VERMONT

DEPARTMENT OF HEALTH

Vermont Crisis Standards of Care Plan

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Version 1.1

I. Executive Summary

The mission of the Vermont Department of Health is to protect and promote the best health for all Vermonters. The Department strives to accomplish effective and integrated public health programs, communities with the capacity to respond to public health needs, maintain internal systems that provide consistent and responsive support, ensure a competent and valued workforce that is supported in promoting and protecting the public's health, facilitate a public health system that is understood and valued by Vermonters and ensure health equity for all Vermonters. To accomplish this, Vermont Department of Health must ensure plans are in place to support the department's mission and to sustain its public health goals during routine times and crisis situations.

This CSC Plan is intended to provide comprehensive guidance and support to manage disasters and emergencies within the state of Vermont that threaten healthcare and public health. This plan provides the structure for coordinating response activities and guidelines for altering normal patient care and treatment decisions. This plan is designed to assist healthcare providers in their decision making with the intention of maximizing patient survival and minimizing the adverse outcomes that might occur due to changes to normal operations when the volume of patients surpasses the available capabilities and capacity of healthcare providers/facilities and normal standards of care can no longer be maintained.

The CSC Plan is assigned as an annex of the Vermont Department of Health Emergency Operations Plan (EOP). Utilization of this plan during a crisis situation requires a declaration of emergency by the Governor. This plan may be utilized among a range of response measures prior to and during a crisis situation.

II. Introduction, Purpose and Scope of Plan

The purpose of the CSC Plan is to provide a framework which includes the identification of tools for altering normal patient care, staffing, medical equipment, supplies, and treatment decisions in any type of catastrophic disaster or massive public health emergency wherein demands related to patient care and public health radically exceed available resources. When the volume of patients and their needs far surpasses all available capabilities and capacity of healthcare providers/facilities and the continued use of normal standards and operations will constitute a failure of care, drastic changes including implementation of CSC must be implemented.

This CSC Plan is designed for use by both policymakers in public health, emergency response, acute patient care and long-term care positions, as well as, direct patient care providers themselves when confronting massive public health emergencies requiring the decision to move from normal operations to crisis operations and the return to normal operations when conditions improve. This CSC Plan describes the activation process used by the State of Vermont and health providers during a catastrophic disaster or massive public health emergency as well as the roles and responsibilities for each. This CSC Plan provides ethical guidance as health care providers face the complex decisions of reallocation of scarce resources away from patients who either will live or will expire, independent of whether resources or care are provided or not.

There is a continuum of the provision of health care from normal standards of care, to contingency care, to CSC. This CSC Plan is intended to describe the assignment of the limited available resources to those patients that will perish if they do not receive the resources but will likely survive if they do receive the resources. Regardless of the location or magnitude of an event, this Plan is to be implemented only during a declared State of Emergency in Vermont. Appendices have been included to provide tools to assist with ethical decision-making and triage of allocation of scare resources regarding some specific areas.

The purpose of this plan is to provide an ethical, reasonable, transparent and flexible framework to achieve the following:

- Provide guidance to Vermont healthcare providers, systems and facilities to support consistent and equitable resource allocation decisions during a catastrophic disaster;
- Optimize the quality of care that can be provided to the largest number of patients presenting to an overwhelmed healthcare system (population-based healthcare);
- Minimize serious illness and death by administering a finite pool of resources to those who have the greatest opportunity to benefit from them;
- Maximize self-triage and self-care by the general public using a variety of media to deliver public health messages;
- Provide a legal framework for developing triage decisions and utilizing nonstandard healthcare facilities and resources in an emergency;
- Maximize resource and public safety protection to allow the healthcare delivery system to operate effectively and recover quickly following the CSC event.

A. Important CSC Plan concepts:

- This CSC Plan is not considered a substitute for healthcare emergency management planning. These standards are intended to guide the allocation of scarce resources after all other measures have been exhausted.

- Strategies and options must be considered and planned in advance, since consideration and planning may be impossible during a catastrophic disaster or massive public health emergency.
- This CSC Plan is not a stand-alone plan for healthcare providers. The CSC Plan exists within the framework of existing all-hazards response plans and must be integrated into all levels of healthcare planning.
- Deployed strategies and options must be proportional to the resources available. The level of risk strategies deployed must be a function of resource availability.
- Healthcare services and facilities may not have an option to wait for State or other agency action before implementing CSC in a no-notice event; local circumstances may force local decision-making and behavior.
- Stewardship of resources, duty to care, soundness, fairness, reciprocity, proportionality, transparency, and accountability are guiding ethical elements of this Plan. This ethical foundation has been integrated into a set of public health and emergency response principles to establish this common framework for statewide CSC.

III. Situation and Planning Assumptions

A. Situation

The State of Vermont's population as of the last census is 623,657 residents. There are fourteen (14) counties in Vermont; these are: Addison, Bennington, Caledonia, Chittenden, Essex, Franklin, Grand Isle, Lamoille, Orange, Orleans, Rutland, Washington, Windham and Windsor counties. The ten (10) largest towns in Vermont are Burlington, Essex, South Burlington, Colchester, Rutland City, Bennington, Brattleboro, Milton, Williston and Hartford. In addition to the resident population, robust year-round tourist and student populations add thousands to the state's population.

The Vermont Department of Health practices ongoing disease, illness and injury surveillance to maintain situational awareness of the health status of Vermonters. While some public health emergencies progress more slowly and allow time for some preparation, other public health emergencies are sudden and allow no time for preparation. Ongoing Threat and Hazard Identification and Risk Assessments, as well as, health surveillance efforts help policymakers and providers better prepare for and respond to massive public health emergencies.

The behavioral health and wellbeing of everyone including survivors of and responders to massive public health emergencies must be considered, trained and treated during any massive public health emergency. Vermont currently faces many challenges adequately caring for those individuals in need of mental health care. Vermont's behavioral health care system will face even greater challenges meeting the needs of those in need of behavioral health care during a massive public health emergency.

During a catastrophic disaster or massive public health emergency, the Health Department Health Operations Center (HOC) will be activated and will monitor Health and Medical Services across the state. The Vermont Department of Health HOC will provide situational awareness to Vermont Emergency Management (VEM). Upon assessment of a catastrophic disaster or massive public health emergency, VEM may activate the Vermont State Emergency Operations Center (SEOC). As needed, the SEOC may coordinate additional support services, other state agencies, local and regional public and private partners and the federal government. The SEOC may be partially or fully activated, and at such time, the HOC will become a supporting agency to the SEOC.

B. Planning Assumptions

A catastrophic disaster or massive public health emergency can occur in the state at any time, and at any place. Such disaster or emergency may create significant human suffering, property damage and economic hardship to individuals, families, communities, government and businesses. Vermont Department of Health, in conjunction with other State agencies and partners, is primarily responsible for health and medical services and health emergency preparedness and has shared responsibilities with the State and Federal government for national security preparedness. Vermont Department of Health recognizes that there are many emergency situations that may directly produce severe consequences and the varying degrees of impact will affect the response. Relating to this CSC Plan, the following assumptions are valid:

- A catastrophic disaster or massive public health emergency event occurs which leads to a severe and continued lack of a medical resource which could include staffing, material, or space.
- There could be a lack of the resource, or an extreme increase in the number of patients needing the resource.

- The lack of the resource results in a crisis within the health care delivery continuum which results in an increase in morbidity and/or mortality among many patients.
- Adequate alternatives for the limited resources will not be available in time as to prevent further injury, illness, or death.
- All local, regional, and broader reaches for the limited resources will be inadequate. The situation may be the result of a lack of the resource itself or the inability to deliver the resources to the needed area due to one or more failures of critical infrastructure or other factors.
- Health care administrators and providers will lack the resources to limit the crisis and resolution will not occur soon enough to prevent further loss of life.
- Agencies responding to a CSC situation may utilize non-approved drugs or devices following an FDA issued emergency use authorization.

IV. Continuum of Care: Conventional, Contingency and Crisis Standards

A. Facility and Agency Triggers

The conventional indicators listed below represent normal levels of surge for most healthcare facilities. In general, if one or more contingency or crisis level indicators are true, then the healthcare facility may decide to activate contingency standards of care or follow the prescribed process to request CSC Plan activation.

The indicators listed below provide general guidance for hospitals and other healthcare facilities in determining the level of care during a catastrophic disaster or massive public health emergency. These indicators should serve as triggers for activating facility-level plans and procedures and may also prompt resource requests to the state, Health Care Coalition (HCC) and other healthcare providers and facilities. This CSC Plan may be triggered by numerous circumstances involving life-threatening resource limitations, sudden uncontrolled increase in patient volume or needs or both (see indicators and triggers section below).

1. State, Regional and Local 911 Dispatch Triggers and Continuum of Care

911 Dispatch Triggers and Continuum of Care

Conventional Indicators for 911 Dispatch
• One or more dispatch centers at capacity • Dispatch center call wait time may be minimally impacted
Contingency Indicators for 911 Dispatch
• Some 911 dispatch calls forwarded to other centers • Additional 911 dispatchers requested to accommodate increase in calls • One or more healthcare facilities or EMS services unable to receive patients or respond to calls • Telephone triage used to prioritize calls
Crisis Indicators for 911 Dispatch
• Most 911 dispatch calls lost, dropped or forwarded to other centers • Joint Information Center (JIC) activated to facilitate public communications efforts • Vermont 211 system activated to provide emergency health messaging and instructions to public • Additional 911 dispatchers, telephone triage and Vermont 211 unable to accommodate 911 call volume • All local, regional, and broader reaches for 911 dispatch resources are unavailable or inadequate to prevent further increased patient morbidity and/or mortality • Despite all efforts by all 911 dispatch, public health, health care providers and others, extensive patient morbidity and/or mortality cannot be eliminated but merely lessened

Emergency Medical Services (EMS) Triggers and Continuum of Care

Conventional Indicators for EMS
• Public safety answering point/Public safety communication center at or near capacity • Standard response capacity at or near capacity • Low acuity calls holding or response with single resource unit • Requests for mutual aid

Contingency Indicators for EMS
• Public safety answering point/Public safety communication center capacity fully utilized; additional communications center staff called in; incoming calls holding • Demand surpasses standard response capability; additional EMS staff called in; additional units staffed • Deferred response for low acuity calls • Closest destination healthcare facilities on diversion or not accessible • Require mutual aid or air medical transport to supplement local ambulance transport resources • Limitations on staff hours of service suspended • Staff absenteeism adversely affects response capability • Local EOC activated
Crisis Indicators for EMS
• SEOC activated • Vermont Department of Health HOC activated • Regional destination healthcare facilities on diversion status or not accessible • No response to low acuity calls • All local, regional, and broader reaches for EMS resources are unavailable or inadequate to prevent further increased patient morbidity and/or mortality • Despite all efforts by public health, health care administrators, medical providers and others, extensive patient morbidity and/or mortality cannot be eliminated but merely lessened

Healthcare Facility Triggers and Continuum of Care

Conventional Indicators for Healthcare Facilities
• Beds and usual patient care areas fully occupied • Normal staffing level fully present and utilized • Cached and normal supplies in use
Contingency Indicators for Healthcare Facilities
• Other patient care areas re-purposed (e.g. PACU providing ICU-level care) • Staff extension deployed • Conservation, adaptation, and substitution of supplies with selective re-use of supplies for individual patients • Hospital on diversion status
Crisis Indicators for Healthcare Facilities
• Hospital Emergency Operations Center (EOC) activated • Healthcare facility unsafe or closed • Trained staff unavailable and unable to care for patients • Critical supplies exhausted requiring re-allocation of life-sustaining resources • Patient transfer insufficient or impossible • All local, regional, and broader reaches for healthcare facility resources are unavailable or inadequate to prevent further increased patient morbidity and/or mortality • Despite all efforts by public health, health care administrators, medical providers and others, extensive patient morbidity and/or mortality cannot be eliminated but merely lessened

State of Vermont Triggers and Continuum of Care

Conventional Indicators for the State

- One or more hospitals at capacity
- Patient transfer may be impacted

Contingency Indicators for the State

- Local jurisdictions initiate resource requests
- Medical countermeasure availability declining
- One or more healthcare facility damaged or on diversion status
- Patient transfer is limited across all or part of state with limited transfer capability across state lines

Crisis Indicators for the State

- SEOC activated
- Medical countermeasures exhausted
- Patient transfers insufficient or impossible statewide
- All local, regional, and broader reaches for resources are unavailable or inadequate to prevent further increased patient morbidity and/or mortality
- Despite all efforts by public health, health care administrators, medical providers and others, extensive patient morbidity and/or mortality cannot be eliminated but merely lessened

Vermont Department of Health Triggers and Continuum of Care

Conventional Indicators for Vermont Department of Health

- One or more District Offices at capacity
- Services are managed to meet client needs

Contingency Indicators for Vermont Department of Health

- Local jurisdictions initiate health resource requests
- Health resource availability declining
- One or more District Offices damaged or closed
- Client and resource transfers are limited due to transfer capacity or infrastructure constraints

Crisis Indicators for Vermont Department of Health

- HOC activated
- Public health resources exhausted, and personnel diminished
- Client and resource transfers impossible statewide and unable to meet basic client needs
- All local, regional, and broader reaches for resources are unavailable or inadequate to prevent further increased client and population morbidity and/or mortality
- Despite all efforts by District Office and Central Office public health professionals, healthcare facility administrators, medical providers and others, extensive patient morbidity and/or mortality cannot be eliminated but merely lessened

V. Organization and Assignment of Responsibilities

A brief outline of key roles and responsibilities related to the activation of the CSC Plan is in the table below.

RESPONSE ENTITY	ROLE	RESPONSIBILITIES
Commissioner, Vermont Department of Health	Lead health official; authorizes activation of CSC Framework	• Approve implementation of CSC Plan when necessary during a public health emergency/disaster response; • Serve as liaison to the governor's Office; Issue commissioner's orders as appropriate to the event to protect the public's health
Federal Emergency Management Administration (FEMA)	Response and recovery coordination and assistance	• Assist response efforts providing resources and response management personnel • Assist recovery efforts providing resources, funding and response management personnel
Governor, State of Vermont	Oversee response and ensure coordination among relevant state agencies	• Proclaims a state of emergency within the entire State or any portion or portions of the State • Requests Federal Emergency or Disaster Declaration • Issues emergency declarations and specific emergency orders to address incident-specific issues • Ultimate authority for State response
HCC	Regional coordination of health/medical response	• Information sharing and coordination of activities between public health, hospitals, EMS, and emergency management • May provide/develop regional policies for disaster response/crisis care • Help manage resources between hospitals in the area • May coordinate consistent patient care within the region • May provide single point of contact for patient transfer coordination
Health Care Facilities	Acute patient care	• Implement surge plans including crisis care plans, implement facility or regional triage/treatment plans as required, coordinate information and resource management with other facilities in the region via the HCC
Healthcare Provider and Hospital Networks	Regional coordination of health/medical response	• Facilitate communication among network affiliates • Facilitate resource allocation among network affiliates • Facilitate patient care and surge coordination among network affiliates • Facilitate financial management and coordination among network affiliates
Local Emergency Management	Local lead for Emergency Management	• Request resources locally or through SEOC • Can declare an emergency and request the Governor to find that a state of emergency exists

		• Make, amend and rescind such local orders, rules, and regulations as may be necessary for emergency management purposes • Provide essential elements of information to local and State agencies government
Local EMS Agency/First Responders	Emergency Medical response and patient transport	• Frequently the first personnel on scene to assess and report on the situation, provide initial triage and care and help determine what additional resources may be needed • Support and assist arriving ambulance personnel on scene • Coordinate patient destination hospitals to the degree possible to avoid overloading a single facility • Develop policies for crisis care situations • Interface with local hospitals and regional HCC to share information/status • Adjust response and transport guidelines to reflect the situation at the hospital (e.g., if all hospitals overwhelmed may recommend self-transport to clinic for non-emergent problems)
Medical Reserve Corps (MRC)	Volunteer medical response and support	• MRC volunteers include medical and public health professionals and other community members without healthcare backgrounds • MRC units strengthen public health, improve emergency response capabilities and build community resiliency • MRC units prepare for and respond to natural disasters and other emergencies affecting public health
Region 1 US Health and Human Services (HHS)	Regional coordination of health/medical response, support agency	• Coordinate regional resource management • Provide response management personnel • Coordinate communication between state and federal partners
Regional EMS Programs	Regional coordination EMS response	• Information sharing of activities between EMS, hospital, emergency management and local, regional and SEOC • Assist in coordination of EMS resources and emergency management in collaboration with the State, Regional or Local EOCs • May provide or develop regional procedures for EMS disaster response

Department of Health Division of Emergency Preparedness, Response and Injury Prevention	State lead agency for EMS disaster issues	• Support hospitals by regional and state-level coordination of EMS surge capacity implementation • Carry out duties and responsibilities assigned to the Vermont State Emergency Management Plan (SEMP) and the Governor's Executive Order 15-13 Assigning Emergency Responsibilities to State Agencies. • Deploy Ambulance Strike Teams (AST), MCI buses, additional ground or air ambulances from regions as requested by local EMS agencies through the State Duty Officer or SEOC • Request inter-state Emergency Management Assistance Compact (EMAC) or federal (i.e., Federal Ambulance Contract) resources via VEM • Communicate suspension of selected regulatory statutes/rules to facilitate crisis care activities during declared disaster • Provide support to regional HCC response through regional EMS system program personnel • Support local EMS medical directors by providing guidance on patient care guideline development through the State EMS Medical Director and the Medical Director Standing Advisory Committee
Department of Health Immunizations and Infectious Disease	Epidemiology and Infectious Disease Control expertise	• Develop impact assessment, provide infection control information, develop public health population-based intervention recommendations based on expert input and CDC guidance
Department of Health Laboratory	State Public Health Laboratory	• Provide environmental sample testing, water testing, infectious disease testing, food safety testing and other testing • Provide medical and health laboratory clinical consultation • Provide laboratory inspection for drinking water, drug testing and HIV testing
Department of Health Office of the Chief Medical Examiner (OCME)	State lead for Mortuary Operations Management	• Confirm the identification of human remains, • Document and certify the cause and manner of death, • Coordinate the release of the remains to the next-of-kin.
Vermont 2-1-1	Telephone information system	• Vermont 2-1-1 is a telephone number providing callers with important community information and resources, like emergency food and shelter, disability services, senior services, health care, behavioral counseling, childcare, transportation agencies, and more

Vermont Department of Disabilities, Aging, and Independent Living (DAIL), Division of Licensing and Protection	State lead agency for health care compliance	• Request CMS 1135 waivers as required during response to allow patient billing when usual conditions cannot be met
Vermont Department of Health	State lead agency for Health and Medical Services	• Facilitate health care resource requests to state/inter-state/federal partners • Request State of Emergency Declarations and governor's emergency orders as required to support response • Activate other consultative subject matter teams and SMEs as needed (e.g., EMS, Ethics, and Hospitals Surge) help inform specific actions and develop outreach strategies • Provide clinical guidelines/guidance • Request specific emergency orders/actions by the governor's office • Support HCC information exchange and policy development • Provide treatment and other health related guidance for clinicians, local and tribal public health and community members, based on the nature of the event • Vermont Department of Health Public Information Officer (PIO) will develop Vermont Department of Health communications to public and providers on the crisis issues. • Coordinates Vermont Department of Health response; may be given authority by the commissioner to activate CSC Plan components • Key liaison to HCCs in the State
Vermont Department of Public Safety, Answering Point/9-1-1 Dispatch Center	Support agency	• Answers 911 calls • Provides emergency medical dispatch support (if equipped, may transfer to secondary center) • Determines appropriate response based on situation/algorithms/Standard Operating Procedures • Provides communication point for incident responders • May assign radio talk groups during an incident
Vermont Department of Public Safety, VEM, SEOC	State lead for Emergency Management	• Coordinate the activities of all emergency management organizations within the state • Maintain State-wide situational awareness overall to disaster response and recovery • Make a recommendation to the Governor to proclaim a state of emergency within the entire State or any portion or portions of the State.

		• Recommend to the Governor that a Federal Disaster Declaration request be made to the President
Vermont Department of Public Safety, VT State Hazardous Materials (HAZMAT) Response Team	State lead for Hazardous Materials Management	• Vermont HAZMAT Team assists all fire departments in Vermont with managing hazardous materials incidents
Vermont National Guard	Emergency Medical response, resource coordination and transport and patient tracking and transport	• Provide air and ground resource transport services • Provide air and ground patient transport services • Provide logistics support • Provide specialized medical services

VI. Statewide Concept of Operations

A. Threat Assessment and Reporting to Vermont Department of Health

The Vermont Department of Health constantly receives information and data from a variety of sources. During a catastrophic disaster or massive public health emergency, information may be collected from a variety of sources such as:

- Reports, alerts, or requests for assistance from local, county and state agencies as well as other external sources
- Media
- Schools
- Results from surveillance systems or sample analyses
- Vermont Department of Health surveillance data and collected information
- VEM and other state partners
- Federal Emergency Management Agency (FEMA), Centers for Disease Control and Prevention (CDC), and other federal partners

B. Initial Assessment of Indicator Information

In the event of a catastrophic disaster or massive public health emergency, the Vermont Department of Health must collect indicator information, assess this information and report findings to the SEOC. The Department of Health Commissioner or designee in coordination with the Vermont Department of Health HOC is responsible for conducting initial assessment and communicating additional notifications to appropriate individuals and partners at the local, state and federal level.

The Commissioner of Health or designee and Vermont Department of Health HOC receiving the indicator information, will apply the following considerations to conduct the initial assessment:

- Source of the information
- Quality and quantity of the information
- Severity, magnitude, and timelines regarding the potential or actual health threat or threat of business interruption
- Credibility of prior testing done to generate the information for public health threats
- Other intelligence/information to corroborate or support the information
- Anticipated need to provide information to the Vermont Department of Health staff, the public, media, or other response partners
- Are there multiple cases of a rare or novel illness, or illnesses with an unknown cause?
- Is the incident occurring in multiple jurisdictions?
- Is the incident causing or likely to cause serious morbidity or mortality?
- Is there an association with a larger event?

C. Activation Framework

EMS, healthcare providers and healthcare facilities may be impacted by a catastrophic disaster or massive public health emergency before government agencies become aware of the emergency. This may require EMS or healthcare facility activation of emergency procedures to manage the event. Local services and facilities impacted by the emergency must notify the SEOC as soon as possible to provide situational awareness, request a declaration of a State of Emergency and request activation of this CSC Plan. Such local request for a declaration of a State of Emergency and activation of this CSC Plan will direct State efforts toward disaster and emergency medical assistance. Based upon the circumstances of a catastrophic disaster or massive public health emergency, this CSC Plan may be activated or

deactivated independent of other state, local or other facility emergency planning and operations implementation. Based upon the circumstances of a catastrophic disaster or massive public health emergency, recovery may be managed according to other plans and operations not a part of this CSC Plan. The Vermont Commissioner of Health and the Director of VEM will integrate steps of this CSC Plan with the Vermont SEMP, Vermont Department of Health EOP and other plans and operations.

In the event of a catastrophic disaster or massive public health emergency requiring the initiation of strategies discussed in this CSC Plan, the SEOC will be activated with the Vermont Department of Health HOC serving as the lead partner for health and medical response. The Vermont Department of Health HOC will coordinate with regional EMS and healthcare systems. The HCC will be notified to assist with information coordination, resource sharing and surge response among health care providers. Some Vermont hospitals and healthcare facilities have business and medical network affiliation agreements with other hospitals and medical centers residing both in Vermont and in surrounding states. Consequently, during a catastrophic disaster or massive public health emergency, such network affiliations may facilitate access to a wider range of resources including out-of-state resources. Alternatively, such affiliation agreements may involve supporting out-of-state needs and placing additional burden on Vermont resources.

Responding to and mitigating a catastrophic disaster or massive public health emergency should only address the current shortfall and should be no more extreme than necessary. Large-scale disasters are dynamic and may shift between contingency and crisis and back to contingency as circumstances evolve. The role of the SEOC and the Vermont Department of Health HOC is to monitor healthcare system needs and assure consistency of response. The SEOC and the Vermont Department of Health HOC will facilitate and coordinate CSC Plan activation as needed. The SEOC and the Vermont Department of Health HOC will also coordinate CSC Plan demobilization when circumstances are safe to do so. It is critically important for the SEOC, the JIC and the Vermont Department of Health HOC to clearly and promptly communicate any activation or deactivation of this CSC Plan.

D. Communications

Communication is a critically important component of all emergency preparedness, response and recovery operations. Implementation of this framework requires extensive communication, coordination and collaboration among all involved. During response, providing transparency to the public and other stakeholders for situational awareness is just one goal. Vermont Department of Health has the power to supervise and direct the execution of all laws relating to public health and as such, has the primary responsibility for policy development and technical expertise regarding public health issues. Vermont Department of Health is responsible under the Vermont SEMP for directing and coordinating health-related communications and activities during an incident with public health implications. Vermont Department of Health will facilitate and promote communication between all medical providers and the SEOC. Vermont Department of Health will facilitate and promote communication between all medical providers (i.e. State to hospital, hospital to hospital, State to EMS, EMS to hospital, EMS to EMS, etc.) using all appropriate means of communication including but not limited to telephone, internet, satellite telephone, two-way radio, etc. Vermont Department of Health will facilitate and promote communication to the public and other stakeholders such as schools, local communities, faith communities, social groups using all appropriate means of communication including but not limited to telephone, internet, social media, television, radio, etc. Emergency communication is a critically important element of emergency response, and all CSC Plan partners will actively facilitate effective communication.

When the SEOC is activated, public/media communications will be directed and coordinated with and through the State JIC via the Lead PIO. The Lead Public Health PIO in the SEOC will assume primary responsibility for public health information and messages in coordination with the Vermont Department of Health PIO. When the SEOC is not activated, but the Vermont Department of Health has activated an incident response structure, the Vermont Department of Health PIO will assume lead responsibility for public communication associated with an emergency or incident.

E. Demobilization and Recovery

Planning for CSC Plan demobilization should start early during a catastrophic disaster or massive public health emergency. The Vermont Department of Health HOC will oversee strategies to reconstitute and reconstruct the health care system, encourage community resilience, return resources and reimburse expenses, as well as identify ways to restore and strengthen the healthcare system. While returning to normal operations may not always be possible, creating a new path to recovery is essential. Vermont Department of Health will facilitate this process as it relates to health and medical services. It is important to recognize the importance of behavioral health support for all community members during and following all disasters and emergencies without regard to CSC Plan activation or deactivation.

Vermont Department of Health will conduct and coordinate complete after-action analysis and corrective action planning with all communities, participating agencies and partners.

VII. Legal Issues and Authorities

A. Authority of the Governor

Coordination of any response during a catastrophic disaster that impacts healthcare is contingent upon having sufficient legal authority to adequately address the varying needs of the affected community. During an all-hazards event, the Governor has the power "to employ such measures and give such directions to the State or local boards of health as may be reasonably necessary for the purpose of securing compliance" with the provisions of state emergency management laws codified in chapter 1 of Title 20. 20 V.S.A. §9 (4).

. . . . . The Governor of Vermont has the authority pursuant to 20 V.S.A. § 9 to proclaim a state of emergency within the entire State, or any portion or portions of the State, in the event of an all-hazards event in or directed upon the United States or Canada that causes or may cause substantial damage or injury to persons or property within the bounds of the State in any manner. An all-hazard event is defined as "any natural disaster, health or disease-related emergency, accident, civil insurrection, use of weapons of mass destruction, terrorist or criminal incident, radiological incident, significant event, and designated special event, any of which may occur individually, simultaneously, or in combination and which poses a threat or may pose a threat as determined by the [Commissioner of Public Safety] or designee to protect property or public safety in Vermont." 20 V.S.A. § 2(1). .

In an all-hazards event the Governor has the power to "make, amend and rescind the necessary orders, rules and regulations.". 20 V.S.A. § 8. Additionally, the Governor has the power to enforce all laws, rules and regulations relating to emergency management and to assume direct operational control of all emergency management personnel and helpers in the affected area or areas. *See* 20 V.S.A. § 9(b)(1).

20 V.S.A. § 11 provides the governor with additional emergency powers regarding resource management and acquisition. In the event of an all-hazards event, the governor may exercise any or all of the following additional powers: to seize, take, or condemn property for the protection of the public or at the request of the president, or his or her authorized representatives including means of transportation, fuel stocks, food, clothing, equipment, materials, medicines, supplies and facilities including buildings and plants.

Chapter II subsection 20 of the Vermont Constitution addresses the Governor's ability to issue Executive Orders. In an "all-hazard" event the Governor's Office would work with the appropriate agency in determining whether an executive order is necessary. In most emergencies it is the Department of Public Safety that works closely with the Governor's office regarding the executive orders. The Governor's office will draft executive orders explicit to emergencies that may occur in this State.

Additionally, the federal government may play a role in altering certain standards during an emergency event. The Public Health Security and Bioterrorism Preparedness and Response Act of 2002 ("Bioterrorism Preparedness Act") allows federal authorities to waive or modify certain state and federal laws during a federally declared emergency event. *See* 42 U.S.C. § 262a. Likewise, the Social Security Act of 1935 authorizes the secretary of HHS to temporarily waive or modify certain Medicare, Medicaid, Children's Health Insurance Plan (CHIP), and HIPAA requirements when the secretary has declared a public health emergency pursuant to the Public Health Service Act and the president has declared an emergency or disaster. For example, EMTALA requires hospitals to stabilize any patient who presents for treatment prior to transfer. 42 U.S.C. § 1395dd. Section 1135 waivers may be an appropriate mechanism to authorize alternate screening locations during a catastrophic disaster. 42 U.S.C. § 1320b-5. The Centers for Medicare and Medicaid Services (CMS) within the U.S. Department of Health and Human Services (HHS) issued guidance in December 2007 concerning waiving sanctions for hospital EMTALA violations located within areas covered by a public health emergency declaration. The declaration must be made by both the president, pursuant to the National Emergencies Act of 1976 or the Stafford Disaster Relief and Emergency Assistance Act of 1988 (42 U.S.C. § 68), and the secretary of HHS pursuant to Section 319 of the Public Health Service Act of 1944. CMS currently requires states or localities to present requests for 1135 waivers in the case of a disaster or public health emergency. Thus, while the statute remains unchanged, HHS has expressed its intent not to enforce its requirements during a federally declared emergency. The governor may request a non-enforcement waiver of additional key federal regulations and rules.

B. Public Health Authority

The Commissioner of Health and the local health officers have the authority to issue an emergency health order if there is an imminent and substantial public health hazard or significant public health risk. *See* 18 V.S.A. § 127. The emergency health order shall be effective upon actual notice to the individual. Id. An emergency health order may include, but is not limited to, conditions such as preventing the distribution or supplying of water, food or any other material or services; impounding, removing or destroying a public health hazard; isolating or quarantining of any individual, animal, materials or a specific area; and the medical or veterinary treatment of any agent that is contributing to a public health hazard or a public health risk. *See* 18 V.S.A. §126.

C. Municipal Authority

If a municipality is affected by an all-hazards event, the municipal authority shall declare an emergency and request that the governor find that a state of emergency exists. If the governor so finds the

emergency exists, then the provisions of Title 20 Chapter 1 shall be brought into action. 20 V.S.A. § 10. A municipal authority may include the municipal director of emergency management, a member of the legislative body of the municipality, the city or town manager, or the mayor of the city. Id. "Towns and cities of the state and other agencies designated or appointed by the governor are authorized and empowered to make, amend, and rescind such orders, rules and regulations as may be necessary for emergency management purposes" as long as they are not inconsistent with any such order, rule or regulations promulgated by the governor or by a state agency who has the delegated authority. 20 V.S.A. § 16.

When the Governor has declared an emergency, a municipal building inspector, health office, fire marshal, or zoning administrator may declare a property that has been damaged as a result of that emergency condemned to be destroyed. *See* 24 V.S.A. § 27. A property must be found to be "dangerous to life, health, or safety due to the disaster-related damage." *See Id*.

D. Assistance from other states and Canada

Vermont is part of the EMAC and therefore has the ability to request aid under the compact. The compact provides for the rendering state to provide individuals who are licensed or certified to render aid related to their license or certificate in a declared emergency or disaster to the requesting state subject to any conditions or limitations by the Governor of the requesting state. *See* 20 V.S.A. §104 (b).

Vermont is also part of the International Emergency Management Assistance Compact (IMAC) which includes all the New England States along with the provinces of Quebec, New Brunswick, Prince Edward Island, Nova Scotia and Newfoundland. IMAC has a similar licensing provision as EMAC. *See* 20 V.S.A. 206.

E. Liability

A concern for emergency responders, including volunteers, is what if they cause an injury to an individual while assisting in a public health emergency. There are a few Vermont statutes that provide some protection from liability.

First, Vermont's Good Samaritan's law provides that "A person who knows that another is exposed to grave physical harm shall, to the extent that the same can be rendered without danger or peril to himself or herself or without interference with important duties owed to others, give reasonable assistance to the exposed person unless that assistance or care is being provided by others." 12 V.S.A. § 519(a). Individuals providing reasonable assistance are only liable for damages if their acts are grossly negligent or they expect to receive remuneration for their services. *See* 12 V.S.A. § 519(b).

Second, the State of Vermont is required to defend in a civil action any person who is a state employee "for alleged damage, injury, loss or deprivation of rights arising from an act or omission to act in the performance of the employees official duties…" 3 V.S.A. § 1101(a) Volunteers are considered state employees if they provide services requested by a state agency and are acting under the direction and control of that agency, but do not receive hourly or salary compensation. *See* 3 V.S.A. § 1101(b)(4). The Vermont Attorney General's office shall investigate and determine whether the employee act or omission occurred within the scope of the employee's duties. *See* 3 V.S.A. §1102(a). There is no exclusive right of action against the state employee if they were acting within their scope of employment unless they acted with gross negligence or willful misconduct. 12 V.S.A. § 5602.

Third, Vermont law provides protection for the "state, any of its agencies, state employees as defined in 3 V.S.A. § 1101, political subdivisions, local emergency planning committees, or individual, partnership, association, or corporation involved in emergency management activities shall not be liable for the death of or any injury to persons or loss or damage to property resulting from an emergency management service or response activity, including the development of local emergency plans and the response to those plans." 20 V.S.A. § 20(a). This protection is not provided in the case of willful misconduct or gross negligence. Id. Further, "[a]ny individual, partnership, association, corporation or facility that provides personnel, training or equipment through an agreement with the local emergency planning committee, the state emergency response commission or local emergency response officials is immune from civil liability to the same extent as provided in subsection (a) of this section for any act performed within the scope of the agreement." 20 V.S.A. § 20(b).

Finally, Mobile Support Units while engaged in an emergency management are provided the same rights and immunities as are provided by law for the employees of the State regardless if they are employees of, a political subdivision of the state or if not employees of the state, or a political subdivision of the state but are entitled to appropriate compensation as fixed by the Commissioner of Public Safety. *See* 20 V.S.A. § 7.

The Emergency Management Assistance Compact in 20 V.S.A. Chapter 4 does addresses liability for party state rendering aid in another state. "No party state or its officers or employees rendering aid in another state pursuant to this compact shall be liable for any act or omission performed in good faith while so engaged or in regard to the maintenance or use of any equipment or supplies in connection with rendering aid. Good faith does not include willful misconduct, gross negligence or reckless behavior. *See* 20 V.S.A. § 105

F. Worker's Compensation

During an all-hazards event a volunteer as defined in 3 V.S.A. § 1101(b)(4) is entitled to worker's compensation as provided in Title 21, Chapter 9 of Vermont Statutes Annotated. *See* 20 V.S.A. § 21. A public employee under the worker's compensation statute includes state employees, municipal employees entitled to pensions, volunteer firefighters, volunteer rescue and ambulance squads of municipalities, members of any regular organized private volunteer fire department or rescue or ambulance as long as they were acting in any capacity under the direction and control of the fire department or rescue and ambulance squads. *See* 21 V.S.A. §601(12).

In general, the Vermont Worker's Compensation Act requires employers to provide coverage for injuries that occur within the scope of employment, which would include any injury suffered in the course of performing actions to meet a public health emergency. As long as a physician, healthcare provider, public health worker or emergency medical service provider is a volunteer under the definition of 3 V.S.A. §1101(b)(4) and were providing services as requested by the State and under the direction and control of the State that they would be entitled to Worker's compensation.

G. HIPAA Privacy Requirements

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) Privacy Rule, 45 C.F.R. Part 164 protects confidential patient information by requiring strict adherence to rules concerning when release of patient information is allowed and permits the release of protected health information in certain circumstances generally related to treatment, payment, or healthcare operations. HIPAA applies to Covered Entities, such as hospitals and other health care providers, as well as the entire Agency of

Human Services (AHS), including the Department of Health and the other 5 AHS Departments. Under HIPAA, the Department is authorized to receive protected health information from other Covered Entities as a public health authority and as a Covered Entity. Vermont law adopts HIPAA as the standard for disclosure of protected health information. *See* 18 V.S.A. §1881(a).

Although most of the usual standards of care for patient privacy apply even during a declared emergency, there are a few areas where altered standards for certain HIPAA privacy requirements may be necessary. The altered standards would temporarily modify or waive strict compliance with specific HIPAA privacy requirements when, due to a declared emergency, it may not be possible to comply with the requirements prior to the necessity to share confidential patient information. The altered standards are effectuated through a section 1135 waiver issued by the Secretary of HHS to waive sanctions and penalties for failure to comply with the following specific HIPAA provisions for limited period of time: (a) the requirements to obtain a patient's agreement to speak with family members or friends or to honor a patient's request to opt out of the facility directory (as set forth in 45 C.F.R. § 164.510); (b) the requirement to distribute a notice of privacy practices (as set forth in 45 C.F.R. § 164.520); and (c) the patient's right to request privacy restrictions or confidential communications (as set forth in 45 C.F.R. § 164.522); but in each case, only with respect to hospitals in the designated geographic emergency area that have hospital disaster protocols in operation during the time the waiver is in effect, and for up to 72 hours from the time the hospital implements its disaster protocol. When the declaration terminates, hospitals must comply with all privacy requirements for any patients still under their care, even if the 72-hour period has not elapsed since implementation of disaster protocols. See HHS, Office of Civil Rights Bulletin, HIPAA Privacy in Emergency Situations (2014). Please note that HIPAA allows disclosures for treatment purposes, public health purposes, and certain disclosures to disaster relief organizations. See 45 C.F.R. 164.510(b).

Following Hurricane Katrina, the federal government demonstrated that it may exercise enforcement discretion if the HIPAA requirements were met "as soon as practicable," rather than prior to the disclosure. See Office of Civil Rights, HHS, Hurricane Katrina Bulletin #2: HIPAA Privacy Compliance Guidance and Enforcement Statement for Activities in Response to Hurricane Katrina (2005).

H. Cross Border Discussion

The issues related to crossing state or national borders have not been fully determined in the current version of this plan. This topic will remain part of the ongoing review and update of this plan.

VIII. Ethical Guidelines and Values

Vermont is committed to helping protect the health and well-being of the community, and to ensuring responsible stewardship of limited resources. This extends to the duty to provide and adhere to a defined ethical framework in preparing for and responding to disasters. To appropriately respond to a catastrophic disaster in which resources are overwhelmed, the needs of the greater community generally must rise above the needs of any single individual, and there may be circumstances in which resources should be diverted from patients with a lower likelihood of benefit to those with a greater likelihood to benefit. In making such resource allocation decisions, healthcare professionals will be faced with trying to balance several integrated elements: their accustomed, well-established standards of practice; professional codes of ethics; the primacy of principles such as beneficence, non-maleficence, justice and autonomy; concern for one's own personal and family safety; and the demands of working in an extremely stressful environment where there are too many ill or injured and too few resources. It must be acknowledged, however, that such resource allocation decisions involve human thinking in which inherent bias plays an inescapable role. To the greatest extent possible, decision-making structures and procedures should be in place that are collectively developed and supported by all and that limit decision-making where bias can occur.

The people of Vermont are best served by addressing early on and forthrightly the complex ethical concerns surrounding planning and response to such a major disaster, and by establishing ethically acceptable standards that can be universally applied. This Plan follows an ethical framework, which values the classical principles of medical ethics including a person's right to self-determination and the healthcare provider's obligations to beneficence, non-maleficence and justice. This plan stresses the need for justice during a catastrophic disaster where the decision of allocating very limited or unavailable resources in an environment of impossible demand must be conscientiously upheld to conserve the integrity and sustainability of the health care system.

Ultimately, allocation of limited resources should always support achieving the greatest measurable benefit for the greatest possible number of persons over the long run. During a dire emergency with scarce resources, all therapies that might usually be available may not be appropriate for some patients, yet other curative and/or comfort care treatments should still be provided. There is also an ethical duty to maximize preparedness efforts and adopt prevention strategies that will minimize the scarcity of resources and the need to ration resources at a later time during a disaster. These CSC concepts are based upon several ethical principles that have been recognized as central to a just process for allocating limited resources during catastrophic disasters.

Fairness – Every healthcare provider should attempt to be fair to all those who are affected by the disaster, without regard to factors such as race, gender, ethnicity, socioeconomic status, ethnicity, disability or region that are not medically relevant.
Proportionality – any reduction in the quality of care provided will be commensurate with the degree of emergency and the degree of scarcity of resources.
Solidarity - when there are limited resources, all people must consider the greater good of the entire community.
Participatory – engaging the community, healthcare providers, and emergency management agencies during the development of CSC encourages greater understanding and clarity when CSC is needed.

In practice, this CSC Plan strives for fairness and the protection against systemic unfairness by:

- Utilizing strategies for public education and public engagement that are inclusive and culturally sensitive;
- Promulgating standardized CSC response protocols that are publicly available, revised regularly, and tailored to specific crisis responses;
- Ensuring that burdens and benefits associated with crisis response are equitable;
- Making reasonable efforts to remove access barriers and address functional needs;
- Stewarding resources to reduce significant group differences in mortality and serious morbidity;
- Fairly identifying and reciprocating to groups accepting high risk in service of others;
- Using decision-making processes that consistently apply only ethically relevant (nondiscriminatory, non-arbitrary) considerations.

IX. Vermont CSC Plan Operational Framework, Support Activities, and Resource Management

A. Operational Framework

The Vermont Department of Health Division of Emergency Preparedness, Response and Injury Prevention (DEPRIP) is the lead division in establishing, implementing, and managing the HOC and coordinating this CSC Plan. The department has incident response plans which are referenced in the Incident Annexes of the Vermont Department of Health EOP; this CSC Plan is one such response plan residing as an Incident Annex of the Vermont Department of Health EOP. These plans may be implemented in conjunction with other standard operating procedures for an event.

The Vermont Department of Health HOC will utilize the National Incident Management System (NIMS) for its operational framework while coordinating this CSC Plan which emphasizes interoperability and compatibility by balancing flexibility and standardization. NIMS provides a flexible framework that facilitates government and private entities at all levels working together to manage domestic incidents. This flexibility applies to all phases of incident management, regardless of cause, size, location, or complexity. NIMS provides a set of standardized organizational structures, as well as requirements for processes, procedures, and systems designed to improve interoperability, one is the Incident Command System (ICS).

The ICS model for command, control and coordination clarifies the operating characteristics, management components, and structure of incident management organizations throughout the life cycle of an incident. CSC Plan coordination and response operations will be organized and managed under the ICS.

B. Support Activities

The Vermont Department of Health and State emergency operational support activities identified for the performance of this CSC Plan may include but are not limited to:

- Gather, analyze and distribute disaster impact information regarding hospitals and other health care facilities to the SEOC.
- Gather, analyze and distribute information to other agencies, healthcare providers, stakeholders and the public through the PIO.
- Assure the coordination of patient evacuation and relocation.
- Identify hospital and nursing home vacancies throughout Vermont and throughout other states using available web-based incident management tools, HCC, Vermont Association of Hospitals and Health Systems (VAHHS) and other appropriate organizations.
- Coordinate the delivery of health, medical, behavioral health and dental services.
- Facilitate coordination of medical personnel, equipment, pharmaceuticals, supplies and other resources through EMS districts, HCC, VAHHS and other entities.
- Track inventories of medical supplies, equipment, ambulance services, hospitals, clinics and first aid units.
- Establish emergency medical care facilities, when needed.
- Promote establishment of behavioral health support systems for survivors and care providers.
- Implement strategic national stockpile operations.
- Request federal medical assistance teams and coordinate for their support while operating in Vermont.
- Coordinate with federal regulatory agencies as required.

- Arrange for DMAT services.
- Assist with hazardous materials response.
- Record and maintain expenditures and resources used for possible later reimbursement.

C. Resource Management

Vermont Department of Health in collaboration with other state agencies, non-governmental organizations and other local public and private partners will identify hospital and nursing home vacancies, coordinate the delivery of health, medical and dental services, and facilitate provision of needed medical personnel, equipment, pharmaceuticals, supplies. Vermont Department of Health will also assist in establishing emergency medical care facilities as needed. All resource requests shall be made to the Vermont Department of Health HOC for coordinated resource acquisition, tracking, deployment, and management.

D. EMAC

When Vermont resources are insufficient, EMAC provides for mutual assistance between states and territories in managing any declared emergency or disaster. EMAC provides an avenue to deploy licensed medical personnel, emergency response personnel and/or physical resources to an impacted state to ensure an efficient and effective emergency response when the governor of the impacted state declares a state of emergency and requests aid. EMAC provides legally binding arrangements for reimbursement, liability protections, compensation for responders injured or killed, and recognition of professional licenses and certificates. Emergency resources will continue under the command and control of their regular leaders but come under the operational control of the state requesting assistance. Resources deploy through the state emergency management agencies of their respective states allowing for a coordinated deployment. Deployments are coordinated with the federal response to avoid duplication of resources and effort.

X. Plan Development, Stakeholder and Public Engagement, and Plan Improvement and Maintenance

The Vermont Department of Health coordinated with representatives from public health, emergency management, first responder, health care, mental health, healthcare equity, legal, and other partners to create this CSC Plan for the State of Vermont. This project was guided by a CSC workgroup comprised of healthcare providers and consumers. The workgroup received direction and approval from the Vermont Department of Health.

The process for development of the Plan included stakeholder engagement sessions, workgroup meetings, as well as a comment and review process. Ethical and legal considerations and principles have guided the process. Stewardship of resources, duty to care, soundness, fairness, reciprocity, proportionality, transparency, and accountability are guiding ethical elements of this Plan. This ethical foundation has been integrated into a set of public health and emergency response principles to establish this common framework for statewide CSC.

The Director of the Vermont Department of Health DEPRIP will ensure appropriate distribution of this CSC Plan and appendixes. The Director of the Vermont Department of Health DEPRIP will authorize and issue changes to this plan until the plan is superseded.

To promote broad public dissemination of this CSC Plan, as well as ensure feedback collected comes from community members who are demographically representative of the state, the Vermont Department of Health will conduct engagement sessions throughout the life of the CSC Plan. Vermont Department of Health will strive to engage members and representatives from the diverse communities across the state with the objective of promoting equitable health outcomes relating to this plan.

In order to ensure equity, efforts are being made to engage groups that have often been marginalized, including individuals with access and functional needs (such as the disability community) and immigrant and refugee communities. Vermont Department of Health seeks the help and consultation of the diversity of community leaders and liaisons in order to:

- develop, facilitate and promote engagement in the CSC Plan development, review and revision process
- identify potential community partnerships and other relationships to increase understanding and involvement

This CSC Plan will be reviewed annually and be subject to revision every five years unless incidents or other events dictate otherwise. Vermont Department of Health EPRIP will coordinate review and revision efforts and ensure that the plan is updated as necessary based on lessons learned during actual events and exercises and other changes in organization, technology, and/or capabilities. State partners will participate in the annual review and revision of the plan.

Periodic trainings and exercises will be conducted by the Vermont Department of Health DEPRIP and will include internal and external partners across Vermont. Exercises will be designed to evaluate the effectiveness of this plan and its parts, including its associated annexes and procedures.

Homeland Security Exercise and Evaluation Program (HSEEP) guidance describes a continuous cycle to assure that plans are current. This includes a formal evaluation process that includes evaluation of exercise activities in context of core capabilities and their component activities. Data collection

methods include formal observation, participant feedback and other means such as time-series analyses. Current terminology for these activities is After-Action Review (AAR), Improvement Plans (IP) and After-Action Conferences (AAC). While designed specifically for exercises that test plans, AAR, IP and AAC processes are readily applicable to evaluation of responses to real-world events and to improvement of plans to meet demands from future events. In some ways efforts to evaluate and improve responses based on real-event activities is even more valuable than exercise-related evaluation activities. After-Action Reviews, Conferences and Improvement Plans should not be a substitute for other ongoing effective evaluation and quality improvement processes.

This CSC Plan is a living document and will be reviewed and revised periodically and as new information becomes available, changes occur, and training and events inform best practice. The Vermont Department of Health DEPRIP is interested in all comments or suggestions. Please share any comments or suggestions by e-mail at: AHS.VDHVTHPP@vermont.gov.

XI. Participants Involved/Acknowledgements

All Clear Emergency Management Group, LLC

American Red Cross (ARC) New Hampshire and Vermont Region

Association of Africans Living in Vermont

Bi-State Primary Care Association

Disability Rights Vermont

Vermont Association of Hospitals and Health Systems

Vermont Board of Medical Practice

Vermont Care Network

Vermont Chapter of The American College of Emergency Physicians

Vermont Council of Developmental and Mental Health Services

Vermont Department of Aging and Independent Living

Vermont Department of Health

Vermont Department of Mental Health

Vermont Emergency Management

Vermont Ethics Network

Vermont Health Care Association

Vermont Healthcare Emergency Preparedness Coalition

Vermont Legal Aid/Office of Health Care Advocate

Vermont Medical Society

Vermont Partnership for Fairness and Diversity

Vermont Pharmacists Association

Vermont Psychiatric Care Hospital

Vermont Public Health Association

American Nurses Association - Vermont

Visiting Nurse Associations of Vermont

XII. Appendix List:

1. Clinical Concept of Operations
2. Triage Guidance
3. Crisis Standards of Care Mechanical Ventilator Allocation Assistance Guide
4. Patient Care Strategies for Scarce Resource Situations
5. Section 1135 Waiver Request Instructions
6. Behavioral Health Plan
7. Prioritizing Care Further Disenfranchises the Disenfranchised
8. Mass Fatality Management
9. Acronym Glossary

A. Appendix 1 Clinical Concept of Operations

This appendix provides a brief overview of various clinically relevant topics related to CSC planning and activation. The following topics are covered in this section:

- Prehospital and EMS
- Hospital and Acute Care Facilities
- Out-of-Hospital Care
- Alternate Care Sites and Systems
- Pediatrics
- Palliative and Comfort Care
- Behavioral Health

Prehospital and EMS

EMS and the entire prehospital system will play a major role during a catastrophic disaster or massive public health emergency. As first responders, EMS providers will have to adapt practices and standards of care to address the most difficult circumstances. During an emergency, Vermont Department of Health will issue guidance to EMS providers and authorities to ensure consistent care across the state and to assist EMS providers in dealing with an overwhelming number of patients.

Hospital and Acute Care Facilities

This section applies to all Vermont hospitals with emergency departments (ED) as well as other types of acute care facilities, excluding long-term care facilities. Hospital and acute care facilities will play a critical role in all types of catastrophic disaster or massive public health emergency. An overwhelming demand for medical care at hospitals may trigger the expansion of out-of-hospital care and the activation of alternate care sites and systems. During a catastrophic response, hospitals may need to implement CSC to address the overwhelming surge of patients. Vermont Department of Health may provide further guidance to help ensure consistent care across the state's hospitals and other healthcare access points.

Expanding Scopes of Practice

Scope of clinical practice is defined as the extent of a licensed healthcare professional's ability to provide services consistent with their competence, license, certification, and privileges. Most healthcare professionals' scopes of practice are delineated by rules and regulations describing requirements for training and skill levels. Evidence of competence is required before a license to practice is issued by the professionals' state board. Any changes in providers' scope of practice must be granted by the appropriate supervisory board and may require additional legislation, waivers, administrative actions and emergency declarations.

Out-of-Hospital Care Providers

During a catastrophic disaster or massive public health emergency, many healthcare access points across the state will need to adapt their practices to the overwhelming number of patients seeking care. Ideally, the most acutely injured or ill patients will be routed to a hospital, and lower acuity patients will seek care in out-of-hospital settings. Unfortunately, a CSC incident will be felt across the entire healthcare continuum as large numbers of people look for care wherever it can be found. Out-of-hospital care will be an important part of the catastrophic disaster or massive public health emergency response and will naturally expand operations (e.g., extended hours of operation or repurposed infrastructure and equipment) to meet demand. Out-of-hospital care refers to the following types of healthcare access points:

- Outpatient providers
- Clinics
- Surgical centers
- Long-term care facilities
- Group care
- Home care
- Family-based care systems.

Outpatient Providers
To ensure consistent care across the state, Vermont Department of Health will maintain and coordinate situational awareness and may assist in coordinating CSC implementation with all types of out-of-hospital providers. The size, duration, and scope (e.g., regional, statewide, or national) of the catastrophic disaster or massive public health emergency will determine the level of Vermont Department of Health coordination. The development and implementation of guidelines for facilities and providers will be an interactive process between the out-of-hospital provider community, facilities and Vermont Department of Health.

Clinics
This category includes a wide variety of healthcare access points such as urgent care centers, federally qualified health clinics (FQHC), multi-specialty clinics, and independently operated healthcare practitioners. Many clinics are privately owned, although there are publicly operated institutions in the state. For the purposes of this Plan, urgent care facilities, clinics located in retail stores, and pharmacies that provide basic medical screening may be considered clinics. Other types of clinical providers (e.g., dentists, veterinarians, and others) may also be part of this group.

Surgical and Procedure Centers
Surgical and procedure centers may be repurposed to provide acute care, non-ambulatory hospital overflow care, or elective surgeries not possible at hospitals (during infectious disease incidents), depending on the demands of the incident, the specifics of the facility, and the needs of the community.

Long-Term Care Facilities
Some long-term care facilities have limited surge capacity to accommodate hospital discharges and should not be overlooked as a resource.

Group Home and Congregate Settings
Organizations with on-site medical care (e.g., large business operations, group homes, schools, universities, etc.) can support dispensing or vaccination/prophylaxis services in conjunction with Vermont Department of Health. Group homes and congregate settings may need to provide sheltering or isolation for residents/students/staff and may requested to assist in referral and routing of patients during emergencies.

Home Care/Durable Medical Equipment Vendors
Home care and durable medical equipment vendors will play a critical role in providing basic medical equipment to individuals and facilities across the healthcare community. EDs may be inundated with patients' chronic care needs when home care cannot be continued. Device-dependent persons should have a care plan in case of a system failure or power outage. These plans also should also cover clients that are quarantined, isolated, or sheltering in place because of weather or other emergencies. During a catastrophic disaster or massive public health emergency home care/durable medical equipment

vendors may need to prioritize their services based on the nature of an incident and adjust plans as the incident changes over time.

Family-Based Care

Many people in Vermont receive medical care and assistance from family members, domestic partners, cohabitants, friends and others. These non-clinical caregivers can play a key role in preventing the medical system from being overloaded by helping limit unnecessary visits to healthcare providers and ensuring at-risk people receive the most appropriate available care. To effectively reach these groups, public information messages should be disseminated statewide to inform the general public of available healthcare resources for homebound persons and other at-risk groups. Families and friends should be prepared for expanded responsibilities during a catastrophic incident.

Alternate Care Systems

Emergencies or disasters that impact the healthcare infrastructure or cause many casualties may require the establishment of alternate care sites and systems. For the purposes of this Plan, an alternate care site or system, is not a routine part of the healthcare system, but is activated or initiated during a disaster to meet the surging demand for healthcare services. The activation of alternate care sites, such as deployment of a federal medical station (FMS) or establishment of shelters providing basic medical care, will inevitably influence medical surge at nearby hospitals and other healthcare access points. Vermont Department of Health will assist in coordinating and optimizing alternate care site/system strategies (e.g., placement, type, number, etc.) with healthcare system stakeholders. The previous section lists many of the healthcare access points that are a routine part of healthcare in Vermont. During a catastrophic disaster or massive public health emergency, alternate care sites and systems will play an important role in reducing medical surge at hospitals.

Pediatrics

The availability of pediatric care will be a major concern during all types of disasters. Many aspects of the public health and medical disaster response must be tailored to meet the unique requirements and needs of children. These issues include but are not limited to communication, personal protective equipment (PPE), decontamination, behavioral health, evacuation and transfer, family reunification, and pediatric space, staff, and supplies.

Communication

Communication with pediatric patients, especially younger, non-verbal patients will present challenges during CSC. Hospitals, along with other healthcare access points, should be prepared to communicate basic information and provide companionship to children. During emergencies, use of toys, pens and paper, coloring books, child-friendly signs, and other modalities may help children establish communication with caregivers and supervising adults.

Personal Protective Equipment

PPE worn by healthcare providers may be frightening or strange to children. As a result, communication strategies must be in place to address fears and concerns. Additionally, pediatric sizes of masks and other types of PPE should be available for potentially infectious pediatric patients during transport or while in common areas.

Pediatric Decontamination

Decontamination of pediatric patients will pose extra challenges for healthcare and emergency response personnel. For example, pediatric patients may be more susceptible to hypothermia and require tepid

(98.6ºF) water during wet decontamination. Children may not be able to adequately wash themselves, follow verbal instructions, or use decontamination equipment. When possible, children should be sent through decontamination with an adult family member. Hospital decontamination teams should be prepared to accommodate children and their adult caregivers and provide instruction on how to effectively decontaminate all ages of patients. Children may have unique behavioral health and psychological needs during disasters. Pediatric patients, both accompanied and unaccompanied, may be especially upset by the disaster and prone to fear and panic. Consequently, hospitals and other healthcare access points will need to establish methods for emotional comfort, psychological assessments, and behavioral healthcare, ensuring coordination with appropriate behavioral health and social service providers.

Pediatric Evacuation and Transfer

Under normal conditions, pediatric care requires specialized equipment, facilities, medications, and training. The same is true during catastrophic disaster or massive public health emergencies. During a disaster, pediatric patients need special considerations for evacuation and transfer. Vermont acute care facilities will transfer patients when space, staff, and supplies are not available to meet the needs of patients. When pediatric patient transfer or evacuation is not possible, and resources are unavailable, medical facilities and personnel may be forced to adapt space, staff, and supplies to best accommodate the needs of pediatric patients. The latest evidence-based research and guidance related to pediatric emergency care should be incorporated into all disaster planning.

Family Reunification

Family reunification is a major concern after any disaster requiring evacuation from the field or inpatient healthcare facilities. These issues are compounded when pediatric patients are evacuated or transferred to distant facilities out of the impacted area or facility. Pediatric acute healthcare facilities have plans to assist families seeking information about missing loved ones. Family reunification planning includes consideration of:

- Pediatric space, staff and supplies
- Planning and activation
- Pediatric safe area
- Security
- Just-in-time training
- Communications and information management

Palliative Care and Comfort Care

The intent of palliative and comfort care is to improve the quality of life for patients and their families who face life-threatening illnesses and injuries for which there is no cure, by preventing and relieving suffering, by means of early identification and treatment of pain and other, physical, psychosocial, and spiritual problems. During a catastrophic disaster or massive public health emergency, decisions must be made to balance needs for lifesaving care for those in triage categories who will likely benefit from treatment, while providing comfort care for those for whom lifesaving care is likely futile. At a minimum, comfort care services for disaster victims will include relief of severe symptoms and support as people face end-of-life decisions. During a catastrophic disaster or massive public health emergency palliative and comfort care should be delivered in a consistent, compassionate and equitable manner. This applies to casualties following a major disaster, as well as patients facing end-of-life decisions from other illnesses and injuries.

Palliative and Comfort Care
Palliative and comfort care begin when illness is diagnosed and continues regardless of whether an individual receives treatment directed at the disease. When possible, uses a team approach to address the needs of patients and their families, including bereavement counselling, if indicated. Affirm life and regard dying as a normal process. Offer a support system to help patients live as actively as possible until death. Integrate the psychological and spiritual aspects of patient care. Provide relief from pain and other distressing symptoms.

Psychosocial Support
Medical intervention is only one component of palliative and comfort care. During a catastrophic disaster or massive public health emergency with limited clinical resources, psychosocial support may be the only available source of comfort. As with other types of clinicians, behavioral health staff and others qualified to provide psychosocial support in a disaster (social workers, religious/spiritual advisors, and other responders trained in psychological first aid) will be in short supply.

Behavioral Health
During a catastrophic disaster or massive public health emergency, the Vermont Department of Health and the Vermont Department of Mental Health (VDMH) must consider the behavioral health and psychosocial impact of the disaster on the general public, on first responders and medical professionals, and those with behavioral health challenges, and their continuing needs. Vermont Department of Health and VDMH will assist in coordinating the behavioral health needs and situational awareness of the behavioral health system through response and recovery activities.

Behavioral Health Impact on the General Population
In the aftermath of a disaster, many people will need behavioral health services to cope with grief and posttraumatic stress. Psychological first aid and social support systems will play an important role in addressing these issues. Incident specific risk communication strategies should be developed and disseminated to help people manage the stress of the incident and direct them to additional resources as necessary. Community resilience programs encouraging neighbor-to-neighbor and family-to-family outreach are important. Vermont Department of Health and VDMH will assist behavioral health providers and help develop risk communication messaging for the public.

Impact on Seriously Mentally Ill Population and Continuation of Care
People with serious mental illness (SMI) may be disaster victims, e.g., injured, infected, or experience emotional crises related to the disaster. Additionally, many Vermonters suffer from serious mental illness requiring ongoing behavioral health services that may be disrupted during a disaster. As behavioral health providers, spiritual advisors, social workers and others address the needs of disaster victims, behavioral health resources will be severely burdened. Vermont Department of Health and VDMH must consider both the ongoing treatment needs of the SMI population, as well as the additional emotional and behavioral issues this group may experience as a result of the disaster. Behavioral health guidelines must also address the continuation of care for individuals with substance use disorder, including administration of medication-assisted treatment (MAT).

Behavioral Health Impact on Responders and Medical Providers
Responders and healthcare providers may be especially prone to post-traumatic stress and other conditions during and after a catastrophic disaster or massive public health emergency. Peer-to-peer support, counseling, and other behavioral health support services, such as critical incident stress management (CISM), may be useful for responders and providers.

Medical Countermeasures
The mission of the Strategic National Stockpile (SNS) Program is to maintain a national repository of life-saving pharmaceuticals and medical materiel which will be delivered in response to any disaster that has exhausted local resources such as a chemical, biological or radiological terrorism event, natural disease outbreaks or weather related natural disasters. The SNS exists in order to reduce morbidity and mortality in civilian populations.

The SNS Program is run by the CDC and the medical materiel accessible through SNS are federal assets. The CDC pre-deploys some of these assets at locations around the country. The CDC also has access to managed inventory kept by pharmaceutical companies for use in the event of a public health emergency. During an incident, the CDC could deploy a Push Package, which has assets for a variety of types of events, or they could send specific items for an identified event (e.g. an unknown illness affecting numerous people versus a specific illness affecting numerous people.) The CDC advises that SNS assets will arrive within 12 hours and managed inventory assets will arrive in 24-36 hours.

The Vermont SNS Plan provides guidance around requesting, receiving, and distributing SNS assets in the event of a public health emergency that outstrips locally available resources.

Requirements for SNS request
- The Governor has declared a state of emergency (although a declaration of a state of emergency is not required to make a request for the SNS). A declaration of a state of emergency enforces the provisions of Vermont law concerning emergency operations.
- The Governor has requested or will request a federal disaster declaration.
- In dealing with the declared emergency, the SEOC will be operational.

SNS Request Procedure
Hospitals, Local Incident Commanders, State Agencies and other Local Officials are instructed to contact VEM should they feel that they have an event where they would need SNS Materiel. The VEM Duty Officer will then contact the Vermont Department of Health Duty Officer, Vermont Department of Health DEPRIP-EMS Director and the Vermont Department of Health DEPRIP-SNS Coordinator to determine if the Vermont Department of Health Commissioner, VEM Director and the Governors' office should begin the process for requesting SNS from the Center for Disease Control and Prevention.

Receiving and Distributing SNS Assets
The CDC will send SNS assets via air or land (tractor trailers) to Receive, Stage, and Store (RSS) sites in Vermont. The SNS Task Force, which includes Vermont Department of Health and Vermont National Guard (VNG) employees, will be at the RSS site. VNG staff will receive the materiel and sort and repackage for distribution to sites needing materiel's. VNG will distribute the SNS materiel to sites requiring the materiel's, such as hospitals and Points of Distribution (PODs).

PODs will be staffed by Vermont Department of Health staff and other State employees as needed and they will provide prophylaxis to the public. The goal during a large-scale event is to prophylax the entire Vermont population within 48 hours.

B. Appendix 2 Triage Guidance

The supporting values upon which triage practice is based include fairness to all, non-discrimination, consistency, transparency, accountability, proportionality, duty to care and stewardship of resources. Patient assessment and triage tools are designed to instill fairness consistency and accountability into decisions made about patients. For these values to be truly upheld, these assessment and triage tools must be deployed within a broader system designed to support these values.

Across the healthcare spectrum numerous assessment tools exist to evaluate, describe and quantify the condition of a patient. Each of these tools require professional evaluation as well as the subjective assessment of medical providers while using these tools. Due to the unavoidable subjective element of these assessment and triage tools, assessments should be made by experienced providers and, where possible, evaluations should be made or reviewed by more than one provider. Emotional state, mental alertness, prior experience as well as a broad range of other factors all influence provider judgement, therefore, more than one provider should be involved in decision-making to mitigate evaluator bias. Those directly responsible for the care of the patient should not be involved in patient triage. A triage system utilizing triage teams or serial assessments should be established and deployed to assure all patients receive the fairest and most accurate assessments possible under the circumstances.

The number and breadth of patient assessment tools used to evaluate overall patient fitness, likelihood of survival, priority for care, etc. is considerable. Evaluating providers and teams should decide which tool or tools should be utilized, become familiar with these tools, apply these tools systematically and use them consistently. The Vermont CSC Plan does not endorse the use of any one assessment tool over another. Decisions regarding which assessment tool or tools to use should reside in those providers who use them. The goal is to streamline assessment and triage activity to allow more time for direct patient care.

Appendix 4. Patient Care Strategies for Scarce Resource Situations provides discussion and resource conservation charts for discussion on how to conserve finite resources such as essential medications, oxygen, respirators, health care providers, etc.

EMS Triage

The Vermont Statewide EMS Protocols establish the professional standard for Mass/Multiple Casualty Triage. The Vermont Statewide EMS Protocols 'utilize a triage system such as 'SALT' to prioritize patients.' Triage language from the Vermont Statewide EMS Protocols includes:

Purpose:

- The goal of the mass/multiple Casualty Triage protocol is to prepare for a unified, coordinated, and immediate EMS mutual aid response by prehospital and hospital agencies to effectively expedite the emergency management of the victims of any type of Mass Casualty Incident (MCI).
- Successful management of any MCI depends upon the effective cooperation, organization,
- and planning among health care professionals, hospital administrators and out-of-hospital
- EMS agencies, state and local government representatives, and individuals and/or
- organizations associated with disaster-related support agencies.
- Adoption of Model Uniform Core Criteria (MUCC).

Triage:

- Utilize a triage system such as "SALT" (Sort, Assess, Lifesaving Interventions, Treatment/Transport) to prioritize patients. SALT is part of a CDC-sponsored project based upon best evidence and designed to develop a national standard for mass casualty triage.
- Assess each patient as quickly and safely as possible.
- Conduct rapid assessment.
- Assign patients to broad categories based on need for treatment (Still, Wave, Walk).
- Remember: Triage is not treatment! Stopping to provide care to one patient will only delay care for others. Standard triage care is only to correct airway and severe bleeding problems.

Hospital triage

Numerous patient assessment and triage tools are used inside hospital ED's, Intensive Care Units (ICU's), burn units and other departments. Depending on a variety of factors such as the most prevalent medical condition seen, scale of the surge, available staff and resources, decompensation time and other factors, different assessment and triage tools may be used. Evaluating providers and teams should decide which tool or tools should be utilized, become familiar with these tools, apply these tools systematically and use them consistently. The Vermont CSC Plan does not endorse the use of any one assessment tool over another. Decisions regarding which assessment tool or tools to use should reside in those providers who use them. The goal is to streamline assessment and triage activity to allow more time for direct patient care.

The Emergency Severity Index (ESI), Sequential Organ Failure Assessment (SOFA), Modified SOFA, and other assessment and triage tools are all examples of resources available to hospital providers to assess patient condition.

a. *Telephone Triage (Adults and Pediatrics)*
b. *Guidelines for Mass Emergency Screening (Adults and Pediatrics)*
c. *EMS triage – SALT, START, etc.*
d. *Hospital triage – SOFA, Modified SOFA, etc.*
e. *Case Detection and Clinical Management Triage (Adults and Pediatrics)*
f. *Mental Health Triage*
g. *Patient Triage for Influenza and Complications (Adults and Pediatrics)*
h. *Critical Care Triage and Allocation of Ventilators (Adults)*

C. Appendix 3 Crisis Standards of Care Mechanical Ventilator Allocation Assistance Guide

Note: This Crisis Standards of Care Mechanical Ventilator Allocation Assistance Guide reflects conceptual guidance during the Vermont COVID-19 pandemic response. This Assistance Guide expires on 07/31/2020 and will require revision and reapproval at this time.

If the supply of mechanical ventilators becomes severely constrained during a catastrophic public health emergency or infectious disease pandemic, frontline health care workers across Vermont must allocate mechanical ventilators in a fair, just, consistent and efficient manner to protect all patients and these Crisis Standards of Care Allocation of Mechanical Ventilators guidelines pertain. These guidelines aim to clarify a pragmatic approach to the wise allocation of mechanical ventilators that may be used by frontline health care workers.

The figures and appendices provided at the end of this document are provided to allow rapid use of this document. Each institution should develop a pre-determined resource allocation group and procedures appropriate to their size and organizational structure to assist in resource allocation during times of scarcity. Outlined below is the process for the ethical and consistent allocation of mechanical ventilators in Vermont.

Step 1. Identify and allocate nearby mechanical ventilators first

If the patient's provider determines that patient needs a mechanical ventilator and there is a mechanical ventilator available within the patient's institution, at a facility nearby, within an affiliated network facility or at a larger regional facility in another state, the patient's provider is encouraged to arrange for the patient to receive care through regular established procedures. The patient's provider will match the patient to ventilatory care at the most expeditious and medically appropriate location either via patient transfer or ventilator delivery.

Step 2. If no mechanical ventilators available, call UVMHN Regional Transfer Center for assistance in mechanical ventilator procurement

Vermont hospitals should maintain situational awareness of critical resource levels, including mechanical ventilators, across the state through established channels in collaboration with each hospital's Incident Command. If a provider determines a patient needs mechanical ventilation at a time Vermont hospitals have signaled there is a shortage of mechanical ventilators, the provider may call the University of Vermont Health Network (UVMHN) Regional Transfer Center to request a mechanical ventilator.

If a mechanical ventilator is available within the Vermont region or beyond, or from the Vermont Department of Health (VDH) warehouse, the UVMHN Regional Transfer Center (RTC) will match the patient to ventilatory care in the most expeditious and medically appropriate location either via patient transfer or ventilator delivery.

If multiple patients need mechanical ventilation simultaneously and there are not enough available mechanical ventilators to accommodate all patients, the RTC will coordinate a separate non-bedside state-wide Mechanical Ventilator Assignment Team (MVAT).

The Mechanical Ventilator Assignment Team (MVAT) will be comprised of three Vermont hospital medical providers including, but not limited to, Intensive Care Unit Directors, Intensive

Care Unit Nurse Leaders, Emergency Department Directors and Chief Medical Officers. This team of three providers will represent the patient's hospital, the hospital holding the mechanical ventilator (whether owned or from VDH warehouse) and the University of Vermont Health Network (UVMHN).

Step 3. The state-wide MVAT will prioritize patients for mechanical ventilation using 3-step process

The UVMHN RTC and the patient's provider will provide the state-wide MVAT with clinical information pertinent to rationing of mechanical ventilator including brief medical history and the information outlined in Appendices A-C. Potentially biasing social information should be omitted from the report to the MVAT, as below.

The MVAT will assess patient illness severity and likelihood of treatment response using a three-step process:

> *Step 1*. Apply inclusion and exclusion criteria provided in Appendix A.
> *Step 2*. Among patients who were not excluded by the criteria above, patient illness severity is judged by the mSOFA score found in Appendix B.
> *Step 3*. Patient mSOFA score is used to determine patient triage code as outlined in Appendix C.

In consideration of the patient's clinical information and patient provider's report, the MVAT will determine the patient's illness severity and likelihood of treatment response and using this information will assign a triage code. Ventilator availability will be prioritized based on triage codes in the follow order:

BLUE:	Lower priority for ventilator support
RED:	Highest priority for ventilator support
YELLOW:	Intermediate priority for ventilator support
GREEN:	Lower priority for ventilator support

If multiple patients with the same triage code are being considered for too few mechanical ventilators, the MVAT should consider additional factors relating prognosis of survival for each patient including:

Factors that may be considered:
1. Validated metrics e.g. mSOFA, CURB-65, etc.
2. Prognosis and likelihood of treatment response based on risk factors relating to the current illness, co-existent end-stage failure of a major organ (e.g. heart, lung, liver, or brain), and other accepted medical factors.
3. Availability of institutional resources to address clinical needs of every patient.

Factors that may not be considered (and shielded from MVAT):
1. Sex, gender identity, sexual orientation, race, ethnicity, national origin, religion, age or pregnancy status
2. Any disability or degree of disability including physical disability, developmental/cognitive disability, functional status, mental health diagnosis, chronic disease diagnosis, infectious diseases such as HIV, HCV, etc.
3. Health insurance status or ability to pay for care
4. Socio-economic status, profession, or other social factors

Ideally a mechanical ventilator allocation decision will precede any inter-facility transfer. If inter-facility transfer is urgent it may proceed prior to as medically indicated while awaiting mechanical ventilator allocation decision.

If the patient does not qualify for a mechanical ventilator, therapies short of the considered measure (supplemental oxygen, non-invasive mechanical ventilation, etc.) should be considered as well as palliative care including using communication toolkit provided by palliative care if appropriate. Reassess decision as patient condition and resource availability evolves.

Step 4. Engage UVMHN appeals team if state-wide MVAT process is unable to accommodate all patients or if allocation decision is questioned

If uncertainty arises within the MVAT or the patient's clinical care team disputes the decision, appeals may be made to the UVMHN Fair Resource Allocation Appeals Team (FRAAT), 3 members of which will be on call at any time for consultation.

Requests for a resource allocation appeal should be made by either the RTC leader or a representative of the MVAT to the on-call FRAAT team. Appeals sent to UVMHN FRAAT should provide all data used to calculate the scores of patients with similar scores as received by MVAT from referring providers to allow review and re-prioritization according to the same factors used above. The FRAAT team may consider the same medical factors and may not consider the same social factors as outlined above for the MVAT.

Votes of individual UVMHN Fair Resource Allocation Appeals Team (FRAAT) members will be confidential and not recorded; the UVMHN FRAAT decision will be reported back to the state-wide MVAT, UVMHN RTC and patient's provider. The original referring provider will report back on availability or non-availability of mechanical ventilator to the patient and/or their loved ones and take responsibility for subsequent steps in clinical management.

Step 5. Use randomization system to differentiate patients if state-wide MVAT and appeals team unable to identify patients most likely to benefit from mechanical ventilator

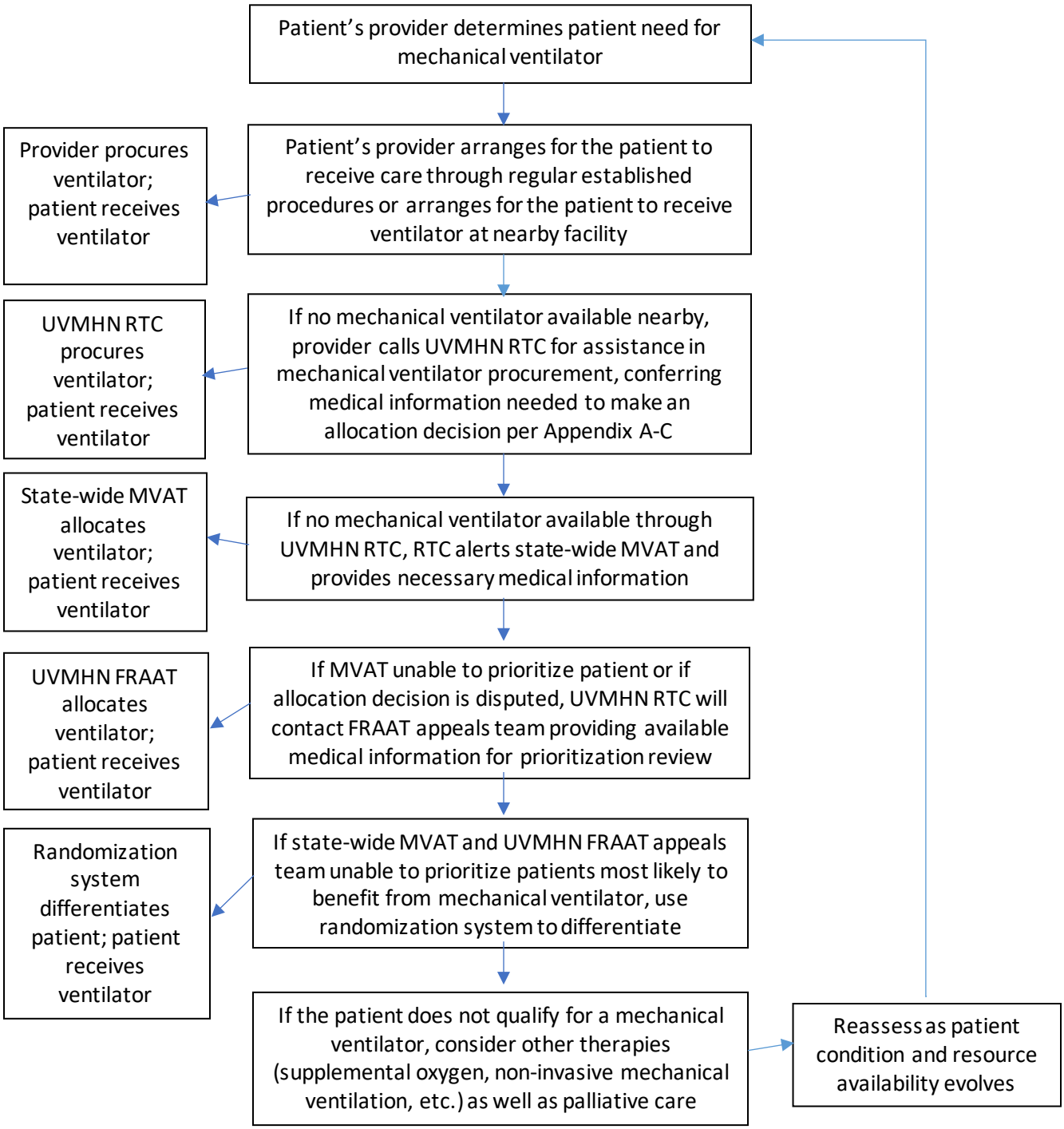
In the event patients who require medical intervention are identified whose needs and likelihood of response cannot be reasonably differentiated by either the state-wide MVAT or the UVMHN FRAAT, the state-wide MVAT will oversee a simple randomization scheme to prioritize patients. Randomization processes may include the Google random number generator, a coin flip or dice.

The UVMHN FRAAT outcome as well as the MVAT randomization process and determination process will be documented confidentially for weekly review in the UVMHN Associate Chief Medical Officer for Care Coordination and Patient Transitions (ACMO-CCPT) huddle to allow internal UVMHN oversight and overall process improvements.

Prioritization of irreplaceable workers. Individual health care facilities in Vermont have taken different approaches to whether health care workers would be prioritized more highly in their institution-specific resource allocation decisions. For statewide resource allocation decisions, such as of mechanical ventilators, it is imperative that all institutions utilize the same prioritization system so that patients from each institution are ranked equitably. No single individual is likely to have a uniquely special impact on statewide health care delivery; therefore, no person will be given priority in statewide resource allocation decisions.

Reallocation of ventilators. The evidence base for reallocation of ventilators, otherwise known as reverse triage, is evolving. The systems described in this document are not clearly amenable to reallocation. If the question of reallocation arose, such as in the event of intense pressures on ventilator allocation that well-surpassed available ventilator supplies, the teams involved in arbitration (the MVAT and FRAAT) could be involved for qualitative prioritization of patients using a variety of medical factors and updated medical evidence.

Figure 1. Process for Ethical Allocation of Scare Mechanical Ventilators



Appendix 3.a. Inclusion and Exclusion Criteria for Ethical Allocation of Scare Mechanical Ventilators

Inclusion criteria for mechanical ventilation during rationing:

A. Requirement for invasive ventilatory support
   - Refractory hypoxemia (SpO2 <90% on non-rebreather mask or FiO2>0.85)
   - Respiratory acidosis (pH<7.2)
   - Clinical evidence of impeding respiratory failure
   - Inability to protect or maintain airway

B. Hypotension (SBP<90 mm Hg or relative to needs) with clinical evidence of shock refractory to volume resuscitation requiring vasopressor or inotrope support that cannot be measured in a ward setting

Exclusion criteria mechanical ventilation during rationing:

A. Severe trauma with poor expected outcome
B. Severe burns with any two of the following:
   - >60 yrs. of age
   - >40% of body surface area affected
   - Co-existent inhalational injury
C. Unwitnessed, recurrent or unresponsive cardiac arrest
D. Metastatic malignant disease with poor expected response to therapy
E. Co-existent end-stage failure of a major organ (e.g. heart, lung, liver, or brain) with poor prior prognosis

During scarcity, while patients with varying severity levels are competing for limited health care resources, exclusion criteria for mechanical ventilation should include patients with a "do not intubate" code status. Otherwise, advance directive and code status should not affect allocation decisions.

(Adapted from Christian et al "Development of a triage protocol for critical care during an influenza pandemic" CMAJ 2006;175(11):1377-81)

Appendix 3.b. SOFA Score Calculation for Ethical Allocation of Scare Mechanical Ventilators

Scoring criteria for the Modified Sequential Organ-Failure Assessment (SOFA) score[1]

MSOFA Scoring Guidelines					
Variable	**Score***				
	0	**1**	**2**	**3**	**4**
SpO_2/FIO_2 ratio** or Nasal cannula or mask 0_2 required to keep $Sp0_2$ >90%	SpO_2/FIO_2 >400 or Room air SpO_2 >90%	SpO_2/FIO_2 316-400 or SpO_2 >90% at 1-3 L/min	SpO_2/FIO_2 231-315 or SpO_2 >90% at 4-6 L/min	SpO_2/FIO_2 151-230 or SpO_2 >90% at 7-10 L/min	SpO_2/FIO_2 <150 or SpO_2 >90% at >10 L/min
Bilirubin level, mg/dL (µmol/L)	< 1.2 (< 20)	1.2–1.9 (20–32)	2.0–5.9 (33–100)	6.0–11.9 (101–203)	> 12 (> 203)
Hypotension†	None	MABP < 70	Dop ≤ 5	Dop > 5 Epi ≤ 0.1 Norepi ≤ 0.1	Dop > 15 Epi > 0.1 Norepi > 0.1
Glasgow Coma score	15	13–14	10–12	6–9	< 6
Creatinine level, mg/dL	< 1.2	1.2–1.9	2.0–3.4	3.5–4.9 or urine output <500 mL in 24 hours	> 5 or urine output <200 mL in 24 hours

*Patients can receive a total score of 20 (5 categories with a total of 5 points for each category); any patient with a score of > 11 is excluded from critical care or mechanical ventilation.
** SpO_2/FIO_2 ratio: SpO_2 = Percent saturation of hemoglobin with oxygen as measured by a pulse oximeter and expressed as % (e.g., 95%); FIO_2 = Fraction of inspired oxygen; e.g., ambient air is 0.21
†MABP = mean arterial blood pressure in mm Hg (diastolic + 1/3(systolic - diastolic))
Dop = dopamine in micrograms/kg/min
Epi = epinephrine in micrograms/kg/min
Norepi = norepinephrine in micrograms/kg/min

From Vincent JL et al. The SOFA (Sepsis-related Organ Failure Assessment) score to describe organ dysfunction / failure. *Intensive Care Med.* 1996; 22:707-710.

Appendix 3.c. Triage Code Assignment based on SOFA Scores for Ethical Allocation of Scare Mechanical Ventilators

Patient in need of mechanical ventilator			
Patient meets Inclusion criteria for mechanical ventilator; triage code assigned below			
mSOFA = 0 – 3	MSOFA = 4 – 7	mSOFA = 8 – 11	mSOFA > 11
Lower Priority	Highest Priority	Intermediate Priority	Lower Priority
• Highest change of survival without treatment • Provide other therapies (supplemental oxygen, non-invasive mechanical ventilation, etc.) • Reassess as needed	• Highest chance of survival with treatment • Reassess as needed	• Resource use may be extensive and may not result in good patient outcome • Reassess as needed	• Lowest chance of survival even with treatment • Provide other therapies (supplemental oxygen, non-invasive mechanical ventilation, etc.) • Provide palliative care as appropriate • Reassess as needed

Note: SOFA = Sequential Organ-Failure Assessment.
*If an exclusion criterion is met or the SOFA score is >11 anytime from the initial assessment to 48 hours afterward, change the triage code to blue and proceed as indicated.

From Christian et al "Development of a triage protocol for critical care during an influenza pandemic" CMAJ 2006;175(11):1377-81

This approach to scarce mechanical ventilator allocation is strongly influenced by the 2015 New York state ventilator allocation guidelines, Biddison et al "Too Many Patients. A Framework to Guide Statewide Allocation of Scarce Mechanical Ventilation During Disasters" *Chest* 2019 and Christian et al "Development of a triage protocol for critical care during an influenza pandemic" *CMAJ* 2006;175(11):1377-81.

D. Appendix 4 Patient Care Strategies for Scarce Resource Situations

Patient care is a highly personal activity which involves both quantitative and qualitative decision-making. Medical providers are well experienced in providing care during conventional times when quantitative and qualitative evidence is reviewed to inform treatment decisions. Making ethically sound and medically appropriate treatment decisions during times when unprecedented demand far surpasses absent resources is an experience foreign to most medical providers. During such times, guidance on ways to prepare, conserve, substitute, adapt, re-use and re-allocate limited resources may prove a useful tool in the providers practice.

The Vermont Department of Health has developed a number of clinical strategies for the conservation and use of scarce resources during crisis situations and included those in its own CSC Framework. Many other states have adopted variations of the strategies below for CSC plans. The following strategies were developed by the Minnesota Department of Health but have been modified to meet the needs of the Vermont Department of Health.

PATIENT CARE STRATEGIES FOR SCARCE RESOURCE SITUATIONS

Table of Contents

Summary Card

Potential trigger events:	•MCI •Infrastructure damage/loss •Pandemic/Epidemic	•Supplier shortage •Recall/contamination of product •Isolation of facility due to access problems (flooding, etc.)

How to use this card set:

1. Recognize or anticipate resource shortfall
2. Implement appropriate incident management system and plans; assign subject matter experts (technical specialists) to problem
3. Determine degree of shortfall, expected demand, and duration; assess ability to obtain needed resources via local, regional, or national vendors or partners
4. Find category of resource on index
5. Refer to specific recommendations on card
6. Decide which strategies to implement and/or develop additional strategies appropriate for the facility and situation
7. Assure consistent regional approach by informing public health authorities and other facilities if contingency or crisis strategies will continue beyond 24h and no regional options exist for re-supply or patient transfer; activate regional scarce resource coordination plans as appropriate
8. Review strategies every operational period or as availability (supply/demand) changes

Core strategies to be employed (generally in order of preference) during, or in anticipation of a scarce resource situation are:

Prepare - pre-event actions taken to minimize resource scarcity (e.g., stockpiling of medications)
Substitute - use an essentially equivalent device, drug, or personnel for one that would usually be available (e.g., morphine for fentanyl)
Adapt – use a device, drug, or personnel that are not equivalent but that will provide sufficient care (e.g., anesthesia machine for mechanical ventilation) ***Conserve*** – use less of a resource by lowering dosage or changing utilization practices (e.g., minimizing use of oxygen driven nebulizers to conserve oxygen) ***Re-use*** – re-use (after appropriate disinfection / sterilization) items that would normally be single-use items
Re-allocate – restrict or prioritize use of resources to those patients with a better prognosis or greater need

Capacity Definitions:

Conventional capacity – The spaces, staff, and supplies used are *consistent with daily practices* within the institution. These spaces and practices are used during a major MCI that triggers activation of the facility EOP.	**Contingency capacity** – The spaces, staff, and supplies used are not consistent with daily practices, but provide care to a standard that is *functionally equivalent* to usual patient care practices. These spaces or practices may be used temporarily during a major MCI or on a more sustained basis during a disaster (when the demands of the incident exceed community resources).	**Crisis capacity** – Adaptive spaces, staff, and supplies are not consistent with usual standards of care but provide *sufficiency* of care in the setting of a catastrophic disaster (i.e., provide the best possible care to patients given the circumstances and resources available). Crisis capacity activation constitutes a significant adjustment to standards of care (Hick et al, 2009).

This card set is designed to facilitate a structured approach to resource shortfalls at a healthcare facility. It is a decision support tool and assumes that incident management is implemented and that key personnel are familiar with ethical frameworks and processes that underlie these decisions
Each facility will have to determine the most appropriate steps to take to address specific shortages. Pre-event familiarization with the contents of this card set is recommended to aid with event preparedness and anticipation of specific resource shortfalls. The cards do not provide comprehensive guidance, addressing only basic common categories of medical care. Facility personnel may determine additional coping mechanisms for the specific situation in addition to those outlined on these cards.
The content of this card set was developed by the Minnesota Department of Health (MDH) Science Advisory Team in conjunction with many subject matter experts whose input is greatly appreciated. This guidance does not represent the policy of MDH or VDH. Facilities and personnel implementing these strategies in crisis situations should assure communication of this to their healthcare and public health partners to assure the invocation of appropriate legal and regulatory protections in accord with State and Federal laws. This guidance may be updated or changed during an incident by VDH. The weblinks and resources listed are examples and may not be the best sources of information available. Their listing does not imply endorsement by VDH. This guidance does not replace the judgement of the clinical staff and consideration of other relevant variables and options during an event.

OXYGEN

STRATEGIES FOR SCARCE RESOURCE SITUATIONS

RECOMMENDATIONS	*Strategy*	*Conventional*	*Contingency*	*Crisis*
Inhaled Medications • Restrict the use of Small Volume Nebulizers when inhaler substitutes are available. • Restrict continuous nebulization therapy. • Minimize frequency through medication substitution that results in fewer treatments (6h-12h instead of 4h-6h applications).	*Substitute & Conserve*			
High-Flow Applications • Restrict the use of high-flow cannula systems as these can demand 12 to 40 LPM flows. • Restrict the use of simple and partial rebreathing masks to 10 LPM maximum. • Restrict use of Gas Injection Nebulizers as they generally require oxygen flows between 10 LPM and 75 LPM. • Eliminate the use of oxygen-powered venturi suction systems as they may consume 15 to 50 LPM.	*Conserve*			
Air-Oxygen Blenders • Eliminate the low-flow reference bleed occurring with any low-flow metered oxygen blender use. This can amount to an ad- additional 12 LPM. Reserve air-oxygen blender use for mechanical ventilators using high-flow non-metered outlets. (These do not utilize reference bleeds). • Disconnect blenders when not in use.	*Conserve*			
Oxygen Conservation Devices • Use reservoir cannulas at 1/2 the flow setting of standard cannulas. • Replace simple and partial rebreather mask use with reservoir cannulas at flowrates of 6-10 LPM.	*Substitute & Adapt*			
Oxygen Concentrators if Electrical Power Is Present • Use hospital-based or independent home medical equipment supplier oxygen concentrators if available to provide low-flow cannula oxygen for patients and preserve the primary oxygen supply for more critical applications.	*Substitute & Conserve*			
Monitor Use and Revise Clinical Targets • Employ oxygen titration protocols to optimize flow or % to match targets for SPO2 or PaO2. • Minimize overall oxygen use by optimization of flow. • Discontinue oxygen at earliest possible time. **Starting Example** — **Initiate O2** — **O2 Target** Normal Lung Adults — SPO2 <90% — SPO2 90% Infants & Peds — SPO2 <90% — SPO2 90-95% Severe COPD History — SPO2 <85% — SPO2 90% **Note**: Targets may be adjusted further downward depending on resources available, the patient's clinical presentation, or measured PaO2 determination.	*Conserve*			
Expendable Oxygen Appliances • Use terminal sterilization or high-level disinfection procedures for oxygen appliances, small & large-bore tubing, and ventilator circuits. Bleach concentrations of 1:10, high-level chemical disinfection, or irradiation may be suitable. Ethylene oxide gas sterilization is optimal but requires a 12-hour aeration cycle to prevent ethylene chlorohydrin formation with polyvinyl chloride plastics.	*Re-use*			
Oxygen Re-Allocation • Prioritize patients for oxygen administration during severe resource limitations.	*Re-Allocate*			

STAFFING
STRATEGIES FOR SCARCE RESOURCE SITUATIONS

RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Staff and Supply Planning • Assure facility has process and supporting policies for disaster credentialing and privileging - including degree of supervision required, clinical scope of practice, mentoring and orientation, and verification of credentials • Encourage employee preparedness planning (www.ready.gov and other resources). • Cache adequate personal protective equipment (PPE) and support supplies. • Educate staff on institutional disaster response. • Educate staff on community, regional and state disaster plans and resources. • Develop facility plans addressing staff's family / pets or staff shelter needs.	*Prepare*			
Focus Staff *Time* on Core Clinical Duties • Minimize meetings and relieve administrative responsibilities not related to event. • Reduce documentation requirements. • Cohort patients to conserve PPE and reduce staff PPE donning/doffing time and frequency. • Restrict elective appointments and procedures.	*Conserve*			
Use Supplemental Staff • Bring in equally trained staff (burn or critical care nurses, Disaster Medical Assistance Team [DMAT], other health system or Federal sources). • Equally trained staff from administrative positions (nurse managers).	*Substitute*			
• Adjust personnel work schedules (longer but less frequent shifts, etc.) if this will not result in skill / PPE compliance deterioration. • Use family members/lay volunteers to provide basic patient hygiene and feeding – releasing staff for other duties.	*Adapt*			
Focus Staff *Expertise* on Core Clinical Needs • Personnel with specific critical skills (ventilator, burn management) should concentrate on those skills; specify job duties that can be safely performed by other medical professionals. • Have specialty staff oversee larger numbers of less-specialized staff and patients (for example, a critical care nurse oversees the intensive care issues of 9 patients while 3 medical/surgical nurses provide basic nursing care to 3 patients each). • Limit use of laboratory, radiographic, and other studies, to allow staff reassignment and resource conservation. • Reduce availability of non-critical laboratory, radiographic, and other studies.	*Conserve*			
Use Alternative Personnel to Minimize Changes to Standard of Care • Use less trained personnel with appropriate mentoring and just-in-time education (e.g., healthcare trainees or other health care workers, Medical Reserve Corps, retirees). • Use 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. • Cancel most sub-specialty appointments, endoscopies, etc. and divert staff to emergency duties including in-hospital or assisting public health at external clinics/screening/dispensing sites.	*Adapt*			

RECOMMENDATIONS	*Strategy*	*Conventional*	*Contingency*	*Crisis*
Food • Maintain hospital supply of inexpensive, simple to prepare, long-shelf life foodstuffs as contingency for at least 96 hours without resupply, with additional supplies according to hazard vulnerability analysis (e.g., grains, beans, powdered milk, powdered protein products, pasta, and rice). Access existing or devise new emergency/disaster menu plans. • Maintain hospital supply of at least 30 days of enteral and parenteral nutrition components and consider additional supplies based on institution-specific needs. Review vendor agreements and their contingencies for delivery and production, including alternate vendors. Note: A 30-day supply based on usual use may be significantly shortened by the demand of a disaster.	*Prepare*			
Water • Stock bottled water sufficient for drinking needs for at least 96 hours if feasible (for staff, patients and family/visitors), or assure access to drinking water apart from usual supply. Potential water sources include food and beverage distributors. • Ensure there is a mechanism in place to verify tap water is safe to drink. • Infants: assure adequate stocks of formula and encourage breastfeeding.	*Prepare*			
Staff/Family • Plan to feed additional staff, patients, and family members of staff/patients in select situations (ice storm as an example of a short-term incident, an epidemic as an example of a long-term incident).	*Prepare*			
Planning • Work with stakeholders to encourage home users of enteral and parenteral nutrition to have contingency plans and alternate delivery options. Home users of enteral nutrition typically receive delivery of 30 days' supply and home users of parenteral nutrition typically receive a weekly supply. Anticipate receiving supply requests from home users during periods of shortage. Work with vendors regarding their plans for continuity of services and delivery. • Identify alternate sources of food supplies for the facility should prime vendors be unavailable (including restaurants – which may be closed during epidemics). Consider additional food supplies at hospitals that do not have food service management accounts. • Determine if policy on family provision of food to patients is in place, and what modifications might be needed or permitted in a disaster. • Liberalize diets and provide basic nutrients orally, if possible. Total parenteral nutrition (TPN) use should be limited and prioritized for neonatal and critically ill patients. • Non-clinical personnel serve meals and may assist preparation. • Follow or modify current facility guidelines for provision of food/feeding by family members of patients. • Anticipate and have a plan for the receipt of food donations. If donated food is accepted, it should be non-perishable, prepack- aged, and in single serving portions. • Collaborate with pharmacy and nutrition services to identify patients appropriate to receive parenteral nutrition support vs. enteral nutrition. Access premixed TPN/PPN solutions from vendor if unable to compound. Refer to Centers for Disease Control (CDC) Fact Sheets and American Society for Parenteral and Enteral Nutrition (ASPEN) Guidelines. Substitute oral supplements for enteral nutrition products if needed. • Eliminate or modify special diets temporarily. • Use blenderized food and fluids for enteral feedings rather than enteral nutrition products if shortages occur. Examples: 1. The Oley Foundation: Making Your Own Food for Tube Feeding, http://www.oley.org/lifeline/TubetalkSO07.html#Making%20your%20own 2. Klein, Marsha Dunn, and Suzanne Evans Morris. Homemade Blended Formula Handbook. Tucson: Mealtime Notions LLC, 2007.	*Prepare* *Substitute* *Adapt* *Substitute & Adapt* *Adapt*			

MEDICATION ADMINISTRATION
STRATEGIES FOR SCARCE RESOURCE SITUATIONS

RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Cache / Increase Supply Levels • 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. • Increase supply levels or cache critical medications - particularly for low-cost items and analgesics. • Key examples include:	*Prepare*			
Use Equivalent Medications • Obtain medications from alternate supply sources (pharmaceutical representatives, pharmacy caches).	*Substitute*			
	Substitute			
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 allowing 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. • Do without - consider impact if medications not taken during shortage (statins, etc.).	*Conserve*			
	Conserve			

Analgesia	• morphine, other narcotic and non-narcotic (non-steroidals, acetaminophen) class - injectable and oral (narcotic conversion tool at http://www.globalrph.com/narcoticonv.htm)
Sedation	• particularly benzodiazepine (lorazepam, midazolam, diazepam) injectables
Anti-infective	• narrow and broad-spectrum antibiotics for pneumonia, skin infections, open fractures, sepsis (e.g.: cephalosporins, quinolones, tetracyclines, macrolides, aminoglycosides, clindamycin, etc.), select antivirals
Pulmonary	• metered dose inhalers (albuterol, inhaled steroids), oral steroids (dexamethasone, prednisone)
Behavioral Health	• haloperidol, other injectable and oral anti-psychotics, common anti-depressants, anxiolytics
Other	• sodium bicarbonate, paralytics, induction agents (etomidate, propofol), proparacaine/tetracaine, atropine, pralidoxime, epinephrine, local anesthetics, antiemetics, insulin, common oral anti-hypertensive and diabetes medications

Pulmonary	• Metered dose inhalers instead of nebulized medications
Analgesia/ Sedation	• Consider lorazepam for propofol substitution (and other agents in short supply) • ICU analgesia/sedation drips Morphine 4-10mg IV load then 2mg/h and titrate / re-bolus as needed usual 3-20mg/h); lorazepam 2-8mg or midazolam 1-5mg IV load then 2-8mg/h drip
Anti-infective	• Examples: cephalosporins, gentamicin, clindamycin substitute for unavailable broad-spectrum antibiotic • Target therapy as soon as possible based upon organism identified.
Other	• Beta blockers, diuretics, calcium channel blockers, ace inhibitors, anti-depressants, anti-infectives

*Legal protection such as Food and Drug Administration approval or waiver required.

RECOMMENDATIONS	***Strategy***	***Conventional***	***Contingency***	***Crisis***
Modify Medication Administration • Emphasize oral, nasogastric, subcutaneous routes of medication administration. • Administer medications by gravity drip rather than IV pump if needed: *IV drip rate calculation - drops / minute = amount to be infused x drip set / time (minutes) (drip set = qtts / mL - 60, 10, etc.).* • Rule of 6: pt wgt (kg) x 6 = mg drug to add to 100mL fluid = 1mcg / kg / min for each 1 mL / hour NOTE: For examples, see http://www.dosagehelp.com/iv_rate_drop.html	*Adapt*			
• Consider use of select medications beyond expiration date. * • Consider use of veterinary medications when alternative treatments are not available. *	*Adapt*			
Restrict Allocation of Select Medications • Allocate limited stocks of medications with consideration of regional/state guidance and available epidemiological information (e.g.: anti-viral medications such as olseltamivir)	*Re-Allocate*			
• Allocate limited stock to support other re-allocation decisions (ventilator use, etc.).	*Re-Allocate*			

RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Cache Additional Intravenous (IV) Cannulas, Tubing, Fluids, Medications, and Administration Supplies	*Prepare*			
Use Scheduled Dosing and Drip Dosing When Possible • Reserve IV pump use for critical medications such as sedatives and hemodynamic support.	*Conserve*			
Minimize Invasive Monitoring • Substitute other assessments (e.g., clinical signs, ultrasound) of central venous pressure (CVP). • When required, assess CVP intermittently via manual methods using bedside saline manometer or transducer moved be- tween multiple patients as needed, or by height of blood column in CVP line held vertically while patient supine.	*Conserve*			
Emphasize Oral Hydration Instead of IV Hydration When Possible Utilize appropriate oral rehydration solution: • Oral rehydration solution: 1 liter water (5 cups) + 1 tsp salt + 8 tsp sugar, add flavor (e.g., ½ cup orange juice, other) as needed. • Rehydration for moderate dehydration 50-100mL / kg over 2-4 hours Pediatric hydration: Pediatric maintenance fluids: • 4 mL/kg/h for first 10kg of body weight (40 mL/h for 1st 10 kg) • 2 mL/kg/h for second 10kg of body weight (20 mL/h for 2nd 10kg = 60 mL/h for 20kg child) • 1 mL/kg/h for each kg over 20kg (example - 40 kg child = 60 mL/h plus 20 mL/h = 80 mL/h) Supplement for each diarrhea or emesis NOTE: Clinical (urine output, etc.) and laboratory (BUN, urine specific gravity) assessments and electrolyte correction are key components of fluid therapy and are not specifically addressed by these recommendations. NOTE: For further information and examples, see http://rehydrate.org, http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5216a1.htm and http://www.ped.med.utah.edu/cai/howto/IntravenousFluidOrders.PDF.	*Substitute*			
Provide Nasogastric Hydration Instead of IV Hydration When Practical • Patients with impediments to oral hydration may be successfully hydrated and maintained with nasogastric (NG) tubes. • For fluid support, 8-12F (pediatric: infant 3.5F, < 2yrs 5F) tubes are better tolerated than standard size tubes.	*Substitute*			
Substitute Epinephrine for Other Vasopressor Agents • For hemodynamically unstable patients who are adequately volume-resuscitated, consider adding 6mg epinephrine (6mL of 1:1000) to 1000mL NS on minidrip tubing and titrate to target blood pressure. • Epinephrine 1:1000 (1mg/mL) multi-dose vials available for drip use.	*Substitute*			
Re-use CVP, NG, and Other Supplies After Appropriate Sterilization / Disinfection • Cleaning for all devices should precede high-level disinfection or sterilization. • High-level disinfection for at least twenty minutes for devices in contact with body surfaces (including mucous membranes); glutaraldehyde, hydrogen peroxide 6%, or bleach (5.25%) diluted 1:20 (2500 ppm) are acceptable solutions. NOTE: chlorine levels reduced if stored in polyethylene containers - double the bleach concentration to compensate). • Sterilize devices in contact with bloodstream (e.g., ethylene oxide sterilization for CVP catheters).	*Re-use*		(disinfection – NG, etc.)	(sterilization - central line, etc.)

RECOMMENDATIONS	*Strategy*	*Conventional*	*Contingency*	*Crisis*
Intraosseous / Subcutaneous (Hypodermoclysis) Replacement Fluids • Consider as an option when alternative routes of fluid administration are impossible/unavailable • Intraosseous before percutaneous Intraosseous • Intraosseous infusion is not generally recommended for hydration purposes but may be used until alternative routes are available. Intraosseous infusion requires pump or pressure bag. Rate of fluid delivery is often limited by pain of pressure within the marrow cavity. This may be reduced by pre-medication with lidocaine 0.5mg/kg slow IV push. Hypodermoclysis • Cannot correct more than moderate dehydration via this technique. • Many medications cannot be administered subcutaneously. • Common infusion sites: pectoral chest, abdomen, thighs, upper arms. • Common fluids: normal saline (NS), D5NS, D5 1/2 NS (Can add up to 20-40 mEq potassium if needed.) • Insert 21/24-gauge needle into subcutaneous tissue at a 45-degree angle, adjust drip rate to 1-2mL per minute. (May use 2 sites simultaneously if needed.) • Maximal volume about 3 liters / day; requires site rotation. • Local swelling can be reduced with massage to area. • Hyaluronidase 150 units / liter facilitates fluid absorption but not required; may not decrease occurrence of local edema.	*Substitute*			
Consider Use of Veterinary and Other Alternative Sources for Intravenous Fluids and Administration Sets	*Adapt*			

BLOOD PRODUCTS
STRATEGIES FOR SCARCE RESOURCE SITUATIONS

Category	RECOMMENDATIONS	Healthcare Facility	Blood Center	Strategy	Conventional	Contingency	Crisis
All Blood Products	• Increase donations if required, and consider local increase in frozen reserves • Increase O positive levels • Consider maintaining a frozen blood reserve if severe shortage • Increase recruitment for specific product needs		√	*Prepare*			
	• Consider adjustments to donor HGB/HCT eligibility		√	*Adapt*			
	• Relax travel deferrals for possible malaria and BSE (bovine spongiform encephalitis)*		√	*Prepare*			
Packed Red Blood Cells	• Use cell-saver and auto-transfusion to degree possible	√		*Re-use*			
	• Limit O negative use to women of child-bearing age • Use O positive in emergent transfusion in males or non-child bearing females to conserve O negative	√		*Conserve*			
	• Change donations from whole blood to 2x RBC apheresis collection if specific shortage of PRBCs		√	*Adapt*			
	• More aggressive crystalloid resuscitation prior to transfusion in shortage situations (blood substitutes may play future role)	√		*Conserve*			
	• Long-term shortage, collect autologous blood pre-operatively and consider cross-over transfusion	√		*Conserve*			
	• Enforce lower hemoglobin triggers for transfusion (for example, HGB 7)	√		*Conserve*			
	• Consider limiting high-consumption elective surgeries (select cardiac, orthopedic, etc.)	√		*Conserve*			
	• Consider use of erythropoietin (EPO) for chronic anemia in appropriate patients	√		*Adapt*			
	• Further limit PRBC use, if needed, to active bleeding states, consider subsequent restrictions including transfusion only for end-organ damage, then to shock states only	√		*Re-allocate*			
	• Consider Minimum Qualifications for Survival (MQS) limits on use of PRBCs (for example, only initiate for patients that will require <6 units PRBCs and/or consider stopping transfusion when > 6 units utilized). Specific MQS limits should reflect available resources at facility.	√		*Re-allocate*			
	• Reduce or waive usual 56-day inter-donation period* based upon pre-donation hemoglobin		√	*Adapt*			
	• Reduce weight restrictions for 2x RBC apheresis donations according to instruments used and medical director guidance*		√	*Adapt*			
Fresh Frozen Plasma	• Though not true substitute, consider use of fibrinolysis inhibitors or other modalities to reverse coagulopathic states (tranexamic acid, aminocaproic acid, activated coagulation factor use, or other appropriate therapies)	√		*Substitute*			
	• Consider reduction in red cell:FFP ratios in massive transfusion protocols in consultation with blood bank medical staff	√		*Conserve*			
	• No anticipatory use of FFP in hemorrhage without documented coagulopathy	√		*Conserve*			
	Obtain FDA variance to exceed 24 collections per year for critical types* *FDA approval/variance required via American Association of Blood Banks (AABB)		√	*Adapt*			

BLOOD PRODUCTS
STRATEGIES FOR SCARCE RESOURCE SITUATIONS

Category	RECOMMENDATIONS	Healthcare Facility	Blood Center	Strategy	Conventional	Contingency	Crisis
Platelets	• Though not true substitute, consider use of desmopressin (DDAVP) to stimulate improved platelet performance in renal and hepatic failure patients	√		*Substitute*			
	• May use leukoreduced whole blood pooled platelets (and, if required, consider non-leukoreduced whole blood pooled platelets)		√	*Adapt*	Leukoreduced		Non-leukoreduced
	• Convert less needed ABO Whole Blood to Apheresis		√	*Adapt*			
	• Transfuse platelets only for active bleeding, further restrict to life-threatening bleeding if required by situation	√		*Conserve*			
	• No prophylactic use of platelets	√		*Conserve*			
	• Accept female platelet donors without HLA antibody screen		√	*Adapt*			
	• Accept female donors for pooled and stored platelets		√	*Adapt*			
	• Apply for variance of 7 day outdate requirement*		√	*Adapt*			
	• Consider a 24 hour hold until the culture is obtained and immediate release for both Pool and Apheresis		√	*Adapt*			
	• Obtain FDA variance to allow new Pool and Store sites to ship across state lines*		√	*Adapt*			
	• Reduce pool sizes to platelets from 3 whole blood donations		√	*Adapt*			

*FDA approval/variance required via American Association of Blood Banks (AABB)

RENAL REPLACEMENT THERAPY
REGIONAL RESOURCE CARD

Resource cards are intended to provide incident-specific tactics and planning information to supplement the general strategy cards. They are organized according to the 'CO-S-TR' framework of incident response planning – http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8844490&fulltextType=RA&fileId=S193578930000135X

Category	*RESOURCE and RECOMMENDATIONS*	*Strategy*	*Conventional*	*Contingency*	*Crisis*
Command, Control, Communication, Coordination	**General Preparedness Information** Compared to other critical care interventions, hemodialysis offers equipment availability, expansion capacity, and care coordination that greatly reduces the risk of contingency and crisis care, at least in our geographic area. Disaster dialysis challenges generally result from: 1. Lack of clean water sources (each hemodialysis requires about 160 liters ultra-clean water) 2. Relocation of dialysis-dependent patients to a new area (evacuation of nursing homes, flood zones, etc.) 3. Increase in patients requiring dialysis (crush syndrome, unusual infections) <u>Outpatient</u> • Primary providers • Renal Network <u>Inpatient</u> • Most facilities lease inpatient services via contract with above or other agencies; some have own nurses and program – plans should account for contingency use of alternate services / leasing services <u>Patient preparedness</u> • Patients should have a disaster plan – including specific foods set aside for up to 72h. Note that shelters are unlikely to have foods conducive to renal dietary needs (low sodium, etc.) • Personal planning guidance is available at: http://www.kidney.org/atoz/pdf/disaster_prepardness.pdf **Shortage of Renal Replacement Therapy (RRT) Resources** • Affected facility should contact involved/affected dialysis provider companies and organizations as expert consultants	*Prepare*			
Space	**Relocated Patients Requiring Outpatient Dialysis** • Contact usual outpatient provider network to schedule at new facility – refer patients to 'hotlines' as needed **Excess Patients Requiring Dialysis** • Transfer patients to other facilities capable of providing dialysis • Consider moving patients to facilities with in-house water purification if water quality is an issue for multiple inpatients requiring dialysis	*Substitute*			
	• Consider moving other inpatient or outpatient dialysis staff and equipment to facilities requiring increased dialysis capacity	*Adapt*			

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Supplies	**Water Supply** • Quantify water-purifying machines available for bedside dialysis machines • Identify facilities providing high-volume services that purify their own water and pipe to specific rooms in the dialysis unit, intensive care, etc. • Identify water-purifying and dialysis machines to be obtained through lease agreements	*Prepare*			
	Water Contamination • Consider alternate sources of highly purified water • Consider transferring stable inpatients to outpatient dialysis centers for dialysis treatments and vice versa • Consider use of VT National Guard water reserves and purification equipment – but must assure adequate purity for dialysis (potable is NOT sufficiently clean)	*Prepare* *Substitute* *Adapt*			
	Power Outage or Shortage • Consider transferring stable inpatients to outpatient dialysis centers for dialysis treatments and vice versa • Consider transferring inpatients to other hospitals • Consider transfer of outpatients to other facilities for care until issue resolved	*Substitute* *Adapt*			
	Dialysis Catheters, Machines, Reverse Osmosis Machines, and/or Other Supply Shortages ***Note:*** Dialysis catheters and tubing are inexpensive, relatively interchangeable, and supplied by several manufacturers • Stock adequate dialysis tubing sets and venous access catheters (Quinton, etc.) for at least one month's usual use • Identify provider network and other sources of supplies and machines • Transfer machines/supplies between outpatient centers and hospitals, or between hospitals	*Prepare* *Substitute*			
Staff	**Dialysis Staff Shortages**[2] • Non-dialysis nursing staff to take on "routine" elements of dialysis nursing (e.g., taking VS, monitoring respiratory and hemodynamic status, etc.) • Dialysis nursing staff to supervise non-dialysis nursing staff providing some dialysis functions • Outpatient dialysis techs may be used to supervise dialysis runs if provider deficit is critical issue (would be unlikely aside from potentially in pandemic or other situation affecting staff)	*Substitute* *Adapt*			
Special	**Community Planning** • Medical needs of re-located renal failure patients are substantial; planning on community level should incorporate their medication and dietary needs during evacuation and sheltering activities.	*Prepare*			
Triage	**Insufficient Resources Available For All Patients Requiring Dialysis** • Change dialysis from 'scheduled' to 'as needed' based on clinical and laboratory findings (particularly hyperkalemia and impairment of respiration) – parameters may change based on demand for resources • Conceivable (but extraordinary, given outpatient dialysis machine resources) situations may occur where resources are insufficient to the point that some patients may not be able to receive dialysis (for example, pandemic when demand nationwide exceeds available resources) – access to dialysis should be considered as part of critical care intervention prioritization (see Mechanical Ventilation Strategies for Scarce Resource Situations)	*Conserve* *Re-allocate*			

RENAL REPLACEMENT THERAPY
REGIONAL RESOURCE CARD

Category	*RESOURCE and RECOMMENDATIONS*	*Strategy*	*Conventional*	*Contingency*	*Crisis*
Treatment	**Crush Syndrome** • Initiate IV hydration and acidosis prevention protocols "in the field" for crush injuries to prevent/treat rhabdomyolysis in hospital settings	*Conserve*			
	Mode of Dialysis • Restrict to hemodialysis only for inpatient care (avoid continuous renal replacement therapy (CRRT) and peritoneal dialysis (PD) due to duration of machine use (CRRT) and supply issues (PD))	*Substitute*			
	Increased Demand on Resources • Shorten duration of dialysis for patients that are more likely to tolerate it safely • Patients to utilize their home "kits" of medication (Kayexalate) and follow dietary plans to help increase time between treatments, if necessary	*Conserve*			
Transportation	**Transportation Interruptions** • Dialysis patients may require alternate transportation to assure ongoing access to dialysis treatment. • Chronic patients should coordinate with their service providers / dialysis clinics first for transportation and other assistance during service/transportation interruptions. • Emergency management and/or the health and medical sector may have to supplement contingency transportation to dialysis during ice storms or other interruptions to transportation.	*Prepare* *Adapt*			

1 The major national dialysis corporations have extensive experience contending with disasters; their input during any anticipated or actual incident is imperative to optimize the best patient care.

2 See Staffing in the Core Clinical Strategies for Scarce Resource Situations card set.

Resource cards are intended to provide incident-specific tactics and planning information to supplement the general strategy cards. They are organized according to the 'CO-S-TR' framework of incident response planning – http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8844490&fulltextType=RA&fileId=S193578930000135X

Category	*RESOURCE and RECOMMENDATIONS*	*Strategy*	*Conventional*	*Contingency*	*Crisis*
Supplies Typical Planning Numbers	**Hospital Outpatient Supply Planning** *Outpatient clinics and urgent care centers may also cache appropriate supplies for their location and patient population.* ***Suggested supplies per patient for first 72 hours (amounts needed will vary) include:*** • 5 - 8 cm x 18 cm (3 x 7 inch) sheets petroleum-impregnated gauze (e.g., Adaptic) • 4 - 10 cm (4 inch) rolls of stretchable roller gauze (e.g., Kerlix); variety of sizes suggested • 2 - 120 g (4 oz) tube bacitracin • 30 tablets of ibuprofen 800 mg and stock liquid form for pediatric use • 50 – opioid analgesic tablets (50 tablets for 5-day supply if 1-2 tablets every 4 to 6 hours); also stock pediatric alternatives • Assume half of all patients will require tetanus boosters • Especially in smaller communities, outpatient/pharmacy resources may be limited. Assess and plan for up to 72 hours without re-supply	*Prepare* *Increase Supply* *Adapt*			
	Inpatient Supply Planning Institutions should prepare based on role in community. In contingency/crisis situation, emphasis moves away from silver-impregnated dressings (expensive to stockpile) to bacitracin/petrolatum-impregnated dressings (e.g. Adaptic). If transfer is possible within the first 24 hours, simple dry sterile sheets or dressings are appropriate - see Burn Triage Card for further information. Consider stocking or having plans to obtain supplies sufficient for 2-3 days of care. Estimated usage of supplies per 24 hours **per patient** is below. • 15 - 8 cm x 18 cm (3 x 7 inch) sheets petroleum gauze (about 50% of total body surface area (BSA) normal body mass patient - use as average for major burn patient) • 2 - bacitracin 120 g (4 oz) tubes (or 1 lb. jar for 2 victims) • 10 rolls of 10 cm (4 inch) stretchable roller gauze, such as Kerlix • 2-5 cm (2 inch) rolls stretchable roller gauze (e.g., Kerlix) for fingers/toes/small area wrapping - can cut 4 inch in half also • Morphine (or equivalent) 10 mg/hour x 24 hours = (roughly) 250mg/day/patient • Massive doses of opioid analgesia and anxiolytics may be required by burn patients (including any patients that are only receiving palliative care) • 1 tetanus booster per 2 patients • IV fluid - for example from Parkland formula 4mL/kg x 50% BSA = 14 liters of fluid. Lactated Ringers usually preferred, but saline acceptable • 1 - central line (including 20% pediatric sizes)	*Prepare* *Increase Supply* *Adapt*			

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Staff	**Staff** • Strongly consider pre-incident training on care of major burns for physician and nursing staff; have quick-reference cards/materials available for burn stabilization • Identify staff with prior burn treatment experience (e.g., military) • Plan for just-in-time training for non-burn nursing and physician staff, reinforcing key points of burn patient care (including importance of adequate fluid resuscitation, urine output parameters, principles of analgesia, etc.) • Consider sending burn-trained RN/MD to affected center to assist with triage and initial management if staffing allows. • Burn nurses and physicians provide burn/dressing related care only; other ICU and floor nursing and physician staff provide supportive care. Adjust burn nurse staffing patterns as needed. See *Staffing Strategies for Scarce Resource Situations* sheet for further considerations • Consider just-in-time training on dressing changes, wound care and monitoring – especially at non-burn centers • MDH may work with state and upper Midwest experts to set up a 'hotline' and/or telemedicine or other virtual means by which non-burn centers may easily consult with burn experts • National Disaster Medical System (NDMS) personnel and other supplemental staff may be required	*Prepare* *Adapt* *Adapt* *Conserve* *Adapt* *Substitute*			
Special	**Special Considerations** Consider availability of resources for: • Airway/inhalational injury – extra airway management supplies, bag-valve assemblies, etc. • Pediatric age-appropriate intravenous, intraosseous access devices, medication dosing guides • Consider carbon monoxide or cyanide poisoning if closed space smoke exposure – consult Poison Control Center* • Inhalational exposure – aggressive, early airway management for inhalational injuries • Electrical – high incidence of rhabdomyolysis and internal injuries – increase fluid resuscitation, add bicarbonate to intravenous fluids to alkalinize urine, monitor serum bicarbonate, creatinine, and creatine kinase • Chemical and radiologic – consider need for specific therapies - consult Poison Control Center* • Consider need for decontamination - consult Poison Control Center* • Psychological support for patients, their families and staff. (Do not under-estimate the increased stress and psychological impact of a burn incident, particularly an MCI, on health care providers.) * Poison Control Center 1-800-222-1222	*Prepare*			

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Triage	**Critical Burns – Transfer to Burn Center As Soon As Possible** • See Burn Triage Card • Regardless of the extent of burn involvement, palliation of pain should be considered a priority. If large number of casualties and very severe burns, triage may have to be implemented based on knowledge of percent burn, age and underlying health issues, combined trauma or other conditions (such as severe inhalational injury). Initially, full support should be provided to as many patients as possible. **A triage table may contribute to decisions made by burn surgeons but should NOT substitute for a more global assessment of patient prognosis.** (Saffle JR, Gibran N, Jordan M. Defining the ratio of outcomes to resources for triage of burn patients in mass casualties. J Burn Care Rehabil. 2005;26:478-482)	*Conserve*			
		Re-Allocate			

Burn Size (% total body surface area)

Age (yrs)	0-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	81-90%	91%+
0-1.9	Very high	Very high	Very high	High	Medium	Medium	Medium	Low	Low	Low/ Expectant
2.0-4.9	Outpatient	Very high	Very high	High	High	High	Medium	Medium	Low	Low
5.0-19.9	Outpatient	Very high	Very high	High	High	High	Medium	Medium	Medium	Low
20.0-29.9	Outpatient	Very high	Very high	High	High	Medium	Medium	Medium	Low	Low
30.0-39.9	Outpatient	Very high	Very high	High	Medium	Medium	Medium	Medium	Low	Low
40.0-49.9	Outpatient	Very high	Very high	Medium	Medium	Medium	Medium	Low	Low	Low
50.0-59.9	Outpatient	Very high	Very high	Medium	Medium	Medium	Low	Low	Low/ Expectant	Low/ Expectant
60.0-69.9	Very high	Very high	Medium	Medium	Low	Low	Low	Low/ Expectant	Low/ Expectant	Low/ Expectant
70.0+	Very high	Medium	Medium	Low	Low	Low/ Expectant	Expectant	Expectant	Expectant	Expectant

Outpatient: Survival and good outcome expected, without requiring initial admission; **Very High:** Survival and good outcome expected with limited/short-term initial admission and resource allocation (straightforward resuscitation, LOS <14-21 days, 1-2 surgical procedures); **High:** Survival and good outcome expected (survival > 90%) with aggressive and comprehensive resource allocation, including aggressive fluid resuscitation, admission >14-21 days, multiple surgeries, prolonged rehabilitation; **Medium:** Survival 50-90% and/or aggressive care and comprehensive resource allocation required, including aggressive resuscitation, initial admission >14-21 days, multiple surgeries and prolonged rehabilitation; **Low:** Survival <50% even with long-term aggressive treatment and resource allocation; **Expectant:** Predicted survival <10% even with unlimited aggressive treatment.

BURN TREATMENT
REGIONAL RESOURCE CARD

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Treatment	**Treatment** Provide stabilizing burn care (airway, fluid management, analgesia, etc. – see Burn Triage Card with initial priorities, wound care, and nursing care). After stabilizing care, assess need for transfer to burn center. In a mass burn incident, assure coordination with Regional Hospital Resource Center, which will help to prioritize transportation and manage logistics. Patients may have to be held for 1-2 days at non-burn centers awaiting transfer in some cases.	*Adapt*			
Transport	**Transport** • Initial dressings should be dry, sterile dressing if transfer planned. If transfer will be delayed, adaptic dressings may be applied in consultation with burn center. • In consultation with burn specialist, arrange air medical transport or ground transport as appropriate. If multiple institutions are affected, coordinate with Regional Healthcare Preparedness Coordinators • Obtain consultation with burn experts for ongoing care and triage/transportation prioritization if immediate transportation/referral is not possible • Plan for oxygen, fluids, and analgesia requirements during transport • Consider need for airway intervention prior to transport • Multi-agency coordination center may be used to help prioritize use of transportation assets	*Prepare* *Adapt*			

BURN TRIAGE CARD

Patient Arrives / Initial Assessment

High risk features?

- Partial thickness burns > 10% total body surface area (BSA)
- Burns that involve the face, hands, feet, genital area or joints
- Third degree burns
- Electrical burns, including lightning injury
- Chemical burns
- Inhalation injury
- Any patient with burns and concomitant trauma

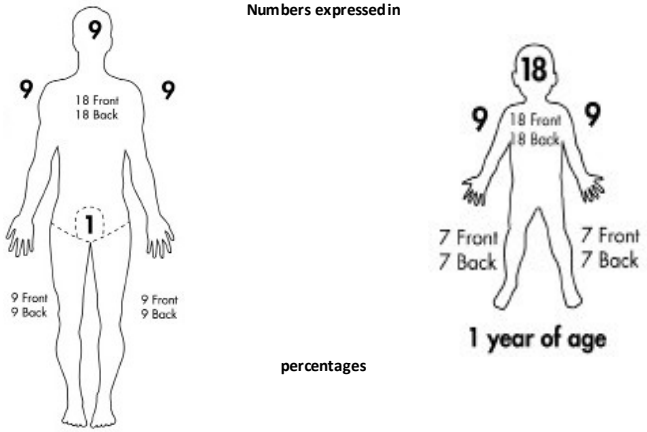
Yes

No

Minor

- Consider outpatient management, consultation/referral to wound/burn clinic or burn center as required
- Burn care outpatient supplies see Burn Treatment Regional Resource Card

Rule of Nines



Figures courtesy of:
Hennepin County Medical Center Burn Unit

Initial Interventions:

Airway/Breathing–Assess airway and provide oxygen. Consider early intubation for > 25% BSA burns. Intubation recommended: stridor, voice change, respiratory distress, circumferential neck burns, carbonaceous sputum, hypoxia, or prolonged transport time and major burn patient

Circulation - Assess vital signs and pulses. Burn shock common >20% BSA. Treat low blood pressure with IV fluids; consider other sources of hypotension. Avoid boluses when possible - increase fluid rates by 10% per hour for low urine output or lower blood pressures

Disability – Assess neurologic status (including sensation and motor); cervical spine protection if trauma/high-voltage (>1000 V) injury

Decontamination – Consider potential for chemical/radiologic contamination. Chemical burns should be irrigated for 30 minutes with body temperature water while consulting Poison Control* about specific treatments

Expose/Estimate - Remove clothing, jewelry, and contact lenses. Protect from hypothermia. Estimate second/third degree burn area (see figures below). Area of patient's hand (including fingers) equals 1% BSA

Fluids- IV access in non-burned tissue if possible. Start Lactated Ringers (LR) 4 mL/kg/% BSA. Give 50% over first 8 hours and rest over 16 hours from time of burn. Children <5 years add 2 ampules D50 to each liter of LR. May use normal saline if no LR Available

History – Note time of injury, mechanism, AMPLET (Allergies, Medications, Past surgical and medical history, Last meal, Events sur- rounding the incident, Tetanus status)

Nasogastric or Orogastric - Insert tube for all intubated patients

Pain Control – Administer analgesia; extraordinary doses may be required to control pain adequately

Urine Output – All electrocutions, intubated patients, and major burns should have indwelling urinary catheter (e.g., Foley). Goal is 0.5 mL/kg/hr output adults, 1 mL/kg/hour children

Wound Care – Do not remove adherent clothing. Warm, dry dressings over burns - NO wet dressings

Special Considerations:

- Closed space exposure assume carbon monoxide and/or cyanide toxicity - provide 100% oxygen*
- High-voltage electrical – assume rhabdomyolysis and assess for internal injuries. Normal saline resuscitation until clear urine output 1-2 mL/kg/hr. Monitor creatine kinase, serum bicarbonate and creatinine. Consult with burn/referral center for ongoing management

*Consult Poison Control Center at 1-800-222-1222.

Secondary Assessment – Critical Burn Features?

- >20% BSA second and/or third degree burns
- Intubated patient, inhalational injury, or prolonged closed-space smoke exposure
- Co-existing major trauma, rhabdomyolysis, or other complications
- Hemodynamic instability not responding to fluid resuscitation

Yes

High Priority For Transfer To Burn Center

- Continue fluid resuscitation and analgesia
- Escharotomies may be required to allow ventilation of patients with circumferential neck, chest or abdominal burns
- Arrange transfer and consultation
- Some patients in this category may be triaged to receive only palliative care (until/unless additional resources become available)

No

Secondary Priority For Transfer

- May have to manage in place awaiting transfer (24-48 hours)
- Obtain consultation from burn center - may organize hotline/alternative resources during mass casualty incidents
- Cover burns with clean dry linens - no immediate dressings are necessary if transferred in the first 24 hours - after 24 hours con- sider bacitracin dressings per burn consultation
- Monitor urine output and provide IV fluids to maintain parameters as above
- Infection control – providers should gown, glove, and mask
- Follow cardiorespiratory and renal function
- Maintain body temperature
- Consider early use of enteral/tube feedings if oral intake inadequate
- Analgesia
- Circulation, Motor and Sensory function (CMS) checks
- Evaluate for other injuries

PEDIATRICS
REGIONAL RESOURCE CARD

Resource cards are intended to provide incident-specific tactics and planning information to supplement the general strategy cards. They are organized according to the 'CO-S-TR' framework of incident response planning – http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8844490&fulltextType=RA&fileId=S193578930000135X

Category	*RESOURCE and RECOMMENDATIONS*	*Strategy*	*Conventional*	*Contingency*	*Crisis*

Command, Control, Communication, Coordination	**Planning and response considerations:**
	Tertiary centers with inpatient pediatric, trauma and PICU capability can provide consultation and transfer sup- port 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
	• Facility procedures for patient tracking, unaccompanied minors, and release of minors to family/caregivers
	• Smaller incidents – facility-to-facility coordination
	• Statewide incident impact
	  • Vermont Department of Health will work with Regional Healthcare Preparedness Coordinators (RHPCs) and hospitals/healthcare coalitions to facilitate patient and resource distribution
	  • Statewide consultation/referral hotline may be initiated as needed
		Prepare			

Space	**Space:** • Use maximal beds on pediatric unit and at pediatric centers noted above • Prioritize transfer of children < 8 years of age to pediatric specialty centers • Surge to non-pediatric, age-appropriate units within hospital • Distribute non-critical and older pediatric patients from overwhelmed pediatric centers to other accepting facilities • Expand acute outpatient care for the minimally injured/ill	*Adapt* *Conserve* *Substitute*			

<table>
<tr><th>Category</th><th>RESOURCE and RECOMMENDATIONS</th><th>Strategy</th><th>Conventional</th><th>Contingency</th><th>Crisis</th></tr>
<tr><td rowspan="2">Supplies</td><td>

Outpatient Supply Planning:

- Consider expansion of outpatient pediatric-specific supplies (e.g., crutches, pediatric-specific forms of analgesics) at facility to support discharged patients

Inpatient Supply Planning:

- Institutions should prepare based on role in community
- As a minimum, recommend each facility be prepared to care for the number of victims listed in the table below, based on their designated trauma level in the VT Trauma System.

<table>
<tr><th rowspan="2">Inpatient Type</th><th colspan="4">Trauma Designation</th></tr>
<tr><th>Level I</th><th>Level II</th><th>Level III</th><th>Level IV</th></tr>
<tr><td>Critical Injuries < age 8 yrs</td><td>8</td><td>6</td><td>4</td><td>2</td></tr>
<tr><td>Moderate Injuries < age 18 yrs</td><td>20</td><td>15</td><td>10</td><td>5</td></tr>
<tr><td>Minor Injuries < age 18 yrs</td><td>20</td><td>15</td><td>10</td><td>5</td></tr>
<tr><td>Infants < age 1 yr</td><td>4</td><td>3</td><td>2</td><td>1</td></tr>
</table>

</td><td rowspan="2">*Prepare*</td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td></tr>
<tr><td>

The American Academy of Pediatrics/American College of Emergency Physicians recommended equipment list at http://pediatrics.aappublications.org/content/107/4/777.full.pdf+html is the basis for planning, with emphasis on:

- Airway equipment sufficient for number and age of victims
- 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 (such as Bair-hugger™)
- State trauma system guidelines also identify pediatric equipment expectations

</td></tr>
</table>

PEDIATRICS
REGIONAL RESOURCE CARD

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Staff	**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 • Staff that do not regularly provide pediatric emergency care but could be called upon in a disaster should receive pre-incident training and orientation to facility equipment. Scenario-based or other training (simulation and other brief, frequent training) is highly recommended • 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 key aspects of pediatric care. See *Staffing Strategies for Scarce Resource Situations* for further consideration; for example, have critical care staff supervise care at a higher level, delegating many bedside duties to other providers • Vermont Department of Health may work with in-state and adjacent state experts to set up 'hotline' to provide consultation to non- pediatric centers caring for pediatric patients (for example during pandemic) • National Disaster Medical System and/or other supplemental staff may be required to work in facilities (see *Staffing Strategies for Scarce Resource Situations*)	*Prepare* *Adapt* *Conserve* *Adapt* *Substitute*			
Special	**Consider availability of resources for:** • Social work/ family support • Psychological support for children, their families and staff (do not under-estimate the increased stress and psychological impact of a pediatric incident, particularly an MCI, on healthcare providers) • Discharge support and planning, particularly for rehabilitation and other specialty follow-up • Patient tracking and patient safety, particularly for unaccompanied minors (e.g. banding system to identify children and guardians) • Family / caregiver accommodations	*Prepare*			
Triage	**Consider early transfer to a facility providing pediatric intensive care services for:** • Progressing respiratory symptoms/hypoxia • Shock, or need for ongoing resuscitation • Critical trauma, including neurotrauma according to usual trauma triage criteria • Patients with concomitant burns should be transferred to regional burn centers • Patients with complex underlying medical conditions may require consultation or special triage considerations	*Conserve*			

PEDIATRICS
REGIONAL RESOURCE CARD

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Treatment	**Provide stabilizing care (airway, fluid management, analgesia, etc.) – see Pediatric Triage Card 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 • Age and height-based estimations are NOT always accurate – always be prepared with a range of equipment sizes, especially for airway interventions • 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 them frequently and alter treatments to fit the response • Monitor for signs of pain and treat pediatric patients with analgesics via weight-based guidelines, then titrate to effect. Pediatric pain is often inadequately treated • 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 or buretrols) • 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	*Prepare*			
Transportation	**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 • A MCI may affect more than one facility requiring coordination with regional healthcare coalitions to prioritize transportation and manage logistics via Multi-Agency Coordination • Regional transfer coordination may be required in major disasters – Vermont Department of Health will assist regional healthcare coalitions and involve appropriate State and Federal (NDMS) resources; in certain situations (such as pandemic, major MCI) patients may have to receive care in non-pediatric centers • 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 affected coordinate with regional healthcare coalition and/or multi-agency coordination system	*Prepare* *Adapt*			

PEDIATRIC TRIAGE CARD For Mass Casualty Situations

Patient Arrives / Initial Assessment

High Risk Features? *

- 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 <5 years, or underlying complex illness/disease (congenital abnormality, etc.)

Yes →

No ↓

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

Initial interventions:

Airway – Assess and position airway; airway interventions as needed. Children < 5 years have small airways that do not tolerate edema well. Reassess frequently

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 and end-stage. Treat signs of hypoperfusion aggressively with 20 mL/kg normal saline (and 10 mL/kg packed red blood cells if hemorrhagic shock persists after initial boluses of saline), see Fluid Management below

Disability – Assess neurologic status (including sensation and motor) and need for cervical spine protection

Decontamination – Consider for chemical/radiologic – brush away loose material, then copious 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 is common

Fluids – IV fluids (see Fluid Management below)

Family – Avoid separating family/guardians from patients. Identify and notify patient's family/guardians of patient's status when possible

Glucose – Check fingerstick glucose for all significantly ill/injured children. Correct hypoglycemia

History – Note mechanism and time of injury, treatments pre-hospital, underlying diseases, tetanus status, medications/allergies, social history, family history, immunization history

Orogastric – Tube for all intubated patients (due to usual gastric distension)

Pain control – Titrated opioid analgesia, IV, intranasal, or subcutaneous as required for comfort (e.g., morphine 0.1 mg/kg or fentanyl 1 mcg/kg IV)

Temperature/Thermal – Protect from heat losses; initiate cooling/rewarming or anti-pyresis as indicated. Children lose body heat rapidly

Urine output – Target urine output to 0.5 - 1 ml/kg/hour. Indwelling urinary catheter as needed

↓

Secondary Assessment – Critical illness/injury?

- Intubated or progressive respiratory failure
- Multiple organ systems affected
- Surgical emergency
- Evidence of shock (poor perfusion, high lactate, persistent tachycardia) not responding to fluid resuscitation

Yes →

No ↓

High Priority for Transfer to Pediatric Center

- Continue fluid resuscitation
- Arrange transfer and consultation
- May have to provide transfers, triage resources, or even provide palliative care as only intervention based on scope of injury/nature of incident. Re-triage as more resources become available or condition changes.

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 MDH may organize hotline)
- 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, Circulation, Motor and Sensory function (CMS) and glucose checks at regular intervals
- Maintain body temperature
- Analgesia
- Psychological triage and support/family support

Fluid Management

- Initial fluid for resuscitation – normal saline
  - Initial bolus 20 mL/kg, repeat as needed
  - May initiate packed red blood cells 10 mL/kg if hemorrhage not responding to 40 mL/kg saline total bolus
- Maintenance fluid rate
  - 4 mL/kg/hr first 10 kg (40 mL/hr)
  - 2 mL/kg/hr second 10kg (20+40 = 60 mL/hr)
  - 1 mL/kg/hr each kg >20 kg
- Glucose replacement IV/IO
  - Neonate D10W 3 mL/kg
  - Under 4 years D25W 2mL/kg
  - ≥ 4 years D50W 1 mL/kg
- Goals – normal vital signs, urine output 0.5-1 mL/kg/hr

VERMONT DEPARTMENT OF HEALTH

PALLIATIVE CARE
REGIONAL RESOURCE CARD

Resource cards are intended to provide incident-specific tactics and planning information to supplement the general strategy cards. They are organized according to the 'CO-S-TR' framework of incident response planning – http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=8844490&fulltextType=RA&fileId=S193578930000135X

Orientation to Specialty and Goals:

- **NOTE:**
  This card provides a focused description of palliative care management principles in disaster situations. These principles are relevant to all patients, as well as those who may receive palliative care as their only intervention due to demand on the healthcare system relative to their prognosis.
- **Specialty Description:**
  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.**
  - 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
  - Focuses on human contact and comfort in addition to medical care
  - Increases the physical and mental well-being of the patient
  - Is not abandonment or euthanasia, and does not aim to hasten death (though in some cases, the doses required to relieve severe symptoms may indirectly contribute to the dying process; however, this meets the ethical criteria for the double-effect principle where indirect harm is permissible in the service of a greater good)
  - 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
- **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 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 reassessment if the patient's condition improves or more re- sources become available (i.e., would they qualify to receive additional treatment if more resources become available and how are they contacted/monitored) - see triage tree below
  - 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

PALLIATIVE CARE
REGIONAL RESOURCE CARD

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis

Planning Resources	**Planning Resources:**
	• General palliative care resources and fact sheets
	• General recommendations for home care/family-based care and infectious prevention
	• ICU care
	  • Improving Palliative Care in the ICU (IPAL-ICU project)
	  http://www.capc.org/ipal-icu
	• General resources in palliative care and non-pharmacologic intervention
	  • Innovations in End-of-Life Care: Practical Strategies and International Perspectives
	  http://www2.edc.org/lastacts/
	  http://www2.edc.org/lastacts/archives/archivesJuly02/nonpharm.pdf
		Prepare			

Planning / Communications and Coordination	**Key Vermont Organizations:** • Vermont Ethics Network (https://vtethicsnetwork.org/) • Inpatient palliative care programs: Palliative care MD on 24-hour pager for most facilities/systems • Hospice programs: Majority of State has hospice program coverage and most programs usually have hospice MD on 24-hour pager - check with hospital health systems main contact/referral phone line	*Prepare*			

Category	*RESOURCE and RECOMMENDATIONS*	*Strategy*	*Conventional*	*Contingency*	*Crisis*
Communications and Coordination	**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, Vermont Department of Health 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 healthcare systems **Communications with Families and Patients:** • Review advance care planning in the context of the current situation – proxy designations, advance directives, Physician Orders for Life-Sustaining Treatment (POLST) forms • Intervention able to be offered may not fulfill all of the preferences expressed in those 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 • 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 de-valued, abandoned or isolated ("there is nothing more that can be done"), lack of direction and goals, and unrelieved pain and discomfort	*Prepare* *Adapt*			

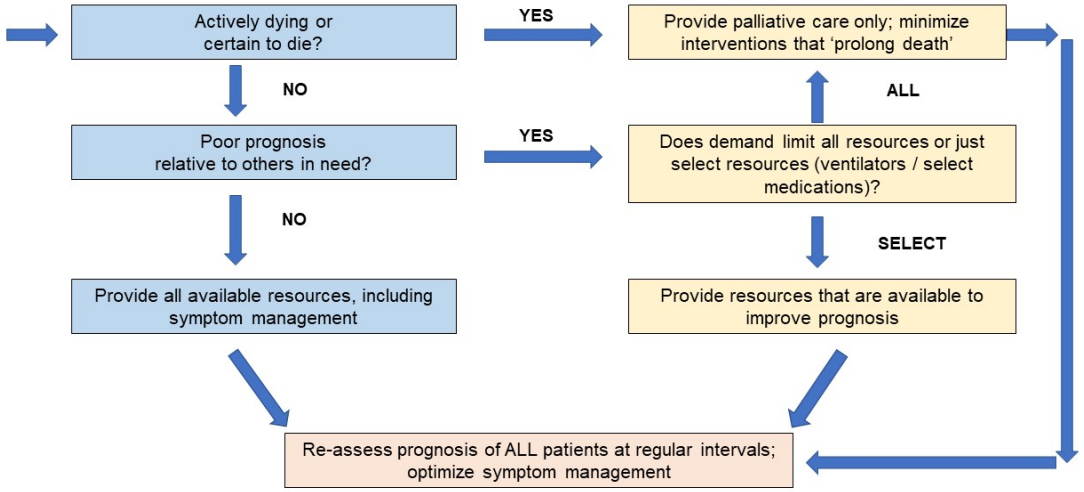
Category	*RESOURCE and RECOMMENDATIONS*	*Strategy*	*Conventional*	*Contingency*	*Crisis*
Space	**Inpatient Space:** In crisis situations there may be a large number of patients that are receiving palliative care only – cohorted spaces may be an option for these patients. These areas should be: • Comfortable – 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 **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 **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)	*Adapt* *Conserve* *Adapt* *Substitute* *Adapt* *Conserve*			
Supplies	**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. **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*			

PALLIATIVE CARE
REGIONAL RESOURCE CARD

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Staff	**Staff:** • Physician and nursing staff expected to provide disaster palliative care should receive pre-incident palliative care training • Staff that do not regularly provide palliative care, but could be called upon in a disaster, should receive pre- incident training and orientation to facility resources • 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	*Prepare*			
	• 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	*Conserve* *Adapt* *Substitute*			
	• Hospice agencies should have plans to adjust staff roles and triage services provided in response to in- creased demand • In case 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 Medical Reserve Corps (e.g., to provide broader support to homecare). 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	*Conserve* *Adapt* *Substitute*			

Special	**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			

	• Discharge and/or death support and planning • Family/caregiver accommodations • Psychological support for staff				

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Triage	**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. (See triage tree below) **Triage Tree – Resource-dependent palliative care considerations**  	*Conserve* *Re-allocate* *Adapt*			

Category	RESOURCE and RECOMMENDATIONS	Strategy	Conventional	Contingency	Crisis
Treatment	**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 – see the opiate dosing references below as an example, but after initial doses, titrate to appropriate symptom relief as required, rather than to any specific recommended dose of medication • Adapt with the medications and resources that are available **General Pain Management:** • 'WHO ladder' for pain relief ◊ 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 • 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 • 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)	*Prepare* *Adapt*			

Category	*RESOURCE and RECOMMENDATIONS*	*Strategy*	*Conventional*	*Contingency*	*Crisis*
	• 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: ⅓ to ½ of the twelve-hour dose or 10-15 % of the 24-hour dose (if >3 breakthrough doses per 24-hour period consistently required, consider re-titration of dose) • Titrating dosage, may use the following guideline: (Pain scores from 1-10 with 10 being worst imaginable) Pain > 7 Increase dose by 50% to 100% Pain 4 – 7 Increase dose by 25% to 50% Pain < 4 Increase dose by 25% if indicated/desired • 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 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 60mg 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	*Prepare* *Adapt*			
Tracking	**Tracking:** • Assure that patients referred to home care (formally or informally) are tracked by public health and the appropriate agencies	*Prepare*			

Key Symptoms and Treatments:

Symptom	Pharmacologic Options	Additional Strategies
Pain	See 'WHO ladder' on page 7	Integrative therapies, acupuncture, hypnosis, interventional techniques, music therapy, heat/cold therapy, supportive caring
Dyspnea	Opioids and oxygen are standard therapy, additional agents of benefit may include benzodiazepines, bronchodilators, and nebulized furosemide (20 mg IV solution with 3 mL normal saline every 4 hours as needed)	Treat underlying cause, oxygen, direct air from fan onto face; integrative therapies, hypnosis.
Nausea	Serotonin antagonists (ondansetron), substance P antagonists (apprepitant), dopamine antagonists (procholorperazine), butyrophenones (haloperidol), corticosteroids, benzodiazepines, atypical antipsychotics (olanzapine), cannabinoids, antihistamines (meclizine), anticholinergics (scopolamine), substituted benzamide (metoclopramide)	Treat underlying cause; consider interventional options depending on underlying cause (e.g., small bowel obstruction consider nasogastric tube), integrative therapies, hypnosis, acupuncture, music therapy, supportive caring. Consider constipation as possible etiology if on chronic opioids.
Anxiety	Benzodiazepines, atypical antipsychotics, cannabinoids, anti-depressants	Treat underlying cause, spiritual support, supportive caring, integrative therapies, hypnosis, relaxation techniques, music therapy
Agitation / Delirium	Haloperidol, atypical antipsychotics, sedatives	Provide quiet, dark environment, hydration, support sleep hygiene, minimize stimulation, consider calming soft music Identify specific underlying cause if possible: • Benzodiazepine paradoxical agitation - consider discontinuing • Opioid neurotoxicity - consider opioid rotation • Steroid psychosis - consider dose change or elimination • Opioid withdrawal - consider tapering doses
Constipation	Docusate sodium, sennosides, polyethylene glycol, lactulose, magnesium citrate, bisacodyl, glycerine, enemas	Treat underlying conditions, hydration, consider subcutaneous methylnaltrexone for chronic opioid-induced constipation – ensure no mechanical obstruction re: risk of perforation (risk higher in patients on steroids)
Diarrhea	Loperamide 2 mg tablets if not contraindicated. Other interventions according to cause.	Determine underlying cause and potential therapies
Secretion control	Sublingual atropine; 1% eye drops 2-3 drops every 3-4 hours as needed; glycopyrolate (IV 0.4 mg every 4-6 hours, oral 2 mg every 8 hours or appropriate weight-based dose); scopolamine patch	Education for family regarding: death rattle, reposition in bed, very gentle suction +/-, mouth care
Skin breakdown / protection		Treat underlying cause, gentle repositioning, supportive pads, air mattress, specialty beds
Active dying	Aggressive supportive care depending needs. Do not 'prolong dying process' with on-going therapies such as transfusions, IV fluids, artificial nutrition, anti-biotics. Stop medications that have no bearing on symptom support management. Focus on the 'patient as person' – not on clinical indicators. Oxygen does not offer symptom benefit for actively dying patients and oxygen delivery devices can be uncomfortable and cause sensations of claustrophobia.	Supportive care of family, education about dying process, spiritual support, psychosocial support, company, listening, storytelling, silence, companionship. Discontinue monitors and vital signs documentation.

Hydromorphone IV (mg / day)	Hydromorphone PO (mg/day)	Morphine IV (mg/day)	Morphine PO (mg/day)	Fentanyl* Transdermal (mcg/hour)	Oxycodone PO (mg/day)
2.5	12.5	17	50	25	30
5	25	33	100	50	65
7.5	37.5	50	150	75	100
10	50	67	200	100	130
12.5	62.5	83	250	125	165
15	75	100	300	150	200
17.5	87.5	117	350	175	230
20	100	133	400	200	265
22.5	112.5	150	450	225	300
25	125	167	500	250	330
27.5	137.5	183	550	275	360
30	150	200	600	300	400

* Transdermal Fentanyl absorption and response may vary depending on amount of adipose tissue present (i.e. better absorbed in patients with more adipose tissue, worse absorption in thin patients). Also, consider dose reduction (e.g. 25%) if transitioning from transdermal patch to oral opioid equivalent.

E. Appendix 5 Section 1135 Waiver Request Instructions

The Centers for Medicare & Medicaid Services (CMS) is the federal agency that administers Medicare, Medicaid, and the Children's Health Insurance Program (CHIP) across the United States. All these programs have strict requirements for participation. Failure to uphold these requirements even during emergencies can place health care facilities in jeopardy of losing funding from these programs.

During dire public health emergencies, health care facilities receiving CMS funding may seek approval to temporarily waive or modify certain parts of Section 1135 of the Social Security Act relating to Medicare, Medicaid, and Children's Health Insurance Program (CHIP) requirements in order to ensure that health care items and services are appropriate to meet the needs of all patients regardless of insured status.

It is important to note that pursuant to the CMS Emergency Preparedness Rule (42 CFR § 485.625), a healthcare facility must develop and maintain a comprehensive emergency preparedness program, utilizing an all-hazards approach. The emergency preparedness plan must include policies and procedures regarding the role of the healthcare facility under a waiver declared by the HHS Secretary, in accordance with section 1135 of the Act, in the provision of care and treatment at an alternate care site identified by emergency management officials. Such planning will help inform healthcare facility decisions on when to and how to submit a Section 1135 Waiver Request.

Section 1135 Waiver and CSC are NOT related:
Please note that a Section 1135 Waiver and the Vermont CSC Plan are two unrelated tools serving two different purposes that may or may not be used at the same time during dire public health emergencies. Submission of a Section 1135 Waiver Request in no way effects ongoing healthcare facility obligations to State of Vermont or other municipal laws, ordinances or organizational requirements.

General guidelines for submitting an 1135 Waiver Request are outlined below.

1. Section 1135 Waiver Requests may only be submitted after:
    - **a.** the US president declares a disaster or emergency under the Stafford Act or National Emergencies Act, and
    - **b.** the HHS Secretary declares a public health emergency under Section 319 of the Public Health Service Act.

2. Section 1135 Waiver Request Communication Method-Best Practice
   The Vermont Department of Disabilities, Aging and Independent Living, Division of Licensing and Protection should provide responses to the following basic questions for any impacted provider seeking a potential 1135 Waiver:
    - **a.** Provider Name/Type
    - **b.** Full Address (including county/city/town/state) CCN (Medicare provider number)
    - **c.** Contact person and his or her contact information for follow-up questions should the Region need additional clarification
    - **d.** Brief summary of why the waiver is needed**. For example:** CAH Hospital is sole community provider without reasonable transfer options at this point during the specified emergent event (e.g. flooding, tornado, fires, or flu outbreak). CAH Hospital needs a waiver to exceed its bed limit by X number of beds for Y days/weeks (be specific).

e. Consideration – Type of relief you are seeking or regulatory requirements or regulatory reference that the requestor is seeking to be waived.
f. There is no specific form or format that is required to submit the information, but it is helpful to clearly state the scope of the issue and the impact.

3. Healthcare Facility sends Section 1135 Waiver Request directly to CMS Regional Office
Impacted Healthcare facility should send Section 1135 Waiver Request directly to the appropriate Regional Office mailbox with a copy to the appropriate State Agency for Health Care Administration to make sure the waiver request does not conflict with any State requirements and all concerns are addressed timely.
   a. **Send waiver information to the ESF 8 Function at the State Emergency Operations Center (SEOC)** to notify the Vermont Department of Health of need for US Presidential Disaster Declaration, HHS Declaration of Public Health Emergency and Section 1135 Waiver Request. – Telephone SEOC: 800-347-0488
   b. **Email CMS Regional Office:**
   - Email: ROPHIDSC@cms.hhs.gov (Northeast Consortium): Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia, New York, New Jersey, Puerto Rico, Virgin Islands, Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
   c. **Email Vermont Department of Disabilities, Aging and Independent Living, Division of Licensing and Protection:**
   - Email: AHS.DAILSCIntake@vermont.gov

4. Specific Section 1135 Waivers granted as a result of the emergency may be retroactive to the beginning of the emergency or disaster if warranted.

During dire public health emergencies, health care facilities may elect to submit a Section 1135 Waiver Request to seek approval for temporary waiver of CMS requirements in order to operate in the best interests of patients. In Vermont, the designated State Agency to be included in all related requests is the Vermont Department of Disabilities, Aging and Independent Living, Division of Licensing and Protection. More information regarding the Vermont Department of Disabilities, Aging and Independent Living, Division of Licensing and Protection may be found at: https://dlp.vermont.gov/.

More information regarding Section 1135 Waivers may be found at:
https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertEmergPrep/1135-Waivers.html

https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertEmergPrep/Downloads/What-Information-to-Provide-for-an-1135-Waiver-Request.pdf.

F. Appendix 6 Behavioral Health Plan

The Vermont Department of Mental Health (VDMH) Mental Health Disaster Response Plan outlines VDMH's plan for addressing the behavioral health needs for both survivors and responders of emergencies in Vermont. Pertinent details of the plan are noted in this appendix below. Further details of this plan may be obtained by contacting VDMH at (1-802-241-0090); https://mentalhealth.vermont.gov/ .

Mental Health Disaster Response Plan

I. Introduction

VDMH has been delegated the responsibility to coordinate behavioral health preparedness, response, and recovery activities in the event of a disaster or emergency of natural or manmade origin. VDMH Disaster Response Plan is a component of the State Support Function Annex (SSF8) EOP. This plan outlines the scope, structure, mechanisms, and principles of the behavioral health response effort. Through the implementation of this plan, VDMH seeks to mitigate the psychological effects on, foster resilience by, and facilitate the restoration of normalcy to, the affected population(s).

II. Situation and Assumptions

In anticipation of the occurrence of any of these events the situation is as follows:

1. Vermont faces a variety of risks that may pose a major threat to the health and wellbeing of the populace including the psychological functioning of a significant portion of it.
2. In the event of a disaster or public health emergency, the VDMH, as part of overall State response efforts, will assess the psychological needs of the affected population and carry out a response aimed at mitigating the psychological effects and promoting individual and community resilience and recovery.

III. Concept of Operations

A. Activation

1. This plan will be automatically activated under the following circumstances:
    a. When the Agency of Human Services (AHS) activates the EOP to serve as Relocation Coordinator during a nuclear plant accident, the Agency's assigned role in the Vermont Radiological Emergency Response Plan.
    b. This plan may be activated upon request of the ARC according to prior agreement with the ARC.
    c. This plan may be activated through VEM upon request of either the Vermont Council of Community Mental Health Services or any one or more of the ten designated community mental health agencies.
    d. This plan will be activated by the Commissioner of Mental Health at the request of the Governor, Director or the Deputy Director of VEM whenever the need becomes apparent during an emergency or disaster.
2. This plan will not ordinarily be activated following local disasters affecting small numbers of people. Disaster response plans of individual community mental health agencies and mutual aid would apply in such cases. If local resources are exhausted or insufficient to meet the need, local authorities may request assistance from VDMH through VEM.

B. Disaster Response – Specific Responsibilities

1. VDMH - Disaster Responsibility

a. Assess the nature and extent of the disaster and the anticipated need for crisis counseling and other psychological services. This assessment may include information collected from other state departments, private agencies, Community Mental Health Centers (CMHC), or firsthand observation.
b. Activate the regional or statewide Disaster Response Strike Teams when indicated by the VEM EOC or VDMH HOC.
c. Assign VDMH staff and Vermont State Hospital staff to assist with disaster response as needed.
d. Provide onsite training, consultation and technical assistance to mental health and administration staff members as needed.
e. Assign additional VDMH staff members for administrative backup of mental health workers in the field and staffing of the 24-hour information hotline when indicated.
f. Coordinate the local response, as Mental Health Branch of the Operations Section, with other private responders or mental health providers who may also respond.
g. Fund extraordinary expenses incurred by a CMHC, in certain local disasters, by decision of the Acute Care Chief or through a grant-in-aid amendment by VDMH.
h. Coordinate data collection and documentation of response activities.

2. Community Mental Health Centers - Disaster Responsibility
   a. Assess the nature and extent of the disaster and the anticipated need for psychological services. If training, consultation, technical assistance, additional staff members or additional funding may be required, notify VDMH Behavioral Health Disaster Response Coordination Team (BHDRCT).
   b. Communicate with other disaster responders to inform them of VDMH response and to ascertain their needs.
   c. Provide psychological services to disaster survivors and responders at appropriate locations.
   d. Apply mental health expertise to identify response system barriers to survivor recovery and try to reduce or eliminate barriers found.
   e. Record services to individual disaster survivors.

G. Appendix 7 Prioritizing Care Further Disenfranchises the Disenfranchised

Content to be developed in future revisions of this plan.

H. Appendix 8 Mass Fatality Management – OCME EOP

In any event involving mass fatalities, the Vermont Office of Chief Medical Examiner (OCME) shall be notified at (1-888-552-2952).

The following information is excerpted from the EOP of the OCME of Vermont. Please contact the OCME with questions regarding this plan at (1-802-863-7200) or (1-800-464-4343 in Vermont); http://www.healthvermont.gov/systems/medical-examiner .

Vermont OCME, EOP Introduction:
The function of the Vermont OCME is to investigate and certify deaths as mandated by VSA, Title 18, Section 5205. These deaths include all accidental, suicidal and homicidal deaths, deaths involving a potential hazard to public health, and certain sudden, unexplained or unattended natural deaths. Thus, any death involving a Disaster or Emergency would fall under the jurisdiction of the medical examiner statute.

The EOP of the OCME is an extension of the normal function and duties of the office. A Disaster or Emergency event may take many forms; however, any event that exceeds the morgue capacity of the University of Vermont Medical Center (UVMMC) (~ 10 bodies), is a potential problem. In addition, any deaths associated with events declared to be Disaster or Emergency by other governmental officials, whether natural, radiation, hazardous material, transportation or other, may activate the EOP of the OCME.

By statute, the jurisdiction of the body in any medical examiner death lies with the State's Attorney of the given county and requires a police investigation. Consequently, the State's Attorney and Police Agency of jurisdiction must be notified.

The purpose of the medical examiner system in any Disaster or Emergency is threefold:

1. To confirm the identification of human remains,
2. To document and certify the cause and manner of death,
3. To coordinate the release of the remains to the next-of-kin.

It is expected that the OCME will function in coordination with other agencies, such as emergency medical, police, fire departments, flood control officials, etc. The medical examiner's representatives will keep clear of legitimate functions of other agencies. However, the scene may provide vital clues to the identification of individuals killed in an event of this nature and to the cause and manner of death. Consequently, the OCME expects that other agencies will respect the needs of the Medical Examiner's Office. These needs are outlined in the "Guidelines for First Responders". Coordination and cooperation at the scene may go a long way to facilitate the disposition of fatalities in any given event.
CME EOP Structure/Function and Concept of Operations
It is expected that the OCME will be notified of any event or potential event to allow for the appropriate planning and activation of this EOP.

Ultimately, information required will include the nature of the event, the location, an estimation of the number of deaths, to whom the medical examiner or representative should report, and when the services are expected to be needed. A regional medical examiner, assistant medical examiner (AME) or the OCME may be notified. If notified first, the regional or AME, as soon as possible, notify the OCME.

The decision to activate the CME EOP will lie with the pathologist on call for the OCME. This activation shall be categorized into three “Phases” (levels) for the reported type of emergency event. At the time the decision to upgrade or down grade the OCME response shall lie with the Pathologist on call or the CME. The response Phases of this plan will be:

Phase III – Any event where the reported fatalities may or have reached 6-9 persons. This would activate the entire OCME staff.

Phase II – Any event where the reported fatalities may or have reached 10 to 20 persons. This would activate the above staffing and other AMEs/RMEs in the Chittenden County area to assist at the OCME. In addition, RME and AME support from other counties in the state may be necessary for long term operations as well as providing assistance at the event scene.

Phase I – Any event where the reported fatalities may or have reached 20 or above persons. This would activate the above staffing plus the addition of assistance from Region 1 Disaster Mortuary Operational Response Team (DMORT) or other states in New England and/or New York.

The OCME will divide its functions into three main areas: that of the CME Coordinator, the Scene Coordinator and the Family Assistance Center (FAC) Coordinator.

The functions of the coordinators are outlined in the "Duties of the CME Coordinator", the "Duties of the Scene Coordinator" and the “Duties of the FAC Coordinator job descriptions. In addition, a press officer/public relation’s officer may be appointed to work with the Department of Health’s public relations office.

It is important to be aware that documentation is essential in this operation. This documentation may also need to be consistent with national standards should the emergency rise to a national response. All documentation to be used shall conform to the DMORT national standard.

I. Appendix 9 Acronym Glossary

AAC	After-Action Conferences
AAR	After-Action Report
AME	Assistant Medical Examiner
ARC	American Red Cross
AST	Ambulance Strike Team
CDC	US Centers for Disease Control and Prevention
CFR	US Code of Federal Regulations
CHIP	Children's Health Insurance Plan
CMS	Centers for Medicare & Medicaid Services
CSC	Crisis Standards of Care
DAIL	Vermont Department of Disabilities, Aging & Independent Living
DEPRIP	VDH, Division of Emergency Preparedness, Response and Injury Prevention
DHS	US Department of Homeland Security
DMAT	Disaster Medical Assistance Team
DMORT	Disaster Mortuary Operational Response Team
ED	Emergency Department
EMAC	Emergency Management Assistance Compact
EMS	Emergency Medical Services
EMTALA	Emergency Medical Treatment and Labor Act (US)
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
FAC	Family Assistance Center
FEMA	US Federal Emergency Management Agency
HCC	Health Care Coalition
HHS	US United States Department of Health and Human Services
HIPPA	Health Insurance Portability and Accountability Act (US)
HOC	Health Operations Center
HSEEP	Homeland Security Exercise and Evaluation Program (FEMA)
ICU	Intensive Care Unit
IMAC	International Emergency Management Assistance Compact
IP	Improvement Plan
JIC	Joint Information Center
MCI	Mass Casualty Incident
NIMS	National Incident Management System
OCME	VDH, Office of the Chief Medical Examiner
NTSB	National Transportation Safety Board
PACU	Post Anesthesia Care Unit
PIO	Public Information Officer
RME	Regional Medical Examiner
SEMP	State Emergency Management Plan

SEOC	State Emergency Operations Center (VT)
UC	Unified Command
USC	United States Code (US)
UVMMC	University of Vermont Medical Center
VAHHS	Vermont Association of Hospitals and Health Systems
VDH	Vermont Department of Health
VDMH	Vermont Department of Mental Health
VEM	Vermont Emergency Management
VNA	Visiting Nurse Association
VSA	Vermont Statutes Annotated (VT)