Dialysis Wall Boxes

By Joann Saporito, RN, MBA, HACP

It should come as no surprise that we, as healthcare providers, are responsible for ensuring that patients receive safe, quality services. For example, all patients should be treated with "Standard Precautions," which the Centers for Disease Control (CDC) defines as appropriate hand-hygiene, the proper use of personal protective equipment (PPE), appropriate patient placement (such as isolation), respiratory hygiene/cough etiquette, safe injection practices/sharps safety, appropriate handling of linen, and properly cleaning and disinfecting of patient care equipment, supplies, and instruments. At-risk patients sometimes require extra measures to prevent any potential exposure or contamination.

Dialysis patients are one example of a population which is more vulnerable, and extra care must be taken when cleaning the environment where dialysis services are administered. Staff may do an excellent job of disinfecting the actual dialysis machine, but if the dialysis machine is not self-contained, are the personnel thoroughly cleaning and maintaining the dialysis wall boxes and drains?

Dialysis wall boxes are an access built into the wall which contains the connections for the machine to receive acid and base concentrates and treated water, and/or contains the drain for the disposal of waste products. It may look like a recessed frame and may or may not have a door. These wall boxes can easily become contaminated with microorganisms, which can subsequently be transferred to a dialysis patient and lead to a healthcare associated infection (HAI). Based on investigations conducted by the CDC, the following strategies to prevent these types of HAIs have been suggested:

- **Educate staff:** Personnel may not be aware of the risks associated with the wall boxes and should receive training on the proper care, cleaning, and maintenance of the wall box and its components. This education should be provided not only to nursing staff but to environmental services and engineering/facilities department staff as well. Furthermore, information provided to employees should include the importance of performing hand hygiene after coming into contact with the wall box or any of its components. Healthcare facilities can monitor compliance with hand hygiene by adding dialysis treatment areas to the hand hygiene audits.

- **Policies and procedures:** Healthcare facilities that provide dialysis services should have policies that outline the frequency and methods for disinfecting wall boxes and their surfaces. Policies should be designed to follow the manufacturer's instructions for dilution, preparation, contact time, and use of the disinfectant. The disinfectant should be an Environmental Protection Agency (EPA)-registered hospital solution. Wall boxes should be disinfected at least daily, after every patient, and when visibly soiled. Cleaning and disinfecting should not occur in the presence of the patient but should be conducted after the patient has left the treatment area. All high-touch surfaces should be disinfected, such as all of the fluid connections. Wipes should be immediately discarded after use and not used to wipe down any other areas such as a table or the treatment chair/gurney. Lastly, one wipe

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may not be sufficient. Staff may need to wipe surfaces down with more than one wipe in order to ensure that the surfaces are visibly wet and achieve the recommended wet contact time as specified by the manufacturer of the disinfecting wipe.

- **Clean and maintain the drains:** The drains for the dialysate and waste fluids can form a biofilm and should be regularly maintained (e.g., drain cleaners, drain gels, enzymatic cleaners). If clogs occur, a qualified plumber should be contacted. If foaming or splashing are a persistent problem, it may be necessary for the facility to reconfigure/redesign the wall boxes to separate the "dirty" lines (those that carry waste) from the "clean" lines (those that transmit acid, bicarbonate, and reverse osmosis water) and to relocate/reconfigure any air gap(s).

- **Test/culture the wall boxes if infections are identified:** Any biofilms inside the wall boxes or connections can carry pathogens, so routine surveillance of patients should be conducted. Monitor patients for the presence of any bloodstream infections. Gram negative bacteria that are usually found in water-related biofilms should prompt facilities to investigate any potential reservoirs in the patient environment, including wall boxes. If clusters of infections are identified, the local or state public health department should be notified.

Both the Accreditation Commission for Healthcare (ACHC) and The Joint Commission have Standards in the Infection Control chapter as well as the Building Safety/Environment of Care chapters that are aligned with the recommendations of the CDC, and the suggestions given in this article apply regardless of the facility type (Critical Access, General Acute Care, or Ambulatory). Wall boxes contain water features and should therefore be addressed in the facility's Utility Management Plan as well as the Water Management Plan. Likewise, the Infection Control Risk Assessment should include Dialysis Wall Boxes as a potential source for HAIs.

References:

Dialysis Wall Boxes and Drains | Dialysis Safety | CDC

Hemodialysis Boxes - Maintenance Requirements | Critical Access Hospital | Environment of Care EC | The Joint Commission

Standard Precautions for All Patient Care | Basics | Infection Control | CDC

For further information, please contact Steven Hirsch & Associates at (800) 624-3750.

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Healthcare Worker Burnout

By Marietta Hickman, BSN, CIC

The United States healthcare industry is facing shortages in healthcare workers across all professions. The shortage is projected to continue with some estimates declaring that the U.S. could lose 4 million healthcare professionals by 2026. One reason cited is that people are living longer, requiring more complex healthcare as they age. Chronic medical conditions such as diabetes, heart disease and Alzheimer's Disease which require long hospital stays, rehabilitation, and long-term care facilities require staff from a limited pool of trained individuals. Healthcare workers are also retiring faster than they can be replaced. High educational requirements and job demands combined with relatively low wages also has contributed to the current shortage.

These combined factors have led to healthcare worker burnout. Long hours, heavy emotional tolls, stressful working environments and physical demands weigh heavily on healthcare workers. Roughly 50% of healthcare workers have reported symptoms of at least one mental health condition. Approximately 34% of healthcare workers reported feelings of post-traumatic stress disorder (PTSD) during the Covid-19 pandemic, with 14% reporting severe PTSD. Stressful working environments can lead to burnout which puts healthcare providers at increased risk for mental health challenges and physical, emotional, and psychological strain.

Burnout affects not only the healthcare worker and their family, but it can also have harmful consequences for patient care and safety. Negative impacts associated with burnout include decreased quality of and delay in care, medical errors, and negative patient outcomes. Workforce shortages will have systemic impacts, including decreased availability of services and increased costs of services. Population health outcomes can be affected, resulting in increased health disparities and potential lack of preparedness or ability to respond to public health crises.

According to the U.S. Surgeon General, burnout is not only an individual mental health crisis, but a workplace issue that calls for systems-oriented, organizational level solutions. The U.S. Surgeon General recommends that health care organizations implement programs and solutions that identify, address, and prevent healthcare worker burnout. Organizations should assess, measure, and intervene to prevent burnout. The National Academy of Medicine has provided a collection of resources to measure healthcare well-being, as well as strategies to prevent and reduce burnout. Some key recommendations include:

- Listen to workers and seek their involvement in decision making, process improvement and organizational culture.
- Promote a culture of safety, inclusivity, and equity.
- Consider creating a Wellness Officer position.
- Promote team building and organizational leadership.
- Examine, revise, and implement policies and practices to prevent burnout.
- Encourage staff to take rest breaks and paid leave.
- Increase access to mental health and substance abuse care.
- Encourage employees to stay connected with friends and family and reach out for help.
- Encourage healthy eating and exercise habits.

Retaining healthcare workers is fundamental to maintaining a strong healthcare system. The links below provide helpful resources to promote the mental and physical health of the individuals responsible for providing care to others:

Compendium of Key Resources for Improving Clinician Well-Being - National Academy of Medicine at https://nam.edu/compendium-of-key-resources-for-improving-clinician-well-being/

Health Worker Burnout - Current Priorities of the U.S. Surgeon General at https://www.hhs.gov/surgeongeneral/priorities/health-worker-burnout/index.html

The Risk Assessment

By David Woodard, MSc, CIC, FSHEA

As consultants and leaders, we often find ourselves telling an employee or client to "do a Risk Assessment". This is a reasonable response, but it assumes that the individual understands and knows how to do the task. The Risk Assessment is a systematic process that includes identifying, analyzing, and evaluating the potential events that can affect the topic. Depending on how those events may affect the safety, quality, and performance of the organization, it will affect the risk score and the final go/no go decision.

Risk Assessments (RA) are not uncommon even in day-to-day life. One performs a quick RA when merging on a freeway, deciding on a meal, or the wardrobe for the day, yet it's done without any real consideration of what went into the ultimate decision. Take, for example, the freeway merge: Speed (how far away is the other vehicle, can my vehicle accelerate fast enough to merge without danger, what is the danger?): Safety (is the road slick, can I see far enough ahead?) So, how do we take this process and apply it to the healthcare setting?

Organizations accredited by The Joint Commission (TJC), Infection Prevention (IC.01.03.01 EP 1&2), Environment of Care, and Emergency Management have been conducting the RA for several years. The RAs are usually done using a template that has emerged over years of surveys and surveyors. The Centers for Medicare and Medicaid Services (CMS) documents do not require such a process.

Two types of risk assessments can be done. One is a single topic such as "Should we buy a new XYZ", which is generally straightforward, and then the multi-topic "What are the Disaster Preparedness risks for the hospital?" which can have many sub-components, each of which have their associated risks.

The process defines the scope of the proposal, collecting, and analyzing data regarding all past and potential future results and complications of the project, prioritizing mitigation of the identified risks, monitoring, and finally reviewing the outcome.

Within the risk assessment, there are formal and informal tools. Informal RA may be as simple as the purchase of office furniture or changing schedules. These generally are not processes that require multiple inputs and do not disrupt the workflow or impact care. The formal RA must be done if it involves a major change in practice, new equipment, discontinuation or addition of services, new vendors, and changes in the organization dynamic.

Gathering Information

Ask questions! Identify who else could be impacted by the proposed new process. Who else has made the proposed change and what were their pitfalls? Did the change meet their needs and expectations? Is this "new method" due to an identified need or deficiency or because of leadership changes? We often see new leaders bring in practices from their prior organization which may be why they were employed. A good, effective "new leader" will spend some time walking, looking, and listening before making changes.

Ensure that all the various stakeholders in the project have had an opportunity to submit feedback. Questionnaires, face-to-face discussions, focus groups, and informational meetings all can provide helpful information. Additionally, use the existing information that is available including quality improvement data, risk management data, and peer review data as related to the project.

Define the Scope

When one begins the process, the first step must be to define the scope of the RA. It can be easy in the initial process to get distracted by tangential issues associated with the target process. Identify who will be affected by the change in process, and what new resources will be required.

Collaboration and Consultation

Work with the people and departments that will be impacted by the proposed change. Include all involved stakeholders, including patients. This should be accomplished in a formal manner using meetings, questionnaires, focus groups, and other established forms of communication. Encourage participation and feedback!

Prioritizing and Mitigating Risks

To prioritize the risk, it's very helpful to have some type of scoring system that will enable you to assign a numeric value to each of the components of the risk. This can be done with a simple 1-5 scale where one is the least risk and five is the highest risk. One can also include non-stratified factors into the equation by a zero to five value for things that may have regulatory features or may be limited by the building configuration.

Prioritization should include such factors as urgency and severity of the factors that contribute to the risk. An example of this is if you have a regulatory requirement within the risk assessment, such as mandatory reporting of a topic, then that needs to have a weighted value within the overall score. The classic process in the infection prevention RA is reporting of data to the National Healthcare Safety Network of vaccine acceptance within the hospital. This simply means that you must include these items in the risk assessment.

For example, disaster risks for a hospital might include the top five scenarios:

- Earthquake. (A facility in San Francisco would score this as highest, a facility in Albuquerque would score it lowest)
- Fire (forest or grassland)
- Flood (external to the hospital)
- Tornado or High Wind
- Other weather (snow, rain)

Then for each of the topics listed above, the following questions should be scored:

- What do the federal, state, and local agencies say?
- What is the local history of such an event?
- What is a real risk – is there a flooding risk if the hospital is on top of a hill?
- Tornado – how frequently has there ever been a tornado (a risk score of five if tornados are a common event, zero if there is no record of the occurrence?).

Measurement Tools

When an organization is evaluating its process changes there should be ongoing measurements to ensure that the overall outcome benefits the organization. There are several simple tools that can be implemented to provide this information.

One of these is a Strength, Weakness, Opportunities, and Threat (SWOT) analysis, while this is more frequently encountered in the business community, it can be useful in smaller processes.

- *Strengths: Strengths describe what the proposed process excels at and what makes it the "best" for the proposed implementation.*
- *Weakness: What are the areas where the process would need to improve to meet the proposed need?*
- *Opportunities: How will the implementation of the process improve the overall operation of the facility?*
- *Threats: What threats does the new or proposed process bring to the organization? Such things in the threat quadrant might include disruptions in staffing, supplies, and relations with stakeholders.*

The organization can utilize the use of checklists to catalog various factors that have or may contribute to a risk in the process of the new change. This can be a "canned" list generated by the sponsor or a list that is developed by users as they implement and observe the proposed process. This tool will permit the organization to decide whether the factors outweigh the end state.

A Failure Mode and Effects Analysis (FMEA) could and perhaps should be used immediately before the implementation of the new process. This well-established and familiar tool can help identify potential failures in the system and provoke mitigation of the identified risks and revisions or abandonment of the proposal.

The Hazard Analysis and Critical Control Point (HACCP) identifies, evaluates, and controls hazards throughout the food production process. It ensures that potential risks to food safety are identified and managed effectively.

Any, or all of these, techniques can help avoid or minimize hazards in the proposed process and to the organization.

Risk Mitigation and Follow-Up

The Risk Assessment process has two end-states; the decision about a course of action one might encounter with the deletion or addition of a service, and a process to reduce identified risks as in the disaster risk assessment.

Looking first at the RA done based on disaster, infection prevention, or medication management, the ultimate end-state would be to improve policies and procedures, improve training and education, and improve outcomes for the organization.

The implementation of the changes made based on the findings must be monitored to evaluate the overall effectiveness and to ensure that there were no unplanned consequences. This would include specific quality management projects using indicators and metrics that are associated with your organization.

The organization should ensure that there is ongoing and intensive monitoring of the new processes. This will allow a mid-course correction should the monitoring find deficiencies or unexpected consequences.

The risk assessment process is a useful tool that can be used to evaluate the potential results of a planned change in process, policy, or procedure. If conducted thoroughly through a credible and well documented approach, the RA can reduce financial impact of the proposed change in processes, and by "pre-staging" through RA, there can be increased likelihood of a successful result.

For more information on preparing a Risk Assessment Plan for your facility, please contact Steven Hirsch & Associates at (800) 624-3750.