A Place for Everything and Everything in Its Place: Standardization of the Health Care Environment

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Just as process standardization helps promote a culture of safety and High Reliability in health care and other high-risk industries, so does environmental standardization.

Consider aviation, for example. In an airplane cockpit, the seat on the right is always where the first officer sits, the seat on the left is always where the captain sits and the cockpit instruments are always located in the same place on every instrument panel. Every pilot and flight crew member has practiced their procedures again and again in this standardized environment, all in the interest of safety.

Much the same can be said about environmental standardization in health care settings—in areas such as patients’ rooms, exam rooms and operating rooms, for example. When providers know where to look for what they need, and when what they need is consistently located where they expect it to be, their attention is not diverted from the caregiving task at hand nor is the safety and quality of care compromised by unexpected distraction.

But while a standardized environment in aviation is well-established, professionals specializing in the design and construction of hospitals have only recently begun to be mindful of this. An increasing number of architects and designers are beginning to understand the theory behind High Reliability, which acknowledges that positive patient experience outcomes are the culmination of the design of not only work processes, culture, technology and organizational structure, but also the physical environment of the health care facility.

These design professionals are also recognizing that doctors and caregivers inevitably make mistakes, and therefore “mistake-proofing”—or poka-yoke in Lean terminology—of processes and physical environments is essential. They are using a number of different methods to achieve it, including the following:

- Failure modes and effects analysis (FMEA), a systematic, proactive method for evaluating a process to identify where and how it might fail and to assess the relative impact of different failures in order to identify the parts of the process that are most in need of change
- The 3P (Production Preparation Process) approach, a design method whose goal is to develop a process or product that meets customer requirements in the least wasteful way
- Simulation of the process in a facility mock-up state

In conjunction with these methods, an understanding of how people, processes, equipment and technology interact with physical design is helping to standardize the environment and integrate safety into the design of hospital facilities. As a result, exam rooms, patients’ rooms, operating rooms, storage rooms and so on are being standardized during the design and operationalizing phases, and the reliability that comes from standardization can make a difference for patients. For example, ensuring that critical supplies and equipment are located in the same place on every floor of the hospital, with a design that enables such a practice, will cut down on confusion and the need to search for these items, saving caregivers valuable time and reducing potential medical errors.

AT A GLANCE

- Standardization in the design and layout of health care facilities is an important consideration in optimizing the safety and reliability of care.
- Various methods, including simulating typical processes in a facility mock-up, can identify and eliminate potential pain points in the design of patient rooms, exam rooms and storage areas.
- Understanding how people, processes, equipment and technology interact with physical design helps architects and designers integrate safety into facility plans.
The following simple tips can help standardize the design of a hospital’s physical environment and, by so doing, contribute to the safety culture within the organization.

- Work with architects and design organizations that understand the need for standardization of both process and the physical environment, as well as the principles of High Reliability and experience of care.

- Begin the design process with a true north for the physical environment, which should point toward processes that enable the delivery of safe care in a way that isn’t burdensome for caregivers and avoids unnecessary suffering for all involved.

- Design processes in a manner in which the activities, connections and pathways of care are predetermined and standardized, and therefore avoid waste and variability.

- Safe and waste-free processes of care delivery should be the drivers from which the physical environment design evolves vs. forcing process design to adapt to a physical environment.

- Utilize approaches such as 3P during the design phase and 5S (Sort, Set in order, Shine, Standardize and Sustain, a workplace organizational tool that focuses on visual order, organization, cleanliness and standardization) in the transition planning and operationalizing phases, which will lead to higher standardization and sustainability.

To the degree that the reliability of every complex system depends on the reliability of each component of that system, standardization in the physical design and layout of the health care environment is an important consideration for optimizing safety performance and outcomes.