

Eastern Healthcare Preparedness Coalition

Assessment of Regional Healthcare Capability and Vulnerability

This document summarizes the Eastern Healthcare Preparedness Coalition Assessment of Regional Healthcare Capability and Vulnerability project. An overview of the project is provided along with a description of the assessment process and a summary of the discussion and outcomes from the coalition's capability and vulnerability workshop.

Project Overview

The Eastern Healthcare Preparedness Coalition (EHPC) initiated this project to better understand the relationship between the hazard and vulnerability assessments (HVAs) conducted within the healthcare partner agencies and the events and conditions that threaten the EHPC's ability to continue the provision of healthcare at the regional level. Each hospital facility regularly conducts an HVA focused on the potential impacts to that facility's operations. Similarly, ancillary healthcare providers, public health agencies, and local emergency management agencies also assess hazards and vulnerabilities that may impact the ability of their agency to continue normal operations. This project is an initial step in understanding the events and circumstances that may reduce the capability and capacity of healthcare provision throughout the EHPC region. All Clear Emergency Management Group, LLC (All Clear) was retained to support the EHPC in the facilitation of this project.

The project facilitation began by gathering and analyzing information in order to understand the vulnerabilities to the regional healthcare partners. The initial step included the EHPC gathering agency-specific and facility-specific information by reviewing HVAs from healthcare providers. Where available, notes from the facility HVA discussion were provided to All Clear along with a copy of the facility HVA.

As information was gathered from the facility HVAs it was reviewed and summarized in preparation for the regional workshop. The events impacting facilities and the region were compiled so that each could be analyzed during the workshop held on May 10, 2016. Participants at the workshop included numerous hospitals, local EMS, and regional and county Public Health representatives.

The workshop was structured so that the compiled facility and regional healthcare vulnerabilities could be reviewed and validated. The vulnerabilities were analyzed to determine commonality and root cause.

Many of the identified facility vulnerabilities were identified as having potential to contribute to an impact to the regional healthcare capability. Participants examined the relationship between facility and regional vulnerabilities and differentiated regional

hazards. A list of the perceived highest risk regional hazards was discussed and validated. This list of hazards contained those that were most probable, were perceived to have the highest impact on the regional healthcare capability, or demonstrated the lowest level of mitigation and preparedness.

A list of events that may impact the regional healthcare capability was formalized and analyzed by the participants. This analysis was conducted with the goal of understanding the events and conditions that impact the regional healthcare capability. Workshop participants conducted a root cause analysis of the events that may impact the regional healthcare capability. The root cause analysis revealed consistencies among hazards. Several hazards revealed similar regional impacts.

This examination of how events impact the regional healthcare capability led the group to ultimately identify three general conditions that significantly contributed to the vulnerability of the region's healthcare capability. The three conditions were identified through analysis of the events, activities, and factors that contribute to the resulting vulnerability during various events and situations. The three conditions provided the basis for discussion about mitigation strategy development.

To illustrate the analysis, consider a hurricane, tornado, a mass casualty event from a hazardous materials release, and an act of terrorism in a public place that injures a large number of people. The weather events have a similar impact on the regional healthcare capability. There are challenges presented by each weather event that may vary according to the size of the weather event or other variables. Similarly, regardless of cause, a large number of people injured generates a medical surge and creates a similar impact to the regional healthcare capability. The impacts to the regional healthcare capability can be analyzed to understand the root cause of the impact which would allow a mitigation strategy to reduce the impact from more than one event.

In this report the conditions creating vulnerability are identified and the mitigation strategies listed.

Identified Hazards

The facility HVAs reviewed prior to the workshop identified an extensive list of events that may impact a healthcare facility. Within that list each facility identified the events that present a higher relative risk to their facility. Prior to the workshop the events that were most commonly identified as presenting a high relative risk to a facility were compiled. The compilation could also be described as "top facility hazards." The workshop participants validated the list of commonly high ranked facility risks as well as a list of the top risks among facilities.

Events commonly identified as high risk by facilities:

- Hurricane
- Severe HazMat
- Terrorism
- Civil disturbance
- Ice storm
- Labor shortage
- Physical security breach
- Transportation failure
- Infectious disease
- Cyber attack
- Internal / External flood
- Snowfall more than a day
- Radiological exposure
- Forensic admission
- Active assailant
- Mass casualty
- VIPs
- Wild fire / air quality
- Chemical exposure
- Severe thunderstorm
- Workplace violence
- Infrastructure failure
- Supply shortage

Among facility vulnerabilities, the following were most frequently identified as high risk:

- Hurricane
- Tornado
- Ice Storm
- Patient Surge/Mass casualty
- Electrical/Generator failure
- Infrastructure failure
- Supply/medication shortage
- Violence in the facility
- HazMat
- Cyber attack

Participants validated a list of events that are likely to create an impact to the regional healthcare capability. Those events are:

- Special needs population
- High risk infectious disease
- Limited transport assets for evacuation
- Coordination of evacuation
- Staffing shortage
- Storms and weather
- Infrastructure Failure
- Communication
- Mental Health
- HazMat capability
- Security

Regional Vulnerabilities

The workshop participants considered the natural and man-made events that create a high risk to healthcare facilities as well as those events that may occur within the region and create an impact to the regional healthcare capability. The participants began by creating a large list similar to the list of impacts to regional healthcare capability above. From the “brainstorm” list the participants identified commonality and root

cause. As commonality and root cause were assessed, several events and conditions were consolidated or further defined.

From the workshop discussion the following three challenges were determined to contribute to the vulnerability of the regional healthcare capability during almost every natural or man-made impact. No order of priority or relative risk was identified among the three.

Communication and Coordination

The perceived vulnerability of “coordination and planning” is based on participant analysis of widespread impacts. A widespread impact generates a variety of challenges for healthcare providers, emergency managers, and emergency responders. The challenges presented by an impact will create unique problems for each facility and agency. The response and recovery capability and capacity of each facility and agency differs. A regional ability to assess needs and prioritize response actions in a coordinated manner was identified as challenging in a variety of scenarios.

When the regional ability to communicate and coordinate is impacted the regional healthcare capability is stressed before, during, and while recovering from any event, natural or manmade. The factors that may contribute to communications or coordination challenges were identified and defined as:

- Communications system – availability, interoperability, and functionality of the tools, resources, systems, and devices that allow healthcare providers and emergency managers to communicate and coordinate
- Communication – possessing tools and resources is only part of the communications challenge. The users and partner agencies need to know how to leverage the communications resources, be willing to do so, and share information efficiently during any event with all parties who may need to be recipients of information.
- Distance – there is a geographic challenge to coordination of healthcare resources given the geographic distance between partner agencies, the limited access to certain areas within the region, and the distance to support resources that exist outside of the region.
- Accessibility – there are challenges to coordination and support based on roads and transportation assets (Ingress/Egress). During many events the geographic distance separating those impacted and support for those impacted is compounded by infrastructure impact such as flooded roads or traffic congestion from a sudden surge in the use of roads that do not normally hold a high volume of vehicles. Additionally, there is a limited number of assets within the region capable of moving people with any type of specialized medical transport need or other access or functional need. Accessibility includes road infrastructure, geographic distance, and transportation assets.

- Public Messaging – it is vital that information be communicated concisely, timely, and in a coordinated manner during an event that impacts the local or regional healthcare capability. Messages before and during an event may not be coordinated among all involved agencies if there are not plans and processes to do so. Even if coordinated, there may not be a mechanism to disseminate information to those realizing the impact to the healthcare capability – i.e. families of patients being evacuated or consumers of services that may become unavailable.
- Security – all events that impact the regional healthcare capability generate a concern about security. The security concern may include access control to facilities, maintaining security of supplies or resources, or providing a safe environment for staff and patients. Within the region there is a limited number of security resources to support healthcare facilities.

Workforce

There is a limited number of staff in every function of healthcare. All agencies are trying to limit costs and be efficient with staff. When an event occurs that requires additional staff there is not a pool of available personnel to support the organization.

For example, the regional healthcare capability relies on the capacity of the agencies that provide security to healthcare facilities on a daily basis and during events that impact daily operations. The security of healthcare could further be divided into an analysis of physical security and cyber security.

For illustration purposes, the physical security vulnerability is based largely on the limited capacity within the region to support healthcare security during a widespread event. If one facility is impacted there are sufficient public law enforcement and private security resources to support the facility. If an event impacts transportation routes, preventing staff from getting to work, then multiple facilities could be vulnerable. If an event requires security to be expanded at several facilities simultaneously the system could not handle the increased need.

The analysis of workforce included defining the following factors that influence the impact to the workforce:

- Number – there is a limited number of people who are employed by each agency. Outside of each agency there is a limited number of qualified or credentialed people who can be activated to support impacted healthcare providers.
- Age – the healthcare worker population is older and in many communities there is not a younger workforce that is apprenticing to replace those that retire.
- Turnover – there is a high rate of turnover among healthcare workers, regardless of skill or specialty.

- Specialty – the regional healthcare capability requires personnel with specialized training, skills, experience, and certification. These qualifications are particularly vital for provision of “specialty” services such as pediatric care, ICU, mental health, etc. Regionally, and in many cases statewide, there is a limited number of personnel with the credentials to support “specialty” roles. Participant noted that multiple facilities rely on the same personnel to support specialty resources.
- Security – there is a limited number of personnel who are trained and certified to serve in security roles. If a healthcare facility requires additional security response there are limited resources to fill that need.

At-risk Population

There is a portion of the population that is “at-risk” because of the individuals’ need for support from outside resources. The at-risk population is easily identified in some cases, such as the individuals residing at a skilled nursing facility. In other cases, those with functional needs may be more difficult to identify because they are homebound, do not speak English, or live independently as long as there is no impact to utilities or transportation. The following factors that generate the regional healthcare vulnerability created by the at-risk population were identified and defined:

- Continuing Care – includes Long Term Care, Skilled Nursing, group homes, assisted living, and independent living. This is a large population with a diversity of needs. The facilities do not have a consistent level of planning and preparedness.
- Mental Health services and population – within the region and State there is a limited number of services that provide mental health support. In addition to limited resources to support the regional healthcare capability during a disaster, there is a portion of the population that relies on these services. An event impacting the provision of mental health services means a surge to the already taxed system as well as a portion of the population that becomes a functional needs population due to their inability to utilize a service they depend upon.
- Ancillary healthcare consumers – the population that relies on or utilizes ancillary healthcare providers such as dialysis, home health, primary care, or ambulatory surgery may create challenges for the regional healthcare providers to manage during an event impacting the region. Consumers may need access to dialysis, home health patients may be difficult to reach due to road closures, primary care providers may be closed creating additional patients at emergency rooms, and patients may be forced to live without electricity or running water that is vital to their ability to be served by ancillary healthcare outside of a hospital.
- Access and Functional Needs – the portion of the population that has access and functional needs that may interfere with their ability to access or receive medical care before, during, or after an emergency. This broad definition includes needs of individuals who have limitations that interfere with their ability to receive or respond to information, individuals who require personal assistance

services to maintain health, those living independently with assistive devices, and those with transportation needs because of age, physical disability, temporary injury, poverty, cognitive disorder, addiction, legal restrictions, or no vehicle.

- Worried well – some events generate a large number of people who are not physically impacted but the circumstances create a belief that they are impacted. This group requires healthcare resources to communicate with the group as well as to treat them as part of any patient surge until they are determined to not be physically impacted. Regardless of physical impact these patients may create a surge to the mental health resources based on their need for psychosocial support.

Mitigation Strategies

Each vulnerability was analyzed to determine a framework of strategies that, if implemented, would mitigate the impact to the regional healthcare capability from the vulnerability.

Communication and Coordination

The summary of mitigation for coordination and planning is to better utilize or enhance regional plans. The participants indicated that plans should be developed to determine coordination, participating agencies need to be educated about the plan, and the process exercised. The intent is that plans should describe how information flows within the region so that agencies have a mutual understanding of actions and communications. The EHPC has developed communications plans. Rather than develop new plans the suggestion was made to review the current plans and ensure they are accurate and comprehensive. Following review of the plans an implementation, or expansion of implementation, should be initiated so that all participating agencies are aware of and integrate the plans into their emergency management activities.

- Operationalize plans – plans or concepts for coordination and communication exist but are may not have a clear process for becoming operational or being applied during an actual event.
- Verification of contracts and MOUs to reduce conflict/competition – every facility has agreements with suppliers, vendors, and other facilities for support during emergencies and major events. The existence and status of agreements needs to be verified to ensure appropriate agreements are in place and up to date. Facilities and agencies need to share basic details about agreements to determine if there is excessive reliance on one vendor or resource.
- Regional agreements among providers – healthcare providers are willing to assist one another but agreements need to be in place to address issues such as reimbursement, communications, and liability.
- Public messaging – there is not a centralized mechanism to coordinate messages being disseminated from healthcare providers to the public.

At-risk Population

- Define the term so that all healthcare providers within the region have a similar understanding of the population.
- Determine the size of the at-risk population for the purpose or planning and identifying resources to support the population.
- Assess the transport needs of the at-risk in order to plan, as a region, to provide evacuation support to the at-risk population.
- Invite representatives from the services that daily support the at-risk population to be involved in the regional healthcare coalition.

- As part of the effort to engage the at-risk population the EHPC will hold workshops during the 2016-2017 grant cycle to engage continuing care providers. These workshops will focus on introducing participating agencies to emergency management concepts for assessment, planning, and community engagement.

Workforce

- Conduct an agency overextension assessment to determine what areas of the workforce are most overextended. Agencies share personnel and there are consistent shortages in staffing for certain types of positions. Understanding these vulnerabilities will provide the region with planning assumptions that allow planners to prepare for the expected staffing shortages or impact to services.

Next Steps

The coalition partners will continue to provide feedback and content to the project summary. As the vulnerabilities and mitigation strategies are further defined, the EHPC partners will begin to develop tactics to implement the mitigation strategies.