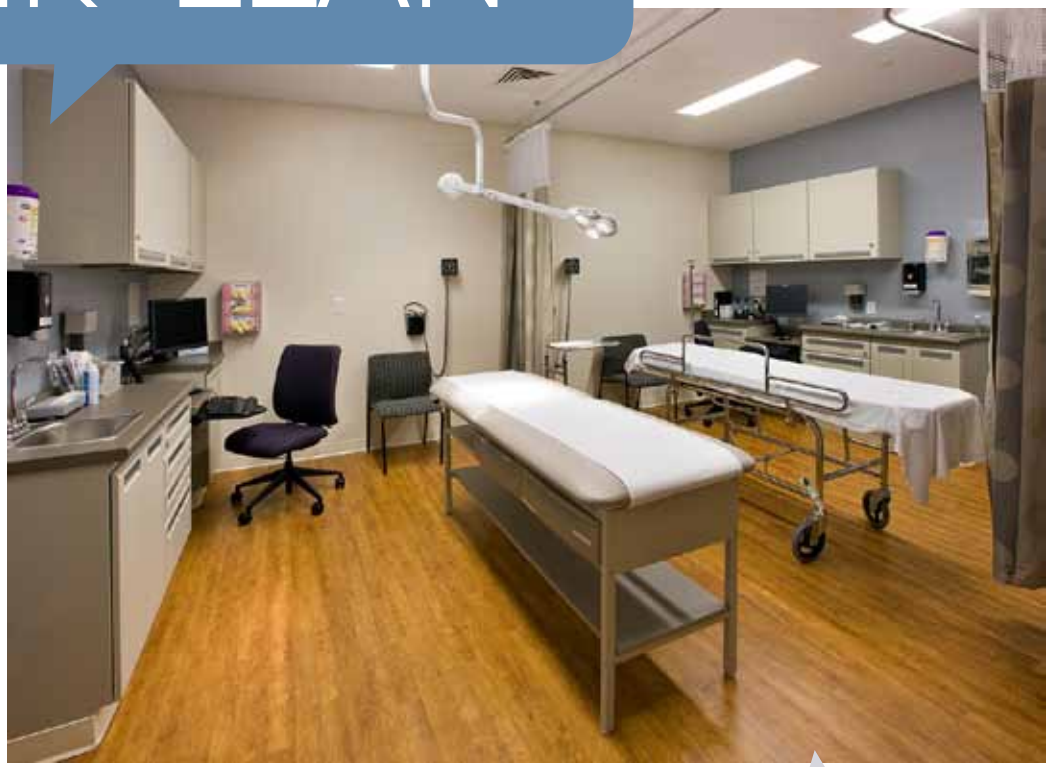
Designing urgent care centers

THINK 'LEAN'

BY MARC MARGULIES & JOHN DUGGAN

Healthcare costs are of great concern to all those who bemoan their ever increasing payroll deduction, but they are of no less concern to the insurance companies and capitated clinics who must cover those costs. Emergency department (ED) coverage constitutes a large percentage of the average monthly insurance premium, so reducing the ED expense could have significant cost-saving benefits. Fifty-five percent of visits to emergency departments are for routine care or minor medical problems (i.e. not potentially life threatening conditions); the cost of those visits is greatly influenced by the fixed overhead costs associated with 24/7 maintenance of staff and resources in a hospital environment. Urgent Care Centers (UCC's) provide lower cost (estimated at one sixth to one third of the ED cost) and more readily accessible care by qualified but less specialized medical personnel. This is the rationale behind the nationwide effort to build new Urgent Care Centers.



Exam and procedure rooms are fully outfitted to deal with a wide range of non life-threatening healthcare issues, including X-ray and minor lab tests.

Given the current financial and regulatory uncertainty in the world of healthcare, it is difficult to imagine plunging into a brand new patient-care delivery model, but that is just what Fallon Clinic did in central Massachusetts in the summer of 2009. It did so knowing that "Ready-Med," its new free-standing extended-hours urgent care center, could both bring in new patients and decrease its costs and the patients' expenses. The new model Ready-Med was enthusiastically embraced by all members of the staff because they had been immersed in "Lean" process discussions. (See sidebar for a definition of the Lean process.) The staff had learned how to think about improvement and efficiency on an ongoing basis, and was eager to implement their discoveries.

Fallon Clinic employed the Lean process model to improve the customer experience and operational efficiencies in the 5,000 square foot urgent care facility. There are several components of the Ready-Med UCC that influenced the design, including staff selection, layout, and operations. These considerations can be applied to similar UCC projects:

STAFF SELECTION

Unlike a more traditional family practice, UCC's are intended to be open at least 12 hours per day, seven days per week; patients do not expect to see any particular practitioner (physician, nurse practitioner or physician's assistant). Given the hours of operation, many different staff combinations are possible, with significantly different visit volumes at different times and days of the week. Staff must therefore be flexible and cross-trained. A radiology technician, for example, could as easily be taking X-rays as rooming patients or performing some of the local laboratory testing. Admitting and checkout needs to be done by whoever is available. At Ready-Med, the medical assistants often complete these tasks in addition to their traditional patient-focused clinical duties. All processing is done through "Epic," the electronic medical records system, so no hardcopy files are maintained at Ready-Med.

Just as the patients must be flexible as to which practitioner they see, the care-givers at UCC's should be willing to abandon the traditional "doctor with an office" paradigm in favor of a workplace that is more dynamic and less individualized. Clearly this environment will not be universally accepted, so selection of doctors, nurses, physician's assistants and medical assistants who can work well together in an open environment is essential. Like an emergency department, the past-paced atmosphere means that centralized nursing and physician stations need to be fully outfitted to provide everything required.

Patients are whisked directly into exam rooms with little or no time spent in a waiting room. All consultation happens in exam rooms, which also means that exam rooms need to be large enough for a practitioner, a patient, and one or two family members (often a parent and another child). Churning rooms rapidly is key to reducing patient waiting time, so staff needs to recognize their individual responsibility to identify the status of any room with which they have had contact. Only if the whole staff works as a team can a UCC reach its full potential.

LAYOUT

The "AIA Guidelines for the Design and Construction of Health Care Facilities," section 3.5, sets the standard for freestanding Urgent Care facilities, and often becomes the de-facto standard for public health agencies as well. Sizes of rooms, adjacencies, heating, ventilating, and air conditioning standards, dimensions of components, and acoustic and visual privacy requirements are all specified. With four to six exam rooms, two procedure rooms, and the associated offices, radiology and support spaces, this becomes a facility of 4-5,000 square feet. Given this highly prescriptive and regulated format, the opportunities for thinking "outside the box" comes mostly from the improvement of patient and practitioner flow within the space. Cutting down on wasted motion saves time, which leads both to greater patient satisfaction and greater profitability. Better visual management of rooms, i.e., knowing which doctors are where and what patients require, likewise increases efficiency.

Equipment, furniture, furnishings, and medical technology have become more componentized. Rather than field-constructing traditional millwork, storage units, or pharmaceutical storage/dispensing systems, they can be purchased and installed as units. A higher degree of quality control and flexibility can be achieved, and small opportunities for improvement are thus not thwarted by the high cost of change.

Part of the Lean design philosophy employed during the design of Ready-Med included the collaborative sessions with all members of the staff, facilities, and executive leadership. By using interactive 3-D visualization technology, wide variety of layouts were investigated and critiqued. When the final layout had been resolved, all members of the team were sufficiently involved in the design that the natural progression to discussing extremely minute levels of detail (standardized locations of supplies, medication, printers, sinks and counters, lighting, etc.) was very easy. The discussions about relative value of various clinical components were easy to weigh against image and aesthetics, since both the cost and 3-D images were readily accessible.

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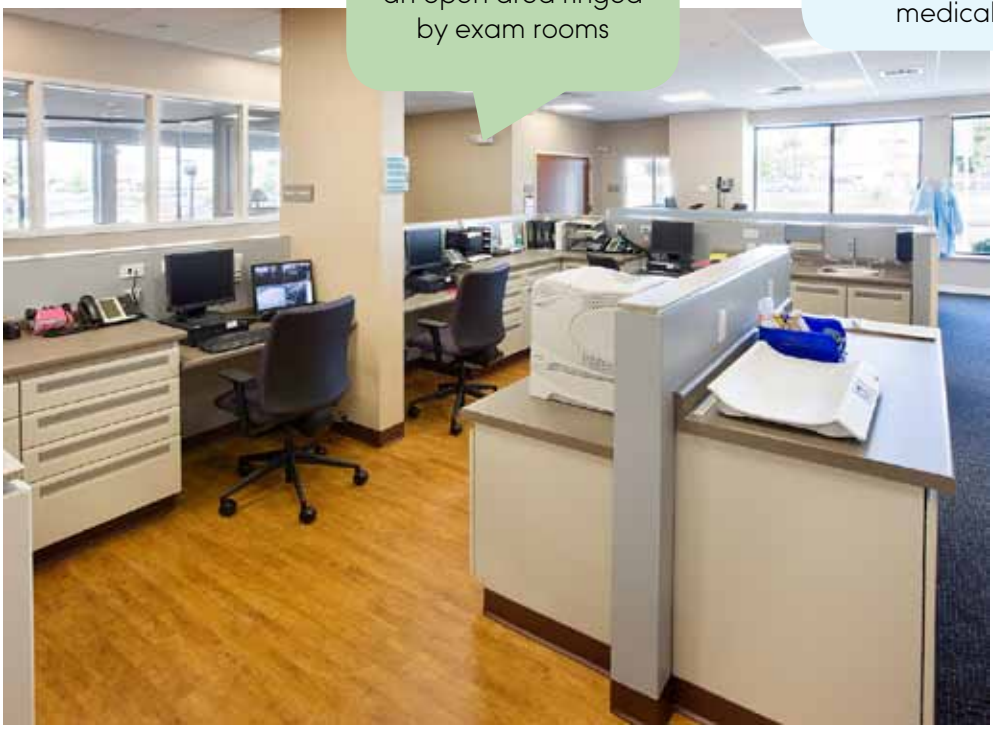
Two medical trends that affect layout are the increase in the use of electronic technologies and the heightened sensitivity to infection control. Given that testing, monitoring, and recording equipment is increasingly networked, and portable records management is more the norm, well-planned and ubiquitous network jacks connected to the local area network (LAN) are essential to the future success of a UCC. Eventually this capability will be done wirelessly, but in the meantime it is important for flexibility and functionality that a robust IT infrastructure be in place.

Few people actually wait in the reception area, as most go directly to the exam rooms. Those who do wait can see directly into the clinical area, reducing the sense of mystery and anxiety about their upcoming medical care.

Centrally located, with visual connection to the entire facility, the nurses, medical assistants, and doctors all work from an open area ringed by exam rooms



The second trend that affects layout is the increased concern over regular hand washing. Studies have proven that frequent hand washing is one of the most effective means of preventing the spread of disease, so UCC's must have a full network of sinks throughout the facility. Sinks must be in each exam and procedure room, in soiled utility storage areas, in the staff lounge, and in equipment cleaning areas. The cost of the associated plumbing can be substantial, particularly for existing single story slab-on-grade conditions, but the health benefits are indisputable.

OPERATIONS

While managing the cost of construction is always an important part of the success of any new project, the cost of staffing a UCC is 15–20 times the real estate cost. Designing the space in a way that reduces the number of staff required and increases the quantity and quality of care delivered will have enormous impact on the profitability of the operation. The first step is for the processes and procedures, both medical and financial, to be clearly identified prior to beginning design. Who will be responsible for admitting, recording payment/reimbursement information, or referring? What medical capabilities are available at the UCC and which are not? What imaging is available on site? What are the lab procedures? A big part of "Lean" is the development of standardized procedures for all parts of operations. Standardization leads to efficiency through familiarity, but it also promotes easy flexibility of staff assignments. If all equipment and supply locations are uniform from room to room and time to time, whoever is on duty will quickly find what he or she needs.

Unlike hospital ED's, UCC's may have the ability to be selective about their client base. If they are associated with a subscriber network, they may have the benefit of an electronic medical records database that gives immediate access to their patients' medical history from any room. This can eliminate the wasted time, personnel, and space associated with accessing, filing, and storing the physical medical records either on site or at a remote location.

Once again, there are two trends that can positively impact ongoing operational efficiency. The first is the search for efficient staffing of the reception/control/triage function. With proper visibility and the ability to interview patients with an appropriate level of confidentiality, the admitting nurse can serve several functions simultaneously when it's less busy. Eliminating any non-essential staff can yield worthwhile economies, and this may well be possible as the result of carefully considered space planning.

The second trend involves the intent to reduce the amount of travel needed for nurses, PA's, NP's or physicians to perform effectively. Hospital designers have long understood the value to the ICU of a central nursing station ringed by patient rooms, in terms not only of the immediacy of available care but because of the reduction in travel time and distance. For clinicians on their feet all day long in the UCC, a hub-and-spoke concept is far preferable to a more linear layout. A circulation path that welcomes patients from reception/check-in to an exam room, and through treatment to check-out, is an example of one way to efficiently treat patients and staff alike.

Our healthcare system requires great creativity to be able to function efficiently and effectively. Those responsible for design and construction of UCC's should encourage "Lean" process discussions, not just to make construction less costly, but to actually improve the way clinical and administrative processes are performed. Engaging all stakeholders early in the design process can yield highly satisfactory results: rich dialogue from various perspectives, better design, and an efficient medical facility that provides quality and affordable healthcare. That is, after all, the ultimate goal.

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