

Emergency Preparedness: Risk Assessment and Sample Pandemic Plans

Risk Assessment and Planning

Risk Assessment Using All-Hazards Approach

Facilities are expected to develop an emergency preparedness plan that is based on the facility-based and community-based risk assessment using an “all-hazards” approach. Though a format is not specified, facilities must document the risk assessment. An example consideration may include, but is not limited to, natural disasters prevalent in a facility’s geographic region such as wildfires, tornados, flooding, etc.

An all-hazards approach is an integrated approach to emergency preparedness planning that focuses on capacities and capabilities that are critical to preparedness for a full spectrum of emergencies or disasters, including pandemics and Emerging Infectious Disease threats (EID’s) as noted under E-0004 in Appendix Z. This approach is specific to the location of the facility considering the types of hazards most likely to occur in the area but should also include unforeseen widespread communicable diseases. Thus, all-hazards planning does not specifically address every possible threat or risk but ensures the facility will have the capacity to address a broad range of related emergencies.

Also, a risk assessment is facility-based, which, among other things, considers a facility’s patient population and vulnerabilities. Facility-based and community-based risk assessments are intended to assist a facility in addressing the needs of their patient populations, along with identifying the continuity of business operations which will provide support during an actual emergency. For instance, if a facility has a population which is primarily dependent on medical equipment the risk assessment would identify a higher impact for emergencies that lead to power failures.

Facilities are encouraged to utilize the concepts outlined in the National Preparedness System, published by the United States Department of Homeland Security’s Federal Emergency Management Agency (FEMA) at <https://www.fema.gov/emergency-managers/national-preparedness/system>, as well as guidance provided by the Agency for Healthcare Research and Quality (AHRQ) at <https://www.ahrq.gov/topics/emergency-preparedness.html>.

“Community” is not defined to afford facilities the flexibility in deciding which healthcare facilities and agencies it considers to be part of its community for emergency planning purposes. However, the term could mean entities within a state or multi-state region. The goal of the provision is to ensure that healthcare providers collaborate with other entities within a given community to promote an integrated response. Conducting integrated planning with state and local entities could identify potential gaps in state and local capabilities that can then be addressed in advance of an emergency. Facilities may rely on a community-based risk assessment developed by other entities, such as public health agencies, emergency management agencies, and regional health care coalitions or in conjunction with conducting its own facility-based assessment. If this approach is used, facilities are expected to have a copy of

the community-based risk assessment and to work with the entity that developed it to ensure that the facility's emergency plan is in alignment.

When developing an emergency preparedness plan, facilities are expected to consider, among other things, the following:

- Identification of all business functions essential to the facility's operations that should be continued during an emergency.
- Identification of all risks or emergencies that the facility may reasonably expect to confront; Identification of all contingencies for which the facility should plan.
- Consideration of the facility's location.
- Assessment of the extent to which natural or man-made emergencies may cause the facility to cease or limit operations; and,
- Determination of what arrangements may be necessary with other health care facilities, or other entities that might be needed to ensure that essential services could be provided during an emergency.

Based on the community threat and hazard identification process, facilities should select a comprehensive risk assessment tool that evaluates their risk and potential for hazards. The comprehensive risk assessment should include all risks that could disrupt the facility's operations and necessitate emergency response planning to address the risk mitigation requirements and ensure continuity of care. Using an all-hazards approach helps facilities consider and prepare for a variety of risks which may impact their healthcare settings. Facilities should categorize the various probable risks and hazards identified by likelihood of occurrence and further create supplemental risk assessments based on the disaster or public health emergency. For example:

- For power loss and potential disruptions of services: Facilities can consider using a heat index or heat risk assessment to identify situations which present concerns related to patient care and safety. Facilities are required to maintain safe temperatures under (b) policies and procedures (see Tag E-0015); therefore, a heat risk assessment can be considered as an additional risk assessment but is not required. Facilities may find it helpful to refer to ASPR TRACIE for the Natural Disasters Topic Collection at <https://asprtracie.hhs.gov/technicalresources/36/natural-disasters/27> .
 - NOTE: In situations where the facility does not own the structure(s) where care is provided, it is the facility's responsibility to discuss emergency preparedness concerns with the landlord to ensure continuation of care if the structure of the building and its utilities are impacted.
- For public health emergencies, such as EIDs or pandemics: Facilities should consider risk assessments to include the needs of the patient population they serve in relation to a communicable or emerging infectious disease outbreak. Planning should include a process to evaluate the facility's needs based on the specific characteristics of an EID that includes, but is not limited to:
 - Influx in need for Personal Protective Equipment (PPE)

- Influx in need for medical equipment, medical supplies, cleaning and disinfection supplies, food and other supplies/equipment as needed.
- Considerations for screening staff, patients and visitors, which may also include testing considerations for staff, visitors, and patients for infectious diseases.
- Transfers and discharges of patients; alternative care sites, Home-based healthcare settings.
- Physical Environment, including but not limited to changes needed for distancing, isolation, or capacity/surge.
- Education and training of staff
- Emergency staffing contingency plans
- Communication processes in accordance with current guidance and requirements

Facilities must develop strategies for addressing emergency events that were identified during the development of the facility- and community-based risk assessments.

Examples of these strategies may include, but are not limited to, developing a staffing strategy if staff shortages were identified during the risk assessment or developing a surge capacity strategy if the facility has identified it would likely be requested to accept additional patients during an emergency.

Facilities will also want to consider evacuation plans. For example, a facility in a large metropolitan city may plan to utilize the support of other large community facilities as alternate care sites for its patients if the facility needs to be evacuated. The facility is also expected to have a backup evacuation plan for instances in which nearby facilities are also affected by the emergency and are unable to receive patients.

For long term care facilities (LTC), written plans and the procedures are required to also include missing residents and clients, respectively, within their emergency plans.

Example 1 - Abbreviated Template for Risk Assessment

EXAMPLE Risk Analysis of ABC Nursing Home – Step 1 Brain Storm Potential Hazards and Establish Relative Impact Magnitude							
A	B	C	D	E	F	G	H
		Impact					
Potential Hazard	Probability	Human Impact	Service Impact	Property Impact	Business Impact	Community Impact	Relative Impact Magnitude
	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High
Probability: 0 = Implausible; 1 = 0-1 event/30 years; 2 = 2-3 events/30 years; 3 = 4+ events/30 years Impact: 0 = no impact expected; 1 = < 1% affected; 2 = 1 – 10% affected; 3 = > 10% affected Relative Impact Magnitude = Probability X (Sum of the 5 Impact Rankings) Range is 0 - 45							

The higher the Relative Magnitude score, the more widespread the impact. Later, in Step 2, the team will analyze how well the facility currently manages each specific hazard.

Emergency Preparedness is an on-going effort. You should update the risk assessment and the emergency plan annually and as new data becomes available.

Example 2 – State Specific Facility Based Hazard Vulnerability Assessment (HVA)

A Federal interagency workgroup developed a list of all-hazards planning scenarios for use in national, federal, state, and local preparedness planning activities. For example, the following list of scenarios was modified by the Wisconsin Department of Health Services for LTCF (<https://www.dhs.wisconsin.gov/regulations/preparedness/prep-hva.htm>) use under two categories: natural and man-made.

- **Natural Disasters**

- **Blizzard:** A blizzard means that the following conditions are expected to prevail for a period of four hours or longer: sustained wind or frequent gusts to 35 miles an hour or greater; and considerable falling and/or blowing snow (*i.e.*, reducing visibility to less than a quarter of a mile).

- **Cold (extreme and prolonged):** A period of unusually cold weather that lasts two or more days.
- **Earthquake:** An earthquake is the sudden release of stored energy; most earthquakes occur along a fracture within the earth, called a fault. The shaking caused by this sudden shift is often very small, but occasionally large earthquakes produce very strong ground shaking. It is this strong shaking and its consequences – ground failure, landslides, liquefaction – that damages buildings and structures and upsets the regional economy. The Richter scale is logarithmic, so a recording of 7, for example, indicates a disturbance with ground motion ten times as large as a recording of 6. A quake of magnitude 2 is the smallest quake normally felt by people. Earthquakes with a Richter value of 6 or more are commonly considered major; great earthquakes have magnitude of 8 or more.
- **Flash Flooding:** A rapid and extreme flow of high water into a normally dry area or a rapid water level rise in a stream or creek above a predetermined flood level; beginning within six hours of the causative event (*e.g.*, intense rainfall, rapid melting snow). However, the actual time threshold may vary in different parts of the country.
- **Heat (extreme and prolonged):** A period of abnormally, uncomfortably hot and unusually humid weather; typically, a heat wave lasts two or more days.
- **Ice Storm:** An ice storm is used to describe occasions when damaging accumulations of ice are expected during freezing rain situations. Significant accumulations of ice pull down trees and utility lines resulting in loss of power and/or communication lines or disrupt the movement of supplies and materials. An accumulation of ice may make walking and driving extremely dangerous. Significant ice accumulations are usually of about a quarter of an inch or greater.
- **Landslide:** Landslide is the movement of rock, soil and debris down a hillside or slope. Landslides take lives, destroy homes, businesses and public buildings, interrupt transportation, undermine bridges, derail train cars, cover marine habitat and damage utilities. The term landslide includes a wide range of ground movement, such as rock falls, deep failure of slopes, and shallow debris flows. Ground failures that result in landslides occur when gravity overcomes the strength of a slope. Landslides are activated by storms, earthquakes, volcanic eruptions, fires, alternate freezing or thawing, and steepening of slopes by erosion or human modification.
- **Tornado:** Tornadoes are nature's most violent storms. Spawned from powerful thunderstorms, tornadoes can cause fatalities and devastate a neighborhood in seconds. A tornado appears as a rotating funnel-shaped cloud that extends from a thunderstorm to the ground, with whirling winds that can reach 300 miles per

hour. Damage paths can be in excess of one mile wide and 50 miles long. Every state is at some risk from this hazard.

- **Wild fire:** A wildfire is an uncontrollable fire spreading through vegetative fuels, exposing and possibly consuming structures. They often begin unnoticed, spread quickly and are usually signaled by dense smoke that fills the area for miles around.
- **Man-Made**
 - **Airplane Crash:** The impact of an airplane crash should be considered on two levels; first, the epicenter of the crash site and second, an extended debris field. The question to ask is, “Is our facility along the take-off or landing flight path of a regional airport?”
 - **Biological Disease Outbreak-Pandemic Flu:** Influenza pandemics occur unpredictably, with four occurring in the 20th century (1918- 1919, 1957-1958, 1968-1969 and 2011). Influenza pandemics may occur when a new influenza A virus subtype emerges and causes infection in people (termed genetic shift). If this new virus subtype, for which there is little to no immunity in the population, spreads efficiently between people, it can cause a pandemic. While influenza outbreaks occur annually, a pandemic is a unique event. Rates of influenza illness, as well as its severity, are likely to be high because most (or all) of the human population will be susceptible, having had no prior exposure to this new influenza subtype. In addition, persons not generally at high risk may develop severe or fatal disease.
 - **Pandemic or Emerging Infectious Disease (EID):** emerging infectious diseases are infections that have recently appeared within a population or those whose incidence or geographic range is rapidly increasing or threatens to increase in the near future.
 - **Civil Demonstration (adjacent to your facility):** A large number of people gather peacefully in one place in support of their civil liberties. This could block traffic patterns, thus disrupting staff and supply movement to or from your facility.
 - **Communications Disruption (major and prolonged):** There is major failure in any type of communications infrastructure through a variety of mechanisms, including physical destruction of transmission or broadcast components, disruption in supporting infrastructure and system congestion for greater than four hours. This excludes computer network or internet access failure.
 - **Computer Failure (system):** Loss of computer network or Internet access for greater than four hours.

- **Explosives Attack-Improvised Explosion:** In this scenario, agents of an adversarial group will employ a multiple prong attack to funnel personnel into predetermined locations, utilizing multiple devices such as vehicle bombs, suicide bombers, and man-delivered IEDs to inflict the greatest number of casualties.
- **Fuel Shortage:** An energy emergency or fuel shortage may involve any one or more of various types of energy resources. It might involve natural gas, heating oil, gasoline, coal, or electricity. No matter which type of resource is involved, it is the inability to produce or to transfer sufficient quantities of the resource at an acceptable cost to businesses, industry, and the public that creates the emergency. When this disrupts the normal day-to-day lives of citizens, it can become an energy emergency. This is especially true during periods of inclement weather where heating is necessary for individual safety.
- **Hazmat Release / Explosion (fixed site):** An incident resulting in the unintentional release of a hazardous material or agent (biological, chemical, physical) which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors at a fixed site.
- **Hazmat Release / Explosion (transport):** An incident resulting in the unintentional release of a hazardous material or agent (biological, chemical, physical) which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors during the loading, unloading, transportation or temporary storage of hazardous materials.
- **Nuclear Facility Incident (fixed site):** This is defined as a larger scale radiological incident at a fixed location. This includes incidents at a nuclear power plant.
- **Power Outage:** Loss of residential or commercial electrical service for greater than 4 hours.
- **Supply Disruption:** This refers to a disruption that happens at one time, due to some type of major event, excluding fuel power, water. Crucial supply distribution is interrupted for more than three days, impacting citizen health and safety.
- **Water System Failure:** Damage to public water supply systems that impact the delivery of potable water for greater than four hours.
- **Municipal Water Contamination:** The presence of biological, chemical, or radiological contamination of a municipal potable water system.

Some organizations prefer to sort potential hazards into 3, 4, or more groupings such as the following:

- Natural disasters, Man-made disasters, and Technical disasters
- Natural hazards, Technical hazards, Human hazards, HazMat/Chemical hazards
- Infection-related hazards; *e.g.*, pandemics and food contamination, sometimes warrant a separate category as well.

Your state and local health care coalitions will have a state or local listing of potential risks in your geographic area. State or territory contacts can be found at:

<https://www.fema.gov/grants/mitigation/state-contacts> .

Example 3 – Comprehensive Hazard Vulnerability Assessment - Kaiser Permanente Example utilized by ASPR TRACIE <https://asprtracie.hhs.gov/>

Large health care organizations often create comprehensive lists of hazardous events. No facility is at risk for all such events; however, one or two facilities may have experienced an event and then share their best practices to assist those facilities who have yet to experience such an event. The following alphabetical list from Kaiser Permanente hospitals in California is worth consideration when identifying potential hazards.

The tool is recommended by CMS as a best practice standard and includes the following potential risk scenarios: <https://asprtracie.hhs.gov/technical-resources/3/hazard-vulnerability-risk-assessment/1>

- Active shooter
- Acts of intent (Writer's note: criminal activity)
- Bomb threat
- Building move (Writer's note: temporary or permanent planned relocation of multiple residents or staff)
- Chemical exposure, external
- Civil unrest
- Communication/Telephone failure
- Dam failure
- Drought
- Earthquake
- Epidemic
- Evacuation
- Explosion
- External Flood
- Fire
- Flood
- Forensic admission (Writer's note: criminal)
- Gas/Emissions leak
- Generator failure

- Hazmat incident
- Hazmat incident with mass casualties
- Hostage situation
- Hurricane
- HVAC failure
- Inclement weather
- Infectious disease outbreak
- Internal fire
- Internal flood
- IT system outage
- Landslide
- Large internal spill
- Mass casualty incident
- Natural gas disruption
- Natural gas failure
- Other utility failure
- Pandemic
- Patient surge
- Picketing
- Planned power outage
- Power outage
- Radiation exposure
- Seasonal influenza
- Sewer failure
- Shelter in place
- Strikes/Labor action/Work stoppage
- Suicide
- Supply chain shortage/failure
- Suspicious odor
- Suspicious package/substance
- Temperature extremes
- Tornado
- Transportation failure
- Trauma
- Tsunami
- VIP situation
- Water contamination
- Water disruption
- Weapon
- Workplace violence/threat
- Zombies
- Other considerations - What about underground coal mine subsidence? Sink holes? Volcanic eruptions? Food contamination? Missing residents?

If your facility has a unique situation or there is a unique condition in your community, they should be added to potential hazard scenarios to the list of potential hazards and assess them with the rest. But remember, the goal is not to identify and then to plan for every possible scenario. The goal of Step 1 is to identify relative magnitude levels before moving on to the emergency plan. The plan will focus on those hazards presenting the highest risk to the lives and safety of residents, staff, and community.

How to Use the Sample Risk Analysis

In the sample Risk Analysis Step 1 above, a ranking scale indicating events per year provides a simple standardized comparison method. **Probability** refers to the likelihood of future occurrence.

- 0 = N/A (Implausible)
- 1 = Low (0-1 event/30 years)
- 2 = Moderate (2-3 events/30 years)
- 3 = High (4+ events/30 years)

When scoring probability, consider the known risk, historical data, and manufacturer/vendor statistics.

Also in the sample Risk Analysis Step 1 above, the **Impact** upon 5 different categories was considered using a standardized ranking scale of percent affected.

- 0 = N/A (No impact expected)
- 1 = Low (< 1% affected)
- 2 = Moderate (1 – 10% affected)
- 3 = High (> 10% affected)

The **“Human Impact”** is the percentage of the facility population (residents and staff) likely to be injured or killed under an average occurrence of the hazard. It can include death but also injuries requiring medical intervention.

“Service Impact” is the percentage of healthcare services likely to be affected under an average occurrence of the hazard. Consider direct care, facility infrastructure, resident family support, professional support, and ancillary services in ranking this item.

“Property Impact” is defined as the percentage of properties likely to be affected under an average occurrence of the hazard. Think about replacement costs, temporary replacements, repairs, and time to recover.

“Business Impact” addresses the percentage of businesses likely to be affected under an average occurrence of the hazard. This includes business disruption, employees unable to report for duty, customers unable to reach the facility, contract violations, fines, penalties, legal fees, interrupted critical supplies, reputation or image loss, and financial burden.

“Community Impact” is the percentage of community likely to be affected under an average occurrence of the hazard. Contamination of air, water, and food; supply distribution; facility evacuation; and disruption of utilities and transportation are key consideration factors.

A **“Relative Magnitude”** score, ranging from 0 to 45, can be calculated by multiplying the sum of the impact ranks by the probability rank.

Completing Step 1 is just the beginning. Step 2 in the analysis begins with a close look at the **“4 Cornerstones of Emergency Management.”**

- Mitigation
- Preparedness
- Response
- Recovery

Example 4 - Risk Assessment Process – Four Cornerstones of Emergency Management

Since World War II, emergency management has focused primarily on preparedness. Often this involved preparing for enemy attack. Community preparedness for all disasters requires identifying resources and expertise in advance, and planning how these can be used in a disaster. However, preparedness is only one phase of emergency management. Current thinking defines four phases of emergency management: mitigation, preparedness, response, and recovery. The chart below summarizes the phases. (<https://asprtracie.hhs.gov/>)

The Four Cornerstones of Emergency Management	
<p>Mitigation Preventing future emergencies or minimizing their effects</p>	<p>Includes any activities that prevent an emergency, reduce the chance of an emergency happening, or reduce the damaging effects of unavoidable emergencies.</p> <p>Internal: Emergency power, stockpiles, NOAA weather radio, fire suppression, building air handling isolation, partner memorandums of understanding, flood and fire insurance</p> <p>External: Law enforcement, fire/HazMat, EMS, vendor & supply, community sirens, community Emergency Management, hospital/clinic resource</p> <p>Mitigation activities take place before and after emergencies.</p>
<p>Preparedness Preparing to handle an emergency</p>	<p>Includes plans or preparations made to save lives and to help response and rescue operations.</p> <p>Internal: NIMS-type emergency organization, policies and procedures, communication systems, scope of alternate sources of supply, frequency and effectiveness of training and drills, ability to self-assess</p> <p>External: Notification method to responders; responders’ resources, knowledge of the facility, agreements and memorandums of understanding</p> <p>Preparedness activities take place before an emergency occurs.</p>
<p>Response Responding safely to an emergency</p>	<p>Includes actions taken to save lives and prevent further property damage in an emergency situation. Response is putting your preparedness plans into action.</p> <p>Internal/External: Quick access to procedures and checklists, efficient use of communication systems, access to response equipment, time needed to marshal an on-scene response, scope of response capabilities.</p> <p>Response activities take place during an emergency.</p>
<p>Recovery Recovering from an emergency</p>	<p>Includes actions taken to return to a normal or an even safer situation following an emergency.</p> <p>Internal/External: Business continuity plan, process to end a response, process to assess damages, insurance coverage, availability of temporary facilities, access to services such as safety inspection and cleaning</p> <p>Recovery activities take place after an emergency.</p>

In Risk Analysis Step 2, we assess the 4 cornerstones of emergency management – mitigation, preparedness, response, and recovery -- from two different perspectives: internal and external.

Internal refers to the resources, capabilities, and capacities that come from within the facility and its management organization. Examples include, but are not limited to:

- Types of supplies on hand
- Volume of supplies on hand
- Staff availability
- Staff knowledge of plans and procedures
- Ability to establish an incident management team
- Availability of back-up systems

External refers to resources, capabilities, and capacities that come from the local community response organizations or industry partners. These include, but are not limited to:

- Notification method to reach responders and partners
- The resources and authority responders bring to handle a given emergency
- Responder knowledge of the facility’s special needs
- Type of agreement or memorandum of understanding in place and pre-signed

EXAMPLE Risk Analysis of ABC Nursing Home – Step 2									
Establish Relative Management									
A	B		C		D		E		F
Hazard Ranked by Relative Impact Magnitude	Mitigation		Preparedness		Response		Recovery		Relative Management
	I	E	I	E	I	E	I	E	
#1									
#2									
#3									
	1 = Substantial 2 = Moderate 3 = Limited or None		1 = Substantial 2 = Moderate 3 = Limited or None		1 = Substantial 2 = Moderate 3 = Limited or None		1 = Substantial 2 = Moderate 3 = Limited or None		
I = Internal E = External									
Relative Management = Sum of the 4 Management Rankings Range is 8 - 24									

In Risk Analysis Step 2, sort the hazards by highest to lowest scores of Relative Impact Magnitude. Implausible hazards; *i.e.*, those with probability scores of “0” and hence a relative impact magnitude of “0” should be tabled before moving forward.

Next, using “The Four Cornerstones of Emergency Management” chart on the previous page and the internal and external perspective examples above, use the standardized ranking system:

- 1 = Substantial
- 2 = Moderate
- 3 = Limited or None

In Risk Analysis Step 2, the lower the Relative Management score, the better your facility can manage the hazard. A rough guideline for how well the facility currently manages emergencies is:

- 8 – 10 Much Above Average A
- 11 – 13 Above Average B
- 14 – 16 Average C
- 17 – 19 Below Average D
- 20 – 24 Much Below Average F

As the team approaches Risk Analysis Step 3, they must take a moment for reflection. If the team has not yet reached out to community coalitions, their perceived external rankings may be lower or higher than the actual scores. These perceptions must be verified as the team finalizes the risk analysis and develops the emergency plan.

In Risk Analysis Step 3, we establish relative risk and proceed to a work plan.

EXAMPLE Risk Analysis of ABC Nursing Home – Step 3			
Establish Relative Risk to Proceed to Work Plan			
A	B	C	D
Hazard Ranked by Relative Impact Magnitude	Relative Management Grade	Critical Thinking of Team’s Rationale for Relative Risk	Relative Risk Hazard Ranked by Team’s Critical Analysis of Relative Impact and Relative Management
#1			New #1
#2			New #2
#3			New #3

There are no mathematical formulas for Risk Analysis Step 3. The team uses critical thinking and documents that critical thinking process. If your first listed hazard; *i.e.*, the hazard with the highest relative impact magnitude, is being managed at an “A” or “B” level, you may be able to focus your attention on other high impact hazards; at a “C” level, it warrants some increased attention; however, at a “D” or “F” level, it warrants intense, immediate

attention. In column C, briefly document the factors and conclusions of the team's critical thinking. Examples of pertinent documentation include, but are not limited to:

- High Relative Impact and Below Average Management warrants discussion with local coalition.
- High Relative Impact and Above Average Management warrants only minor review at this time.
- Moderate Relative Impact and Much Above Average Management warrants no review at this time.
- Recent table top exercise exposed gaps in response process. Refer to Performance Improvement Project team.
- Recent detour of traffic due to interstate bridge repair to last for 18 months. HazMat tankers will be traveling at high speeds within 100 feet of facility.
- Closure of gasoline refinery in area resulting in significantly reduced impact. Defer updates until next review date.

Follow through with discussion and document the factors and conclusions for each identified hazard. Finally, come to consensus on a new ranking of hazards in column D.

Risk Assessment - In Summary

Once the relative risk for each hazard is determined, the team can develop and can prioritize the work plan. The hazards with the newly identified highest relative risk can be addressed by applying available resources to information gathering, policies and procedures, emergency preparedness planning, and training that will reduce the risk value of a given hazard scenario.

Correlation with QAPI

The Emergency Preparedness Plan and the Facility Assessment should be integrated into the Quality Assurance and Performance Improvement process. As part of the facility's QAPI process, use of an action plan to assign and to manage work tasks associated with Emergency Plan development is essential. A sample is located below.

Emergency Preparedness - QAPI ACTION PLAN

Location:		Unit or population:		Date:	
Concern (Use data)					
•					
Root Cause Analysis:					
Goals & Objectives (Measurable, compare to concern data)					
Action Items (corresponding to Root Cause Analysis)	Responsible Team Member(s)	Start Date	Estimated Completion Date	Actual Completion Date	Comments
Action Items (corresponding to Root Cause Analysis)	Responsible Team Member(s)	Start Date	Estimated Completion Date	Actual Completion Date	Comments

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The overall goal with hazard risk analysis is to continuously improve the relative management grade, then focus periodic training and exercises on those hazards that remain at the highest probability.

Continuity of Operations

Facilities must address their resident population, in alignment with the facility assessment, including: at risk residents, potential diagnosis or conditions which may pose a risk, identification and plan for residents who may require additional assistance, services needed and provided in emergencies and continuity of operations. Continuity of operations must be delineated in the emergency plan including delegations of authority and succession plans. This delegation needs to outline staff roles and responsibilities as necessitated by the emergency, succession of authority and clear delineation of qualified individual who is authorized in writing to act in the absence of the administrator or person legally responsible for the operations of the facility.

Continuity of operations portion of the emergency plan should include:

- facility and community based risk assessment findings
- identification of key personnel
- essential functions and critical resources to maintain operations internally and externally
- protection of vital medical, resident and facility data
- identification of alternate facilities for transfer

- contractual agreements
- financial resources
- staff and employee resources
- communication plan

Emergency Operations Plan Activation Delegation of Authority

The below is a simplified example of the delegation of authority process which documents a chain of command – responsibility for activating the emergency operations plan. The individuals indicated would be responsible for assessing the emergent situation, activating emergency operations plan as applicable, contacting local authorities, coordinating the plan and staff and overseeing the health safety and welfare of the residents and staff per plan processes.

Emergency Plan Activation – Delegation of Authority			
	Name	Role	Contact Number
Primary			
Back Up 1			
Back Up 2			
Local Authority			
Local Authority			
State Authority			
State Authority			

Example of Specific Essential Roles and Responsibilities

Per the requirements, LTC facilities need to outline essential services during emergency events and include this in the emergency preparedness plan. The services that are identified, based upon the risk assessment and resident population assessment, are services that are essential during an emergency. Delineation of roles and responsibilities should be clearly defined, staff aware of their role and responsibility and contact information.

Essential Roles and Responsibilities				
<i>Essential Services</i>	<i>Role/Name</i>	<i>Responsibility</i>	<i>Primary Contact</i>	<i>Secondary Contact</i>
Administration				
Clinical/Nursing				
Medical Direction				
Nutrition				
Health Information				
Financial				
Plant Operations				
Housekeeping				
Safety and Security				
Communications				
Pharmacy				
Supplies and Resources				
Transportation				
Psychosocial Needs				
Employee				

Collaboration and Contact

When developing the emergency preparedness plan, facilities should include a process for collaboration and cooperation with local, state and federal emergency preparedness authorities. The plan should outline contact information, process for collaboration and coordination, and cooperative planning efforts. These contacts are resources for emergency preparedness plan development, training/testing, evaluation and during emergencies. Prioritization of contact with authorities during an emergency should be outline in the overall plan.

Example of a Collaboration and Contact Grid

Collaboration and Contact Grid – Emergency Preparedness Community Officials				
Level	Role	Contact	Phone	Email
Police				
Fire				
Public Health				
Local Emergency Management				
Regional Health Care Coalition				
State Dept. of Health				
State Office of Emergency Preparedness				
Federal – CMS				
Federal – FEMA				
Federal- ASPR				

Interim Pandemic Plan SNF

Pandemic Plan Policy and Procedure

The World Health Organization defines a pandemic as “the worldwide spread of a new disease.”

Facilities will be responsible for protecting both residents and employees during a pandemic. The overall Pandemic Plan will include four phases: Mitigation, Preparedness, Response and Recovery. The facility Pandemic Plan will align with the facility Emergency Preparedness Plan and facility planning will include processes, including but not limited to: preparation for caring for ill residents while managing employee illness and absences; preparation of staff/volunteers/clinicians/vendors related to respective roles and responsibilities; and procurement of necessary supplies and resources, equipment, medications and other necessary items for the safety, health and welfare of residents and employees.

Policy

It is the policy of this facility to prepare and implement a pandemic plan in the event of a determined worldwide spread of a new disease.

Procedure

Mitigation (prior and post)

- Facility leadership will identify members of the facility Pandemic Plan team. Potential members may include:
 - Governing Body
 - Administrator
 - DON
 - Medical Director
 - Infection Preventionist
 - Pharmacy Consultant
 - Interdisciplinary Department Leaders
 - Public Health representative
 - Other identified key personnel, vendors
- The Pandemic Plan will be coordinated and aligned with the facility Emergency Preparedness Plan:
- The facility leadership team will review the facility Emergency Preparedness Plan for effective plan implementation including:
 - Roles and responsibilities
 - Required tasks as outlined
 - Plan implementation phases

- Business continuity
- Alignment with infection prevention and control protocols, including outbreak management plan and required actions
- Identification of current risks and hazards in the community (i.e., risk levels, community transmission)
- Identification and assessment of risk to the facility residents and employees
- Review social distancing protocols with leadership and staff such as:
 - Cancellation of larger gatherings
 - Alteration of workplace environment (essential and non-essential),
 - Schedules to decrease community transmission and preserve a health workplace to the greatest extent possible without disrupting essential services
- Identification of goals and priorities to meet the quality needs of the residents and employees:
 - Training
 - Employee Management
 - Supplies
 - Medications and Treatments
 - Equipment

Preparedness

- The Pandemic Plan will include:
 - Authority
 - Key Employees responsible for executing the Pandemic Plan
 - Preparation of Emergency Contact List
 - Preparation of Resident List and Contacts
 - Preparation of Staff Lists and Contacts
 - Communication Procedures
 - Collaboration with State/Local Health Department
 - Collaboration with acute care partners, other providers
 - Identify resources and partners (i.e., healthcare coalitions, community healthcare facilities and organizations, etc.)
 - Communication Procedures
 - Residents
 - Resident representatives
 - Employees
 - Review Community and Facility Risk
 - Complete a risk assessment as outlined in Emergency Preparedness Plan to determine facility risk
 - Coordinate with Local and State Health Department
 - Communication with Local Healthcare Organizations
 - If risk is identified, initiate Pandemic Plan in collaboration with Public Health authorities
 - Review resident advance directives

- Review and implement emergency operations coordination
 - Align emergency operations coordination with the Emergency Preparedness Plan
 - Command central – roles, responsibilities
 - Triage process
 - Resource allocation (supplies, vendors, services)
 - Employee allocation
 - Identification of essential and non-essential staff
 - Overall staffing needs
 - Contingency staffing plan
 - Staffing contracts, roles and responsibilities
- Conduct an Infection Prevention and Control Self Assessment
 - Long term care facility – Infection Control Self-Assessment Worksheet: https://qsep.cms.gov/data/252/A_NursingHome_InfectionControl_Worksheet11-8-19508.pdf
- Re-educate employees on roles and responsibilities per Emergency Preparedness Plan, Outbreak Management and Pandemic Plan
- Determine essential and non-essential supplies, equipment, resources, clinical visits and operations in preparation for potential pandemic response
- Review and re-educate on Shelter in Place Plan per Emergency Preparedness Plan
- Review Business Interruption Plan as outlined in the Emergency Preparedness Plan

Response

- Continue community surveillance
 - Infection Preventionist will monitor active cases in community including but not limited to:
 - Hospitals and other healthcare facilities
 - Schools
 - National and State surveillance
 - Public Health surveillance
- Implement and continue facility surveillance system and process
 - Identification, tracking and monitoring of resident condition change
 - Implement ongoing surveillance on frequent intervals for residents
 - Identification, tracking and monitoring of employees for signs and symptoms
- Implement communication and reporting processes per Emergency Preparedness Plan
 - Prepare messaging and responses
 - Initiate communications plan to, but limited to:
 - Collaboration with State/Local Health Department
 - Collaboration with acute care partners
 - Residents and Representatives

- Employees and Families
- Communicate with resources and partners (i.e., healthcare coalitions, community healthcare facilities, emergency responders, vendors, home health agencies, hospice, etc.)
- Healthcare Providers
- Media
- Key Stakeholders
- Federal, State, Local officials
- Post signage at entrance(s) related to infection prevention and control communication, visitor restrictions, delivery of supplies/equipment
- Determine utilization of centralized entrance for access to the facility in coordination with local and state public health guidance
- Review diagnostic evaluation services, availability, facility access and response
- Follow the response and facility management of ill residents per outbreak management plan
- Initiate supplies and equipment management plan (essential and non-essential)
 - Inventory current supplies and equipment
 - Review contingency supplies and par levels
 - Implement Facility Inventory Management Plan
 - Communicate and educate employees on use of supplies and equipment
 - Review and communicate delivery and ordering processes with vendors and staff
 - Supplies
 - Disinfectants
 - Equipment
 - Inventory Management
 - Review contingency supply areas, par levels, use by employees and provision needs
- Employee Management
 - Implement communication plan
 - Implement pandemic sick leave policies and procedures per guidance requirements
 - If symptomatic or potential exposure – following the Centers for Disease Control and Prevention guidance
 - Protocols for Human Resource Needs
 - Initiate staff deployment plan
 - Determination of essential and non-essential employees
 - Consistent assignment when possible
 - Review and implement staff contingency plan
- Facility Response Measures
 - Follow Standard and Transmission-Based Precautions
 - Implement Outbreak Management Plan
- Plan for resident medical care (acute, diagnostic, interim and routine)
 - Continuation of Clinician Visits per local/state health department guidance
 - In-Person

- Virtual
- Implement and communicate hospital coordination for potential influx of emergency room visits, admissions, testing and hospital triage process
- Implement coordination and communication with clinics and outpatient centers
 - Physician Offices
 - Dialysis Centers
 - Outpatient Centers
 - Consultant Offices
- Implement Visitor and Volunteer Restriction protocols, including alternate communication options (technology) in accordance to federal and state requirements
 - Volunteer Management – restriction and limitation
 - Visitor Management– restriction and limitation
 - Vendor Management - restriction and limitation of onsite work unless determined essential
 - Transportation companies - restriction and limitation of access unless determine essential or necessary for care and services
 - Review communication process and follow up needs

Recovery

- Implement Re-Entry Plan, in alignment with Public Health and Emergency Preparedness Plan for:
 - Residents and representatives
 - Employees
 - Volunteers
 - Clinicians
 - Physical plant – Disinfection protocols completed
 - Supplies
 - Human Resources
 - Vendors
 - State and local officials
 - Governing Body
 - Key stakeholders
- Review and implement continuity of operations plan and outcomes
- Business and clinical impact analysis
- Implement re-entry communication plan
 - Residents
 - Resident Representatives
 - Key Stakeholders
 - Media
 - Vendors
 - Clinicians
- Monitoring the effectiveness of plan implementation and outcomes
- Incorporate into the QAPI process

Who Should Plan for a Pandemic

It would be pertinent for all businesses and organizations to begin planning for a pandemic now to prepare for the potential for lack of employees, supplies and other necessary resources. Important tools for pandemic planning for employers are located at:

<https://www.cdc.gov/flu/pandemic-resources/index.htm>

References and Resources

- The Occupational Safety and Health Administration (OSHA) developed a Pandemic Influenza Preparedness and Response Guidance for Healthcare Workers and Healthcare Employers at:
https://www.osha.gov/Publications/OSHA_pandemic_health.pdf
- The U.S. Department of Health and Human Services have a 2017 Pandemic Influenza Plan Update at:
<https://www.cdc.gov/flu/pandemic-resources/pdf/pan-flu-report-2017v2.pdf>
- Infection Control and Prevention regulations and guidance: 42 CFR 483.80, Appendix PP of the State Operations Manual. See F-tag 880:
<https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/GuidanceforLawsAndRegulations/Downloads/Appendix-PP-State-Operations-Manual.pdf>
- Centers for Disease Control and Prevention. Hand Hygiene in Healthcare Settings.
<https://www.cdc.gov/handhygiene/index.html>
- Centers for Disease Control and Prevention. Respiratory Hygiene/Cough Etiquette in Healthcare Settings.
<https://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm>
- Centers for Disease Control and Prevention. The National Institute for Occupational Safety and Health (NIOSH). Personal Protective Equipment.
<https://www.cdc.gov/niosh/ppe/>
- Centers for Disease Control and Prevention. Optimizing Supply of PPE and Other Equipment during shortages. July 16, 2020: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/index.html>

- Centers for Disease Control and Prevention. Infection Control Guidance for Healthcare Professionals about Coronavirus (COVID-19) June 3, 2020:
<https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control.html>
- Guidance for Infection Control and Prevention of Coronavirus Disease 2019 (COVID-19) in nursing homes (REVISED)
<https://www.cms.gov/files/document/gso-20-14-nh-revised.pdf>

Additional Resources

- <https://www.cdc.gov/nonpharmaceutical-interventions/tools-resources/planning-guidance-checklists.html>
- <https://www.cdc.gov/flu/pandemic-resources/national-strategy/severity-assessment-framework.html>
- Individual state licensure/requirements

Interim Pandemic Plan Assisted Living Facilities

Pandemic Plan Policy and Procedure for Assisted Living Facilities

The World Health Organization defines a pandemic as “the worldwide spread of a new disease.”

Organizations will be responsible for protecting both residents and employees during a pandemic. An overall Pandemic Plan should include four phases: Mitigation, Preparedness, Response and Recovery. The organization Pandemic Plan will align with the organization Safety Plan. Organization planning involves processes, including but not limited to: preparation for caring for ill residents while managing employee illness and absences; preparation of staff/volunteers/clinicians/vendors related to respective roles and responsibilities; and procurement of necessary supplies and resources, equipment, medications and other necessary items for the safety, health and welfare of residents and employees.

Policy

It is the policy of this organization to prepare and implement a pandemic plan in the event of a determined worldwide spread of a new disease.

Procedure

Mitigation (prior and post)

- Organization leadership will identify members of the Pandemic Plan team. Potential members may include:
 - Owner
 - Medical Advisor or Primary Physician
 - Housing Manager
 - Director of Clinical Services or Health Services Manager
 - Pharmacy
 - Resident assistant(s)
 - Other identified key personnel
 - Vendors as identified
- The Pandemic Plan will be coordinated and aligned with the organization Safety Plan
- The housing manager will review the organization Safety Plan for effective plan implementation including:
 - Roles and responsibilities
 - Required tasks as outlined
 - Plan implementation
 - Business continuity or interruption of services

- Alignment with infection prevention and control protocols, including outbreak management plan and required actions
- Identification of current risks and hazards in the community (i.e., risk levels, community transmission)
- Identification and assessment of risk to the organization residents and employees
- Review and implementation of local and state public health recommendations, such as:
 - Disease testing for residents and employees
 - Social distancing
 - Group activity limitation/restriction
 - Staff requirements (essential and non-essential)
 - Visitor limitation or restriction requirements
 - Others as indicated
- Identification of goals and priorities will be identified to meet the quality needs of the residents and employees:
 - Training
 - Supplies
 - Medications and Treatments
 - Equipment
 - Employee Management

Preparedness

- The Pandemic Plan will include:
 - Authority
 - Key Employees responsible for executing the Pandemic Plan
 - Preparation of Emergency Contact List
 - Preparation of Resident List and Contacts
 - Preparation of Staff Lists and Contacts
 - Communication Procedures
 - Collaboration with State/Local Health Department
 - Collaboration with acute care partners, other providers
 - Identify resources and partners (i.e. Healthcare Coalitions, Community Healthcare Organizations, etc.)
 - Communication Procedures
 - Residents
 - Family/Agent
 - Employees
 - Review Community and Organization Risk
 - Coordinate with Local and State Health Department
 - Communication with Local Healthcare Organizations
 - If risk is identified, initiate Pandemic Plan in collaboration with Public Health authorities
 - Review resident advance directives
 - Determine resource allocation

- Resource allocation (supplies, vendors, services)
- Determine employee allocation
 - Identification of essential and non-essential staff
 - Overall staffing needs, private duty
 - Contingency staffing plan
- Determine key contact for emergency coordination and communication
- Re-educate employees on roles and responsibilities per Safety Plan, Outbreak Management and Pandemic Plan
- Determine essential and non-essential supplies, equipment, resources, clinical visits and operations in preparation for potential pandemic response
- Review the need for business interruption plan including key areas, such as:
 - Admissions and readmissions
 - Availability of supplies and resources
 - Staff contingency plan
 - Financial implications

Response

- Continue community surveillance
 - Monitor active cases in community including but not limited to:
 - Public Health surveillance
 - Hospitals and other healthcare organizations
 - Schools
- Implement and continue organization surveillance system and process
 - Identification, tracking and monitoring of resident condition change
 - Ongoing surveillance
 - Identification, tracking and monitoring of employees for signs and symptoms
- Implement communication and reporting processes
 - Prepare messaging and responses (residents, families, vendors, media, public)
 - Initiate communications plan
 - Collaboration with State/Local Health Department
 - Emergency responders
 - Employees
 - Families/Agents
 - Key stakeholders
 - Vendors
 - Collaboration with acute care partners
 - Collaboration with health care partners
 - Communicate with resources and partners (i.e., healthcare coalitions, home health care agencies, hospice agencies, community healthcare organizations, etc.)
 - Post signage at entrances related to infection control communication, visitor restrictions/limitations, delivery of supplies/equipment
- Initiate supplies and equipment management (essential and non-essential)

- Inventory current supplies and equipment
- Review contingency supplies and par levels
- Communicate and educate employees on use of supplies and equipment
- Review and communicate delivery and ordering processes with vendors and staff
 - Supplies
 - Disinfectants
 - Equipment
- Employee Management
 - Communication of staff deployment during an emergent situation
 - Sick Leave Policies and Procedures
 - If symptomatic or potential exposure – following the Centers for Disease Control and Prevention guidance
 - Staffing Deployment
 - Determination of essential and non-essential employees
 - Review Staffing Contingency Plan
- Organization infection prevention and control response
 - Follow Standard and Transmission-Based Precautions
 - Implement Outbreak Management Plan
- Review plan for resident medical care (acute, diagnostic, interim and routine)
 - Continuation of Clinician Visits
 - In-Person
 - Virtual
- Implement and communicate hospital coordination for potential influx of emergency room visits, admissions, testing, and hospital triage process
- Implement coordination and communication with clinics and outpatient centers
 - Physician Offices
 - Dialysis Centers
 - Outpatient Centers
 - Consultant Offices
- Implement visitor and volunteer restriction protocols as well as other communication options, including local/state public health guidelines
 - Volunteer Management
 - Visitor Management
 - Vendor Management
 - Transport
 - Communication
 - Review communication and follow up processes

Recovery

- Implement readmission plan, in alignment with Public Health:
 - Residents
 - Families/Agents
 - Employees

- Volunteers
- Clinicians
- Physical plant – complete disinfection protocols
- Supplies
- Vendors
- State and local officials
- Implement readmission communication plan
 - Residents
 - Families/Agents
 - Key Stakeholders
 - Media
 - Vendors
 - Clinicians
- Monitoring the effectiveness of the Pandemic Plan -- implementation and outcomes
- Incorporate into the quality improvement process

Who Should Plan for a Pandemic

It would be pertinent for all businesses and organizations to begin planning for a pandemic now to prepare for the potential for lack of employees, supplies and other necessary resources.

Important tools for pandemic planning for employers are located at:

<https://www.cdc.gov/flu/pandemic-resources/index.htm>

References and Resources

The Occupational Safety and Health Administration (OSHA) developed a Pandemic Influenza Preparedness and Response Guidance for Healthcare Workers and Healthcare Employers at:

https://www.osha.gov/Publications/OSHA_pandemic_health.pdf

The U.S. Department of Health and Human Services have a 2017 Pandemic Influenza Plan Update at:

<https://www.cdc.gov/flu/pandemic-resources/pdf/pan-flu-report-2017v2.pdf>

Centers for Disease Control and Prevention. Hand Hygiene in Healthcare Settings.

<https://www.cdc.gov/handhygiene/index.html>

Centers for Disease Control and Prevention. Respiratory Hygiene/Cough Etiquette in Healthcare Settings.

<https://www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm>

Centers for Disease Control and Prevention. The National Institute for Occupational Safety and Health (NIOSH). Personal Protective Equipment.

<https://www.cdc.gov/niosh/ppe/>

Centers for Disease Control and Prevention. Optimizing Supply of PPE and Other Equipment during shortages. July 16, 2020: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/index.html>

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- Individual state licensure/requirements