

Hospital Design Needs to Follow Technology's Lead



In almost every industry, technology has made a dramatic impact on quality and cost. Three years ago, you had to go to a bank or ATM to deposit a check. Now that's done via the bank's smart phone app. Technology has reset expectations of a "bank" to the point that many people will never use any bank that doesn't allow this. The most noticeable exception to the rapid transformation of the customer experience is in routine medical care. While technology has definitely impacted healthcare through higher-end diagnostic abilities, very little improvement has been made in the much larger range of basic healthcare needs.

However, with the adoption of the Affordable Care Act (ACA), the market dynamics are changing from a "fee for service" to a "fee for outcome" model with new reimbursement mechanisms that finally incentivize higher quality for reduced costs. Search "healthcare" or "wellness" in an app store and there are literally thousands of choices, from simple pedometers to full-blown lifestyle trackers that integrate with wearable sensor technologies. But how is this reimbursement model going to impact overall hospital design? To understand this issue better, we contacted Eric Wilson, CEO of CPI Group, a firm specializing in total program management for the development or expansion of healthcare facilities.

"While the widespread adoption of new technologies into an industry ecosystem may take less than a year or two, it takes between two and five years to design, permit, build, activate, and begin serving patients in a new hospital," says Wilson. "That means any hospital being designed right now needs to account for the impact of emerging technology." Even with outstanding clinical outcomes, if a facility cannot provide a quality experience, both in patient care and use of technology, revenue will be reduced as a result of the ACA, as well as competition from less obvious competitors, such as our smart phones.

But regardless of how "smart" our phones get, there will always be a need for direct, physical contact with clinicians.

When these interactions occur at a hospital, patient expectations will increasingly drive revenue. Wilson describes four ways that facility design needs to account for improving technology:

1. **Rising connectedness:** it's not just computers and phones using wireless networks. Medical devices of all sorts can now report vitals, take measurements, and send instructions via the same networks. This additional load requires hospitals to carefully consider IT backbone.
2. **Remote monitoring or diagnostics:** The new expectation is that this connectivity transcends the hospital walls, allowing measurements, monitoring, and instructions to follow the patient after they leave the facility. So design efforts within the facility must now address how remote connectivity contributes to the patient experience.
3. **Efficient and useful spaces:** As healthcare networks evolve to include our own smart phones we will be able to walk into a hospital and have it recognize who we are, when and where our scheduled appointment is, and how to direct us to an open exam room. The resulting gains in efficiency will make waiting rooms obsolete or, at the very least, convert them into more useful spaces.
4. **Personalization:** During your visit, the doctor may determine a need for additional testing that can be done the same day. While you wait, new flat-panel displays in the exam room will offer you a choice of music, television, or movies, all tailored to your interests. If the test results determine the need for an overnight stay, those personalized settings will follow you to the patient room.

These technology-driven changes to the way we experience healthcare are coming and the impacts will be far-reaching. As Wilson puts it, "As soon as patients experience the benefits of remote monitoring, shared information routing, and personalized care, their definition of quality will change." That means that the evolving expectations of patients, driven by advances in technology, will change how hospitals are designed, built, and operated.



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