

Coordination of the Public Health and Healthcare Systems in Responding to Health Emergencies in Minnesota

November 10, 2009



Overview

- MN Public Health System Preparedness
- MN Healthcare System Preparedness
- MDH Emergency Preparedness and Response Activities

Minnesota Public Health System

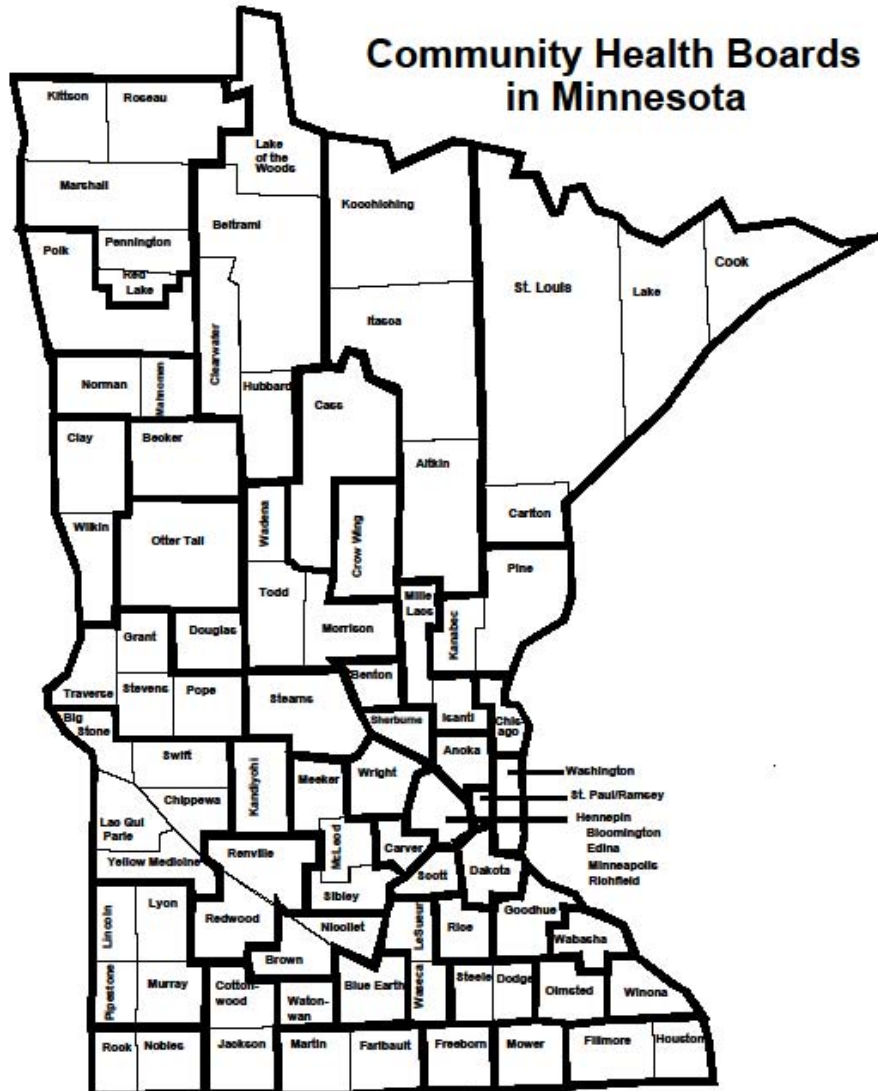
■ Community Health Services Act

- Infrastructure for public health in Minnesota
- Systematic organization of local health authorities
- State and local governments combine resources to serve public health needs

Local Functions

- Local public health departments and community health boards:
 - assess internal capacity and the health of the community
 - identify priority public health issues
 - select appropriate interventions
 - assure accountability for local, state, and federal funding

Community Health Boards in Minnesota



Local Emergency Preparedness

- CDC Public Health Emergency Preparedness grants to local health departments and tribes
- Contract deliverables around plans, exercises, training, relationships
- Coordination of regional activities

Public Health Tiered Response

- Local health department or tribe
- Community health board
- Public health region
- Adjoining regions
- MDH
- Federal government

Minnesota Healthcare System Preparedness Program

- **8 Regions**

 - 87 Counties

- **LPH Departments**

 - 91 Total

- **EMS**

 - 78 % Volunteer

- **Nursing Homes & LTC**

 - 389 Skilled Nursing Facilities

 - 1,700 Long Term Care Facilities

- **Hospitals**

 - 140 Acute/Chronic Care (80 Critical Access)

 - 10 Community Behavioral Health Hospitals

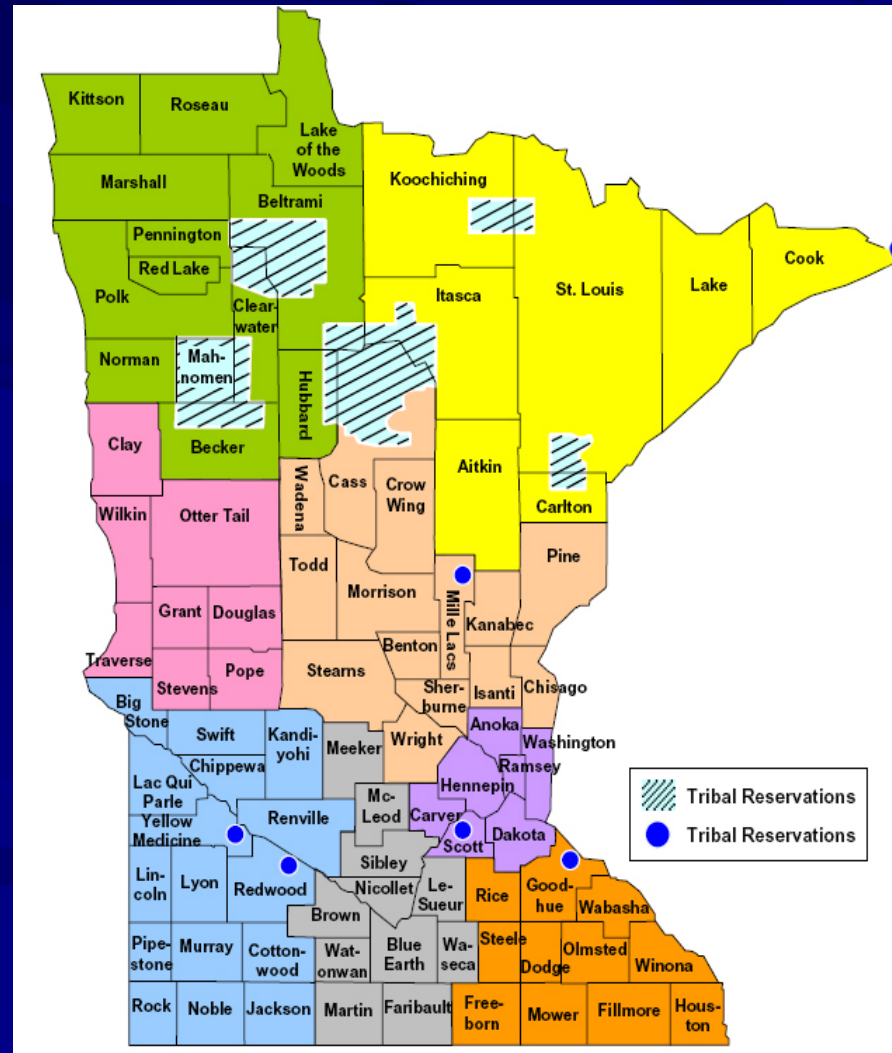
 - 7 Regional Treatment Centers

- **Clinics**

 - More than 2,000 statewide

- **Schools**

Healthcare System Preparedness and Response Regions



Tiered Response System

Tier 1	Management of Individual Healthcare Assets (hospitals, healthcare systems, clinics, alternative care sites, LTC, hospice, rehabilitation facilities, psychiatric and mental health facilities, and EMS)
Tier 2	Management of Healthcare Coalition (Compact)
Tier 3	Jurisdiction Incident Management (MAC)
Tier 4	Management of State Response and Coordination of Intrastate Jurisdiction
Tier 5	Interstate Regional Management Coordination (FEMA Region V + Border States)
Tier 6	Federal Response (Support to State and Locals)

Medical Surge Capacity Planning Statistics

- Establish a system for the triage, treatment and disposition of:
 - 500 patients per million population – biological (2,500 patients per million population – pandemic influenza)
 - 50 patients per million population - chemical
 - 50 patient per million population - radiological
 - 50 patients per million population – nuclear
 - 50 patients per million population – trauma & burn

Medical Surge Sites of Care

- Hospital
- Isolation Surge
- Laboratories
- Trauma & Burn Care
- Alternate Care Sites
- Clinics
- Flu Centers
- Phone Triage
- Nursing Homes & Long Term Care Facilities
- Schools
- EMS

PATIENT CARE STRATEGIES FOR SCARCE RESOURCE SITUATIONS

MINNESOTA HEALTHCARE SYSTEM PREPAREDNESS PROGRAM

Summary Table

RESOURCE	STRATEGY*	TACTIC
Oxygen	CONSERVATION	Use minimum liter flow to keep O2 saturation > target (85-95% depending on situation). Use O2 conserving cannulas (Oxymizer™). No oxygen driven nebs. Eliminate or reduce equipment with high O2 consumption. See more complete oxygen document.
	RE-USE	Appropriately disinfect and re-use cannulas, masks, and tubing
	RE-ALLOCATION	May have to base therapy on triage decision tool similar to ventilator allocation
Medication Administration	SUBSTITUTION	Use alternative inexpensive medications (morphine, lorazepam, doxycycline) that are easily stockpiled prior to the event.
	ADAPTATION	Use morphine and benzodiazepines for sedation drips when possible, run drips via gravity rather than IV pumps if needed. Administer more medications via subcutaneous or intramuscular route than intravenous.
	CONSERVATION	Give adjunctive non-steroidal and other analgesics / medications including orally when possible.
	RE-ALLOCATION	Last resort – palliative care demands adequate pain control / sedation – focus should be on stockpiling inexpensive options in advance of event
Hemodynamic Support and IV Fluids	SUBSTITUTION	Use alternative vasopressor agents such as epinephrine (inexpensive).
	ADAPTATION	May have higher threshold to initiate vasopressors, may use gravity drips (e.g.: 1mg epi in 100cc NS) instead of infusion pumps. Consider NG fluid replacement rather than IV.
	CONSERVATION	Minimize invasive monitoring.
	RE-USE	Consider reusing central venous cath, other tubes and catheters with appropriate sterilization/disinfection.
Mechanical Ventilation	ADAPTATION	Use of anesthesia machines, BiPAP, short-term manual ventilation and other strategies
	CONSERVATION	Adjusted threshold for intubation, decrease elective surgeries to free up ventilators / anesthesia machines.
	RE-USE	Re-use of ventilator circuits after appropriate sterilization / disinfection
	RE-ALLOCATION	Last resort, allocating ventilators to patients who can most benefit / will use least resources - must be according to pre-planned process using decision support tool and expert clinical judgment
Nutrition	ADAPTATION	Have family or ancillary staff provide meals. Simpler meals, fewer choices for those that can take oral intake. Tube feedings in preference to TPN. May delay feedings longer than usual.
	CONSERVATION	See above
	RE-USE	May need to re-use NG and other feeding equipment with appropriate disinfection / sterilization
Staffing	SUBSTITUTION	Outside, equally-qualified staff brought in to institution via compact agreements or other mechanism (DMAT, Medical Reserve Corps, other local/regional/state/federal sources). Use family or non-professional staff to provide basic patient cares (non-clinical).
	ADAPTATION	Less qualified staff from sources as above or volunteers provide basic patient care with critical care nursing and physician staff monitoring larger numbers of patients. Just-in-time training and orientation to job duties. Change shift duration. Use family or non-professional staff to provide some clinical care with training / in-service.
	CONSERVATION	Reduce administrative demands (teaching and administration, documentation, etc.)

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

Preparation - pre-event actions taken to minimize resource scarcity.

Substitution - using an essentially equivalent device, drug, or personnel for one that would usually be available (e.g.: morphine for fentanyl)

Adaptation - using a device, drug, or personnel that are not equivalent but that will provide sufficient care (e.g.: anesthesia machine for mechanical ventilation)

Conservation - using 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-using (after appropriate disinfection / sterilization) items that would normally be single-use items.

Re-allocation - taking a resource from one patient and giving it to a patient with a better prognosis or greater need

MINNESOTA DEPARTMENT OF HEALTH
OFFICE OF EMERGENCY PREPAREDNESS
www.health.state.mn.us/oep/healthcare

Orville L. Freeman Building / PO Box 64975
 625 Robert Street N. / St. Paul MN 55164
 TEL: 651 201.5700 / TDD: 651 215.8980



Other Surge Support Systems

- Interoperable Communication Systems
- MNTrac (track resources, alerts, and communications)
- Minnesota Responds MRC
- Fatality Management (Care of the Deceased)

Coordination of Public Health and Healthcare Response

- Local partnerships
- Regional Multi-Agency Coordination Systems
- Office of Emergency Preparedness

Minnesota Department of Health Emergency Preparedness

- Focus in Office of Emergency Preparedness
- CDC and ASPR grant staff distributed throughout MDH
 - Infectious Disease Epidemiology, Prevention and Control
 - Public Health Laboratory
 - Environmental Health
 - Communications Office

Education, Exercises and Planning

■ Major Functions:

- MDH All-Hazards Response and Recovery Plan
- MDH exercise plan
- After action reports and improvement planning
- MNTRAIN—learning management system
- USEEE—research on training for team effectiveness

Partner Alerting and Communication

Major Functions:

- Health Alert Network (HAN)
- Tactical communications
- Workspace
- Web communications

Resource Management and Tracking

■ Major Functions:

- Strategic National Stockpile
- Cities Readiness Initiative
- State stockpile
- Consultation on regional mass dispensing/planning

Healthcare System Preparedness

■ Major Functions:

- Healthcare system preparedness grants management
- Healthcare system surge planning
- Medical Reserve Corps volunteer management
- MN *Trac* bed and patient tracking
- Behavioral health
- Special populations

Local Preparedness Planning

■ Major Functions:

- Consultation to local health departments and tribes
- Coordination of regional planning
- Coordination of exercise schedules
- Facilitation of regional multi-agency coordination centers for response

Administrative Activities

■ Major Functions:

- CDC emergency preparedness and pan flu grant administration
- Grants to local health departments and tribes
- Response infrastructure
- Statutes and regulations

OEP Partner Relationships

- Liaison to other state agencies
- Coordinate with State Emergency Operations Center
- Work with public safety and local emergency managers
- Coordinate with Local Public Health Association
- Coordinate with healthcare system

Other Possible Areas to Help

- Logistics
- Warehousing
- Transport
- Dispensing
- Hotlines
- Printing
- Signage
- Barriers
- Training centers
- Tents/trailers
- Exercise evaluators
- N95s
- Patient care
- Patient care coordination
- Communications
 - Content
 - Delivery
 - Tactical

Resources

- MDH Homepage

- <http://www.health.state.mn.us/>

- OEP Homepage

- <http://www.health.state.mn.us/oep/>

- Healthcare System Preparedness

- <http://www.health.state.mn.us/oep/healthcare/index.html>

Questions?

Contact Info:

Jane Braun, MDH OEP

651-201-4829

jane.braun@state.mn.us