Safe and Sound

New guidelines promote healthcare without harm by building risk protection into healthcare facility design

By Patricia W. Morrill, PMP, EDAC


“The purpose of the SRA requirement is to help foster a proactive approach to patient and caregiver safety by mitigating risks from the physical environment that could directly or indirectly contribute to harm,” said Ellen Taylor, AIA, MBA, EDAC, director of Pebble Projects for the Center for Health Design and a member of the 2014 Health Guidelines Revision Committee.

This is a great step forward in promoting the premise that healthcare environments are inherently risky. Hopefully, this requirement will help facility designers grasp the importance of their role to engage healthcare leaders in analyzing how operational functionality integrates with the built environment. What often happens is the bifurcation of the two, with design meetings focusing only on space needs while operational discussions happen separately from designers and usually late in the design process, resulting in added cost for space changes.

The key to the success of the new SRA requirement is the partnership between healthcare leadership and facility designers. A commitment is needed upfront (in project scope statements, requests for proposals and guiding principles) to safe design and the willingness to learn together about potential risks to influence design decisions. Both parties must raise awareness with project planning participants that all are expected to bring forth potential risks. Therefore, a process should be put into place to register the risks identified and how they will
be handled. While predesign is indeed the most valuable time to address potential risks, the iterative process involved in facility design could benefit from a risk register process for the entire project life cycle.

Over the past couple of decades, there have been many accomplishments in error-proofing healthcare processes and equipment. The SRA requirement, which examines facility design with greater scrutiny of potential risks, should move us toward greater advances in error-proofing that involves the built environment. *The Lean Handbook* (ASQ Quality Press, 2012) defines error-proofing as the use of process design features to facilitate correct actions, prevent simple errors or mitigate the negative impact of errors.

**Application**

The Center for Health Design, through a three-year grant from the Agency for Healthcare Research and Quality and additional financial support from Facility Guidelines Institute, is creating an online tool to support the SRA in the 2014 guidelines, noted Taylor. This toolkit is being tested on projects before its release and will be a valuable resource for fulfilling the SRA requirement.

For the past 10 years, I have used the failure mode and effects analysis (FMEA) risk assessment process and tool in all phases of design and construction to minimize the impact on hospital operations, described in the examples below.

**Predesign and design**

Using risk assessments in predesign sets the stage for this valuable process throughout the project life cycle as issues arise when end users focus on operationalizing the design intent. According to Taylor, the new guidelines highlight infection control, patient handling, falls, medication safety, psychiatric injury, immobility, and security for proactive risk assessments. Identifying the potential harm at risk early, in predesign, will help assure decisions are made for the right reasons. Often faced with differing opinions about environmental design, a team involved in a formal risk assessment is grounded in potential outcomes to avoid. Starting with
clearly defined questions that have a narrow focus helps a team know who must participate in each assessment as the topic drives the assessment attendees. For example:

- A replacement critical access hospital project team needed to determine the best location for a two-bed intensive care unit: by the emergency department or by the medical/surgical unit?
- The pharmacy director for an academic medical center participating on a project team working on a large tower addition was faced with a potentially long distance for transporting chemotherapy drugs. A risk assessment identified the transport container and handling of it versus the facility distance being the focus.

**Occupancy planning**

At this stage, the design is set and discussions focus on operationalizing the new space. FMEA continues to be important in proactively seeking safe solutions in the integration of operations and the built environment. For example:

- A risk assessment by a rural hospital team helped them develop new policies and procedures for safe handling of frozen specimen transport from surgery to the lab due to increased distance created by the first phase of a campus replacement project.
- Hand-offs between inpatient and surgery staff for women requiring emergency cesarean sections was identified as an important risk assessment topic in preparation for a new facility.

**Construction**

A large healthcare system, where I worked, embarked on an extensive campus replacement project including demolition near patient care activities, and successfully used risk assessments with hospital leadership in security, safety, risk, infection control and project management alongside general contractor representatives. For example:

- Air quality management focused on containment of dust.
• Traffic control especially related to construction truck traffic pathways on the site and proximity to air handlers.

• Noise control and mitigation, especially near inpatient rooms.

Training
During planning for the campus replacement project mentioned above, ASQ provided onsite training on FMEA in healthcare for a large group from our hospital leadership team. Afterward, I was able to facilitate 25 FMEA sessions during construction with the majority focused on demolition. The train the trainer method works well to spread usage of risk assessments throughout an organization and with external vendors and clients. At the beginning of each risk assessment session, it is important to include just-in-time training to ensure all participants understand the process.

Next steps
Is the American Institute of Architects (AIA) on the path to revising and promoting an increase in the percentage of time and fees for predesign? According to AIA Document Comparisons: Owner/Architect Agreements in the Conventional (A201) Family, the typical breakdown for the phases of the architect’s services starts with schematic design. To fully support the intention of the SRA requirement, a change in contract terms between owner and architect is necessary to involve facility designers earlier in projects.

With healthcare leadership and facility designers together making the commitment to safe healthcare facility design, we will most assuredly realize the benefits of the SRA process and toolkit in reducing harm to patients and caregivers.
Patricia Morrill, PMP, EDAC, is president of PM Healthcare Consulting LLC, which partners with healthcare providers seeking improvements in safety, patient satisfaction and cost reduction with the integration of operations and the built environment. She is an adjunct instructor at the Center for Business Performance Solutions with Waukesha County Technical College providing educational workshops in project management, lean and Six Sigma. She serves on the leadership team for the Lean Enterprise Division of ASQ as liaison to the Healthcare Division and is a Professional Affiliate with the Center for Health Design.