Nebraska Regional Disaster Health Response Ecosystem (NRDHRE)

Connecting the Dots....

Shelly Schwedhelm, MSN, RN, NEA-BC
Learning Objectives

- Participants will become familiar with the overall demonstration grant objectives.
- Participants will learn about the benefits and challenges of implementation using the healthcare coalition framework.
- Participants will identify several strategies that could be considered for implementation in their region.
In a disaster (e.g., earthquake, radiological event), thousands of Americans may require immediate medical specialty care, surpassing the care available in the community.

In response, the U.S. Department of Health and Human Services’ Office of the Assistant Secretary for Preparedness and Response (ASPR) awarded a demonstration grants to demonstrate how a new Regional Disaster Health Response System (RDHRS) could meet these needs in a disaster.
RDHRS Goals

- Integrating Medical Response Capabilities to include community-based and non-traditional response
- Expanding Specialty Care Expertise telepresence and mobile teams for trauma, chemical, biological, radiological, nuclear, and pediatric injuries
- Coordinating Medical Response through increased situational awareness and information sharing
- Integrating Measures of Preparedness into daily priorities through healthcare and community system incentives
- Building on Regional Healthcare Coalitions and better integrating public and private sector partners to improve preparedness and response
Applicants must demonstrate the following capabilities in support of a coordinated, statewide and regional emergency response:

Each **Capability** consists of one or more **Objectives**.
Each **Objective** contains one or more **Activities**.
Each **Activity** has a set of specific items that must be addressed.
Why Nebraska?

One of the top 3 states with most disaster declarations since 1960

Urban, Rural and Frontier locations
NRDHRE Philosophy: Building an ecosystem for regional disaster health system response

Ecosystem – self-sustaining community comprised of inter-dependent organisms…and their natural environment

Ecosystems are:

**Diverse** Expand outside of healthcare facilities to include first responders, emergency management, community organizations, private sector, private citizens

**Interconnected** Create knowledge-sharing platforms and expand lines of communication

**Redundant** Develop tiered systems for disaster healthcare surge that expand capacity and increase specialty care access

**Dynamic** Evolve and align response to be self-actuating and situationally adaptive

**Self sustaining** Explore economic incentives in health system, government, and business community to develop public-private partnerships for preparedness investment
Diverse

Expand outside of healthcare facilities to include first responders, emergency management, community organizations, private sector, private citizens.
Regional Engagement and Relationship Building

Southeast HCC
Omaha HCC
Nebraska Department of Health and Human Services
Dept. of Corrections
Nebraska National Guard
Nebraska Public Health Laboratory
Fusion Center
Governor’s Policy Group
RROMRS
NEMA
County EM (NAEM
TRIMRS
Physicians Mutual
Children’s Physicians and Children’s Specialty Physicians
Omaha VA Hospital
ORAI
Southeast District Health Department
NSRI
Team Rubicon
Region 6 Behavioral Healthcare
Nebraska State Trauma Advisory Board
Nebraska State Emergency Health Systems
Office
VA Nebraska-Western Iowa Health Care System
Offutt 55th Medical Group
NeDHHS: DMAT/DMORT/ESAR-VHP/MRC Teams
Nebraska Task Force 1
Nemaha County Hospital
Faith Regional Health
Great Plains Health
Bryan Health & Bryan Medical Center
Nebraska Medicine - Bellevue Hospital
CHI Health & CHI Bergan Mercy Hospital
Methodist Health System & Methodist Hospital
CHI Health

NPHL
Nebraska Public Health Laboratory

Omaha Metro Healthcare Coalition (OMHCC)

Nebraska Medical Reserve Corps
Douglas County Public Health Department
Sarpy/Cass County Public Health Department
Three Rivers Public Health Department
Lincoln-Lancaster County Public Health Department
Mills County Public Health Department
The Governor of the State of Nebraska
Nebraska State Trauma System
Douglas Co Emergency Management
Omaha Fire Department/EMS
Nebraska Medicine
University of Nebraska Medical Center
National Ebola Training & Education Center
Region VII EMS & Exercise Committees
National Strategic Research Institute
Global Center for Health Security
Center for Preparedness Education
HEROES Program
Nebraska Infection Control Network
Nebraska Public Health Laboratory
Nebraska Regional Poison Control Center
American Association of Poison Control Centers
American Red Cross – Kansas/Nebraska/SW Iowa Region
Omaha Chamber of Commerce
Nebraska State Chamber of Commerce and Industry
Nebraska Hospital Association
Nebraska Nursing Facility Association
Nebraska Assisted Living Association
Nebraska Hospice and Palliative Care Association
Licensed Practical Nurse Association of Nebraska
Nebraska Association of Local Public Health Directors
Public Health Association of Nebraska
Executive Council

- Children's Hospital
- Omaha VA
- Region 6 Behavioral Health
- NEMA
- Nebraska DHHS
- Omaha Chamber of Commerce
- UNMC Chancellor
- Nebraska Medicine CMO
- Community Representative
- United States Air Force-STRATCOM

Coordinating Council

- Healthcare coalition coordinators
- Emergency Services Representative
- Trauma Coordinators
- Trauma surgeon
- Emergency Management
- National Strategic Research Institute
- Nebraska DHHS
- Air National Guard

Grant Faculty

- Medical Director
- Executive Director
- Capability Leaders
Back to the Basics

Grant Faculty:
- Participated in monthly coalition calls with state health department
- Attended coalition meetings in person
- Facilitated workshops
- Facilitated exercises

Meet them where they are...
Challenges & Solutions

Challenges:
• Gaining the participation of numerous agencies/individuals that were already full-time-plus (Healthcare Coalition Coordinators)
• 80% EMS in Nebraska are volunteer based
• Perception in state that “Omaha is telling us what to do (again)”

Solutions:
• Showing time savings by HCC’s in terms of their HPP/PHEP requirements
• Being present across the state-site visits, workshops and exercises held outside of Omaha to explain the project and demonstrate that “we are listening”
• Seeking review of key concepts, products and models from all coalitions, integrating as able and closing the loop with final results
Interconnected

Create knowledge-sharing platforms and expand lines of communication
Knowledge Center officially went live on July 8th and was put into immediate use with flooding that impacted the state on July 9th.
Knowledge Center

- Knowledge Center training has recently scheduled with the Santee Sioux Nation and Winnebago Tribes.

- Training numbers - Over 50 classes conducted so far
  - 363 have attended or are scheduled for training on HIMS
  - 321 have attended or are scheduled for training on ICKC

- These numbers include representatives from the following:
  - Nebraska National Guard
  - Every University of Nebraska campus
  - 14 Unique State Agencies (including the Governor’s office)
  - County emergency managers (including local/county fire & sheriff)
  - Nebraska Poison Center
  - Nebraska Public Health Laboratory
  - State & Local Public Health
  - Private & Public EMS
  - 44 Unique Hospitals (including the 3 largest systems- Methodist, CHI & Nebraska Med)

**ROI in progress**
ABOUT THE NRDHRE PROJECT

The Nebraska Regional Disaster Health Response Ecosystem (NRDHRE) Project is designed to build an ecosystem for regional disaster health system response. It is developed in response to the U.S. Department of Health and Human Services (HHS) Assistant Secretary for Preparedness and Response (ASPR) Funding Opportunity Announcement (FOA) Partnership for Disaster Health Response Cooperative Agreement.

Led by Nebraska Medicine and the University of Nebraska Medical Center (UNMC), the project brings together partners from across the region to address preparations for all-hazard events. Together we will create strategies and identify resources to support and enhance healthcare coalition, state, and regional response plans.

Through the NRDHRE project, we will innovate solutions for engaging untapped resources within communities and the private sector, create investment leveraging and adoption planning tools, and implement economic incentives to establish a self-sustaining and scalable ecosystem for regional health system response.

www.nrdhre.com
Contents include the following topics:

- Emergency Declarations (Federal, State, and Local)
- Liability Protections for Volunteers and Healthcare Workers
- Alternate Care Sites
- Crisis Standards of Care
- Isolation & Quarantine
- 1135 Waivers
- HIPAA
- EMTALA
- Vulnerable Populations
- Emergency Management Assistance Compact (EMAC)
- Nurse Licensure Compact
Challenges:

• Geographical spread of the state
• Legacy (stovepiped) IT and communications systems
• Limited resources for IT investment
• Resistance to “break-the-glass” solutions

Solutions:

• Identify system (KC) that can connect across diverse sectors and systems
• Demonstrate the cost/time saving benefits of KC (e.g., HVA, plan storage, family reunification)
• Aggressive training and demonstration of KC in daily work flows
Redundant

Develop tiered systems for disaster healthcare surge that expand capacity and increase specialty care access
Telehealth

Broadband Availability in Nebraska
December 2017

Nebraska State Telehealth Network

Nebraska Broadband Map using Dec. 2017 FCC Form 497 data, broadbandmap.nebraska.gov
Cyber Security Team

The DRAFT team charter for the Cyber Security team has been created. The Cyber Security team will provide subject-matter-expertise in an area with very limited resources in the region.

Operations

The CyberSRT consist of a small number of Healthcare Information Technology/Information Security specialists.

The team follows the NIST Standards for Incident Response Management and is activated at the second or third step:

- Preparation
- Detection and Analysis
- Containment, Eradication, and Recovery
- Post-Incident Activity

The team can assist local incident response personnel by:

- Traveling to the scene of an incident or event in order to assist in cyber security incident management.
- Traveling to the scene of an incident or event in order to provide advice and just-in-time training.
- Providing advice and training from afar via tele-technology.

Assistance & Resources

The core capabilities of the CyberSRT lie with a small group of subject matter experts (SMEs) and augmented as the situation warrants, by other subject matter experts.

The members of the team have the following qualifications:

- DoDD 8570.1 certifications covering the 4 domains (Technical, Management, Architecture & Engineering, Network Defense)

The SMEs can, among other things:

- Analyze network traffic for malfeasance
- Identify attacker artifacts and activities on a variety of different enterprise systems
- Collect and analyzing intel associated with the attack
- Analyze the malware used by attackers
- Handle an incident in an enterprise network
- Eradicate the attackers’ presence from the environment
Behavioral Health Team

2019 Nebraska Regional Disaster Health Response Ecosystem
Behavioral Health Plan

Preparedness
- Directed by Nebraska Department of Health and Human Services (DHHS) Division of Behavioral Health
- Plans carried out by the six behavioral health authorities (regions)
- State disaster behavioral health coordinators are liaisons to the regions and other agencies

Activation of disaster behavioral health resources
- County emergency management deploys public health
  - Public health activates the region’s emergency behavioral health program
  - Regions may tap into Medical Reserve Corps, locally trained and managed volunteers, American Red Cross, and other voluntary organizations active in disaster

Overview of Response Coordination Among Agencies
The SIM-NE trucks were piloted in Cass County to deliver SALT triage training. The response from participants was overwhelmingly positive. A data collection program was also piloted, which will permit improvements to be made and the ROI of training to be tracked in the future.
Challenges & Solutions

Challenges:

- Incorporate RDHRE expert consultation into existing telehealth programs/networks
- Limited resources in many areas of the state identified during risk assessment workshops
- Lack of access to specialized training needed to improve gaps identified in preparedness in rural and frontier areas

Solutions:

- Clarify the intent, purpose and scope of specialized consultation
- Develop more robust medical operations centers which incorporate all key stakeholders
- Leverage SIM NE to provide training solutions for coalition members
Dynamic

Evolve and align response to be self-actuating and situationally adaptive
Clinical Disaster Risk Assessment Workshop

A Critical Disaster Risk Assessment Workshop was held with stakeholders from across the state to identify gaps in disaster preparedness. The data from the workshop was collated into a report to use as a tool to assess, improve, and align preparedness plans in the region.
Gaps

1. Need for standardized triage algorithm/protocol/process
2. Lack of reliable communication methods/issues with communication
3. Need to incorporate community-based and faith-based organizations in planning and response
4. Lack of staff/lack of trained staff for mass-casualty event
5. Need for more incorporation into the Incident Command System (ICS) and Unified Command
6. Inadequate exercising (exercises do not stress the system, need to include more entities)
7. Need for basic first aid training for the public (i.e., self-care)
8. Lack of ambulances and other medical transport devices
9. Issues with patient tracking during a mass-casualty event
State, Federal, & Volunteer Assets
Nebraska Civil Air Patrol (NECAP) have numerous capabilities including the ability to transport specialty teams and equipment and conduct search and rescue missions. They also use an HF communications system that functions in the absence of cellular network availability.
Challenges & Solutions

Challenges:

• Varying opinions on what coalitions have the authority, accountability or ability to implement related to policies or procedures

• Large geographical areas contained within coalitions with highly variable demographics

• Lack of coordination between public health, emergency management and healthcare providers

Solutions:

• Collaborate with ASPR and coalition governing bodies to more clearly define what a coalition is or is not

• Develop more concrete regional disaster health response coordination strategies to support coalitions

• Develop action plans to assist coalitions advance and prioritize

• Develop mobile assets and asset inventories to better leverage strengths within and across coalitions
Explore economic incentives in health system, government, and business community to develop public-private partnerships for preparedness investment
## Preparedness Metrics

### Example Metrics Only

<table>
<thead>
<tr>
<th>Core Elements</th>
<th>Attributes</th>
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</thead>
</table>
| **1. Consistent intra-coalition policies, protocols, procedures to facilitate coordinated medical surge management** | a. Documentation of policies for intra-coalition coordinated medical surge management  
b. Documentation of protocols for intra-coalition coordinated medical surge management  
c. Documentation of procedures for intra-coalition coordinated medical surge management |
| **2. Consistent inter-coalition policies, protocols, procedures to facilitate coordinated medical surge management** | a. Documentation of policies for inter-coalition coordinated medical surge management  
b. Documentation of protocols for inter-coalition coordinated medical surge management  
c. Documentation of procedures for inter-coalition coordinated medical surge management |
| **3. Consistent intra-coalition policies and procedures integrated with EMS/patient destination choices to facilitate coordinated out of hospital medical surge management** | a. Documentation of policies for intra-coalition integrated with EMS/patient destination choices for coordinated out of hospital medical surge management  
b. Documentation of procedures for intra-coalition integrated with EMS/patient destination choices for coordinated out of hospital medical surge management |
| **4. Consistent inter-coalition policies and procedures integrated with EMS/patient destination choices to facilitate coordinated out of hospital medical surge management** | a. Documentation of policies for inter-coalition integrated with EMS/patient destination choices for coordinated out of hospital medical surge management  
b. Documentation of procedures for inter-coalition integrated with EMS/patient destination choices for coordinated out of hospital medical surge management |
Response Readiness Designation

- Annual “Peer Review” Consultation
- Report provided & Action Items Addressed
- Verification of Completed Action Items
- Final Report Submitted to ASPR
- “Response Ready” Designation
- Self-Assessment (Review)
## Themes & Enablers

<table>
<thead>
<tr>
<th></th>
<th>Self-organizing Medical Response</th>
<th>Tiered Casualty Management</th>
<th>Health System Expansion</th>
<th>Specialty Care Penetration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Private Sector, Community Organization Actions</strong></td>
<td>Community/business response teams, Preparedness events</td>
<td>First-aid, buddy-care awareness, transport assets</td>
<td>Business community ambassadors - credentialing</td>
<td>Transportation and communication assets</td>
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<tr>
<td><strong>Economic Incentives</strong></td>
<td>Business/community preparedness funds</td>
<td>State reimbursement mechanisms for disaster care</td>
<td>Insurance and underwriting discounts</td>
<td>Telemedicine cost reimbursement schemes</td>
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<tr>
<td><strong>Local/Regional Adaptive Planning</strong></td>
<td>Designated aid and transport stations, Good Samaritan laws</td>
<td>Hub and spoke system, Crisis standards of care</td>
<td>Outpatient asset integration, User managed inventory</td>
<td>Strike team training deployment plans</td>
</tr>
<tr>
<td><strong>Education and Training Standards</strong></td>
<td>Disaster life support training requirements</td>
<td>Mobile training (HEROES)</td>
<td>HCW cross training requirements</td>
<td>Simulation and virtual reality training</td>
</tr>
<tr>
<td><strong>Information Sharing Platforms</strong></td>
<td>Amateur radio teams, Apps and social media (Ushahidi, etc)</td>
<td>Knowledge Center, ASPR Med Maps integration,</td>
<td>Online decision support tools</td>
<td>Telemedicine platforms</td>
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</tbody>
</table>
Testing the Model
Exercise Participants
Rural Full Scale

- A semi tractor trailer traveling west bound on HWY 20 loses control and crashes into a passenger van due to heavy rain. During the crash the tanker is ruptured and begins leaking all over the roadway.

- The tanker contains a chemical when mixed with water produces a toxic gas. Just a few miles north is the Johnstown Fair, in attendance are an estimated 2,000 people.

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<thead>
<tr>
<th>Phase</th>
<th>Activity Type</th>
<th>Event(s)</th>
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<tbody>
<tr>
<td>One</td>
<td>Notional</td>
<td>Initial On-Scene Actions</td>
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<tr>
<td></td>
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<td>911 Calls start coming in for the accident on Hwy 20</td>
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<td></td>
<td>Local LE and FD arrive on scene, Hwy 20 is closed.</td>
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<td>Unified Command Established</td>
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<td>Scene size up for HAZMAT incident begins</td>
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<td>Rescue operations are started for the crash victims.</td>
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<td>Hospital notified of mass causality and chemical incident</td>
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<td>Critical Patients depart scene to Brown County Hospital.</td>
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<td>911 call start coming in for County Fairgrounds, people have become ill.</td>
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<td></td>
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<td>Hospital notified of chemical incident</td>
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<td>Chemical patients arrive at hospital</td>
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<tr>
<td></td>
<td></td>
<td>All Patients Triaged and Routed</td>
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<tr>
<td>Two</td>
<td>Day 1- Roll Players</td>
<td>Patients Arrive at Point of Care</td>
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<td>At-Risk Population Identification and Routing</td>
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<td>Regional Support Requests</td>
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<td>Surge Plan Criteria</td>
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<tr>
<td></td>
<td></td>
<td>PAUSE EXERCISE</td>
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<tr>
<td>Three</td>
<td>Day 2- Paper Patients</td>
<td>Surge Plans, Patients are Moved</td>
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<td>Outpatient Tracking</td>
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<td>Medical Procedure Tracking</td>
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<td>Patient Reunification</td>
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</tbody>
</table>
Exercise Day(s)

- 600 Miles
- 3 days
- 12 grant faculty
- 2 Coalitions
- Multiple hospitals
- Emergency Operations Center
Rural Functional Exercise-Testing Knowledge Center

- Multiple charter buses collide on I-80 resulting in mass casualty incident including geriatric, pediatric and adult patients.

- Affected patients requiring triage on scene, transport to appropriate facilities for treatment and care and reunification with family members.

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<th>Phase</th>
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<tr>
<td>One</td>
<td>Notification</td>
<td>911 Calls start coming in</td>
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<td></td>
<td>Initial On-Scene Actions</td>
<td>Local Ambulance arrives on scene, Medical Flight Services Requested, Medical Update</td>
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<td>Local LE and FD arrive on scene, Hwy 10 is closed, LZ Identified and Marked</td>
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<td></td>
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<td>Critical Patients depart scene</td>
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<td></td>
<td></td>
<td>Unified Command Established</td>
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<td></td>
<td>Support</td>
<td>EOC Activation</td>
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<td></td>
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<td>HICS Activation</td>
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<tr>
<td>Other</td>
<td></td>
<td>Patients Airlifted</td>
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<td></td>
<td></td>
<td>Additional Medical Assets arrive</td>
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<td></td>
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<td>Less Critical Patients depart scene</td>
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<td></td>
<td></td>
<td>Coroner</td>
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<td>Two</td>
<td>Decision-making</td>
<td>All Patients Triaged and Routed</td>
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<td></td>
<td>Notification</td>
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Key Exercise Outcomes

Strengths
- Increased recognition of unique needs in rural and frontier counties
- Successfully tested to use of specialty team capability for chemical response
- Demonstrated ability to enhance clinical expertise using telehealth in rural community hospital
- Increased collaboration and communication amongst coalition hospital members
- Identified specific ways that health care coalition coordinators can augment response in large scale incidents

Opportunities
- More clear communication on exercise expectations for participants
- Create more detailed job action sheets for use of Knowledge Center
- More clearly define roles and responsible personnel for incident response
- Expand training opportunities for HAZMAT response across rural healthcare coalitions
- Incorporate more of the established response capabilities of local emergency management into the exercise
Future Direction
& Next Steps
What Next?

Future Direction

- Expand NRDHRE efforts to additional states and regions
- Continue collaboration with Massachusetts General Hospital
  - Compare and contrast urban and rural approaches
  - Refine readiness metrics to encompass tiered approach
- Refine and test key strategies initiated in year 1 of the demonstration period
  - Deployable specialty teams
  - Telemedicine consultation
  - Governors policy group
  - Interoperable communications system
- Pilot test the readiness metrics and further develop the conceptual model for a Response Ready Designation Program
In one word, what is one successful outcome that could result from the RDHRS regional disaster model?

When poll is active, respond at PollEv.com/rdhrs  

Text RDHRS to 22333 once to join

Infinity  

Answers to this poll are anonymous
In one word, what is one barrier that could reduce the success of the RDHRS regional disaster model?

- When poll is active, respond at PollEv.com/rdhrs
- Text RDHRS to 22333 once to join
- Answers to this poll are anonymous