

PATIENT-CENTERED FACILITY PLANNING

Medical homes, accountable care, bundled payments, shifting volume... As the post-reform era in health care takes shape, these and other anticipated developments are all pointing toward the need for hospitals to focus more intently on patient-centered care.

Specifically, providers need to examine care delivery efforts to:

- > Provide a better experience and improved clinical outcomes for patients
- > Foster greater teamwork and collaboration among caregivers
- > Promote efficiency and throughput

So how do these imperatives translate to the physical environment? Hospital leaders can support patient-centered facility planning in several ways.

IMPROVING THE PATIENT EXPERIENCE AND OUTCOMES

A patient-centered approach to facility planning starts with the single-patient room, which makes it possible to reduce disruptive noise, improve communication between caregiver and patient, involve family, and significantly reduce infections, according to Debra J. Levin, EDAC, president and CEO of The Center for Health Design.

"Research has made it clear that private rooms have huge benefits from the standpoints of safety, patient comfort, and staff satisfaction," Levin says. "Studies also suggest that the money you

save down the road in patient transfers and complications can balance out the additional cost of building singles."

Linda Haggerty, AAHID, LEEP AP, principal with Steffian Bradley Architects, explains that private rooms are the best way to bring family support to bear on the care experience and outcomes.

"In addition to a sleep chair or sofa, many rooms now offer hotel-like accommodations, with wireless internet access, a desk, soft seating for several people, and control over the physical environment. This kind of family zone can allow a companion to stay with the patient for longer periods during the day and still keep up with daily life."

Even in hospitals with small budgets, says Haggerty, there can usually be some accommodations to improve patient comfort. Perhaps a few larger rooms can be provided by converting several doubles to singles to accommodate overnight stays. Space can be made to appear less clinical by removing or tucking away unnecessary equipment. And tired spaces can be made fresh with small investments, such as improved lighting or updated artwork. "A good way to identify and prioritize fixable problems is to shadow staff and photograph what patients, families, and staff are seeing," she says.

Also important for improving the patient experience and quality of care is ensuring appropriate privacy. Care in planning should be taken to

control how and where patients and staff interact. Visual screening and attention to pathways can be particularly important for shielding pediatric patients from unnecessary exposure to trauma treatment areas, for example. And having private cubicles at registration can enable staff to collect more comprehensive and accurate registration information, because patients and families will feel more comfortable engaging in sensitive discussions regarding personal financial information if they are not worried that someone nearby will overhear the discussion.

FOSTERING COLLABORATIVE TREATMENT

With the increasing focus on care coordination to enhance efficiency and quality of care, there is a growing need to provide physical support for clinical interactions.

Haggerty says work areas for care teams should allow both “on- and off-stage” spaces, meaning opportunities for discussion with and without patients present. Space that facilitates these purposes may include small work areas for private phone calls, access to standing-height computers to provide quick reference to clinical information and electronic records, and a conference area for small team meetings.

Ensuring space fosters collaborative care teams also can maximize efficiency. “An oncology patient could be seen successively by a nutritionist, a research clinician, a radiation oncologist, and a social worker—all in the same place,” notes Haggerty. “Also, such flexibility makes the treatment process much less stressful for the sick person, who doesn’t have to go from room to room or, more likely, floor to floor or building to building, to receive care.”

The best way to design buildings that encourage teamwork is to have clinicians work together at the start of the design process, says Ellen Taylor, AIA, MBA, EDAC, research associate/consultant, The Center for Health Design. She cites the

example of a hospital exploring integrated interventional platforms to combine the functions of interventional radiology with surgical suites.

The hospital brought together its surgeons and interventional radiologists to talk about their process flows and how they might be able to work together to improve patient care and avoid duplication of resources. The result was development of a one-stop suite that makes it possible to run a diagnostic test and perform procedures, if necessary, on the spot. “It’s actually saving lives by saving minutes when it matters most,” she says.

In Columbus, Ohio, Dublin Methodist Hospital, part of the OhioHealth System, has made efforts to enhance collaboration among nurses, notes Taylor. A “distributed nursing model” uses small areas where nurses can sit or stand and have views not only into the patient rooms but also of each other. “The hospital combined this layout with wireless communication, so one nurse can now talk directly to another nurse in a different pod, enhancing their sense of collegiality and providing collaborative support while still allowing for close proximity to bedside care.”

IMPROVING EFFICIENCY AND THROUGHPUT

Many hospitals are seeking ways to better use space to accommodate changing patient needs as the post-reform era promises changes in patient mix and volume. The biggest threats to efficiency: bottlenecks and wasted space.

One popular solution is universal room design. With this approach, exam rooms, patient rooms, and treatment rooms are designed to accommodate different types of patients or levels of acuity without need for adaptation or specialized design. Such flexibility allows for efficient shifts in use based on changing patient population needs.

Of course, even small measures can improve efficiency. Many organizations are incorporating formal performance improvement strategies, such as

Lean or Six Sigma, into facility planning to enhance productivity by placing the least distance between related functions or making access to equipment or supplies easier. "Often small changes in furniture arrangements or the addition of better work tools can improve the work environment and get staff thinking about process change," notes Haggerty.

The following case studies demonstrate ways two organizations are putting many of the principles discussed into action.

CASE STUDY: UNIVERSITY OF KENTUCKY ALBERT B. CHANDLER HOSPITAL

When the newly located emergency department (ED) in the University of Kentucky Albert B. Chandler Hospital in Lexington welcomed its first patients on July 14, 2010, it ushered them into a new kind of setting and perhaps a new era in emergency medicine. As one of two Level 1 trauma centers in the state, the hospital had been handling about 44,000 ED visits a year, from the mildly ill walk-ins to the roughly 700 patients who arrive by helicopter every year. By employing a "pod" model, Chandler's leadership hopes to improve patient satisfaction, promote greater collaboration among caregivers, and improve throughput to accommodate up to 75,000 visits a year.^a

The hospital's pod model relies on five self-contained units separated by doorways. Each pod has a set of treatment rooms using a standard layout, workstations, medication and supply rooms, nourishment areas, and patient restrooms. Additional attention to noise attenuation has been provided through sound baffling between all rooms and areas. With 100 percent air exhaust, each pod can be closed off to isolate patients with infectious diseases, if necessary.

a. This innovation is part of the hospital's Pebble Project, a documented research initiative into design that makes a difference in the quality of care and financial performance of a healthcare institution, done in concert with the Center for Health Design.

The layout is as follows.

Pediatric pod. This area features 10 acute care and two intensive care exam (crisis) rooms (which can flex up to 16) and a separate entry for walk-in pediatric patients.

Swing pod. This area features four acute care exam rooms that can be used for adult or pediatric patients, plus two triage areas each for adults and children.

Critical care pod. This area, which can be directly accessed by ambulance or helicopter, features five fast-track rooms, one chair-centric room (discussed at the top of page 124), and four acute care crisis rooms; the latter feature dialysis quick-connect boxes and a ceiling-mounted boom for administering medical gasses that can be moved to any side of the patient.

Routine care pod. This area features 12 acute care rooms and four behaviorally safe treatment rooms (with a separate entry) that can be used for forensic or psychiatric patients.

Trauma pod. This area features three large rooms set up as mini-operating rooms separated by sliding glass doors. The area can handle up to eight trauma patients and features supplies and equipment for the most complex patients.

Directly adjacent to the trauma pod is a radiology center, which features two general rooms and includes ultrasound equipment and two computed tomography (CT) scanners. The radiology center can be accessed through three pathways, allowing staff to shield patients from the trauma area. "Now patients can depart directly from radiology if they're going for further testing or being admitted," says Daniel J. Miesle, director of healthcare facility planning and development at the university.

Chandler Hospital's fast-track rooms were built to accommodate Level 4 and 5 patients who

don't need the same intensity of care as others. To keep those patients from having to come through the intensive part of the ED, Miesle explains, each pod has dual entry/exits for patients and staff.

Also innovative is the hospital's use of chair-centric design to accommodate low-acuity patients. Evidence suggesting that throughput is improved when low-acuity patients can be treated

in a chair instead of on a stretcher prompted the hospital to make changes even after leadership had already signed off on the construction documents. The organization converted three of the eight planned fast-track rooms into a single larger room, staffed by mid-level providers and furnished with six recliner chairs that are positioned within modular workstations with curtains for privacy.

FINANCING STRATEGIES FOR PATIENT-CENTERED DESIGN

By moving forward aggressively to implement electronic health records and other technology that is designed to improve efficiency as well as the quality of patient care, hospitals should eventually see a positive impact on operating margin and days in A/R—two metrics that the capital markets focus on very intently, according to Matthew J. Lindsay, vice president, Lancaster Pollard. "If hospitals can improve their financial ratios, there may well be an indirect impact on their financing options down the road," he says.

Patient-centered care reflected in design—whether through fortified acoustics, natural light, private rooms, flexible spaces, team work areas, or advanced technology—promotes healing, boosts patient and staff satisfaction, and increases throughput. These things can pay for themselves in fairly short order by improving patient outcomes and reducing staff turnover.

This is something that local or commercial banks are often quicker to understand than banking giants, says Lindsay.

"An emphasis on patient-centered planning and design will really resonate with a bank that has deep roots in the community. Such banks are very open to hearing about how their involvement in a building is about more than just square footage: it's about helping people they may know. It is in the hospital's interest to educate banks about the benefits of patient-centered care to the community rather than to the hospital's success alone, and to stress these aspects of their project."

Of course, with the expected shift in volume to ambulatory care models, third-party/developer financing is only going to increase, he points out. Is this a good idea for your patient-centered design project?

"Assuming you have the right development team—one that understands the patient population and expectations—it all comes down to the math. Will the rental rate or lease the developer is going to charge be cheaper than going out and constructing and financing an outpatient facility on your own?" he says. "In doing this calculation, it's important to make sure you take into account the cost of capital as well as the cost of construction—and that you're comparing apples to apples. The more cost-productive option for a system with multiple facilities and a very high credit rating may not necessarily be the same answer for a standalone hospital that doesn't even have a credit rating."

One source of funds that hospitals sometimes overlook, says Lindsay, is the grants available from government and private interests—especially for something like patient-centered design.

"They can be hard to find and, admittedly a \$15,000 to \$25,000 grant isn't going to completely cover the cost of a new facility," he says. "But some grants run into the hundreds of thousands of dollars, which could make a substantial contribution. For that matter, several smaller grants may pay for a refurbishing or remodeling project. In any event, it's free money."



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Chandler Hospital clinicians see approximately 800 patients each month in its chair-centric space, most often for conditions such as ear pain, colds, and toothaches. Patients with more complicated conditions—such as behavioral issues, abnormal vital signs other than fever, and conditions requiring any type of monitoring—are not candidates. Also, notes Miesle, patients always have the option of being seen in a fast-track room if they want greater privacy and are willing to wait longer.

Miesle explains that the hospital actually tried this concept in a corridor in the old ED before the move, and found that the number of patients who left without being seen went down by more than 90 percent. Patient satisfaction scores went up 15 percent.

CASE STUDY: NEW KELLOGG CANCER CENTER AT EVANSTON HOSPITAL

Evanston Hospital, part of the Chicago areas' NorthShore University HealthSystem, is in an established residential area and has been built up as much as the site can accommodate. That meant that when the hospital wanted to replace its 1981 cancer care center, which had a 11,000-square-foot footprint and was coming apart at the seams due to a much higher patient load in recent years, the architects needed to shoehorn the new building—with 45,000 square feet—into the old space. It includes five stories. The first three floors are devoted to patient care and the top floor is designated for physicians' offices; the fourth floor is shelled out for future growth.

The hospital needed an extremely efficient floor plan—one that would be flexible enough to handle treatment for almost a dozen different types of cancer, says Walter J. Eckenhoff, FAIA, ACHA, principal, Eckenhoff Saunders Architects, which worked with the hospital on the project.

Evanston Hospital's solution also made use of a pod model. High-quality cancer care is team care, says Eckenhoff, and the pods provide a focus for the team, which includes cancer-specific oncologists, surgeons, and oncology nurses. They also facilitate communication, which is extremely important, and provide a more private environment for treatment.

The hospital developed three pods, each of which has six treatment rooms and four exam rooms plus a centralized nursing station and a multi-disciplinary workstation. One of the pods is devoted to gynecologic cancers; the other two are devoted to a different type of cancer each day, such as breast, thoracic, or gastrointestinal cancer. There is also a smaller pod for neuro-oncology.

In addition to the pods, the first three stories have consult rooms and small waiting areas where physicians and families can have discussions, a small education center where physicians can consult with each other, and a large charting room with computer stations for about 30 clinicians. Each exam room includes a computer station, and mobile stations can be wheeled into treatment rooms.

The efficiency, says Eckenhoff, comes from enabling physicians who may come to the facility only two days a week to see all their patients without having to walk from one part of the building to the next.

“Making sure everything comes together and that the rooms in the pods are always filled, so physicians’ time is used efficiently, is the biggest

challenge,” says Eckenhoff. Helping to ensure that patient flow occurs as desired is the job of the center’s clinical coordinator, but a patient’s first phone call, following diagnosis, is from one of the oncology nurse navigators, according to Christine Van De Wege, MA, FACHE, senior director of NorthShore’s Kellogg Cancer Centers.

“The navigators, who attend weekly tumor conferences, are a steady point of contact for patients, providing them with resources to help meet their individual needs,” she says. “For example, they will arrange for a malnourished patient to meet with a dietician, or an uninsured or underinsured patient to see a financial advocate. They will set up sequential meetings with different clinicians in the same space during the same visit.”

REAL ESTATE MONETIZATION

Genesis HealthCare System (“Genesis”) is a leading, non-profit health system with 659-beds that serves Southeastern Ohio.

We executed a Real Estate Transactions Alternatives Study (“RETAS”) for Genesis as Phase I with respect to the system’s entire portfolio of owned and leased real estate, including medical office, outpatient facilities, surgery centers, and non-healthcare properties and land holdings. The portfolio also included properties owned by physicians and a development company, which served to add value to the health system’s assets. In recommending the appropriate transaction alternatives for each property, we considered each asset’s importance related to Genesis’ strategic plan, their marketability and value, and the financial impact of a given transaction, including off-balance sheet treatment for a sale/leaseback.

Phase II of the engagement consisted of a monetization of assets deemed suitable for sale. The portfolio ultimately sold to a national, publicly-traded healthcare REIT for \$45 million, exceeding Genesis’ expectations.

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A supportive and comforting environment is reflected in the physical space as well.

"We brought an enormous amount of natural light into this building—a challenge considering that two full sides of it are up against the hospital," says Eckenhoff. "It feels like a conservatory." Accomplishing this task required hollowing out the middle of the building for a stairway. An extremely large skylight brings light down into the two lower floors and onto a central, interior courtyard with lots of landscaping. There are wood windows, nice nooks and crannies, a lot of brick, and warmer tones "to give the central area more of a residential feel than you would have with a vast, impersonal lobby," he says.

A post-occupancy evaluation found that one of the things patients like most is the dramatic

reduction in noise levels, according to Eckenhoff. "Because the pods are like cul-de-sacs, people don't feel like they're in Grand Central Station with a lot of traffic walking by their door, and they find it much easier to interact with clinical staff."

When a cancer patient comes in for chemotherapy, varying degrees of privacy are available. There are private treatment rooms, private treatment rooms with private bathrooms, and a multi-chair infusion room.

During the year prior to the opening of the new Evanston facility, says Van De Wege, approximately 70 percent of patients surveyed said that their likelihood of recommending their doctor's office was excellent. After six months in the new facility, that figure rose to 83 percent; after nine months, it reached 94 percent. ■

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