

Quick Guides

Quick Guide, Chapter 1: Infection Control Risk Assessments

Expanded information, case studies, references and other important items related to infection control risk assessments are available in Chapter 1 of this publication.

The design and construction of health care facilities influence infection outcomes. To help reduce infection risks, health care organizations should perform an infection control risk assessment (ICRA) when designing, renovating or constructing a health care facility. An ICRA is required by many jurisdictions through the adoption or use of the Facility Guidelines Institute (FGI) *Guidelines for the Design and Construction of Hospital, Outpatient and Residential Health Care Facilities* (three separate documents). Using the ICRA process can help hospitals identify infection risks and potential solutions.

An interdisciplinary ICRA team should include experts in both medical and building sciences, such as front-line caregivers from clinical departments affected by the project, facility management, quality improvement representatives, environmental safety specialists, infection preventionists, epidemiologists, architects, interior designers, engineers, human factors specialists, environmental services staff, and contractors. Other disciplines, such as risk management or lab personnel, may be helpful on an ad hoc basis.

The ICRA team is responsible for conducting a health care risk assessment. A common approach to this process includes five steps:

1. Identify the hazards.
2. Decide who might be harmed and how.
3. Evaluate the risks and decide on the precautions.
4. Record findings, propose action and identify who will lead on what action.
5. Review the assessment and update if necessary.

Design solutions may be straightforward (such as choosing plumbing fixtures that can reduce the risk of contaminated water) or they may be more nuanced (such as locating a hand hygiene sink in a space within a patient room that promotes hand hygiene compliance).

Solutions to mitigate risks during construction may be more prescriptive and can be identified through tools such as an ICRA precautions matrix. An ICRA precautions matrix can help determine steps to take when conducting a construction or renovation project in a health care facility. Using the American Society for Health Care Engineering (ASHE) ICRA precautions matrix as an example, an ICRA team would rate the type of construction (i.e., painting, sanding, duct work or new construction) and the risk of the patient groups affected (e.g., office areas, emergency rooms, operating rooms, burn unit). The precautions matrix would determine precautions needed (i.e., minimizing dust, cleaning the area after project completing, maintaining negative air pressure, using high efficiency particulate air (HEPA)-equipped air filtration units).

Best practices related to ICRA processes include:

- Ensure the ICRA team is interdisciplinary. Get infection prevention involved early in the design process.
- Involve the ICRA team to address minimum standards identified in several guidance

sources, including the Centers for Disease Control (CDC) and FGI *Guidelines*.

- Use the ICRA precautions matrix to determine precautions needed during construction activity.
- Include construction-related requirements of the ICRA into contract documents.
- Since safe design relies not only on the ICRA process but also on other aspects of a health system as well (organizational policies, staff, etc.), consider different perspectives and take a systems view of safety.