Crisis Standards of Care

AN OVERVIEW OF CATASTROPHIC PLANNING IN MINNESOTA

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Crisis Standards of Care: An Overview of Catastrophic Planning in Minnesota

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Introduction

The Minnesota Department of Health (MDH) exists to protect, maintain, and improve the health of all Minnesotans. As such, MDH has a duty to plan for pervasive or catastrophic public health events. Such extreme events could cause a Crisis Standards of Care (CSC) situation. Crisis Standards of Care are defined as a:

> *"…substantial change in the usual health care operations and the level of care it is possible to deliver… justified by specific circumstances and… formally declared by a state government in recognition that crisis operations will be in effect for a sustained period".*[1]

Planning for CSC came to national prominence ten to fifteen years ago with the realization that in a severe pandemic there may be insufficient resources—such as ventilators and critical care beds—for every patient in need. Additionally, there was no standard method for triaging resources, providing alternative medical care, and alternative sites for medical care. Therefore, development of a framework for decision-making and resource balancing was necessary to provide transparency and consistency, as well as support medical providers making difficult decisions.

In 2012, the National Academies of Sciences, Engineering and Medicine, Institute of Medicine (IOM)—now the National Academies of Medicine (NAM)—(referred to as the IOM/NAM in this document) published national guidance documents for crisis standards of care planning. They recommend the incorporation of key elements into the development of crisis standards of care plans including:

- "A strong ethical grounding;
- Integrated and ongoing community and provider engagement, education, and communication;
- Assurances regarding legal authority and environment;
- Clear indicators, triggers, and lines of responsibility; and
- Evidence-based clinical processes and operations."[2]

Minnesota endorses these key elements.[3] Additionally, the IOM/NAM report highlighted the threat of mass casualty incidents (MCIs) and other incidents that generate surges of patients to hospitals and health care systems provide. Many hospitals are already operating at, or over, maximal capacity on a daily basis; therefore, any medical surge of patients may easily push a hospital or health care system into a scarce resource situation, which would require resource allocation decision-making. Hospitals and health care systems may also be forced

[1] National Academies of Sciences, Engineering and Medicine, 2009, p. 3
[2] Dan Hanfling, Bruce M. Altevogt, Kristin Viswanathan, and Lawrence O. Gostin, Editors; Committee on Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations; Institute of Medicine. "Volume 1: Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response" 1-1.
[3] Dan Hanfling, Bruce M. Altevogt, Kristin Viswanathan, and Lawrence O. Gostin, Editors; Committee on Guidance for Establishing Crisis Standards of Care for Use in Disaster Situations; Institute of Medicine. "Volume 1: Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response" 1-1.

into these decisions not due to an increase in demand, but also a loss of health care infrastructure. Preparing hospitals, health care systems and their partners to prevent, respond to, and rapidly recover from these threats is critical for protecting and securing the nation's health care system and public health infrastructure.

Historical Background

For the last thirty years, Minnesota has—in one way or another—been planning for a pervasive or catastrophic public health event that results in crisis standards of care. The cornerstones of this level of planning is the MDH Science Advisory Team (SAT) and the CSC Framework. The U.S. Department of Health and Human Services (HHS), Office of the Assistant Secretary for Preparedness and Response (ASPR) Hospital Preparedness Program (HPP) supports CSC planning through grant funding.

Science Advisory Team

The MDH SAT was established in the late 1990s to develop operational processes for provision of crisis clinical care and to provide clinical and operational expertise to MDH prior to and during events requiring such input. The SAT is an external advisory group comprised of clinical providers in emergency medicine, critical care, pediatrics, infectious disease, respiratory care, pharmacy, and family practice, with liaisons from MDH Infectious Disease, Epidemiology, Prevention and Control (IDEPC) and Center for Emergency Preparedness and Response (CEPR). In later years, ethicists, pharmacists, and hospital administrators became members. This team allows broad expert input into crisis care strategies. They meet twice a year and routinely update materials they have developed.

Patient Care Strategies for Scarce Resource Situations

Over the years, the Patient Care Strategies for Scarce Resource Situations Card Set has evolved to include seven core clinical strategy topics—Oxygen, Staffing, Nutritional Support, Medication Administration, Hemodynamic Support and IV Fluids, Mechanical Ventilation, and Blood Products—and five resource reference and triage topics—Renal Replacement, Burn, Pediatrics, Palliative Care, and Extra-corporeal membrane oxygenation. Version 5.0 is the current edition.

The card set is designed to facilitate resource shortfalls at the hospital or health care facility level. They are a tool to support decision-making during times when standards of care move through the care continuum, from conventional to contingency to crisis. The goal of the card set is to protect patients, clinical providers, and health care systems during a time of crisis. They use the core strategies of:

- Prepare,
- Substitute,
- Adapt,
- Conserve,
- Re-use, and
- Re-allocate.

Clinical providers should follow these recommendations and employ the recommended strategies when faced with scarce resources.

Pharmaceutical Shortages for Minnesota Hospitals

Another tool the SAT created for hospitals is a Frequently Asked Questions: Pharmaceutical Shortages for Minnesota Hospitals. Shortages in pharmaceuticals, intravenous fluids, and hospital nutrition products are becoming more and more common. This document was recently reviewed and updated by the team. It provides a basic overview of how hospitals can cope with medication shortages and the role of MDH during such events.

Minnesota Pandemic Ethics Project

Early stages of CSC planning were limited to pandemic influenza planning. Beginning in 2007, MDH sponsored the Minnesota Pandemic Ethics Project (MPEP) with funding from the U.S. Centers for Disease Control and Prevention. The goal of this project was to develop ethical frameworks and procedures for rationing several types of health-related resources. Such resources included antiviral medications, influenza vaccines, surgical masks, N95 respirators, and ventilators.

MDH contracted with ethicists from the Minnesota Center for Health Care Ethics and the University of Minnesota Center for Bioethics to develop and lead the project. The contractors convened a community-based resource allocation panel, expert work groups, an implementation protocol committee, and held several public forums and discussion groups within a variety of communities. All told, the project's recommendations reflect the work and input of approximately six hundred Minnesotans. The project demonstrates that carefully designed public engagement on scientifically and ethically complex questions on rationing—one of the most difficult topics in health policy—is feasible and productive.

Not only did this project provide new members for the SAT and a research-based ethical framework for the SAT's Patient Care Strategies in Scarce Resource Situations, but also produced two major reports. *For the Good of Us All: Ethically Rationing Health Resources in Minnesota in a Severe Influenza Pandemic*[4] provides ethical frameworks for rationing scarce resources in influenza pandemic and *Implementing Ethical Frameworks for Rationing Scarce Health Resources in Minnesota During Severe Influenza Pandemic*[5] identifies and analyzed issues relating to the implementation of those ethical frameworks. These reports and the relationships established between MDH and the Minnesota Center for Health Care Ethics and the University of Minnesota Center for Bioethics served as a strong foundation for the future development of the MDH CSC Ethical Framework.

[4] Dorothy E. Vawter, J. Eline Garrett, Karen G. Gervais, Angela Witt Prehn, Debra A. DeBruin, Carol A. Tauer, Elizabeth Parilla, Joan Liaschenko and Mary Faith Marshall. *For the Good of Us All: Ethically Rationing Health Resources in Minnesota in a Severe Influenza Pandemic* 2010. Minnesota Pandemic Ethics Project Report

[5] DeBruin D, Marshall MF, Parilla E, Liaschenko J, Leider J, Brunnquell D, Garrett J, Vawter D. *Implementing Ethical Frameworks for Rationing Scarce Health Resources in Minnesota During Severe Influenza Pandemic*. Minneapolis, MN; 2010.

CSC Framework

Development

The development of the Minnesota CSC Framework was the next phase of catastrophic planning in Minnesota. It is based on the 2009 and 2012 IOM/NAM nationwide guidance. To accomplish this, MDH established a CSC Steering Group comprised of representatives from the private and public sectors extending across all disciplines of health and government, including members of the SAT. The CSC Steering Group assisted the development of the CSC Framework by acting as planning advocates within their disciplines, as well as monitoring and reviewing the work of CSC workgroups. The workgroups established for the writing of the Minnesota CSC Framework were the following:

- Ethics
- Emergency Medical Services (EMS)
- Hospitals/Health Care

The Legal Framework was not a formalized workgroup; instead, MDH in-house counsel developed it. Additionally, the SAT not only had representation on the Steering Group but also had representation on the three newly established workgroups and did review all material developed. It took two years, from 2015-2017, to develop the Framework with input from private and public sectors extending across all disciplines of health and government and tribal nations throughout Metropolitan and greater Minnesota. Partners included representatives from such organizations as:

- Emergency Management – Jurisdictional and Hospital
- Emergency Medicine
- Emergency Medical Services and the Emergency Medical Services Regulatory Board
- Local and Tribal Health
- Medical Examiners
- Minnesota Department of Corrections
- Minnesota Department of Health
- Minnesota Medical Association
- Minnesota Hospital Association
- Not-for-Profit/Non-Governmental Agencies
- Registered Nurses and Minnesota Nursing Association
- Veterans Health Administration

Please see *Appendix B* for a complete list of planning partners.

The Minnesota CSC Framework addresses specific challenges of a pervasive or catastrophic public health event when demand exceeds available resources in the state, and proactive steps must be taken to coordinate a

statewide response for a prolonged period to assure the best care possible given resource limitations. The goal of this Framework is to:

- Outline the MDH response during a Crisis Standards of Care situation and
- Provide planning guidance and strategies to health care entities (e.g. hospitals, health care coalitions, emergency medical services etc.) and public health organizations to manage the transition from conventional to contingency to crisis care during a Crisis Standards of Care situation and develop their own crisis standards of care plans.

The CSC Framework provides specific guidance for the unique circumstances imposed in responding to catastrophic public health events. As a part of this response structure, MDH would also rely on the states Regional Health Care Coalitions (HCCs) to enhance the ability of hospitals and health care systems to prepare for, respond to, and recover from these types of events.

Ethical Framework

The IOM/NAM asserts that this ethical framework forms the "bedrock" for crisis standards of care preparedness.[6] The Minnesota Ethical Framework synthesizes the guidance developed in MPEP for stewarding scarce resources in pandemic with the guidance offered by the IOM/NAM. In 2016, to develop ethical guidance for this CSC Framework MDH contracted with the University of Minnesota Center for Bioethics again. A systematic review of the academic and practice-based literature was conducted, followed by the development of CSC ethical guidelines with input from a stakeholder workgroup and in partnership with MDH. Next, MDH, in partnership with the CSC Ethics Team, convened a CSC Ethics Workgroup—a multidisciplinary group of stakeholders including ethicists, emergency regional coordinators, health care professionals, health systems administrators, clergy, advocates for populations with access and functional needs, tribal coordinators, and other subject matter experts (SMEs). This Workgroup was tasked with providing input on the ethical framework. The Ethics Team led a series of meetings during which the Workgroup offered feedback on the structure and content of the proposed framework, as well as on questions about its implementation. The Ethics Team also presented the proposed framework to the SAT and CSC Steering Group for their input. Finally, the Ethics Team engaged in ongoing consultation with MDH, and conferred with SMEs (e.g., scientific or legal advisors) as needed during the plan development.

Legal Framework

In-house consul for MDH developed the Legal Framework for CSC. It was originally written in 2015 and subsequently updated. The Legal Framework provides a brief overview of some of the more prominent Minnesota and Federal laws that pertain to emergency preparedness and response, including: authority to declare an emergency and principle declarations and actions, liability mitigation, volunteer protections, staff augmentation, tribal issues, and resource re-allocation.

[6] IOM/NAM 2009, p 5.

Emergency Medical Services Framework

In the spring of 2016, MDH and the Minnesota EMS Regulatory Board (EMSRB) convened a statewide EMS Crisis Standards of Care Workgroup to provide input on crisis care issues and solutions for EMS, which drove the development of the EMS Framework. The resulting document address shortfalls in the provision of front line EMS support, response and care by ambulance services, first responders, and public safety answering points (PSAP). It also offers guidance and decision support tools, and assumes incident management and incident command practices have been implemented, and that key personnel are familiar with the ethical frameworks and processes that underlie scarce resource decisions. Regional HCCs, Minnesota EMSRB designated Regional EMS Systems, PSAP/Dispatch and EMS dispatch centers, first responders, EMS ambulance service personnel, and their medical directors, may determine additional issues and strategies for their specific situation and geographic area. They are key stakeholders in the development and implementation of effective crisis care plans.

Health Care Facility Framework

MDH formed a Crisis Standards of Care Health Care Surge Workgroup in the fall of 2016 to review and provide input on crisis care issues and solutions for the wide range of Minnesota health care facilities. While hospitals and health care facilities are responsible for implementing their emergency operation plans (EOP), they are also responsible for incorporating CSC planning into their EOP. The document produced by the workgroup provides an overview of surge capacity and crisis care operational considerations for health care facilities with an emphasis on hospitals. It stresses that in case of resource shortfalls, the hospital should determine which of the following strategies may be relevant and implement them as needed in order to match supply to demand as closely as possible. To ensure success, key personnel are expected to be familiar with the ethical frameworks and processes, which underlie scarce resource decisions and provide the best care possible to the community under the circumstances.

Community/Public Engagement

To ensure the complex decisions that are made during a CSC situation reflect the values and priorities of Minnesota's communities, MDH hosted a series of community conversations over the summer and fall 2017. Additional sessions were held in March 2018 and January 2019. Each session included a short presentation and a facilitated discussion with pre-and post-surveys. A Summary of Findings is located on the MDH CSC website.

Rollout Workshops

After the development of the completed Minnesota CSC Framework, MDH worked with the eight regional HCCs to host a rollout workshops of the Framework. These sessions were focused on EMS and health care providers. Each session was four hours long and involved both a presentation on Crisis Standards of Care and small group discussions surrounding two different scenarios. These discussions presume a basic knowledge of the conventional, contingency, and crisis care spectrum. A sample agenda is below:

Sample Agenda

08:00—08:10	**Welcome & Introduction**
08:10—09:00	**Overview of Crisis Standards of Care**
09:00—09:40	**Round 1 Discussion: Tornado Scenario**
09:40—10:00	**Report Out**
10:00—10:15	**Break**
10:15—11:00	**Round 2 Discussion: Pandemic Scenario**
11:00—11:25	**Report Out**
11:25—12:00	**Closing Discussion, Next Steps, Evaluations**

The objectives for these workshops were multifold. First, MDH wanted to educate health care and EMS providers about Crisis Standards of Care principles and second, wanted to identify gaps within the overall Framework and planning gaps at the local and regional levels. Additionally, every participant received factsheets reviewing Triage and Crisis Care for their respective discipline and an Action Plan that asked participants to identify the top five tasks they would do as a follow-up from the workshop and asked them to identify questions or issues that arose from the workshop that they wanted to discuss with their administration or leadership.

Future Planning

Over the current grant cycle of five years (July 2019-June 2024), MDH is continuing to plan for the catastrophic. There are four focuses:

1. Incorporate the principles of Crisis Standards of Care into the MDH All-Hazards Response and Recovery Plan.

2. Continuing community engagement sessions to educate Minnesotan's about CSC and the work being done.

3. Continue to work with our HCCs to incorporate CSC principles into their Response Plans.

4. Work with frontline staff (hospitals and EMS) to develop useful materials to assist them in developing CSC plans and procedures in addition to education materials they can use for their staff.

Conclusion

There has been extensive planning for a pervasive or catastrophic public health event and it is a continuous project. This project is a priority for MDH to maintain the health of all Minnesotans and we sincerely thank all partners who have assisted us and been involved over the years.

Appendix A—Acronym List

Acronym	Definition
ASPR	U.S. Department of Health and Human Services, Assistant Secretary for Preparedness and Response
CEPR	Minnesota Department of Health, Center for Emergency Preparedness and Response
CSC	Crisis Standards of Care
EMS	Emergency Medical Services
EMSRB	Emergency Medical Services Regulatory Board
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
HCC	Health Care Coalition
HHS	United States Department of Health and Human Services
HPP	Health Care Preparedness Program Cooperative Agreement (HHS/ASPR)
IDEPC	Minnesota Department of Health, Infectious Disease, Epidemiology, Prevention and Control
IOM	Institute of Medicine
MCI	Mass casualty incident
MDH	Minnesota Department of Health
MPEP	Minnesota Pandemic Ethics Project
NAM	National Academies of Medicine
NIH	National Institutes of Health
PSAP	Public Safety Answering Point
SAT	Science Advisory Team for the Minnesota Department of Health
SME	Subject Matter Expert

Appendix B—List of Planning and Contributing Partners

Allina Emergency Medical Services

Allina Health

Altru Health System

American College of Emergency Physicians, Minnesota Chapter

Avera Marshall Regional Medical Center

Beltrami County Sheriff's Office

Brown County Public Health

Carver County

Center for Bioethics, University of Minnesota

CentraCare Health, Monticello

Children's of Minnesota

City of Maple Grove

City of Minneapolis

Emergency, Community, Health and Outreach (ECHO)/ Twin Cities Public Television (TPT)

Emergency Medical Services for Children (EMSC)

Essentia Health

Fairview

Fairview Northland Medical Center

Fairview Pharmacy

Freeborn County Public Health Department

Goodhue County Health and Human Services

Greater Northwest EMS

HealthPartners

Hennepin County

Hennepin County Medical Center (HCMC)

Hennepin County Medical Examiner

Hennepin County Public Health

JP Leider Research and Consulting LLC & Bloomberg School of Public Health

IBM

Kittson Memorial Health Care

Maple Grove Hospital

Mayo Clinic

Metropolitan Emergency Services Board

Mille Lacs Band of Ojibwe, Onamia

Mille Lacs Health System

Minnesota Academy of Family Physicians

Minnesota Ambulance Association

Central Minnesota EMS Region

Minnesota Department of Corrections

Minnesota Department of Health

Minnesota Department of Human Services

Minnesota Disability Law Center

Minnesota EMS Regulatory Board

Minnesota Homeland Security and Emergency Management, St. Paul

Minnesota Hospital Association

Minnesota Medical Association

University of Minnesota Center for Bioethics

University of Minnesota CIDRAP and the Academic Health Center

Veterans Health Administration

Watonwan County Human Services

West Central Minnesota EMS Corp., Alexandria

Winona Health

Minnesota Nurses Association

University of Minnesota, Rochester

Mower County Health and Human Services

Northeast Health Care Preparedness Coalition

North Memorial Ambulance Service

North Memorial Health Care

Otter Tail County Sheriff's Office

Park Nicollet Health Services

Perham Health

Pine City Medical Center

Rice Memorial Medical center

Riverwood Health Care Center

Sanford Bemidji

Sanford Health

Scott County Public Health

South Central Minnesota EMS Joint Powers Board

South Central Health Care Preparedness Coalition

Southeast EMS System Region

Southwest Minnesota EMS Corp.

St. Benedict's Senior Community

St. Cloud Hospital

St. Louis County Public Health and Human Services

St. Mary's Duluth Clinic Health System

Stearns County

Southwest Health Care Preparedness Coalition

U.S. Army

United Health Care Group

University of Minnesota Health