

WEEK 6 EDAPT NOTES NR 442, COMMUNITY HEALTH

NURSING CARE DURING A DISASTER

Which terms are stages in the process of emergency management?

The process of emergency management includes:

- Preparedness
- Mitigation/Prevention
- Response
- Recovery
- Planning/Continuity

Training can span across stages, but usually is part of preparedness. Notification may be part of any of the stages.

Which populations are most likely to be at high risk during a disaster?

All of these populations could be considered vulnerable. Retirement village residents may include older adults with disabilities or medical needs and who may not be mobile. Prison inmates are entirely dependent on staff for their needs. English language learners may not understand advisories or information about preparedness or evacuation. Families on a ranch may attempt to save their livestock and may not evacuate if needed. Inner-city apartment dwellers may lack transportation options and may struggle to obtain resources to deal with a disaster or evacuate.

Nurses can participate in which stages of emergency management?

Nurses can, and do, participate in all stages of emergency management.

What is disaster?

Have you experienced a disaster? To answer that question, you need to know the definition of a disaster. According to the International Federation of Red Cross and Red Crescent Societies (2021):

“A disaster is a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community’s or society’s ability to cope using its own resources. Though often caused by nature, disasters can have human origins.” (Para. 1)

Think about the elements of this definition. What is a community or a society? A community could mean a neighborhood, a workplace, a stadium, a city, a region, or what you define it to be. A community can be a permanent fixture or could be a temporary gathering or grouping of people.

The definition of a disaster event is just as variable. For example, disasters can include natural or man-made events, and even a mix of both (think Hurricane Katrina, where the hurricane was natural, but the levee breach was man-made). Likewise, disasters can be acts of terrorism or war and involve natural or man-made agents. More frequently, technology is a vector of disaster, with attacks on facility and government systems and power grids.

What constitutes a disaster for one community might not be a problem in another. The key to determining if an event is a disaster is if the event exceeds the community's ability to cope using its own resources. If a community can cope, the event might be an emergency but not necessarily a disaster. For instance, if a tornado destroys a neighborhood in a large city, the city likely has enough resources to manage this as an emergency event. However, suppose a tornado destroys an area in a small town. In that case, the event may stretch their capabilities, requiring responders and resources from the surrounding region might be called to help, so this would be a disaster in this small town.

Causes of disasters: You may ask why it matters what caused a disaster. Imagine you are a hospital emergency management coordinator. While planning for any disaster involves the same steps, how you implement those steps may be very different depending on if the disaster is natural or man-made, especially when planning prevention measures.

Tornadoes: You are in a high-risk area for tornadoes. As the emergency management coordinator, you understand you cannot prevent a tornado. Your plan will include measures to lessen the damages caused by a tornado (mitigation) by working with architects and engineers on building design, ensuring an early warning system for staff and clients, and providing staff training on actions to take if a tornado is imminent.

Power Grid Failure: A power grid failure in your facility would be life-threatening to many clients and disrupt care for all. This man-made disaster can be prevented within the facility with the proper equipment, resources, and planning. You work with facilities managers to ensure appropriate generators are in place and fuel to run the generators is available. You can also mitigate the effects of a grid outage by training staff on the use of emergency outlets.

At-Risk (Vulnerable) Populations

Are there some types of disasters that affect specific populations more? For example, think about an at-risk population, such as older adults in a nursing home. Why are they at-risk (medical issues, cognitive deficiencies, immobility)? How would a disaster such as a flood or wildland fire affect them differently than a suburban neighborhood?

Nursing Care Considerations

How does the type of disaster impact nursing response? Some disasters are quick events and may impact clinical nursing (such as a tornado with multiple injuries). Others may require the evacuation of large numbers of people into shelters (hurricane). A large earthquake and tsunami might require an extended recovery period over the years, demanding much different nursing skills.

Which event is most likely to become a disaster?

During the peak tourist season in a remote area, a large resort hotel fire would most likely be a disaster.

Remember, what constitutes a disaster for one community might not be a problem in another. The key to determining if an event is a disaster is if the event “exceeds the community’s ability to cope using its own resources.” Since the hotel is in a remote area, few resources are likely to help respond to the fire and potential injuries. If this happened in Las Vegas, this might be another emergency response.

One hundred acres of remote forest land burning would not likely be considered a disaster due to the small size and remoteness. However, the impact of the fire might be different if it burned, say, a cultural heritage site, but there is no indication of that here.

A fast-moving tropical storm that makes landfall at low tide in a rural area may cause localized flooding but is not likely a disaster. However, flooding might be an issue if the storm was very slow-moving or stalls, thus raining over the area for an extended time. If the storm strikes at high tide, storm surge might also be problematic.

Losing power in one city block is most likely not a disaster, though it may be an emergency during a heatwave or if residents have power-dependent critical medical devices. However, this might be a disaster if it involved an unprepared hospital in a small town.

Stages of emergency:

- Preparedness
 - Actions to promote readiness and response
- Mitigation/Prevention
 - Prevent disasters, when possible, reduce risks and effects from hazards
- Response
 - Actions taken after a disaster occurs to save lives and reduce the damage to property and the environment
- Recovery
 - Begins during response, help restore and resume normal operations
- Planning/Continuity
 - Occurs during all stages of emergency management, cyclical, continuous improvement, and updates, helps to ensure all stages are successful

The school nurse wants to help at-risk students and their families prepare for the upcoming hurricane season. Which is the most critical action for the nurse to take?

The school nurse should provide information and resources for students and families to help them plan. Planning will help at-risk clients identify vulnerabilities they may need assistance with, such as lack of transportation for evacuation or funds for extra food and water. Communities usually have pre-designated shelters or transportation options, which

the family should locate before the hurricane strikes. They may also need to plan for extra medication or supplies for medical devices.

Teaching a CPR course is a good idea, but that would not be the best to help with the upcoming hurricane season. Conducting a vulnerability analysis for a known hazard might be helpful, but planning considers several vulnerabilities and would have an immediate impact on safety. Handing out gift cards might be a good idea for some clients but would have a minimal effect compared to a plan.

Prevention and mitigation:

Mitigation is reducing the severity of a disaster or lessening the impact of a disaster and can be accomplished through resources like the [Firewise](#) program for wildland fires, building sprinkler systems, tsunami walls, avalanche tunnels, and tornado shelters. Prevention is eliminating the threat of a disaster. These efforts could include flood zone levee systems, forest thinning, zoning laws, and building codes. Watch this [short explanation of mitigation/prevention strategies](#).

These two activities ideally occur before a disaster strikes, though at times, some mitigation activities may occur after a disaster to keep the disaster from spreading or getting worse. Mitigation and prevention strategies build on what worked before or should work as identified during the planning process. Use an evidence-based approach to find strategies that have worked well or adapting methods that were not successful. With mitigation and prevention, it is essential to understand what does not work so that time, money, and resources focus on ideas that are most likely to be successful.

Self-actualization

- Morality, creativity, spontaneity, lack of prejudice, acceptance of facts

Esteem

- self-esteem, respect, achievement, confidence

Love/Belonging

- friendship, family, intimacy, sense of connection with others

Safety

- security of body, of employment, of resources, of morality, of the family, of health, of property

Physiological

- air, food, water, shelter, clothing, sleep

Which prevention activity is most appropriate for the nurse to take in a flood-prone community?

Prevention is eliminating the threat of a disaster—these activities include flood zone designations that move people from flood-prone areas to more appropriate housing options. Often, a disproportionately high number of at-risk populations live in these areas, so working with city leaders to find alternate affordable housing options is critical as these families may not otherwise have the resources to relocate.

Mitigation reduces the severity of a disaster or lessens the impact of a disaster, including evacuation, any lifesaving supplies, or shelter information.

Response:

The response is the most visible stage of disaster management and usually the shortest stage and most chaotic. Response to a disaster focuses on saving lives and includes efforts to reduce damage to property and the environment. The roles of nurses in disaster response can include treating victims or other responders or any other response function.

The most important thing to remember about responding to a disaster is safety. Your ability to follow the emergency plan is vital when responding to your workplace as part of their disaster operations. First, of course, you need to know the emergency plan before a disaster strikes. Second, if you intend to respond to disasters outside your workplace, you must plan and join a response group, such as a state [Medical Reserve Corps \(MRC\)](#). Many organizations are involved in disaster response, but remember, you must start these relationships before a disaster strikes.

At-Risk (Vulnerable) Populations

Think about disasters you have heard about on the news. What at-risk populations did they discuss, and why were they so vulnerable? Remember, disasters do not affect all people the same. Some populations are more likely to experience the devastating effects of a disaster. Those populations that require the most care and resources during the disaster are often the most vulnerable to its outcomes.

Nursing Care Considerations

During a disaster, nurses can fill roles or perform skills and actions outside their scope of practice or training. While we often take the stance of doing whatever it takes, specific legal and ethical issues need consideration. This issue brief by the [American Nurses Association \(2017\)](#) provides some guidance on these issues and questions you should address.

Recovery:

Recovering from a disaster is said to begin during the response, with the intent to help restore and resume normal operations of organizations and communities. However, this

stage should start much earlier, during preparedness activities. Plans should be in place to begin the recovery process, which can take weeks, months, or years, as soon as it is safe to do so.

Once it is safe, begin efforts to ensure emergency services and infrastructure are in place or repaired. First responders, power, roads, bridges, medical care, and communications will be the priority. Hotels and restaurants will be needed operational to serve the resources and workforce necessary for recovery efforts. Grocery stores and home supply businesses will be required as residents work to return to normal.

The clinic nurse is concerned about the death of several clients due to carbon monoxide poisoning after a recent two-week power outage due to a hurricane. The nurse identifies several activities that might make a positive impact in the community. Click to specify in which stage of disaster management the nurse implements each activity. More than one stage may apply to each activity.

Acquiring and handing out flyers for generator safety should ideally be a part of preparedness activities and should continue throughout the disaster stages. Recovery may not seem like the appropriate time, but this may be the time (after a disaster or death hits close to home) when clients are most likely to listen to information.

Accompanying a CERT to identify dangerous generator usage would happen during the response and recovery stages as clients are using generators. Therefore, if you are part of the CERT, you will want to participate and train well before a disaster.

Advocating for changes in policy or law can last for years by changing how a community prepares for action during a disaster.

Planning and continuity:

This stage of disaster management is cyclical to ensure components are still valid (such as an emergency operations plan), exercised (sand table or full-scale), and “lessons learned” incorporated after an event occurs. Planning helps to ensure the continuity of a business, organization, or community. Disaster planning, though complex, can start with the basics of identifying issues (risks, hazards, disasters, vulnerable populations), solutions (evacuation, mitigation, search and rescue, etc.), and resources available (police, fire, emergency medical services [EMS], hospitals, buses, boats, helicopters).

Plans for businesses and small organizations may be concrete, while plans for large organizations or government entities will be significant. Planning may include reciprocity agreements with other communities or other facilities in the case of hospitals or nursing homes. Both [FEMA](#) and [Ready](#) have a variety of planning tools for individuals, businesses, and organizations. Start with a plan for you and your family (use the Ready resources).

Planners in emergency management utilize after-action reports to update emergency operations plans. [The Texas Hospital Association](#) has a great example of an after-action report from Hurricane Harvey.

How often should facility leadership update their emergency operations plan?

Disaster planning is ongoing and never-ending and done **continuously**.

Yearly might be appropriate for a simple plan, but components usually change more often. Indeed, plans should be updated after a disaster to incorporate lessons learned, but this should not be the only time they are updated. For example, updating a city emergency operations plan may necessitate revising a facility plan independently of the city plan.

Disaster exercise:

Walkthrough

- usually, to discuss various scenarios or plan components
- often in a workshop format where a variety of planners and responders talk through issues
- familiarization of a plan

Tabletop

- small teams of disaster management personnel
- very interactive discussions, usually with a facilitator to unfold a scenario
- good way to challenge plan components and identify issues

Functional

- simulated event, small scale, hands on
- useful for small teams or functional teams (testing K9 search and rescue for example)
- common as training scenarios

Full-scale

- real-life simulated scenario of any type (all hazard)
- involve all resources (medical, fire, rescue, law enforcement, government, volunteer resources)
- can be expensive and requires a good deal of planning
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John is an emergency department nurse who has just been assigned to the hospital's emergency management committee. He has been asked to conduct an annual review of the emergency operations plan. John has never seen the plan and he asked several members of the committee where to locate the plan. The committee chair (the emergency management director) tells him the plan is in a locked cabinet in his office and they can retrieve it after the meeting.

Which cues should concern John?

John should be concerned that he has never seen the emergency operations plan; he had to ask several people about the plan's location before discovering it in a locked cabinet. After reading the plan, John is concerned that the plan is only reviewed annually by one person.

A good emergency operations plan should be readily accessible by those expected to execute the plan and familiar to everyone in the facility. Emergency planning is a continuous process of editing and revising as necessary, mainly after incidents occur, and should involve various key stakeholders, such as the incident management team, emergency coordinator, unit representatives, and outside response personnel.

Including John, an emergency department nurse on the hospital's emergency management committee, is not a concern as this is an appropriate use of his nursing skills.

John understands which stage(s) of disaster management are dependent on a good emergency operations plan?

A good emergency operations plan is critical for all stages of disaster management: preparedness, mitigation/prevention, response, and recovery.

Training is not a distinct disaster phase but part of preparedness. Clean-up is part of the recovery phase. An after-action review and report are usually done after a disaster and help inform needed changes in the disaster plan.

John reviews the emergency operations plan and has several suggestions for the committee. Select the correct phase of disaster management for each procedure listed on the left.

Arranging a series of walkthrough sessions of the emergency operations plan for all hospital personnel is a priority preparedness activity. While reaching out to community leaders to determine what risks exist within communities might be an essential preparedness activity, this is usually part of a community plan and not a facility plan.

Providing fire extinguisher training is a priority mitigation activity for a facility. Exit marking follows applicable laws, and glow-in-the-dark paint is not required.

Ensuring a 3-day supply of personal protective equipment is available is a priority response activity for the facility. While it is appropriate to buy color-coded vests, this should not be

prioritized over the safety of facility personnel. Finally, contracting with a critical incident stress debriefing (CISD) team for care after a disaster is an appropriate recovery activity for the facility.

John knows he needs to arrange a series of emergency operations plan walkthrough sessions for all hospital personnel as part of initial preparedness activities.

What other preparedness activities are appropriate now?

Preparedness activities are those actions to promote readiness and response, including:

- schedule training sessions
- ensure emergency radios are working and accessible
- prepare a contact list of incident command staff

Installing new smoke detectors to replace those over ten years old is a mitigation/prevention action designed to prevent disasters and, when possible, reduce risks and effects from hazards.

Moving personal protective equipment carts to every room is a response activity, which are actions taken after a disaster to save lives and reduce the damage to property and the environment.

Conduct an after-action review once disaster recovery actions are complete to incorporate knowledge gained and revised outcomes into the emergency operations plan.

After conducting a series of emergency operations plan walkthrough sessions for all hospital personnel, John needs to understand if incident command personnel know how to activate the emergency operations plan, call in critical staff for any event (all hazard), open the emergency operations center, and utilize the emergency radio system. Which action is most appropriate for John to take next?

A functional exercise should be the following action. These are small-scale simulated events useful for small teams and would be an excellent way to understand if the incident command team can perform initial emergency operations.

After completing a walkthrough discussion about scenarios or plan components, a tabletop is helpful for small teams, but it is usually a deep discussion with a facilitator. In addition, it does not allow for hands-on actions such as opening the emergency operations center or utilizing the emergency radio system. A full-scale exercise would involve all types of hospital personnel and potentially outside responders and would be beyond the scope needed to test a portion of the plan.

Planning a minor disaster and a press release would not be appropriate activities to solve this problem.

Having completed a functional exercise to determine if incident command personnel know how to activate the emergency operations plan, John and the group conduct a small after-action review to assess their readiness. Which findings indicate incident command personnel are proficient in disaster management skills?

The after-action team creates a process to add new personnel to the call list, indicating that keeping the plan updated is ongoing. Immediately accessing the emergency operations plan and continuing to refer to it during the exercise demonstrate knowledge that the plan contains valuable information to help with all aspects of disaster management.

Radios that are unused and found not charged are concerning and indicate a need for more training on proper use and maintenance of the equipment.

A community health nurse is working with community leaders on disaster mitigation efforts. Which at-risk populations should the nurse be most concerned about?

A 55 and over community may have many residents who are home-bound, have disabilities of some kind, or utilize power-dependent medical equipment.

A Laotian immigrant community may have members who do not speak English and may have members who do not interact with others outside their community.

Any prison population is completely dependent on facility personnel and so is vulnerable.

Food pantry customers may not be able to prepare for a disaster by saving three days of food and water. They may also lack resources for evacuation or recovery if needed.

Low-income housing residents may also lack resources to prepare for a disaster, evacuate, or recover.

Suburban residents are not vulnerable just because they have long commute times.

A community health nurse is working with community leaders on disaster mitigation efforts. The nurse has identified at-risk populations that may need assistance. What activities can be used while working with vulnerable populations?

Appropriate actions to take when working with vulnerable populations include:

- Asking community leaders what would be necessary.
- Meeting them where they are.
- Providing materials in the language they speak.

While equality is essential, in this case, equity is more important. Therefore, mitigation efforts should focus on equal outcomes, and vulnerable populations may need more or different resources to realize the same mitigation outcomes.

Forcing community members to come to you is not appropriate as many cannot come to you, and in many vulnerable populations, the trust of government officials may be low.