Colorado Northeast Region Healthcare Coalition (NERHCC)

2020 COVID-19 Response

After-Action Report

March 10, 2020 – May 30, 2020



The After-Action Report (AAR) aligns lessons learned from the COVID-19 response for the Northeast Region Healthcare Coalition in Colorado with the *2017-2022 Health Care Preparedness and Response Capabilities* from the Office of the Assistant Secretary for Preparedness and Response (ASPR) in the Department of Health and Human Services (DHHS) and preparedness doctrine to include the *National Preparedness Goal* and related frameworks / guidance from the Federal Emergency Management Agency (FEMA).

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# Executive Overview

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| **Incident Name** | Northeast Region Health Care Coalition (NERHCC) COVID-19 Initial Response |
| **Incident Dates** | March 10 until May 30, 2020 |
| **Scope** | This After-Action Report addresses the initial response to the COVID-19 pandemic for the Northeast Region Healthcare Coalition between the dates of March 10, 2020 through May 30, 2020. Although the pandemic is ongoing, this report will consolidate initial lessons learned to support ongoing strategic planning efforts. Information from this report was compiled from an NERHCC survey conducted on June 5, 2020.  |
| **Mission Area** | Response |
| **Health Care Preparedness & Response Capabilities (HCPR)** | 1. Foundation for Health Care and Medical Readiness
2. Health Care and Medical Response Coordination
3. Continuity of Health Care Service Delivery
4. Medical Surge
 |
| **Core Capability** | Public Health, Healthcare, and Emergency Medical Services |
| **Community Lifeline** | Health and Medical, Communication, and Safety and Security |
| **Threat/Hazard** | COVID-19 (coronavirus) Pandemic |
| **Incident Summary** | A state of Emergency for COVID-19 was declared by the Governor of Colorado on March 10, 2020 and a Stay at Home Order was issued. The order was extended on April 9, 2020. A statewide “Safer at Home” order went into effect on April 26, 2020 that allowed for a phased reopening in Colorado, while continuing to require social distancing measures and stay-at-home requirements for vulnerable populations. An Executive Order by the Governor of Colorado on May 25, 2020 extended “Safer at Home” through June 1, 2020, while adjusting guidelines locally.  |
| **Sponsor** | Colorado Northeast Region Healthcare Coalition (NERHCC) |
| **Participating Organizations** | See Appendix A for complete list of participating agencies.  |
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# Analysis of Strengths & Lessons Learned

The following section provides an overview of the operational performance related to the Health Care Preparedness & Response Capabilities, highlighting strengths and areas for improvement. Each Capability is broken down into specific objectives, so the findings were categorized using those objectives.

Information from the Northeast Region Health Care Coalition survey was summarized to provide the following overview. Similar or duplicate findings were combined in the overall analysis. County specific data gathered through the survey may be available upon request, although in smaller jurisdictions where there were two or less survey participants, county data will not be available as it would be impossible to provide the feedback anonymously.

| Capability 1 – Foundation for Health Care and Medical Readiness |
| --- |
| **Public Health Capabilities**: 1. Community Preparedness, 14. Responder Safety and Health |
| **FEMA Core Capabilities**: Planning, Threats and Hazards Identification |

### Objective 2: Train and Prepare the Health Care and Medical Workforce

#### Strengths

1. **Strength 1**: Previous exercises for biological incidents helped facilitate operations for isolation during response.
2. **Strength 2**: Reviews and just-in-time training and education for using Personal Protective Equipment (PPE), interventions for patients, and code procedures were helpful for ensuring a standardized response in some member agencies.
3. **Strength 3**: Infection control training was provided for those serving individuals experiencing homelessness.
4. **Strength 4**: Previously conducted training for PPE. N95 mask fit testing was helpful in quickly implementing prevention and mitigation guidance.

#### Areas for Improvement

1. **Area for Improvement 1**: Participants identified the following training and exercise needs:
	* Alternate Care Facility, Medical Surge, & Rapid Isolation
	* Contact tracing and case investigation
	* Communication workflow and verifying guidance across stakeholders
	* Continuity of Operations
	* Decontamination
	* Emergency Operations Center and Department Operations Center
	* EMS & Hospital protocols for pandemic incidents
	* Incident Command System & Hospital Incident Command System
	* Prevention & Mitigation – PPE fit testing, infection control techniques, disinfection, face shields, donning, doffing, isolation, social distancing, etc.
	* Resource management and tracking (213RR, EMResource, WebEOC, Rapid Tag)
	* Screening of patients
	* Ventilator, intubation, PAPR training

Analysis of Objective: Trainings and exercises previously conducted were helpful during the response to COVID-19. NERHCC Members identified trainings and exercises that should be considered in future Training & Exercise Plans. Cross-sector and interagency training and exercise opportunities were encouraged by many survey participants and would have been beneficial for this response, so those opportunities should be emphasized in future offerings.

| Capability 2 - Health Care and Medical Response Coordination |
| --- |
| **Public Health Capabilities**: 3. Emergency Operations Coordination, 4. Emergency Public Information and Warning, 6. Information Sharing |
| **FEMA Core Capabilities**: Operational Coordination, Situational Assessment |

### Objective 1: Develop and Coordinate Health Care Organization and Health Care Coalition Response Plans

#### Strengths

1. **Strength 1**: Members referenced flexibility across stakeholders and being able to adjust plans based on current need / situation as a strength. Some agencies used the response as an opportunity to revisit and update current plans.
2. **Strength 2**: Pre-planning and policy development during the response to Ebola was helpful for some agencies to support the response to COVID-19. Examples of plans that were developed during the Ebola response include PAPR’s, isolated negative pressure rooms, and cleaning protocols.
3. **Strength 3**: The use of the Hospital Incident Command System and Forms was helpful for weekly reports.

#### Areas for Improvement

1. **Area for Improvement 1**: Plan development and update needs were identified by member agencies and include:
	* Alternate Care Facility
	* Assisted Living Center isolation, social distancing, and PPE
	* Continuity of Operations (employee absence, reduced workforce, telework)
	* Interface and coordination of Public Health, Emergency Management, Health Care Coalitions, and responders.
	* Medical Surge planning
	* PPE and social distancing
	* Resource management / How to follow these processes
	* Screening and quarantine protocols
	* Testing
	* Telemedicine
	* Volunteer management
	* Coordinated regional plans
2. **Area for Improvement 2**: A centralized tracking system for planning, training, and exercises was identified as potentially being helpful for coordinating training needs across the region.
3. **Area for Improvement 3**: A regional Coalition response plan should reference local response plans and establish procedures for situational awareness gathering and sharing at a regional level.

#### **Analysis of Objective:** Agencies were able to leverage pre-planning efforts to support response to the COVID-19 incident. Additional and continual planning needs were identified for future consideration. Many respondents referenced the need for a regional effort to clarify the delineation of roles among agencies, local public health, local emergency management, ESF-8 groups, and the regional Health Care Coalition (local HCC groups / Regional HCC).

### Objective 2: Utilize Information Sharing Procedures and Platforms

#### Strengths

1. **Strength 1**: Local ESF-8 groups and the NERHCC conducted regular virtual meetings which provided a valuable means of information sharing.
2. **Strength 2**: NERHCC conference calls were helpful in integrating regional initiatives.
3. **Strength 3**: Daily email updates and situation reports from the Norther Colorado Health District and the Colorado Department of Emergency Management and Homeland Security were helpful in staying up to date on statewide events.
4. **Strength 4**: Integration of public health agencies, ESF-8 groups, and Health Care Coalitions was helpful in bringing partners together and serving as a means of information sharing.
5. **Strength 5**: Websites and social media were used to share the latest information with the public.
6. **Strength 6**: The use of EMResource was helpful in tracking resources across hospitals.

#### Areas for Improvement

1. **Area for Improvement 1**: Frequent reporting and documentation was required across multiple systems and platforms, which was time consuming. Methods cited include the 213RR, WebEOC, EMResource, and the Infection Prevention surveys. Some agencies were not familiar with these systems / tools which made it more difficult.
2. **Area for improvement 2**: The primary form of communication with staff transitioned from in-person meetings to text and email, which posed challenges in information exchange.
3. **Area for Improvement 3**: Telephone systems had to be modified due to excess call volumes. Need to establish plans for this ahead of time.
4. **Area for Improvement 4**: Multiple platforms were used for meetings, which led to challenges due to a learning curve of new technology under stressful conditions.

Analysis of Objective: Information sharing procedures and platforms that were pre-developed, along with local and regional HCC groups were helpful in connecting partner agencies and supporting information exchange. Redundant reporting across multiple systems was widely reported as the most time-consuming challenge. Future emphasis should be placed on considering how to compile and share data across multiple platforms. Training and exercise opportunities to test and learn these systems would be beneficial for future response.

### Objective 3: Coordinate Response Strategy, Resources, and Communications

#### Strengths

1. **Strength 1**: Excellent coordination, communication, and working relationships among agencies. Pre-established relationships were essential in optimizing information and resource sharing. Teamwork and adaptability were referenced as a regional strength. Integration occurred through regular emails, conference calls, and virtual meetings.
2. **Strength 2**: Early, transparent, and regular updates by Health Care Coalitions, local public health, and emergency management across the regions. Supported maintaining a common operating picture and keeping leaders and elected officials informed.
3. **Strength 3**: Leadership across departmental, local, and regional organizations were cited by as a strength and essential in limiting the spread of COVID-19.
4. **Strength 4**: Resource ordering process was successful from the county level, but fulfillment of orders was difficult due to a global shortage of supplies.
5. **Strength 5**: Regular communication among first responders, emergency management, public health, behavioral health, coroners, and HCC’s were helpful in continued coordination of response strategies.
6. **Strength 6**: Standard knowledge of Hospital Incident Command System (HICS) supported standard operations across the region.
7. **Strength 7**: Coordinated response of EMS with other RETAC across Colorado supported implementation of best practices and a statewide standard.

#### Areas for Improvement

1. **Area for Improvement 1**: A rapidly changing situation contributed to communication issues, and frequent updates fatigued staff. The amount of daily emails and meetings from a wide range of sources were referenced by many respondents as being difficult to coordinate and ensure that staff and public had the latest and most accurate guidance.
2. **Area for Improvement 2**: Communications and guidance were being provided by many sources from public health and emergency management in the local, state, and federal levels. It was difficult for some respondents to navigate the guidance, which were conflicting or had different interpretations at times and led to confusion.
3. **Area for Improvement 3**: Not all agencies coordinated with the Joint Information Center (JIC), which led to difficultly in gathering information from some partner agencies.
4. **Area for Improvement 4**: Information that was being provided by elected officials and public health were not always consistent.
5. **Area for Improvement 5**: Staffing challenges were experienced across many areas, including both agency response and supporting DOC/EOC operations.
6. **Area for Improvement 6**: The delineation of roles and responsibilities of local HCC groups/ESF-8 groups, and the NERHCC was not understood by some respondents.

Analysis of Objective: Pre-existing relationships and partnerships were widely referenced as a primary strength of the response to COVID-19, which allowed for teamwork and creativity in adapting to challenges that arose.

Further solidifying roles, responsibilities, and communication flows across agencies and HCC’s would provide for more clarity during initial response and limit redundancy. Defining roles and responsibilities of local HCC groups and the Regional HCC will be imperative moving forward.

| Capability 3 - Continuity of Health Care Service Delivery |
| --- |
| **Public Health Capabilities**: 7. Mass Care, 8. Medical Countermeasure Dispensing and Administration, 9. Medical Materiel Management and Distribution, 14. Responder Safety and Health |
| **FEMA Core Capabilities**: Logistics and Supply Chain Management, Supply Chain Integrity and Security |

### Objective 2: Plan for Continuity of Operations (COOP)

#### Strengths

1. **Strength 1**: Staffing was able to continue operations without delays experienced by agencies and hospitals.
2. **Strength 2**: Hospitals were able to continue residential and inpatient services in-person to maintain operations by using PPE.
3. **Strength 3**: Some agencies used the incident as an opportunity to update COOP plans and department specific plans.
4. **Strength 4**: Early acknowledgement of the hazard allowed for pre-planning.

#### Areas for Improvement

1. **Area for Improvement 1**: Some agencies cited not having a finalized COOP plan as contributing to frequent operational changes and having to quickly identify non-essential or at-risk employees.
2. **Area for improvement 2**: Balancing day-to-day work with expanding needs of the pandemic response was a challenge that was experienced.
3. **Area for Improvement 3**: Staffing challenges were experienced by many agencies. Not having back-up staff to support nursing, doctors, administration, or management contributed to challenges when hospitals had to staff isolation wards.
4. **Area for Improvement 4**: Decreased volume in patients led to decreased revenue in some health facilities.

Analysis of Objective: Overall, agencies were able to continue operations with limited impact. COOP plans developed by some agencies were helpful in transitioning duties and meeting the needs of the response. Many agencies demonstrated creativity in continuing operations while prioritizing safety needs and striving to ensure non-essential staff remained employed. Formalizing COOP plans, training and exercising to them will continue to benefit agencies.

### Objective 3: Maintain Access to Non-Personnel Resources during an Emergency

#### Strengths

1. **Strength 1**: Supply chains were able to receive some resource orders, such as PPE, through distributors, local public health and emergency management, CHA, and FEMA.
2. **Strength 2**: Donation of PPE from various agencies, including local dentists, helped to maintain capacity within hospitals and health facilities.
3. **Strength 3**: Most hospitals and health facilities did not run out of supplies or had adequate supplies and PPE, which helped prevent spread. When supplies ran out, agencies demonstrated creativity and adaptability in problem solving, such as sewing reusable PPE gowns.
4. **Strength 4**: Grant for Battelle CCDS Critical Care Decontamination System was received to support decontamination operations.
5. **Strength 5**: Paycheck Protection Program funds helped support some agencies in meeting the needs of paying staff without compromising operational considerations.

#### Areas for Improvement

1. **Area for Improvement 1**: There was a widespread shortage of essential supplies, including procedure masks, N95 fitted masks of proper size, gowns, sanitizer, replacement items for PAPRs, suction for vented patients, and vent filtration supplies to prevent aerosolization of virus. The higher demand also led to substantially higher prices.
2. **Area for Improvement 2**: Lower priority agencies had a harder time getting PPE. Some agencies are still experiencing challenges receiving PPE due to global supply chain disruption.
3. **Area for Improvement 3**: State and federal assistance was challenging. However, local, and regional coordination was widely cited for being supportive and creative in addressing needs.

Analysis of Objective: Local and regional partnerships were helpful in ensuring that essential services were prioritized in receiving PPE. Coordination between agencies and locals were helpful in finding creative solutions to resource shortages. Coordination with state and federal entities were cited as being challenging and requiring redundant reporting.

### Objective 4: Develop Strategies to Protect Health Care Information Systems and Networks

#### Strengths

1. **Strength 1**: Team meetings were able to continue virtually through conference calls and online platforms which supported coordination and information exchange.
2. **Strength 2**: Some regular duties were able to transition to remote work, which helped limit the number of individuals in buildings.
3. **Strength 3**: No interruption of service was experienced by many agencies.
4. **Strength 4**: Telehealth services were successfully implemented.

#### Areas for Improvement

1. **Area for Improvement 1**: Although agencies were able to establish new IT systems for remote work, virtual meetings, and telehealth capabilities, implementation was challenging. Slow internet and dropped calls contributed to the challenges of virtual work.
2. **Area for Improvement 2**: Direct patient care cannot be executed remotely.
3. **Area for Improvement 3**: Some agencies had a lack of laptops to support employees transitioning to remote work.
4. **Area for Improvement 4**: Funding to support telehealth capabilities for clinicians.

Analysis of Objective: Agencies were able to transition daily duties to online information systems, which widely supported providing continued services without disruption. New technological solutions posed some challenges during implementation and should be considered in future planning. Additional emphasis on online and virtual services will lead to an enhanced need to focus on cybersecurity initiatives moving forward.

### Objective 5: Protect Responders’ Safety and Health

#### Strengths

1. **Strength 1**: Prioritizing and planning for the safety and health of responders, staff, patients, and the public, was widely cited as a strength by agencies.
2. **Strength 2**: Infection prevention measures were implemented early by requiring PPE and establishing screening protocols, and visitor restrictions.
3. **Strength 3**: Guidance from the State of Colorado for screening in EMS and 9-1-1 centers was implemented, along with hardening of ambulances and providing decontamination for EMS staff.
4. **Strength 4**: Mental health and self-care was emphasized and provided through emails, emotional support phone lines, and Facebook Live presentations.
5. **Strength 5**: Staff schedules were rearranged and limited to essential employees to lessen the amount of staff in the office at any one time.

#### Areas for Improvement

1. **Area for Improvement 1**: Getting access to testing for staff and patients was challenging and continues to be a challenge for some agencies.
2. **Area for Improvement 2**: Challenges were experienced in balancing staffing patterns in health facilities to ensure that individuals with illness remained home while having enough staff to support patients and operations.
3. **Area for Improvement** **3**: Ensuring compliance with safety requirements and adherence to PPE standards by staff, patients, and visitors. Additional training was required to be effective.
4. **Area for Improvement 4**: Increasing the frequency of cleaning facilities.
5. **Area for Improvement 5**: Determining how to screen all patients and visitors coming into the facility was a challenge.
6. **Area for Improvement 6**: Moral of staff and residents was a challenge for hospitals, while some patients unable to see family members.

Analysis of Objective: Agencies prioritized the safety and health of responders but experienced some challenges due to the complexity of the incident. Conflicting or rapidly changing guidance made this even more difficult in pandemic response. Getting access to testing continues to pose a challenge for agencies for both internal staff and external patient screening. Screening protocols and ensuring compliance with PPE standards were also widely cited as ongoing challenges. Finally, having adequate supplies on hand was a challenge and ensuring PPE caches and stockpiles is critical in response to a PH incident of this magnitude.

| Capability 4 - Medical Surge |
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| **Public Health Capabilities**: 10. Medical Surge, 15. Volunteer Management |
| **FEMA Core Capabilities**: Operational Coordination, Situational Assessment |

### Objective 1: Plan for a Medical Surge

#### Strengths

1. **Strength 1**: Good coordination between hospital systems, agencies, and local jurisdictions to understand surge capacity and plans.
2. **Strength 2**: The Medical Surge process had been pre-identified and pre-planned.

#### Areas for Improvement

1. **Area for improvement 1**: Alternate site planning was time consuming and did not come to fruition.
2. **Area for improvement 2**: Need to coordinate with medical providers and hospitals ahead of time for surge planning to support their needs. Other supporting agencies cannot determine needs before healthcare has determined them.

**Analysis of Objective**: Coordination and pre-planning provided support for medical surge capabilities across the region. Leveraging incident planning from this response as the framework for future alternate care site planning could ease the burden of future activations. ACS plans must be formalized and solidified as they were exceedingly difficult to build on the fly during response and should be well coordinated, planned, and approved by all critical partners prior to their activation.

### Objective 2: Respond to a Medical Surge

#### Strengths

1. **Strength 1**: The need for isolation was identified and implemented early in the incident. Hospitals utilized isolation units for COVID-19 patients early in the incident and expanded isolation areas for COVID-19 patients.
2. **Strength 2**: Region-wide, hospitals, agencies and jurisdictions planned for a possible surge of patients. Additional capacity was identified through alternate buildings, mobile hospital surge trailers, motels for transient patients, filing a waiver through CMS to increase bed capacity, planning to convert dorms into alternate care facilities, leveraging buildings from local school districts, using local fairgrounds, and converting/repurposing rooms. Respondents were able to identify 277 additional beds across the region.
3. **Strength 4**: Volunteers supported in many tasks, including: screening (temperature and symptom checks), triage, staffing handwashing stations, assisting staff in isolation/recovery services for those experiencing homelessness, and providing food/grocery deliveries to sick or vulnerable populations.
4. **Strength 5**: Collaboration between Larimer County, national Guard, State to establish alternate care site that can be expanded.
5. **Strength** **6**: Screening was conducted for individuals experiencing homelessness.
6. **Strength** **7**: Contact tracing and care management was conducted for those that were tested.
7. **Strength 8**: Strategies for critical ground support and EMS capabilities identified.

#### Areas for Improvement

1. **Area for Improvement 1**: Distribution of food, sanitation, medical direction, and licensing across communities posed a challenge.
2. **Area for Improvement 2**: Long-term care facilities should be prioritized for testing, training, and PPE.
3. **Area for Improvement 3**: PPE and oxygen shortages limited the use of mobile hospital surge trailers, which could have supported 50 additional patients.
4. **Area for Improvement 4**: Some essential services, such as the Coroner’s Offices across the region, were not eligible for PPE, which made responding difficult or impossible.

**Analysis of Objective**: Pre-established relationships supported collaboration across regional initiatives and volunteer efforts supported some initiatives. Respondents cited pre-planning combined with creativity and flexibility as methods for effective problem solving. Supply shortages inhibited some ability to utilize pre-existing medical surge resources. Additional planning for volunteer use among HCC members will be a focus over the next year.

# Appendix A: Participating Agencies

The following is a list of agencies (41) who participated in the NERHCC Survey and provided feedback and lessons learned from their individual responses and local / regional support.

* Campus Clinics
* Centennial Mental Health Center
* Cheyenne County
* Cheyenne County Emergency Management
* Cheyenne County Hospital District
* Cheyenne County Public Health
* Colorado Plains Medical Center
* City of Greely Office of Emergency Management
* Colorado State University Health Network
* Eben Ezer Lutheran Care Center
* Greely Center for Independence
* Good Samaritan Society Fort Collins Village
* Grace Pointe
* Haxtun Hospital District
* Health District of Northern Larimer County
* Keefe Memorial Hospital
* Kit Carson County
* Larimer County Coroner
* Lincoln Community Hospital and Care Center
* Lincoln Health
* Morgan County Coroner Office
* Morgan County Office of Emergency Management
* Kit Carson County
* North Colorado Health Alliance
* Northeast Colorado RETAC
* Northern Colorado Health Department
* North Range Behavioral Health
* Rehabilitation and Nursing Center of the Rockies
* Sedgwick County Ambulance Service
* Sedgwick County Coroner
* Sedgwick County Health Center
* Sedgwick County Office of Emergency Management
* Tender Care Pediatric Services
* Thompson Valley EMS
* UCHealth Medical Center of the Rockies
* Valley View Villa
* Washington County Emergency Management
* Weld County Department of Public Health and Environment
* Wray Community District Hospital
* Yuma County Office of Emergency Management
* Yuma District Hospital

# Appendix B: Acronyms

| **Acronym** | **Term** |
| --- | --- |
| CDPHE | Colorado Department of Public Health and Environment |
| CMS | Center for Medicare and Medicaid Services |
| DHSEM | Colorado Department of Homeland Security and Emergency Management |
| DOC | Department Operations Center |
| EOC | Emergency Operations Center |
| ESF | Emergency Support Function |
| HCC | Health Care Coalition |
| JIC | Joint Information Center |
| NERHCC | Northeast Region Health Care Coalition |
| PAPR | Personal Air Purifying Respirator |
| PPE | Personal Protective Equipment |