Contingency Conditions and Crisis and Standards of Care

AN OVERVIEW OF CATASTROPHIC PLANNING IN MINNESOTA

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Contingency Conditions and 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 healthcare 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" (Institute of Medicine, 2009).*

Planning for CSC came to national prominence fifteen to twenty 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.
- Evidence-based clinical processes and operations" (Hanfling, Altevogt, Viswanathan, & Gostin, 2012).

Minnesota endorses these key elements. Additionally, the IOM/NAM report highlighted the threat of mass casualty incidents (MCIs) and other incidents that generate surges of patients to hospitals and healthcare systems provide. Many hospitals are already operating at, or over, maximum capacity daily; therefore, any medical surge of patients may easily push a hospital or healthcare system into a scarce resource situation, which would require resource allocation decision-making. Hospitals and healthcare systems may also be forced into these decisions not due to an increase in demand, but also a loss of healthcare infrastructure. Preparing hospitals, healthcare systems and their partners to prevent, respond to, and rapidly recover from these threats is critical for protecting and securing the nation's healthcare 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 or contingency standards of care. The cornerstones of this level of planning are the MDH Science Advisory Team (SAT) and the CSC Framework. The U.S. Department of Health and

Human Services (HHS), Administration for Strategic 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, and family practice, with liaisons from MDH Infectious Disease, Epidemiology, Prevention and Control (IDEPC) and Emergency Preparedness and Response (EPR). In later years, ethicists, pharmacists, and hospital administrators became members. This team allows broad subject matter expertise into crisis and contingency care strategies. In response to the Covid-19 pandemic, MDH expanded membership to include representatives from the Center for Health Equity and again in 2021 to include the clinical advisors from Minnesota's eight healthcare coalitions. They meet twice a year and routinely update materials they have developed. The team both plans for and responds to situations within Minnesota.

Patient Care Strategies for Scarce Resource Situations

The Patient Care Strategies for Scarce Resource Situations (www.health.state.mn.us/communities/ep/surge/crisis/standards.pdf) Card Set has evolved to include seven core clinical strategy topics—oxygen, staffing, nutritional support, medication administration, hemodynamic support and IV fluids, mechanical ventilation & external oxygenation, and blood products—and five resource reference and triage topics—renal replacement therapy, burn treatment, pediatrics, palliative care, and extra-corporeal membrane oxygenation. Version 8.0 is the current edition.

The card set is designed to facilitate resource shortfalls at the hospital or healthcare 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 healthcare systems during a time of crisis. They use the core strategies of prepare, substitute, adapt, conserve, reuse, and reallocate. 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 (www.health.state.mn.us/communities/ep/surge/crisis/pharmfaq.pdf). Shortages in pharmaceuticals, intravenous fluids, and hospital nutrition products are becoming more and more common. It provides a basic overview of how hospitals can cope with medication shortages and the role of MDH during such events. During multiple shortages over the years (e.g., 2024 Tamiflu, 2024 intravenous fluids) the SAT activates and provides advice on allocation and conservation strategies.

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 (www.health.state.mn.us/communities/ep/surge/crisis/panethics.html) (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 Healthcare 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 (www.health.state.mn.us/divs/idepc/ethics/ethics.pdf)* (Vawter, et al., 2010) 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 (www.health.state.mn.us/divs/idepc/ethics/implement.pdf)* (DeBruin, et al., 2010) identified and analyzed issues relating to the implementation of those ethical frameworks. These reports and the relationships established between MDH, the Minnesota Center for Healthcare Ethics, and the University of Minnesota Center for Bioethics served as a strong foundation for the future development of the MDH CSC Ethical Framework.

Crisis standards of care framework

Goal

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 the CSC Framework is to:

- Outline the MDH response role during a CSC situation.
- Provide planning guidance and strategies to healthcare entities (e.g. hospitals, healthcare coalitions, emergency medical services etc.) and public health organizations to manage the transition from conventional to contingency to crisis care during a CSC 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 hospitals and healthcare systems to prepare for, respond to, and recover from these types of events.

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 work groups. The work groups established for the writing of the Minnesota CSC Framework were Ethics, Emergency Medical Services (EMS), and Hospitals/Healthcare.

The Legal Framework was not a formalized work group; instead, MDH in-house legal counsel developed it. Additionally, the SAT not only had representation on the CSC Steering Group but also had representation on the three newly established work groups and reviewed 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 the Metropolitan area and greater Minnesota. See Appendix A for a full list of planning partners.

Ethical framework

The IOM/NAM asserts that this ethical framework forms the “bedrock” for crisis standards of care preparedness (Institute of Medicine, 2009). The Minnesota Ethical Framework (www.health.state.mn.us/communities/ep/surge/crisis/ethical.html)synthesizes the guidance developed in the Minnesota Pandemic Ethics Project (MPEP) for stewarding scarce resources in pandemics 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 work group and in partnership with MDH. Next, MDH, in partnership with the CSC Ethics Team, convened a CSC Ethics Work group—a multidisciplinary group of stakeholders including ethicists, emergency regional coordinators, healthcare professionals, health systems administrators, clergy, advocates for populations with access and functional needs, tribal coordinators, and other subject matter experts (SMEs). This Work group was tasked with providing input on the ethical framework. The Ethics Team led a series of meetings during which the Work group 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 legal counsel for MDH developed the Legal Framework (www.health.state.mn.us/communities/ep/surge/crisis/legal.html)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 principal declarations and actions, liability mitigation, volunteer protections, staff augmentation, tribal issues, and resource re-allocation. It is not limited to CSC situations.

Emergency medical services framework

In the spring of 2016, MDH and the Office of Emergency Medical Services (OEMS) convened a statewide EMS Crisis Standards of Care Work group to provide input on crisis care issues and solutions for EMS, which drove the development of the EMS Framework (www.health.state.mn.us/communities/ep/surge/crisis/ems.html). The resulting document addresses shortfalls in the provision of frontline 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.

Healthcare facility framework

MDH formed a Crisis Standards of Care Healthcare Surge Work group in the fall of 2016 to review and provide input on crisis care issues and solutions for the wide range of Minnesota healthcare facilities. While hospitals and healthcare facilities are responsible for implementing their emergency operation plans (EOP), they are also responsible for incorporating CSC planning into their EOP. The Healthcare Facility Framework (www.health.state.mn.us/communities/ep/surge/crisis/hospital.html)produced by the work group provides an overview of surge capacity and crisis care operational considerations for healthcare facilities with an emphasis on hospitals. It stresses that in the case of resource shortfalls, the hospital should determine which of the following strategies may be relevant and implement them as needed 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 that underlie scarce resource decisions and provide the best care possible to the community under the circumstances.

Stakeholder engagement activities and recommendations

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 of 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.

Rollout workshops

After completing the Minnesota CSC Framework, MDH worked with the eight regional HCCs to host rollout workshops of the Framework. These sessions were focused on EMS and healthcare 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 presumed a basic knowledge of the conventional, contingency, and crisis care spectrum. The objectives for these workshops were multifold. First, MDH wanted to educate healthcare 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.

COVID-19 pandemic and after-action reports

Pandemic response

Throughout the COVID-19 pandemic, Minnesota experienced multiple instances of contingency conditions and crisis standards of care which required resource allocation and additional federal supports. However, Minnesota benefited from the extensive planning done prior to the pandemic. Afterwards, MDH decided to contract with the University of Minnesota on two different projects to explore lessons learned, and recommendations from frontline response partners and healthcare professionals.

University of Minnesota Center for Bioethics

To assess strengths and weaknesses of the COVID-19 response in acute healthcare settings, MDH contracted with a project team from the University of Minnesota Center for Bioethics to conduct stakeholder engagement activities on lessons learned from the COVID-19 pandemic. The goals of the project were:

1. To solicit input from healthcare stakeholders who worked in acute care settings during the COVID-19 pandemic, including health system/facility leadership, critical care providers, and emergency department (ED) providers.
2. To identify themes, present in this input and use those themes to develop recommendations for improvements in the state's preparedness and response frameworks.

The project team solicited input during listening sessions with 35 individuals. These individuals broadly represented the Minnesota healthcare system. They worked in the Twin Cities Metro area (19) or Greater Minnesota (15) during the pandemic with experience ranging from 1-5 years to over 20 years in their professions. They represented different roles including leadership, incident command, critical care, and emergency department and they represented different facility trauma level designations including tribal health.

Ample time was dedicated throughout the sessions to ask follow-up questions, promote discussion, and allow participants to raise issues of importance to them. The final report and recommendations from these sessions tied personal narratives to disaster response and healthcare crises, striving to pinpoint actionable change for improving preparedness and response in future emergencies.

Additionally, the project team took findings, best practices, and recommendations and updated portions of the Minnesota Crisis Standards of Care Framework, renamed Contingency Conditions and Crisis Standards of Care Framework. This enables MDH and partners to continually improve responses to future events.

University of Minnesota Health Emergency Response Office

To more broadly assess strengths and weaknesses of the COVID-19 response throughout Minnesota's healthcare system, inclusive of public health, the University of Minnesota Health Emergency Response Office (HERO), conducted statewide engagement and identified gaps and opportunities for future preparation for large-scale, ongoing emergencies. The goals of the project were:

1. Identify gaps in coordination and communications in preparedness plans.
2. Strengthen understanding of equity and access within healthcare systems during a disaster.
3. Document successful processes during the COVID-19 response.

The project team's work was unfortunately cut short due to funding, however from January to March of 2025 they were able to interview 23 individuals. The report outlined practices that were most successful and should be repeated in the next disaster, items that realistically could be changed but were a challenge or a problem, and items that were a challenge that cannot be realistically changed but should be acknowledged early to ensure a shared understanding, ease frustrations, and build resiliency among partners.

Conclusion

There has been extensive planning for a pervasive or catastrophic public health event in Minnesota and all Minnesotans have benefited from this project. It remains 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.

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Appendix A—List of planning and contributing partners to the 2016 CSC framework

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 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 Healthcare

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 Healthcare Preparedness Coalition

North Memorial Ambulance Service

North Memorial Healthcare

Otter Tail County Sheriff's Office

Park Nicollet Health Services

Perham Health

Pine City Medical Center

Rice Memorial Medical center

Riverwood Healthcare Center

Sanford Bemidji

Sanford Health

Scott County Public Health

South Central Minnesota EMS Joint Powers Board

South Central Healthcare 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 Healthcare Preparedness Coalition

U.S. Army

United Healthcare Group

University of Minnesota Health