Population Health NEWS

This article originally appeared in *Population Health News*, Volume 1, Issue 5, August 2014

Planning Healthcare Facilities: Patient Point of View

By Debbie Jacobs, Don McCall and Lawrence Sterle

A discovery at an academic medical center (AMC) in the central region of the country found that as much as 50% of a patient's admission and discharge days were spent on an activity that added no value to their quality of care or experience: waiting. The patient consumed resources, such as nursing care, a patient room and medical equipment for the equivalent of an entire day—just waiting. At the same time, the AMC struggled with capacity issues that even a new 70-bed patient tower could not resolve. Without some type of action, the capacity strain on the AMC was certain to worsen with the aging of the population and passage of the Affordable Care Act.

This scenario is not unusual and is occurring every day at healthcare organizations across the country. Our experience suggests that, from a patient's point of view, more than 50% of the time spent interacting with a healthcare organization is considered non-value added, resulting in ineffective utilization of costly resources and a poor patient experience. Fortunately, solutions including care stream programming—a process that puts a patient lens on designing facilities that are efficient and eliminate waste at both the departmental and enterprise levels—are available to help healthcare organizations ensure that the desired patient experience is achieved.

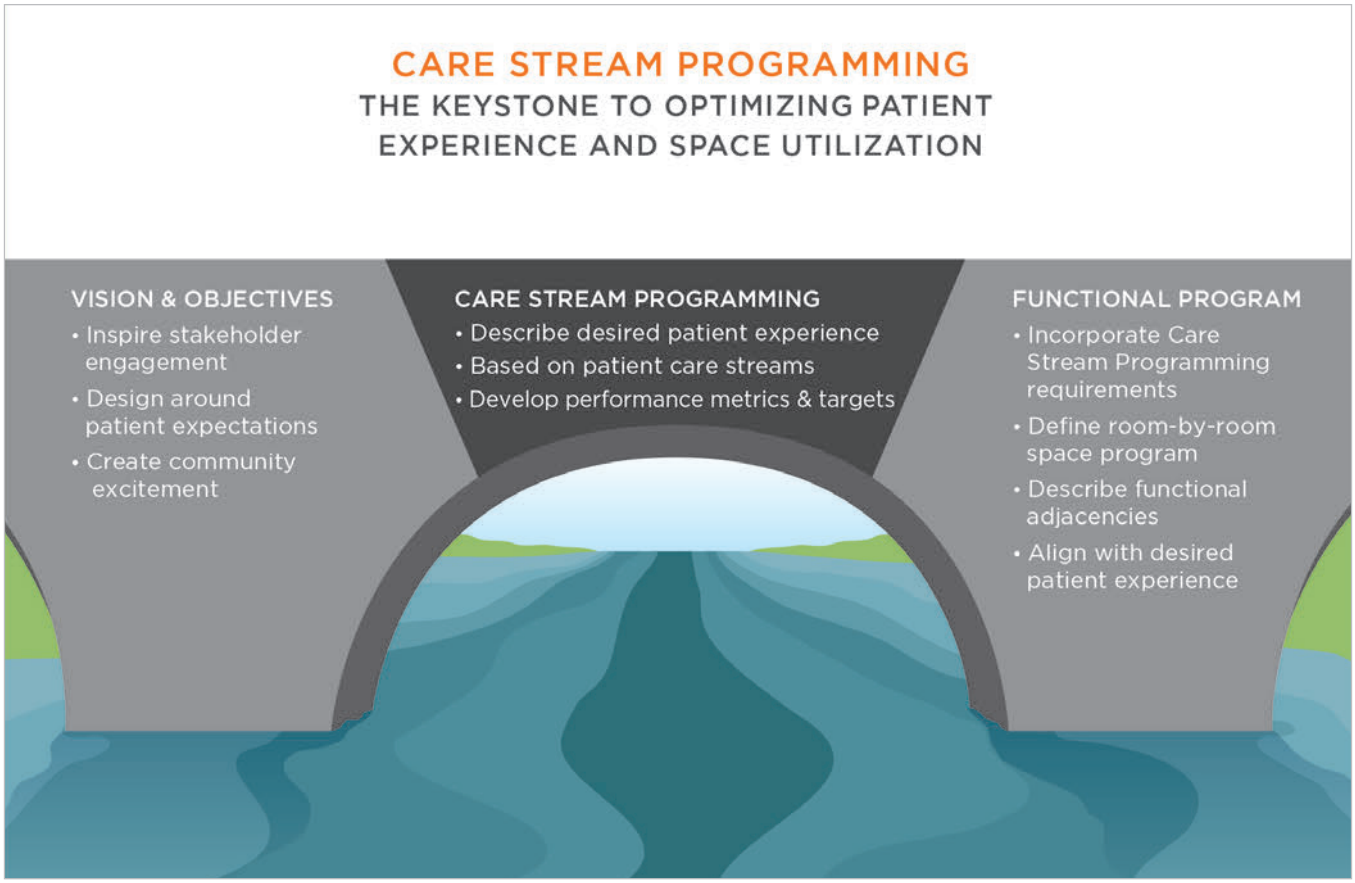
While much of the non-value added time the patient experienced at the AMC was attributable to inefficient processes and misalignment of staffing with demands, the location of patient care space, supply storage and medical equipment closets also greatly contributed to wasted time in moving and transporting patients, staff and materials significant distances.

Through patient flow studies to identify the root causes of the non-value added activities and the execution of performance improvement initiatives to eliminate waste, the AMC created the potential for a 10% increase in capacity, translating to the ability to care for as many as 5,000 more patients each year.

Operational improvement success stories like this one can be repeated. But oftentimes, the facility itself is the root cause contributing to operational waste. Because this waste is literally built into the facilities themselves, it can be very difficult to remove it from the patient experience.

Traditionally, facility programming generally occurs at the departmental level, often missing the opportunity to reduce non-value activities that are prevalent as the patient transitions from one department or function to the next. Practical application of Principles of Lean in the facilities planning process, which focus on eliminating non-value added activities from the patient experience, provides the framework to reduce process waste and thereby, unnecessary space across the healthcare organization.

To effectively reduce waste and increase patient value, hospitals must integrate Lean principles into the programming process along the entire patient journey, from check-in to discharge, and they must do so early in the planning stages of renovation or construction projects by using care stream programming.



Since care stream programming addresses patients' experiences during their healthcare encounters, it is developed from a patient's point of view and therefore, not organized around departmental silos, but rather focused on the transition of patients from one activity to the next. Organizing operational assumptions around care streams facilitates an understanding of how services and activities across the spectrum of a patient visit should best be coordinated to optimize a patient experience. Additionally, it drives the type, size, configuration and location of spaces that should be programmed into the building.

This process was applied to the development of a 200-bed replacement facility for a Midwest hospital moving from an outdated facility that imposed limitations on how care could be provided.

The most notable results of the care stream programming effort included:

- Determination of the building and space attributes, such as location, proximities and adjacencies, size and number, to meet patient experience expectations. This information then informed the building entry sequence and the relationship between inpatient and outpatient services.
- Identification of and planning for the information technology functionality required to meet patient and physician expectations early in the process.
- Strong focus on interdisciplinary collaboration and patient transitions ensured the needs and expectations of the patients and providers are met throughout the patient's healthcare journey.

- Development of key performance indicators and metrics early in the process in order to track and measure the organization's progress toward its desired future state.

Facility programming that uses care streams as the framework for design ensures that:

- Patients' desired experiences through their healthcare journeys are taken into account.
- Patient transitions from one function to the next are facilitated through the optimal configuration and location of services.
- The flow of materials, information, staff and physicians are synchronized to meet patient needs and expectations.
- Error-proofing to prevent rework and adverse clinical outcomes is built into the design.
- Equipment and supply areas are located and sized to match demand so providers do not have to seek out what they need.
- Technologies and communication devices that support the patient's expectations are accounted for and designed into the building.

USING CARE STREAMS TO PLAN SPACE

For myriad reasons, many organizations move directly from their vision or master plan to the departmental functional and space programs for a new building project. In doing so, they skip a critical step that answers the fundamental question, "How will we work in this new space?" In some organizations, this question is never formally addressed, and the staff adapts its work as best it can to the new building. This situation usually results in process work-arounds—usually a temporary fix—or a potential post-opening remodel.

In other organizations, in the months just prior to opening, staff works furiously to adapt its current processes to the already designed environment. While this approach eliminates confusion regarding how work will be carried out in the new space, future state processes will still be constrained by the given building design. However, well-defined processes, such as care stream programming, give staff the opportunity to define the desired future state operating model and space attributes from patients' points of view, which can then inform the building design.

HOW DO CARE STREAMS ADD VALUE TO PROGRAMMING?

To be effective, care stream programming must include the input and collaboration of front line care providers, such as physicians, nurses, therapists, pharmacists, social workers and support staff (i.e., medical receptionists, housekeepers, biomedical staff). These are the folks with the most intimate knowledge of what works and what doesn't. To achieve value-added care, interdisciplinary teams must work together using the care stream construct to define the desired future state operating model to increase both patient and staff satisfaction.

Patient/family input into a care stream programming effort adds detail and specificity to the design process. In asking patients to define what they value and expect during their healthcare journey, healthcare organizations have a much clearer idea of how the building design can support patient/family expectations. A children's hospital in Long Beach, Calif., has done just this.

The hospital sought consulting assistance to create a building program for a new ambulatory care center it wanted to develop.

The objective was to enhance the patient and family experience by minimizing non-value added steps and to "design in" value in terms of people, process, technology and space. Critical to the success of the project was the input received from both parents and teens who participated in discussions on patient/family experiences and desired amenities.

Some of the value-added space attributes the team defined included:

- A lobby to serve as an organizing element, orienting patients and families to the building and their current location.
- A staff-supervised play area adjacent to a family resource center to allow parents a short period of free time while keeping their children nearby.
- An education and conference center available for patient and community education programs, as well as for staff educational purposes.
- Exam rooms large enough to accommodate multiple family members in addition to strollers and wheelchairs.

As a result of understanding what parents value in their child's healthcare experience, the hospital has begun to realize its vision of being an integrated ambulatory care destination where the patients and families always come first.

FACILITY DESIGN SUPPORTS SERVICES

The opening of new or renovated space provides a unique opportunity to leverage the physical design and configuration to support the delivery of high quality, safe and efficient healthcare services. In order to secure a competitive advantage in the future healthcare marketplace, hospitals and health systems will need to align their building projects with value-added care streams to optimize the patient and family experience while ensuring efficient operations.

Ultimately, healthcare organizations that account for the patient and family experience expectations in the facility plan and design will reduce or eliminate non-value added processes, and their related operational costs, as well as the capital investment in space to accommodate them.

*Debbie Jacobs is senior manager; Don McCall is partner and director, operations and performance improvement practice; and Lawrence Sterle serves as director, all at Kurt Salmon, a healthcare consultancy. They can be reached at **debbie.jacobs@kurtsalmon.com**, **don.mccall@kurtsalmon.com** and **larry.sterle@kurtsalmon.com**, respectively.*