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Infection Prevention Basics

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Healthcare Risk Management Update | FOR LEXINGTON INSURANCE POLICYHOLDERS

Infection Prevention Basics

How to Conduct an Infection Control Risk Assessment in Any Healthcare Setting

Healthcare-acquired infections (HAI) can be spread to patients in any healthcare setting, including ambulatory clinics, urgent care centers, hospitals, and hemodialysis centers. Currently, the only federally mandated data collection rules for HAI are focused on hospitals, but that could change with the increased shift to outpatient care. Infections that occur in hospitals are publicly reported and according to the Centers for Disease Control and Prevention (CDC), approximately one in 31 hospital patients has at least one HAI.[i]

The CDC monitors and publishes the hospital standardized infection ratios (SIRs) for central line-associated bloodstream infection (CLABSI), catheter-associated urinary tract infection (CAUTI), ventilator-associated events (VAE), surgical site infection (SSI), methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia, and *Clostridioides difficile* infection (CDI) in acute care hospitals. Many of these infections are on the rise. Some of these infections can be transmitted to patients at facilities that perform outpatient procedures or those that evaluate and treat patients who are vulnerable from the infection risk perspective.

HAIs are preventable. Therefore, all healthcare facilities should regularly conduct a proactive infection control risk assessment (ICRA) to identify and manage vulnerabilities before patients are impacted.

Infection Prevention and Control Program and Infrastructure

All healthcare entities should have an infection control program and infrastructure to support the ICRA process. The individual who leads the infection prevention program should have the requisite knowledge and access to infection control and prevention resources that are relevant to the type of organization and the patient population served.

The infection control program should encompass, at least:

- Program leader(s)

- Written policies, procedures and guidelines that encompass infection control measures

- Infection prevention education and training

- Auditing/surveillance activities (e.g., scope, frequency, action plans, accountability)

- Multimodal strategies for infection prevention and control

The infection control *program* is different than the infection control *plan*. The infection control program includes the elements listed above and encompasses the multimodal procedures and strategies that the organization adopts to address and prevent infection. The infection control plan includes the action plan based on the prioritized risks identified through the ICRA process.

Infection Cycle 101

Before discussing the ICRA process, it's important to understand the infection cycle and how patients can be exposed to infectious agents in any healthcare setting. There are six chains of infection that, when combined, may lead to a HAI. These six chains include:

- **Infectious agent**. This is the pathogen that causes disease.

- **Reservoir (host)**. The reservoir is places in the environment where the pathogen lives and grows (e.g., people, environment, medical equipment, insects, water).

- **Portal of Exit**. This is the path by which the infectious agent leaves the reservoir/host (e.g., open wounds, respiratory secretions, body fluids).

- **Mode of Transmission**. The mode of transmission is the way the infectious agent can be passed on through direct or indirect contact, ingestion, or inhalation. (e.g., direct contact, droplets, airborne route, vector/insect, food)

- **Portal of Entry**. This is the way the infectious agent can enter a new host (e.g., broken skin, respiratory tract, mucous membranes, gastrointestinal tract, catheters, tubes).

- **Susceptible Host**. A susceptible host can be any person. Those who are most vulnerable include those who are receiving healthcare in any environment, immunocompromised, having procedures, or have invasive medical devices (e.g., lines, devices, airways).[ii]

All six chains are present when an infectious agent is spread to a susceptible host. The way to prevent the infectious agent from spreading is by interrupting the chain at any link. For example, the chain may be interrupted by properly cleaning, disinfecting, or sterilizing all potential reservoirs in a given environment. Another strategy is to address portals of exit to prevent the spread of infectious agents, such as hand hygiene, proper use of personal protective equipment (PPE), respiratory etiquette, and waste disposal.[iii]

Infection Control Risk Assessment (ICRA)

Now that the infection cycle is understood, how might a healthcare organization conduct a proactive ICRA? The key elements of an ICRA includes a review of the entity's facility demographics, auditing process, and action plan/infection control plan.[iv] The risk management process that includes risk identification, analysis, treatment/mitigation, and monitoring is the cornerstone of the ICRA process. The ICRA process evaluates and prioritizes potential risks for infection, contamination, and exposures. It also evaluates the organization's preparedness to prevent or mitigate the identified risks.

Facility Demographics

Review the organization's demographics including a description of the patient population, facility type, patient volumes, and reason for the ICRA. The ICRA may be prompted by regular annual review, an outbreak, department of health request, post-procedure infection trends or other reason. The remaining demographic elements will help identify potential vulnerabilities, such as shifting patient population, increased patient volume and new services. These elements can change the landscape of vulnerabilities.

Auditing/Surveillance Process

The auditing process should be conducted annually and should be designed to meet the unique needs of the organization and the patient population served. The procedure should include, at least:

- A review of facility demographics and patient population to identify changes that could impact infection transmission risk.

- A review of the existing policies and procedures to ensure that each is consistent with evidence-based guidelines and standards, and that actual practices are consistent with the provisions in the policy and procedures.

- Confirmation that routine infection prevention practices are conducted as intended (e.g., hand hygiene, cleaning/disinfection/sterilization, isolation or patient-specific spread of infection/vulnerability prevention procedures are consistent with the mode of transmission).

- Confirmation of availability of supplies that are necessary to adhere to infection prevention measures (e.g., personal protective equipment [PPE], soap/hand sanitizer, cleaning/disinfection/sterilization supplies)

- Assuring all team members have completed infection prevention training and competencies. Also evaluate employee-specific infection transmission vulnerabilities.

- Conducting an environmental evaluation that encompasses all aspects of patient care and where patients may be present in the environment. Ensuring that PPE or other proper infection prevention measures are utilized as appropriate. Evaluating the appropriateness of cleaning/disinfection/sterilization measures procedures and frequency. Evaluating equipment for potential pathogen exposure (e.g., dialysis equipment) and ensuring that equipment has been cleaned/disinfected/sterilized per manufacturer recommendations.

- Review data from event reports, claims activity, and other sources and monitor for infection trends.

- Monitor for internal and external threats and evolving infections. For example, flu season, evolving pandemics and other evolving communicable diseases.

- Analysis and prioritization of the identified risks and a measurable action plan that asserts accountability to the respective owner(s) for timely completion.

The CDC offers auditing tools for the acute care setting, outpatient setting, and hemodialysis facilities (see the Additional *Resources* section below for a link to these tools). Any template tool should be customized to encompass the unique needs of your organization.

Action Plan/Infection Control Plan
The ICRA action plan/infection control plan should be measurable, timely, and assign accountability to the owner(s) of the action item. The entity's infection preventionist should be responsible for overseeing and facilitating the ICRA process and the owner(s) of each action plan are accountable for timely completion of their action item(s). The ICRA and action plan should be reported to the appropriate committee or persons, depending on the infrastructure of the organization. Each action item should be evaluated to ensure that the measures taken have properly addressed the identified problem or risk.

Conclusion
HAI prevention and mitigation procedures can be challenging given the changing landscape of the various types of exposures that continue to evolve. It's critical for all healthcare organizations to conduct an annual and ongoing ICRA to evaluate the effectiveness of their infection control and prevention program and continuously identify and mitigate infection risks to patients and healthcare team members.

Additional Resources:

- The Centers for Disease Control and Prevention, Infection Control Risk Assessment Tools (acute care, outpatient settings, hemodialysis facilities): https://www.cdc.gov/hai/prevent/infection-control-assessment-tools.html

- The International Society for Infectious Diseases, Guide to Infection Control in the Healthcare Setting: https://isid.org/guide/

- Association for Professionals in Infection Control and Epidemiology (APIC): https://apic.org/

Lexington Insurance policyholders may direct additional questions to Lexington Healthcare Risk Management at riskmanagement@aig.com.

Author:

Moira Wertheimer, Esq., BSN, RPLU, CPHRM, FASHRM
American International Group, Inc. (AIG)
Lexington Professional Liability Client Services Product Management Lead

Caroline Bell, RN, BSN, JD, CPHRM, DFASHRM
American International Group, Inc. (AIG)
Lexington Healthcare Risk Management Consultant

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[i] Centers for Disease Control and Prevention. Healthcare-Associated Infections (HAI) Data Portal. Retrieved 11-01-2022 from https://www.cdc.gov/hai/data/portal/index.html.

[ii] Infection Prevention and You. Break the Chain of Infection. Retrieved 11-01-2022 from https://infectionpreventionandyou.org/protect-your-patients/break-the-chain-of-infection/#:~:text=The%20six%20links%20include%3A%20the,of%20entry%2C%20and%20susceptible%20host..

[iii] Ibid.

[iv] Centers for Disease Control and Prevention. Infection Control Assessment Tools. Retrieved 11-01-2022 from https://www.cdc.gov/hai/prevent/infection-control-assessment-tools.html.