility crisis responses (e.g., who may administer vaccinations). • Recall retired personnel to assist. • Cancel non-critical procedures and re-allocate personnel for critical missions.	**Indicators:** • Impact of incident decreasing. • Personnel absenteeism is decreasing. • Personnel communicating need to initiate activities to "return to normal operations". **Triggers:** • Missions able to be completed with adequate staffing. **Tactics:** • Review and prioritize key services for reimplementation at the local and state levels. • Initiate data analysis of impact of CSC implementation on personnel. • Revert to normal staffing patterns/hours/duties.

Public Health Indicators, Triggers, and Tactics for Transitions Along the Continuum of Care in a Slow-Onset Scenario

Indicator Category	Contingency	Crisis	Return Towards Conventional
Space/Infrastructure	**Indicators:** • Health care organizations are unable to meet demands with traditional bed capacity with all surge strategies implemented. • Local and state public health-initiated strategies to authorize alternate care site initiation; including assurances related to governmental waivers (e.g., 1135 waivers). **Triggers:** • Space expansion is required for community-based interventions (e.g., vaccination campaign, etc.). • Recognition of the need to open alternate care sites for screening clinics/early treatment. **Tactics:** • Requests are made for waivers to authorize alternate care sites for care delivery. • Work with LARA and local Fire Marshall's office for permissions to utilize additional needed space for patient care. • Local public health departments work with their local health care organizations and regional Healthcare Coalitions to ensure that inpatient sites, including skilled nursing facilities, are prioritized for support. • Public health provides risk communication and coordination like 211, clinical and public hotlines and websites, etc. for advising when to seek care, etc. • ESF-8 lead to keep each local emergency operations center aware of impact and contingency care implemented. • State public health works with all Healthcare Coalitions to support implementation of statewide medical surge strategies. • State Community Health Emergency Coordination Center (CHECC) to keep each local health department aware of impact and contingency care implemented.	**Indicators:** • Health care organizations have narrowed admission criteria to maximize available resources. • Hospitals re-purposing care areas such as pre- and post-op, recovery, etc. **Crisis Triggers:** • Health care organizations have implemented all medical surge strategies and should seek alternate care site locations for inpatient care overflow. **Tactics:** • Supply or support mobilization of deployment of volunteer health professionals. • Implementation of governmental waivers to establish alternate care sites. • State emergency operation centers and health emergency coordination centers work with state and federal agencies to establish declarations and emergency order rules specific to the necessary tactics to respond to the incident. • State public health to communicate with state disaster medical advisory committee to review status of CSC guidelines and distribute to impacted health care organizations. • MDHHS and governor to initiate process for implementing executive orders to protect public health.	**Indicators:** • Surveillance indicates declining new infections. • Health care organizations are able to broaden admission based on available resources. • Hospital care areas return to routine functions. **Triggers:** • Decreasing census in alternate care sites within jurisdiction. • State observes multiple Healthcare Coalitions readying for demobilization of alternate care sites. **Tactics:** • Support health care alternate care site demobilization strategies. • Patient records, resources, and supplies should be accounted for and returned as required; local and state public health departments mobilize resources to assist as available. • State public health works with local partners and non-governmental organizations to communicate plans to return to conventional care.

Public Health Indicators, Triggers, and Tactics for Transitions Along the Continuum of Care in a Slow-Onset Scenario

Indicator Category	Contingency	Crisis	Return Towards Conventional
Supplies	**Indicators:** • Local and state monitoring of supplies and inventory data indicate shortage/potential shortage. • Benchmark supply availability to disease reporting and mortality data. • Anticipate challenges with medical supply chain based on expanding incident; review communications from each health care coalition for the impact to their health care organizations. **Triggers:** • Decreased availability of critical medical resources anticipated. • Requests to health care coalition medical coordination center for allocation of regional cache supplies. **Tactics:** • Prioritize resource allocation by urgency of need and risk. • Determine time frame and availability from other vendors/sources. • Review and update risk communication strategies specific to users of critical resources and community. • CHECC work with each health care coalition to allocate regional cache contents and other resources. • CHECC initiates procurement of Medical Counter Measures (MCM) from the Strategic National Stockpile. (SNS). • CHECC initiates internal mechanisms to move anticipated MCM materiel requests received in the state EOC.	**Indicators:** • Demand forecasting/projections exceed available critical resources. • No national source of specific supplies available. • New MCM, such as medications and vaccines, are available but not in sufficient amounts for widespread access. **Crisis Triggers:** • Shortages of critical equipment, medications, or vaccine present significant risk to persons who cannot receive them. • National guidance on rationing distributed. **Tactics:** • Focus allocation of scarce resources to maintaining critical social/ public safety function (civil order maintenance). • Coordinate risk communication strategies. • Use government purchasing powers to support critical medical supplies. • Maintain communications with federal SNS program. • State and regional disaster medical advisory committees review triage guidance. available and propose recommendations • State public health circulates guidelines on allocation of resources. • Legal, regulatory, and emergency powers invoked as required to facilitate fair, planned allocation process.	**Indicators:** • Vaccine manufacturers have increased supply chain so targeted groups for vaccination is expanded based on disease trends and ethical guidelines. • Additional resources are obtained. • Demand for resources (e.g., ventilators) is declining as event wanes. **Triggers:** • Critical medical supplies are sufficient to meet the needs of the patients requiring them. **Tactics:** • Continued, coordinated risk communication. • Assessment if transition is temporary or likely to be permanent. • Local public health should augment Points of Dispensing plans to meet demands when vaccination is expanded as vaccine is available. • Demobilization of SNS or state-allocated resources. • State public health to review CSC guidelines for possible revision based on resource availability.

Public Health Indicators, Triggers, and Tactics for Transitions Along the Continuum of Care in a Slow-Onset Scenario

Indicator Category	Contingency	Crisis	Return Towards Conventional
Fatality Management	**Indicators:** • Rising death toll. • Rate of deaths projected to exceed local capabilities. **Triggers:** • Health care organizations are reporting an inability to manage the number of decedents within facilities. • Local medical examiners are unable to meet the demands of their jurisdiction with usual processing. • Communications to local public health on fatality management shortages. **Tactics:** • Local public health works with medical examiners/coroners to determine if the bottleneck is processing (medical examiner caseload) or body management. • Local public health contacts funeral home, mortuaries, morgues, or crematoriums to assess current impact on capacity and expansion capacity. • Local governmental agencies should identify potential cultural barriers to modifications in death processes and prepare strategies to address these. • Initiate strategies to expedite the completion of death certificates/investigations. • State public health considers modifications to laws, regulations, etc., for dealing with decedents. • Governmental authorities initiate planning for possible alternate storage strategies. • Consider federal or state disaster mortuary team resources. • Consider temporary storage facilities implementation plan.	**Indicators:** • Funeral homes communicating limited resources to conduct funeral services. • Rate of deaths projected to exceed regional/surge capabilities. **Crisis Triggers:** • With disaster plans implemented, fatality processing demand exceeds available resources and threat of civil unrest is real. • Local funeral homes unable to meet fatality management within their community. **Tactics:** • Risk communication strategies coordinated at local and state levels. • Activation of all available mortuary resources, including response teams and expanded cremation and processing operations. • Governor declaration for expedited burials and/or temporary interment upon state public health recommendation. NOTE: Requires extensive planning with multiple state agencies to identify a location, tracking, and personnel support to implement such a response to manage mass fatality incident. • Consider transfer of decedents to other locations for processing if required.	**Indicators:** • Number of deaths are stabilizing or in a sustained decline. **Triggers:** • Decedent processing is able to be accommodated within surge or conventional systems. • Local funeral homes return to normal operations. **Tactics:** • Risk communication on decedent management. • Local and state public health, in conjunction with medical examiners/coroners, resume normal processes, which include funerals and traditional burials. • Alterations that had occurred should be addressed to return to normal state, recognizing the complexity associated with variation in cultural and societal death routines.

Public Health Indicators, Triggers, and Tactics for Transitions Along the Continuum of Care in a Slow-Onset Scenario

Indicator Category	Contingency	Crisis	Return Towards Conventional
Congregate Gatherings	**Indicators:** • Epidemiologic models indicate person-to-person spread is prevalent. • Multiple jurisdictions reporting that large gatherings implicated in outbreak investigations. • Outbreaks linked to funeral services. **Triggers:** • Epidemiologic data indicate increasing outbreaks directly related to known congregate gatherings in more than one jurisdiction. **Tactics:** • Local and state review immediate and future large-scale venues for anticipated cancellation. • Local and state recommendations on modifications to school activities or school closures. • State public health readies social distancing guidelines working with governor's office. • State and local public health implement other infectious control and mitigation measures (masking, distancing requirements, etc.).	**Indicators:** • Statewide indication of high transmission in congregate gathering settings. **Crisis Triggers:** • Social separation is required to prevent spread of dangerous pathogen. **Tactics:** • Executive order or governor's declaration to prohibit or limit the size of congregate gatherings. • Social distancing or quarantine orders implemented as indicated. • Governmental agencies collaborate to enforce congregate-gathering bans.	**Indicators:** • Decrease in evidence for person-to-person trends. • Criteria for identifying "super spreaders" as individuals allows targeted interventions. **Triggers:** • Sustained decrease in disease transmission trends. **Tactics:** • Governor rescinds gathering orders and other mitigation strategies. • Initiate public gatherings. • Local and state continue close monitoring of epidemiologic data to ensure continued decline and are prepared to reinstate mitigation strategies if cases increase.

Crisis Standards of Care

Public Health Indicators, Triggers, and Tactics for Transitions Along the Continuum of Care in a No-Notice Scenario

Indicator Category	Contingency	Crisis	Return Towards Conventional
Surveillance Data	**Indicators:** • Collection of information indicates disruption of services that impact local public health and health care organizations within jurisdiction. • Local health department identifies specific population health surveillance data impacted by incident . • Impacted persons are being taken to multiple health care organizations through traditional and non-traditional methods. • Forecast temperature extremes. **Triggers:** • Communications from health care organizations to their Healthcare Coalitions that many facilities have infrastructure damage. • Communications from local emergency operations centers (EOCs) to state EOC (SEOC) that medical and public health have significant impact to service delivery. • Incident disrupts medical supply chain; anticipate shortages. • Unable to locate or track all patients impacted by incident. **Tactics:** • Data collection to local and state EOC's. • CHECC queries all Healthcare Coalitions to identify statewide impact to service delivery and plan response strategies (patient and resource movement). • Local health department implements focused assessments and modification specific to impact of incident for jurisdictional population. • Implement patient tracking system statewide.	**Indicators:** • Scope of incident indicates need to focus surveillance on key elements to support medical and public health operations. • Communications indicate emergency management and/or American Red Cross or other nongovernmental organization establishing multiple sheltering operations. • Incident-related injuries necessitate modification of surveillance strategies. • Shelters established, need for augmented surveillance to protect shelter population. **Crisis Triggers:** • Health care organization capacity is overwhelmed based on casualty counts and impact on health care infrastructure. **Tactics:** • Collection of key information only to maximize/distribute resources or reunite families. • Continue established patient tracking system and allow access by nongovernmental and other organizations as required to facilitate reunification.	**Indicators:** • Focused surveillance indicates diminishing impact of incident. **Triggers:** • No additional victims being entered into system. • Decreasing numbers in shelters and consolidation of sheltering services. **Tactics:** • Return to routine surveillance activities. • Extensive review of incident specific surveillance data to determine long-term follow-up or further focused surveillance. • Archiving of patient tracking from event.

Public Health Indicators, Triggers, and Tactics for Transitions Along the Continuum of Care in a No-Notice Scenario

Indicator Category	Contingency	Crisis	Return Towards Conventional
Communications Infrastructure **ESF #2 – Communications**	**Indicators:** • Initial and subsequent damage reports indicate substantial loss of 911 or other communications. **Triggers:** • Requests from multiple health care organizations and Healthcare Coalitions for governmental assistance due to communication infrastructure damage. • Local EOCs getting queries from health care organizations about utility restoration. **Tactics:** • Local public information officials work with media on health-related risk communication strategies. • State public information officials working with other state agency and local public information officials for coordinated risk communications.	**Indicators:** • Widespread loss of critical communications (cellular, Internet, public safety radio, etc.). **Crisis triggers:** • Incident unfolding with Healthcare Coalitions communicating significant communications infrastructure damage. • Inability for multiple hospitals to communicate with other healthcare entities/911/Healthcare Coalitions. **Tactics:** • Continued need for risk communications to community. • Identify needs of health care organizations in collaboration with Healthcare Coalitions. • State public information officials working with other state agency and local public information officials for coordinated risk communications.	**Indicators:** • Public safety communications back online. **Triggers:** • Emergency communications systems reestablished. **Tactics:** • Communicate de-escalation of incident to community through established methods and using risk communication strategies.

Public Health Indicators, Triggers, and Tactics for Transitions Along the Continuum of Care in a No-Notice Scenario

Indicator Category	Contingency	Crisis	Return Towards Conventional
Community Infrastructure **ESF #1 – Transportation** **ESF #3 – Public Works and Engineering** **ESF #5 – Emergency Management** **ESF #6 – Mass Care, Emergency Assistance, Housing, and Human Services** **ESF #7 – Logistics Management and Resource Support** **ESF #8 – Public Health and Medical Services**	**Indicators** • Initial and subsequent damage reports indicate substantial loss of health care or residential infrastructure. • Numbers of persons are missing and the pressure families are putting on 911 and other systems to find them. • Disruption of roads impact ability to meet the needs of patient movement. **Triggers:** • Requests from multiple health care organizations and Healthcare Coalitions for governmental assistance due to infrastructure damage. • Significant reports of safety issues that could impact community, thus indicating a need for coordinated risk communication strategies. • Local EOCs getting queries from health care organizations about utility restoration. **Tactics:** • Support requests from health care organizations through Healthcare Coalition. • Prioritize key public health activities to support critical jurisdictional needs and health care organization service delivery. • Local EOCs establishing mechanisms to implement family reunification systems.	**Indicators:** • Local EOCs and state emergency operation center are fully activated statewide to respond to catastrophic incident. • Widespread loss of utilities. **Crisis triggers:** • Incident unfolding with Healthcare Coalitions communicating facilities with significant infrastructure damage that impacts health care for the community. • Inability for multiple hospitals to remain in their current building without significant support. • Multiple health care facilities require evacuation and inadequate transport resources to accomplish this. • Local emergency management indicates a need to establish multiple shelters, including functional needs. **Tactics:** • Identify needs of health care organizations in collaboration with Healthcare Coalitions. • Local health departments should identify staff, including volunteers, to assist with public health issues in shelters, including those targeted to functional needs. • State working with locals to ensure that family reunification systems can meet demands.	**Indicators:** • Repairs to health care organizations provide the ability to repopulate or resume previous level of service. • Local EOCs no longer activated. **Triggers:** • Need for shelters has decreased to pre-emergency levels. • Infrastructure and utility damage have been repaired and/or functioning of essential systems have been restored. **Tactics:** • Continue to provide supportive services as needed for impacted areas and populations. • Local and state public health assist with assessments or surveys to clear impacted health care organizations for repopulation or resume suspended services.

Public Health Indicators, Triggers, and Tactics for Transitions Along the Continuum of Care in a No-Notice Scenario

Indicator Category	Contingency	Crisis	Return Towards Conventional
Staff	**Indicators:** • Personnel availability impacted by access, family obligations, injury/direct effects. **Triggers:** • Request for additional medical or public health personnel to support operations. **Tactics:** • Identify cross-trained personnel to support services linked to incident. • Modifications to services will be based on staff available. • Plan to support response with volunteer health professionals (MI Volunteer Registry, Medical Reserve Corps [MRC], coalition, etc.). • Work with LARA to expedite licensing for out of state healthcare professionals.	**Indicators:** • Personnel availability impacted widely by access, family obligations, injury/direct effects. • Local infrastructure damage will prevent mutual aid in a timely manner. • Alternate care sites and shelters initiated. **Crisis triggers:** • Multiple organizations requesting medical staff support and inadequate availability of staff via usual programs (MI Volunteer Registry, etc.). • Specialty consultation unavailable to hospitals boarding burn, pediatric, or other patients due to demands or communication issues at referral centers. **Tactics:** • Use available staff and provide support for non-specialized tasks to maximize response. • Limit services to those related to life/safety issues only. • Facilitate out-of-area specialty consultation as applicable. • Use volunteer health professionals if available. • State to seek additional personnel resources through federal programs (Department of Health and Human Services, Department of Defense, etc.). • Expand contractual staffing if available.	**Indicators:** • Decreasing use of alternate care sites. • Decreasing requests for staff support. **Triggers:** • Health care organizations releasing volunteer and other supplemental staff. • Alternate care sites demobilizing. **Tactics:** • Initiate processes to return staff to routine positions. • Implement demobilizations strategies if volunteers were used.

Public Health Indicators, Triggers, and Tactics for Transitions Along the Continuum of Care in a No-Notice Scenario

Indicator Category	Contingency	Crisis	Return Towards Conventional
Space/infrastructure	**Indicators:** • Emergency management has initiated shelters. • Emergency medical services (EMS) reporting evacuations of long-term care (LTC) and similar facilities. • Hospital data indicate capacity exceeded at multiple facilities despite surge capacity plan activation. **Triggers:** • Local requests for assistance with patient movement. • Inadequate EMS resources to accommodate demands. **Tactics:** • Need anticipated to modify EMS transport protocols statewide and suspend specific staffing and other response requirements. • Local EOCs work with regional Healthcare Coalitions to identify and prioritize transport resources. • State Community Health Emergency Coordination Center to work on statewide available resources through health care coalition structure. • State public health and SEOC identify additional resources through Mutual Aid Agreements or Emergency Management Assistance Compact (EMAC).	**Indicators:** • Communications indicate demand exceeds patient transport supply. • Hospitals have inadequate space for patients. **Crisis triggers:** • Requests to modify EMS transport protocols. • Requests for alternate care sites for inpatient overflow. **Tactics:** • State ESF-8 works to implement protocol waivers to support modified transport plans. • State public information official communicates efforts to all medical health entities. • State coordination of alternate care sites and patient transportation assets from state, EMAC, and federal sources.	**Indicators:** • EMS indicates return to normal dispatch and transport protocols. • Alternate care sites no longer required/use diminishing. **Triggers:** • System data indicate returning to baseline transport status. **Tactics:** • Support efforts to return EMS to normal operations and regulations. • Support demobilization of alternate care sites and shelter medical support. • Local and state public health staff gather all after-action reports, meet with key stakeholders to identify challenges, and plan to support future operations.

Public Health Indicators, Triggers, and Tactics for Transitions Along the Continuum of Care in a No-Notice Scenario

Indicator Category	Contingency	Crisis	Return Towards Conventional
Supplies	**Indicators:** • Interruption in supply chain impacts resource availability. • Local use of resources exceeds supply (e.g., blood products, surgical supplies). **Triggers:** • Resource shortages reported, including medical material and pharmaceuticals • Local request for Strategic National Stockpile (SNS) or cache materiel. **Tactics:** • Local health care organizations work with their Healthcare Coalition to distribute regional resources, including obtaining resources from Healthcare Coalitions that are not impacted by the incident. • State ESF-8 should identify possible waivers, including the reuse of equipment and supplies within health care organizations. • Initiate process to request SNS or other materiel through state EOC.	**Indicators:** • Critical medical supplies are unavailable. **Crisis triggers:** • Unable to locate additional medical supplies to support medical care, presenting a life/safety risk. **Tactics:** • Local and state public health should continue to identify resources to support organizational response; this would include implementing MAA and EMAC requests for services and supplies needed to deliver care. • Executive orders or public health/ emergency declaration if needed to support altering the use of equipment, supplies, or human resources. • Public health guidance on allocation of specific scarce resources may be required, with input from state disaster medical advisory committee.	**Indicators:** • Mobilization of equipment, supplies, and resources to meet demand **Triggers:** • Decreasing requests for additional supplies to support response. **Tactics:** • Data collection and financial accountability to assess impact of incident and plan for remediation of gaps. • Continue situational monitoring to determine if this a temporary or sustained improvement.

ATTACHMENT 5: Specific Guidance for Long-term Care Settings

Introduction

The allocation of resources and services during emergency-induced situations of scarcity must be based on a sound ethical framework. Attachment 5 provides specific guidance in long-term care settings in Michigan to assist these entities in planning for resource and service scarcity that may arise during emergencies and disasters that impact public health. It applies the general ethical guidance offered in the *Michigan Guidelines for Implementation of Crisis Standards of Care and Ethical Allocation of Scarce Medical Resource and Services During Emergencies and Disasters* (Guidelines) to the specific context of long-term care settings and addresses in detail some considerations that may arise. It also offers potential strategies for implementation of the Guidelines in long-term care settings.

Long-term care facilities should review the ethical framework presented in the Guidelines to ensure that their decision-making strategies for allocating scarce resources and services during emergencies and disasters comport with the principles and considerations outlined in the Guidelines. Long-term care facilities are settings in which medical and non-medical care is provided to people who may not be related, have chronic illness or disability, and cannot care for themselves for long periods of time. Long-term care facilities include, but are not limited to, skilled nursing facilities,[121] nursing homes,[122] adult foster care facilities,[123] homes for the aged,[124] assisted living facilities, and subacute rehabilitation facilities.

This guidance is meant to be a resource for long-term care facilities. It is not envisioned as a formalized series of instructions but rather a set of criteria that can be employed by decision-makers in various circumstances during an emergency or disaster using their best professional discretion. Thus, the criteria offered within these Guidelines are meant to be scalable, adaptable, and functional. Some facilities may not have the capacity to implement all of the suggestions offered in this document. Others will choose to adopt different strategies that are nonetheless consistent with the ethical framework presented in the Guidelines. Some facilities will be obligated to adopt policies and approaches as required by federal or state regulatory requirements. However, long-term care facilities in Michigan are strongly encouraged to adapt the approaches and strategies contained in this document, tailored to fit the circumstances of their specific contexts and capacities.

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[121] "Skilled nursing facility" means a hospital long-term care unit, nursing home, county medical care facility, or other nursing care facility, or a distinct part thereof, certified by the department to provide skilled nursing care. MCL 333.20109 (4).

[122] "Nursing home" means a nursing care facility, including a county medical care facility, that provides organized nursing care and medical treatment to 7 or more unrelated individuals suffering or recovering from illness, injury, or infirmity. MCL 333.20109 (1).

[123] "Adult foster care facility" means a home or facility that provides foster care to adults. MCL 400.703 (4).

[124] "Home for the aged" means a supervised personal care facility at a single address, other than a hotel, adult foster care facility, hospital, nursing home, or county medical care facility that provides room, board, and supervised personal care to 21 or more unrelated, nontransient, individuals 55 years of age or older. MCL 333.20106 (3).

Extreme or unforeseeable circumstances may challenge the foundations of the framework. In those situations, decision-makers will be expected to use their professional training and prudence to guide allocation decisions. The criteria offered may have to be amended to address unforeseen circumstances and should be constantly reviewed and updated to incorporate new guidance, research, and best practices. Successful implementation of the Guidelines will demand ongoing deliberation, transparency, public and family education and input, and careful evaluation and oversight.

This guidance provides information about both the roles and processes of decision making by long-term care facilities in planning for and responding to circumstances where contingency or crisis standards of care may apply. It also provides substantive discussion of issues that could arise under emergencies and disasters that impact public health. However, these materials only provide a foundation and a starting point for the development of robust and adaptive policies for addressing crisis standards of care. This attachment should be used as a tool to assist in the creation of a strong infrastructure and well-designed, ethical, facility-based policies for addressing resource shortages under crisis standards of care conditions. Additionally, this attachment should be used in conjunction with the other materials applied by the State of Michigan to address emergencies and disasters.

Background

Emergencies and disasters have often led to scarcity of medical resources and services. The history of epidemic outbreaks, natural disasters, and other mass casualty incidents has demonstrated the need to prepare for crisis standards of care across all medical, public health, and long-term care systems. These types of emergencies and disasters could seriously impact the state of Michigan, its health care and public health systems, transportation systems, economy, and social structure. Long-term care facilities may be faced with higher demands for services, increased employee absenteeism, disruption of supply chains, and increased rates of illness and death among members of the population served by the facilities.

Long-term care facilities have important responsibilities to provide essential services to many people across the state, responsibilities made harder in circumstances where there is a shortage of resources or a lack of cooperation from the public. Scarcity may affect long-term care facilities through the limitation of capacity to provide essential services.

It is of the utmost importance that long-term care facilities have the tools necessary to make ethically-appropriate decisions with regard to allocation of scarce medical resources and services. The objectives discussed in this attachment will assist long-term care staff in making important decisions that protect the lives and safety of public health workers and all members of the public.

Applicability of the Guidelines

The Guidelines outline several understandings that define their scope and purpose. The box below restates the factors described in more detail on pages 20-25 of the Guidelines:

1. Emergencies and disasters that impact public health give rise to unique challenges that can lead to, and be exacerbated by, scarcity of medical resources and services.

2. The likely conditions during emergencies—including conditions of medical resource and service scarcity—may be anticipated even in emergency circumstances that arise from sudden, extraordinary, or temporary events.

3. Emergency planners have an ethical duty to plan for and provide guidance related to the ethical allocation of scarce medical resources and services during emergencies or disasters.

4. The Guidelines apply to serious emergencies or disasters that impact public health, not everyday scarcity of medical resources and services. Therefore, the Guidelines envision allocation decisions being made in circumstances where Crisis Standards of Care are anticipated or have been implemented.

5. The Guidelines apply broadly and are meant to inform allocation decisions made by decision-makers at different levels of government and as well as the private and nonprofit sectors.

6. The Guidelines apply to allocation decisions affecting all medical resources and services that may become scarce during an emergency or disaster, including medicines, vaccines, medical equipment, medical devices, personal protective equipment, space, staff, and supportive capacity for health-related functions. However, allocation decisions will differ based on the type of resource and other circumstances.

7. The Guidelines employ ethical principles that take into account both individual health and population health.

8. The Guidelines should be implemented in ways that comply with all relevant laws at the federal, state, and local levels.

In addition to the considerations outlined above, four further understandings are applicable to the potential allocation of scarce medical resource and services in long-term care settings.

1. Scarcity induced by an emergency or disaster that impacts public health may undermine the functional or operational capacity of long-term care facilities and challenge their ability to fulfill core functions.

2. Decisions to implement contingency or crisis standards of care do not always occur abruptly and may affect different aspects of the facility operations and dimensions of care. Some facility operations and dimensions of care may face crisis-level shortages while others are functioning with conventional capacity and efforts to preserve conventional standards in one area may impact capacity in other areas. For example, a long-term care facility that takes action to preserve conventional levels of staff and PPE resources may require a general shift toward virtual visitations using remote communications technologies, while still allowing access to support persons for individuals with disabilities and compassionate care, including end-of-life visits by family, friends, and clergy.

3. Adaptation of protocols and care processes should involve the minimum modifications necessary to meet the needs of residents under the circumstances.

4. Scarcity within a long-term care facility may have much wider impacts than those directly resulting from the effects of the scarce resource on the operations of the facility itself. Limitations on the capacity of long-term care settings can exacerbate the overall availability of care settings and resources in the broader community and have negative public health consequences.

Ethical Framework for Long-Term Care Facilities

The Guidelines developed for the State of Michigan discuss in detail the principles and methods used to develop the ethical framework and the goals, ethical considerations, and allocation criteria to be used in making scarce resource allocation decisions during crisis standards of care. Several additional ethical considerations applicable to long-term care facilities are highlighted below.

- Planning and preparation of long-term care staff to respond ethically to situations of resource scarcity underlie both professional and systemic obligations to provide competent and just services to all members of the population.

- Preparing the staff, and residents and their families, for the types of difficult allocation decisions that may arise through public engagement and education, supports obligations of honesty and transparency, and adds legitimacy to and accountability for these difficult decisions if they need to be made in the future. Planning efforts should include input from families and guardians, and should involve guidance from the facility' long-term care ombudsman and the MDHHS Health and Aging Services Administration.[125]

- Distributive justice requires fair and equitable access, distribution, and opportunity to benefit from scarce resources for all people while pursuing improved outcomes for historically and currently disadvantaged populations. Allocation schemes and criteria that differ substantially between different facilities may result in inconsistent and inequitable outcomes. Cooperation between long-term care facilities, state and local public health departments, Medical Control Authorities, EMS systems, emergency management, hospitals, and government officials through the development of consistent allocation guidelines, by contrast, supports distributive justice and equity in access to scarce resources. The protection of disabled and marginalized individuals by pursuing distributive justice through equitable policies in these circumstances is imperative.

- Prudent planning to increase caches of certain items proactively or to plan for contingency strategies to steward resources, can mitigate potential shortages and is key to ethical planning. Such cache establishment will require multidisciplinary planning and leveraging of resources.

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[125] The Michigan Long Term Care Ombudsman Program provides advocacy services for long-term care residents. https://mltcop.org/. The MDHHS Health and Aging Services Administration is the primary unit within MDHHS focusing on aging and long-term care issues. https://www.michigan.gov/mdhhs/0,5885,7-339-73971_7122_108948---,00.html.

Ethical Duties of Long-term Care Facilities to Plan, Prepare, and Coordinate

Long-term care facilities have a duty to plan, prepare, and coordinate with partners to address resource shortages that create contingency or crisis standards of care during emergencies or disasters.[126]

Long-term care facilities have a duty to coordinate with other entities, organizations, and partners that participate in or are likely to be affected by scarcity in medical resources and services during emergencies and disasters. Long-term care facilities should coordinate planning and response efforts with state and local public health and emergency response infrastructure, area hospitals and other health care organizations, and regional prehospital entities such as Emergency Medical Services (EMS), Medical Control Authorities (MCA), and regional Healthcare Coalitions to understand the capabilities of these organizations during conditions of scarcity. Consistent and coordinated response efforts implementing contingency or crisis standards of care should be pursued in all stages of the planning and implementation process.

During a contingency or crisis situation, long-term care facilities may begin to coordinate and share resources with Regional Disaster Medical Advisory Committees (RDMAC) where they exist or the State Disaster Medical Advisory Committee (SDMAC). Some long-term care facilities are also subject to additional federal regulations and requirements and will have to comply with directives and guidance from CMS or other federal agencies.[127] Long-term care facilities that are affiliated with a larger corporate entity have a duty to utilize corporate resources to respond and adapt to resource shortages.

During emergencies and disasters, many long-term care facilities may have limited capacity that coexists with limited capacity in other related health settings, such as hospitals. Planning for contingency and crisis scenarios should account for potential situations where long-term care facilities could pool resources with each other or with other entities or take steps to train and repurpose personnel and/or volunteers to expand capacity and applicable legal orders or mutual aid agreements. Such planning should include a robust consideration of how, where, and what a crisis standard of care would entail and outline expectations for institutions and employees. Plans should consider the possibility of augmenting institutional capabilities through advance or "just in time" training of staff, if circumstances and legal authorities allow it. In many long-term care settings, personnel providing certain types of care and services may be regulated by licensure and/or other legal requirements. All facilities must continue to comply with legal requirements during emergencies and disasters.[128]

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[126] The Michigan Department of Health and Human Services maintains links to a number of relevant resources on its Long Term Care Disaster Planning Resources webpage, https://www.michigan.gov/mdhhs/0,5885,7-339-71548_54783_54826_64377_64378-297773--,00.html .

[127] See 42 CFR 483.1 et seq.

[128] For more detailed information about legal issues and scarce resource allocation, see Attachment 3.

Implementation

The implementation of a scarce resource allocation plan within a long-term care facility requires several discrete steps and to plan for different circumstances that may involve conventional, contingency, and crisis standards of care.

Long-term care facilities should address several important issues when planning to implement crisis standards of care. The sections below briefly address the issues of legal compliance, advanced care planning, visitation policies and practices, and transportation, transfer, and evacuation protocols.

Legal compliance

Legal requirements govern the operations of long-term care facilities and their personnel, and these legal requirements continue to apply in scarce resource situations. In some situations, the legal landscape may change during an emergency or disaster to allow for an effective response to the threat or an expansion of the capacity of institutions to provide needed care. Long-term care facilities may be impacted by these changes and therefore should monitor any legal changes to federal and state law closely and consult with legal counsel to ensure compliance.[129]

Specific legal issues that may arise in the context of long-term care facilities are:

- *The role of emergency orders*. The Governor or state agencies such as MDHHS, LARA, and MIOSHA may issue emergency orders in response to an emergency or disaster that temporarily change legal requirements related to the operations of long-term care facilities and the care of residents. Federal emergency orders may be issued as well, and would be applicable to long-term care facilities that are federally-certified.
- *Compliance with staffing requirements*. Staffing requirements, including professional licensure and certification requirements and required staffing ratios, may stay consistent during an emergency or disaster or may be modified by executive order, legislation, or regulatory action.
- *Expectations for the provision of health care and other services in long-term care when contingency or crisis standards of care are in place*. If crisis standards of care apply, the expectations of what care and services are reasonably required to be provided in long-term care settings may be impacted. Long-term care facilities must continue to adhere to legal standards outlined by federal and state government. The guidance provided in the indicators and triggers table in the appendix following this attachment also may provide a useful resource for determining how to respond under contingency and crisis standards of care.
- *Liability*. Long-term care facilities will be expected to adhere to the relevant standard of care applicable under the circumstances and could face liability if these standards are not met. Contingency and crisis standards of care may alter the expectations of what standards are reasonable during a time of resource scarcity. For further discussion of these issues, see Attachment 3 of this guidance document and consult with legal counsel.
- *Rights of residents and families*. The rights of residents must continue to be upheld during an emergency or disaster. Federal and state law protects the rights of residents in a number of areas, including requirements that long-term care facilities treat residents with respect and dignity, provide safe environments, and allow residents to exercise self-determination to make

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[129] For more detailed information about legal issues and scarce resource allocation, see Attachment 3.

personal decisions about medical care, finances, and other personal issues.[130] Long-term care facilities have an obligation to plan for upholding these rights even during conditions of resource scarcity. Legal requirements for emergency planning and infection control also will apply.[131]

Advanced care planning

Many residents of long-term care facilities have chronic and potentially-serious medical conditions. As a result, these residents may face greater risk of harm during emergencies and disasters. In natural disaster situations, residents with mobility limitations may have difficulty evacuating a facility. In pandemic situations, long-term care residents with disease co-morbidities may face a heightened risk of being infected with a respiratory disease and may exhibit more severe complications from infection, as was the case during the COVID-19 pandemic.

Many residents of long-term care facilities will have written advanced directives that indicate what care decisions they would like to be made on their behalf if they are no longer able to communicate their wishes. Federal and state regulations require regulated long-term care facilities to provide advance care planning information to residents and their families and/or guardians[132] and to take steps to implement processes to implement a resident's wishes. An emergency or disaster that results in a scarcity of resources could affect the implementation of advance care planning in two ways. First, resource scarcity may increase the likelihood that long-term care residents who face health crises will not have access to resources that would normally be available. Second, a serious emergency or disaster may also result in designated health care decision-makers not being available to make proxy decisions for long-term care residents.

Long-term care facilities should develop plans and protocols for scarce resource situations that can identify if residents have indicated that they don't wish to receive medical care and treatment (e.g., a do not resuscitate order)[133] and to ensure that resources are not withheld from residents who do want to receive medical care and treatment. Additionally, long-term care facilities should consider how to legally and ethically respond to scenarios where designated decision-makers are unreachable to provide guidance related to end-of-life decisions.[134]

Visitation policies

Emergencies and disasters may create circumstances that interrupt normal patterns of visitation for residents of long-term care facilities. Shortages of staff or space may make it difficult to accommodate visitors while still sustaining core functions. During infectious disease emergencies (such as COVID-19), infection control protocols may require visitation by non-residents to be limited or completely stopped for a period of time to avoid further spread of the disease. While federal law protects the rights of

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[130] 42 CFR 483.10.

[131] See, e.g., 42 CFR 438.73, 42 CFR 483.80.

[132] 42 CFR 483.10(g)(12).

[133] A do-not-resuscitate order is a document directing that "if an individual suffers cessation of both spontaneous respiration and circulation in a setting outside of a hospital, resuscitation will not be initiated." Michigan Code 333.1052(g).

[134] A useful resource for planning is the National Coalition for Hospice and Palliative Care's *Clinical Practice Guidelines for Quality Palliative Care* (4th ed., 2018), https://www.nationalcoalitionhpc.org/ncp/.

residents in federally-regulated facilities to receive visitors of their choosing, facilities may impose reasonable clinical and safety restrictions and limitations on visitation, which can include limitations during emergencies.[135] State law provides similar authority, and criteria restricting visitation to long-term care facilities were imposed periodically during the COVID-19 response.[136] If facilities need to make changes to their visitation policy, they should consult with their long-term care ombudsman to ensure resident rights are protected and that changes are communicated to residents, families and/or guardians.

In some staff shortage circumstances, long-term care facilities may consider sustaining or increasing visitation access for family members and friends, who can assist residents with basic care activities that staff are unable to provide. This approach will only be ethically appropriate if implemented in accordance with facility policy and legal risk assessment. Facility oversight of visitor-provided care is necessary to ensure that residents are not injured while receiving support from untrained visitors to the facility.

Long-term care facilities have an ethical obligation to consider how visitation policies can be adapted during emergencies and disasters to balance operational functioning and resident and staff safety with continued access to visitors for their residents. It may be ethically appropriate to limit visitation under circumstances where the health and well-being of residents, staff, and visitors may be imperiled. However, given the importance of visitation, it should only be limited or suspended if necessary to protect health, and not for purposes of efficiency, cost, or convenience. Long-term care facilities should consider how to mitigate the impacts of visitation restrictions on residents and work with local health departments and RDMACs where they exist to assess risks to visitors based on local circumstances. It may also be useful to develop more specific visitation guidance that permits certain types of visitors even when general visitation needs to be limited, consistent with federal and state guidelines.

Transportation, transfer, and evacuation

Resource shortages that limit access to medical transportation may impact transportation to and from long-term care facilities and may create challenges for residents who need to travel off site to receive medical care, such as dialysis. Depending on the emergency circumstances, EMS transportation capacity may be limited, and medical transportation for residents in long-term care facilities may receive lower priority than other patients needing EMS transport for urgent hospital care. See Attachment 1 for more information about EMS allocation protocols. Long-term care facilities should plan for transportation disruptions by contracting with transportation services that can provide emergency services if normal arrangements are disrupted or a rapid evacuation of residents is needed. All transportation should be accessible for residents and staff with mobility limitations.

Long-term care facilities faced with resource shortages during an emergency or disaster may need to respond by reducing the number of residents in their facilities to ensure that those residents that remain are able to receive sufficient levels of care. If the emergency or disaster involves infrastructural

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[135] 42 CFR 483.10(f).

[136] See e.g., MDHHS Emergency Order, Requirements for Residential Care Facilities (May 17, 2021).

damages, temporary or permanent evacuation of staff and residents may also be required. Long-term care facilities should develop plans in advance to transfer residents to other facilities as necessary to maintain their care and well-being during an emergency or disaster that creates resource shortages. MDHHS has a duty to assist in relocating residents of nursing homes if the facility is subject to an emergency closure.[137] Developing coordinated strategies and contingency plans for long-term care resident evacuation across regions and statewide through Memoranda of Understanding should be pursued by long-term care facilities along with local partners. Long-term care facilities also should participate in emergency preparedness planning and exercises.

In some emergency or disaster circumstances, capacity limitations in the broader health care system may result in the need to increase the number of residents served in long-term care facilities. Shortages of beds or staffing in the hospital system may create a need to transfer patients from hospital settings into long-term care settings. It also may be necessary to divert some patients into long-term care settings that would have ordinarily been cared for in hospital settings, so they can receive necessary care and support while waiting for hospital capacity to become available. Transfer or diversion of patients into long-term care facilities can be ethically acceptable if the transferred/diverted patients can be appropriately cared for and supported in long-term care settings and will not overwhelm the resources in the long-term care facilities that are accepting them.

Long-term care facilities must follow applicable federal and state guidance on accepting hospital patients. For example, pursuant to state legislation passed in October 2020, MDHHS implemented detailed guidance for long-term care facilities designated as Care and Recovery Centers to accept hospital patients who were confirmed to be COVID-19-positive.[138] MDHHS also outlined criteria for COVID-19 Relief Facilities to care for COVID-19-positive residents who become ill and do not meet a hospital level of care.[139]

Indicators and Triggers

The table that follows provides model indicators and triggers for long-term care facilities to use as a guide for developing situation-specific protocols for moving from conventional standards of care to contingency standards of care, from contingency standards of care to crisis standards of care, and from crisis standards of care back to conventional standards of care.

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[137] Michigan code 333.27186
[138] Michigan Public Act 231, October 22, 2020. See also, MDHHS Medical Services Administration Bulletin 20-72 (November 17, 2020).
[139] MDHHS Medical Services Administration Bulletin 21-40 (October 1, 2021).

Crisis Standards of Care

Public Health Indicators, Triggers and Tactics for Transitions Along the Continuum of Care[140]

Indicator Category	Contingency	Crisis	Return Toward Conventional
Surveillance Data	**Indicators:** • Epidemiological data indicates specific risks for populations in LTC settings. • Any case(s) above normal baseline of a transmissible disease is identified in a facility. • County hospital admissions and bed utilization indicated potential shortages of capacity. **Triggers:** • Suspected/confirmed new onset of resident infection(s). • Public health alert that community cases of infectious disease are rebounding. **Tactics** • Anticipate activating the emergency plan and standing up an incident command system to support its implementation. • Relevant state and local authorities, including MDHHS and local departments of health, notified of new positive or presumed positive resident case(s).	**Indicators:** • Internal data indicate benchmarks and thresholds for critical resources and maximum care capacity will be exceeded. • Any case(s) above normal baseline of a transmissible disease is identified in a facility, in which the facility is not dedicated to caring for residents with the disease. • County hospital admissions and bed utilization indicated potential shortages of capacity. **Crisis Triggers:** • Inability to continue to deliver care to meet resident needs. • Weekly number of cases of a transmissible disease in community spiked rapidly. • Number of cases of a transmissible disease in facility increasing week over week, signaling growing outbreak. **Tactics:** • Initiate the emergency plan, which includes activation of incident command system, and the crisis communication plan.	**Indicators:** • Two incubation periods of the transmissible disease have passed since the last suspected, probable, or confirmed case(s) in the identified the staff/resident population. (Incubation periods are based off onset date of symptoms or specimen collection date if onset is not available). • Downward trajectory (with no rebound) of case numbers returning to normal baseline. **Triggers:** • Community and facility case status meets criteria set by MDHHS and local health departments (and if applicable, LARA and/or CMS) for returning to conventional operations. **Tactics:** • Facility and staff return to pre-contingency workload. • Facility prepares for next infection peak/wave of epidemic. • Facility continues to monitor for possible resurgence of cases.

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[140] These indicators, triggers, and tactics are examples to be used in developing crisis standards of care protocols and will need to be adapted to apply to specific emergencies and disasters.

Public Health Indicators, Triggers and Tactics for Transitions Along the Continuum of Care

Indicator Category	Contingency	Crisis	Return Toward Conventional
Communications Infrastructure	**Indicators:** • Communications are delayed because of partial damage to infrastructure. • Communications systems disrupted within and external to jurisdiction. • Resident communication/contact with family, friends, and some (typically onsite) service providers (e.g., physical therapists) is limited in terms of visitor numbers, frequency, or modality (e.g., outdoor v. indoor visits). **Triggers:** • Staff shortages or facility circumstances (e.g., outbreak) limit in-person visits by family, friends, clergy and some non- essential service providers, except when needed to ensure that people with disabilities are not denied reasonable access to needed support persons, and in compassionate care situations. **Tactics:** • Implement innovative methods to help residents remain connected with family, friends and one another while maintaining robust infection control practices. • Leverage telehealth to help maintain resident access to specialty care. • Coordinate risk communication strategies with governmental public information officials.	**Indicators:** • Communications infrastructure is severely damaged and will take weeks to restore. • Resident communications with family, friends, representatives, and non-essential service providers are limited, even through virtual/audio means. **Crisis Triggers:** • Extreme staff shortages limit personnel availability to support critical communications functions (e.g., resident virtual visits with family; telemedicine visits with non-essential service providers). **Tactics:** • Request administrative and communications support from state and local authorities, corporate office, or local/regional Healthcare Coalition partners. • Work with Long-Term Care Ombudsman to communicate with residents and their families/guardians.	**Indicators:** • Communications are returning to conventional capacity. • Resumption of in-person visitation allowed for resident friends, families, clergy, and non-essential health care personnel and contractors. **Triggers:** • Facility entry and in-person visitation allowed with screening and additional precautions (e.g., face mask/cloth face covering for visitors). **Tactics:** • Ability to use standard communication and reporting mechanisms reestablished.

Public Health Indicators, Triggers and Tactics for Transitions Along the Continuum of Care

Indicator Category	Contingency	Crisis	Return Toward Conventional
Community Infrastructure	**Indicators:** • Community infrastructure disrupted within and external to jurisdiction. • Utility failures impacting facilities. • Utility failures impacting residents who depend on technology (e.g., ventilators or dialysis). • X% of local referral hospitals' ICU and/or inpatient hospital beds filled. **Triggers:** • Interruption or contamination of water supply, food supply, transportation, or utilities. • Referral hospitals have communicated they are functioning under contingency standards of care. **Tactics:** • Monitor hospital capacity and coordinate threshold for EMS transport when needed based on health care system demand.	**Indicators:** • Water supply contamination. • Serious, long-term disruption of utility services in facility or community. • X% of local referral hospitals' ICU and/or inpatient hospital beds filled. **Crisis Triggers:** • Reports of disturbances at health care organizations or public shelters, etc. • Prolonged and widespread utilities (power, natural gas) outages. • Referral hospitals have communicated they are functioning under crisis standards of care. **Tactics:** • Request administrative, utility, and infrastructure support from state and local authorities, corporate office, or local/regional Healthcare Coalition partners. • Collaborate with state/local authorities and Healthcare Coalition stakeholders (including EMS and hospitals) to establish alternative care sites to manage resident surges and transfers.	**Indicators:** • Utility restoration allows facilities and residents to return to conventional capacity for providing and receiving care. • Local referral hospital's ICU and/or inpatient hospital bed return to conventional availability. **Triggers:** • Evacuated residents return to long-term care facilities. • Referral hospitals have communicated they are functioning under conventional standards of care. **Tactics:** • Ability to use standard care mechanisms reestablished. • Routine protocols and processes for resident transfer/transport.

Public Health Indicators, Triggers and Tactics for Transitions Along the Continuum of Care

Indicator Category	Contingency	Crisis	Return Toward Conventional
Staff	**Indicators:** • Increasing absenteeism among staff; increased demand for staffing. • Travel restrictions, reduced mass transportation, or damaged infrastructure impedes movement of staff to work. • Certified nursing aide (CNA) and licensed nursing staff to resident ratios reach X. **Triggers:** • Increased staff absences (due to staff infections, mental health, or social factors like transportation or housing). • Management/owner and state/local agencies notified of decrease in nursing staff to resident ratios. **Tactics:** • Limit the admission of new residents into the facility. • Transfer residents to other facilities for care. • Change staffing patterns and hours. • Expand staff, if feasible. • Modify services provided based on staff availability. • Consider provisions needed to allow family members to augment care. • Expand contractual staff. • Bring in extra staff from related corporate workforce, if applicable.	**Indicators:** • Increasing absenteeism reduces ability to provide critical services to residents. • Contingency staffing strategies maximized. • CNA and licensed nursing staff to resident ratios reach X. **Crisis Triggers:** • Unable to provide critical services missions with appropriate staff. • Management/owner and state/local agencies notified nursing staff to resident ratios fall below regulatory thresholds. **Tactics:** • Utilize healthcare and trained ancillary workers (e.g., CNA students, physical and occupational therapy providers) to provide supportive care as allowed by state and federal authorities. • Request state assistance from the National Guard and other government entities. • Utilize office and other ancillary personnel to assume supportive duties, such as communication with families and serving meal trays. • Work with LARA to expedite licensing for out of state healthcare professionals • Utilize PRN float pool. • Allow family member to provide resident care as allowed by state and federal authorities.	**Indicators:** • Impact of incident decreasing. • Staff absenteeism is decreasing. • Staff communicating need to initiate activities to "return to normal operations" CNA and licensed nursing staff to resident ratios return to mandated regulatory levels or pre-crisis operating levels, whichever is greater. **Triggers:** • Services able to be provided with adequate staffing. • Temporary PRN float pool and other emergency staffing sources are not required. **Tactics:** • Initiate analysis of impact of CSC implementation on personnel. • Revert to conventional staffing patterns/hours/duties. • Maintain relationships for staffing sources in case of future shortages.

Public Health Indicators, Triggers and Tactics for Transitions Along the Continuum of Care

Indicator Category	Contingency	Crisis	Return Toward Conventional
Space/Infrastructure	**Indicators:** • Long-term care facilities have increased resident census that threatens to exceed capacity. **Triggers:** • Infrastructure loss or damage in community. • Damage to facility limits capacity to provide care and services. • Local hospital capacity may require long-term care facilities to accept early discharges from hospitals to reduce hospital capacity. **Tactics:** • Long-term care facilities accepting early discharges from hospital. • Work with federal, state, and local regulators (e.g., DHHS, CMS, EPA, LARA, MIOSHA, and Fire Marshall) for permissions to utilize additional needed space for resident care. • Work with Long-Term Care Ombudsman to develop policy and communicate with residents and their families/guardians. • Local public health departments work with their local health care organizations and regional Healthcare Coalitions to ensure that sites where patient care is provided including skilled nursing facilities, are prioritized for support.	**Indicators:** • Long-term care facilities have narrowed admission criteria to maximize available resources. **Crisis Triggers:** • Long-term care facilities have implemented all medical surge strategies and should seek alternate care site locations for inpatient care overflow. • Damage to facility requires evacuation of residents from facility. **Tactics:** • Implementation of protocols to establish alternate care sites or transfer patients to other locations for care. • Work with Long-Term Care Ombudsman to develop policy and communicate with residents and their families/guardians. • Follow guidance of state disaster medical advisory committee to review status of CSC guidelines for long-term care facilities.	**Indicators:** • Decreasing demand for admission to long-term care facilities. **Triggers:** • Decreasing census for long-term care facilities allow the resumption of conventional levels of care. • Damage to facility repaired allowing the resumption of conventional levels of care. **Tactics:** • Facility operations and patient spacing return to normal.

Public Health Indicators, Triggers and Tactics for Transitions Along the Continuum of Care

Indicator Category	Contingency	Crisis	Return Toward Conventional
Supplies	**Indicators:** • Local and state monitoring of supplies and inventory data indicate shortage/potential shortage. • Benchmark supply availability to disease reporting and mortality data. • Onsite supplies for critical medications, PPE, and supplies are adequate, but order fulfillment times exceed historical average by X days. **Triggers:** • Decreased availability of critical medical resources anticipated (e.g., pharmacy has notified facility of shortages of medications). **Tactics:** • Prioritize resource allocation by urgency of need and risk (e.g., extended use of N95s and face masks). • Initiate contingency preservation strategies for PPE and medications to stretch available supplies until availability increases. • Collaborate with pharmacy and other vendors to forecast needs and ensure adequate supply of required medications and medical supplies (e.g., catheters, oxygen cylinders and concentrators).	**Indicators:** • Demand forecasting/projections exceed available critical resources. • No national source of specific supplies available. • Current PPE inventory inadequate even with contingency measures in place and timeline for resupply unknown . • Access to critical medication, including IVs, is limited to one-week supply or less. **Crisis Triggers:** • Shortages of critical equipment, medications, or vaccine present significant risk to persons who cannot receive them. • National guidance on rationing distributed. • Demand for key equipment and supplies exceeds available resources requiring rationing of equipment and supplies. **Tactics:** • Implement crisis strategies such as limited reuse of N95s and face masks. • Ration use of critical medications/medical supplies. • Collaborate with pharmacy to substitute available medications for those that are unavailable. • State public health circulates guidelines on allocation of resources.	**Indicators:** • Additional supplies are available and additional resources are obtained. • Demand for resources is declining as event wanes. **Triggers:** • Demand no longer exceeds available resources. **Tactics:** • Stockpile supplies and maintain relationship with multiple sources who can provide supplies in case of future outbreak or crisis. • Reestablish normal supply chains.