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The patient room of the future

The key technologies reshaping how medical facilities deliver care

Too often, overburdened healthcare practitioners find themselves stuck outside the patient room handling delegable tasks and administrative issues. Patients, too, end up anchored in their rooms lacking the comfort of home, sometimes struggling to obtain basic amenities, while feeling unsure of their care.

Enter the Patient Room of the Future. By leveraging key technologies available today, including smart digital displays, cameras, tablets, and corresponding software solutions, hospitals can improve patient experience, outcomes, and knowledge while also increasing team efficiency and easing burdens on staff.

The problem

Overloaded healthcare systems strain staff and patient experiences

Despite the heroic efforts of administrators, doctors, nurses, and other caregivers, hospitals struggle to cope with the high demand for healthcare services. Nurse and doctor shortages remain chronic and individual caregivers must shoulder even more of the burden.

Many healthcare practitioners enter the field with the intention of providing bedside care and improving patient outcomes. Yet between organizing paperwork and handling administrative tasks, they often spend only a few precious minutes actually tending to patients. Meanwhile, patients themselves lack access to reliable information and are frequently unsure about the details of their treatment and who is assigned to care for them. Unfortunately, outdated and ill-equipped patient rooms along with siloed systems produce many of these challenges.

Yesterday's patient room is no longer enough

Perhaps more than any other industry, healthcare has undergone profound technological transformation. Despite the many advances in healthcare, patient rooms remain outdated, little more than beds, walls, and a disjointed collection of medical equipment.

Sometimes, a patient's only option for amenities is the nurse call button, which exacerbates the strain on staff. The result? Less time to serve patients. Even though the hope is for practitioners to spend more time with the patients, one study found physicians in an intensive care unit spent just 15-30% of their time at the patient's bedside[1]. Another study concluded that the average nurse spent only 34% of their time in the patient room[2], and 10% of their time on non-nursing, delegable activities. While the comforts of home are not always a top priority in overwhelmed healthcare systems, accessing entertainment or requesting a blanket may improve hospital ratings and overall care.

Patient rooms are not patient-centric

Healthcare is patient-centric. Still, despite overall improvements in engagement, hospital patients remain isolated not just physically, but also in accessing critical information. Calls to increase patient access to medical and clinical knowledge have increased, though gaps remain.

Many hospitals try to embrace patient-centric models. For example, the standard set three meals a day are becoming a thing of the past, with patients increasingly able to eat on their schedule. Unfortunately, the communication infrastructure of today's patient rooms may not fully support these models.

So how do hospitals upgrade patient rooms to meet modern expectations while not demanding health practitioners to sacrifice patient care for administrative tasks?

The solution

The patient room of the future

The Patient Room of the Future uses smart displays, cameras, software solutions, and other technologies to improve patient experiences and outcomes while enabling doctors and nurses to focus on providing treatment and practicing to their license. Practitioners can also track data and stay on top of treatments and other elements in ways that fundamentally improve care, reduce errors, and strengthen communication.

The in-room display is the central hub of the modern patient room, functioning as the portal for most aspects related to patient experience. The displays are optimized for healthcare environments and allow patients to access information, services, staff, entertainment, and much more.

Here is a look at how healthcare providers can leverage in-room technologies to integrate, automate, and enhance care while building a scalable, cost-effective ecosystem.

Tomorrow's patient room integrated today

The Patient Room of the Future integrates advanced technologies that work seamlessly alongside established hardware, software, and protocols, enabling new features while maximizing outcomes from existing ones.

Practitioners can access current Electronic Health Record (EHR) systems, for example. Using their phone to scan a QR code on the in-room display, a doctor could retrieve a patient's latest x-rays from the current record system, while retaining HIPAA compliance. They could then instantly review the images with the patient in 4K detail at the bedside. Likewise, instead of replacing installed nurse call systems, smart displays offered by companies like Samsung make current systems easier to use—allowing patients to communicate with nurses, food service, CNAs, and more with easy-to-read visual cues and crisp audio.

The Patient Room of the Future integrates with existing entertainment systems as well, such as cable TV, streaming services, apps, and other features. By keeping patients occupied and at ease, hospitals can improve experiences and provide better care.

Automating the patient room to improve experiences and outcomes

Log in here, log out there—systems representing breakthrough innovations ten years ago are often a hassle today. Logging in may only take moments (if you can remember your password), but seconds wasted add up, reducing time spent bedside. Coupled with Real-Time Location Tracking Systems, sensors, and other tools, the modern patient room automatically logs practitioners in and out.

After shift changes, for example, the incoming nurse typically enters the patient's room to write their name on the grease board. Now, a digital smart display can automatically update credentials when the nurse walks in. The display can also show the names and roles of doctors and other staff members visiting the room, helping patients get familiar with staff and reducing their anxiety.

Through the display, patients can also stay up-to-date on treatment regimes, upcoming procedures, and other aspects of their care. Often, these updates can happen automatically.

Keeping patients comfortable and safe

In-room displays allow patients to request various services. They can order food, request care items, or adjust lighting, for example, while automatically referring needs to the correct team member. This streamlines care and reduces burdens on nurses.

It is also possible to create virtual guardrails on beds with cameras. The system can ping nurses if a patient is at risk of falling out of bed or getting up unattended.

The takeaway? A fully tech-enabled patient room saves time while also increasing safety and improving outcomes.

Breaking down silos with enhanced workflows

Workflow improvements don't have to stop with automation. Currently, many hospital operations exist within silos. Moving information and staff from one point to another creates friction, which could negatively impact patient experience and bog down staff.

We've already seen how a more modern patient room can break down barriers by automatically routing requests for food and comfort items. Beyond eliminating keystrokes, near-instantaneous access to information reduces risk. A nurse approaching a patient's room can see if the guest has any allergies, say to latex gloves. This information can be obtained via small, secure displays outside the room or through a portable tablet. Doctors, too, can access vital patient info on a tablet, the hallway display, or in-room displays. Sensitive data is accessible only to those with clearance, and always remains within HIPAA compliance.

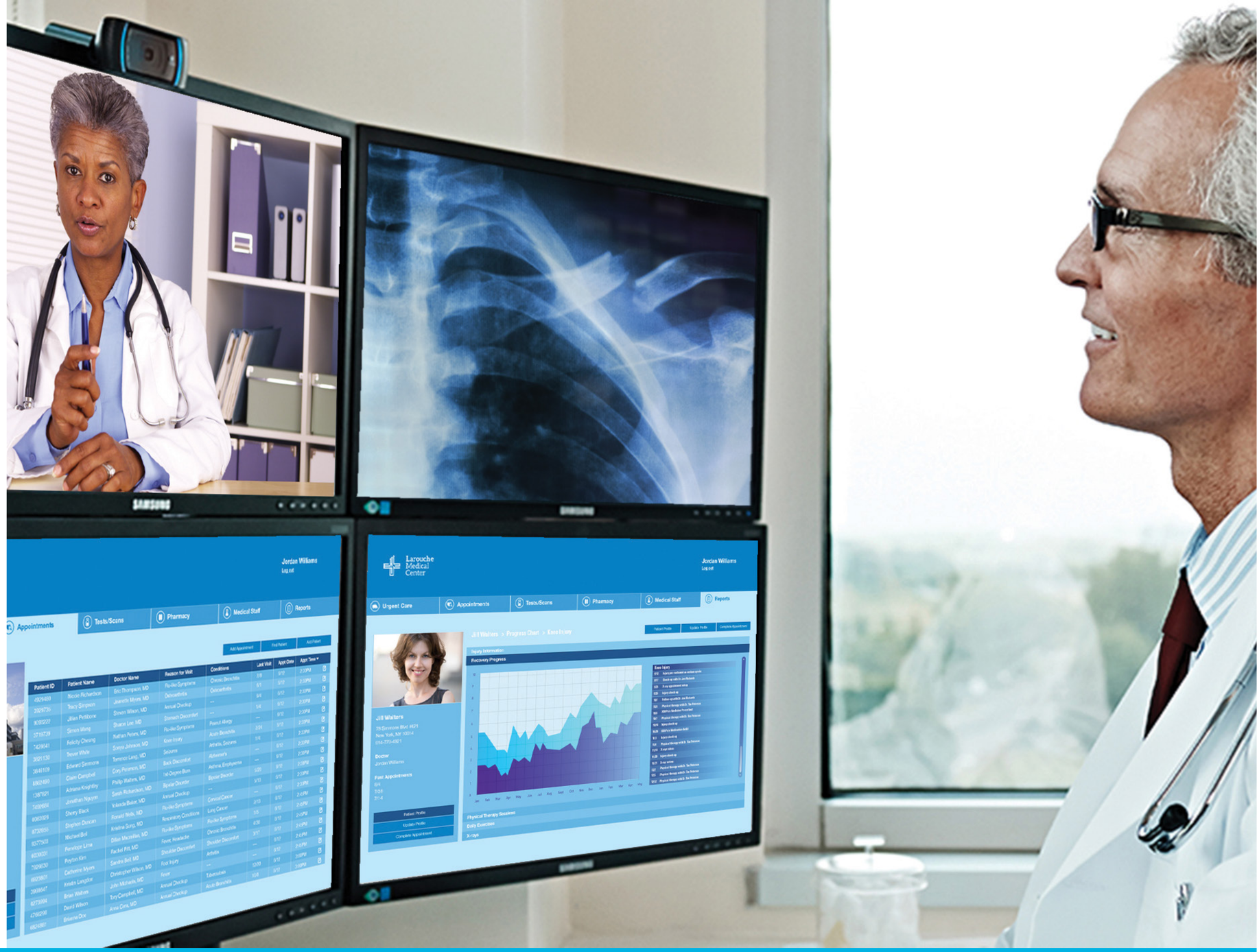
Besides allergies, staff members can see a patient's preferred language, and access translation options from the display, including the ability to live-stream a family member or qualified interpreter. This enables more seamless communication while reducing misunderstandings, elevating patient/caregiver empathy, and improving patient confidence.

Further, keeping patients and practitioners in the same room encourages collaboration. Since doctors and nurses can easily access needed records and information at the bedside, there's no need to move back and forth between doctor/nurse stations and the patient's room. This can reduce errors and improve the experience for all parties.

Scalable, flexible and ready for future integrations

For technologies to maximize impact, they must be scalable. Leading technology companies like Samsung, design flexible solutions that allow for future integrations while ensuring a smooth rollout and effective improvements from day one. Different units will have different needs, but all units must adapt quickly as today's innovations will become tomorrow's must-haves. The modern patient room offers improved flexibility and adaptability to changing circumstances and technologies.

Hospitals can also opt to run pilot programs, perhaps on a particular floor or unit. Nurses, doctors, patients, and other stakeholders can test advanced in-room display solutions while deepening integrations with their current systems before expanding roll-out facility-wide. So far, feedback from current and past pilot programs has been overwhelmingly positive, with practitioners noting they can use their skills and knowledge to improve patient outcomes rather than losing time to data entry and delegable tasks.



Addressing financial pressures with adept technology

Patient experience and outcomes remain center stage for practitioners and administrators alike. Still, financial pressures are an incredible burden with many hospitals struggling to break even. Where found, positive margins are often only 1 or 2%[3].

By easing burdens on employees, hospitals may increase retention and alleviate pressure from rising staffing costs. So far, some of the strongest advocates for the technologies offered via pilot studies have been practitioners. Within the modern patient room, doctors and nurses can focus on providing care with delegable tasks handled by other staff members.

Patient experience has a major financial impact

Patient experience is vital for financial health. For one, patients impressed by a hospital's care and facilities are more likely to use that organization in the future. As of 2018, the average lifetime value of an individual healthcare consumer is $1.4 million, or $4.3 million for a family of four according to the U.S. Census Bureau[4]. Beyond individual patients, a strong reputation will bolster a hospital's brand, driving further traffic.

Low or high patient satisfaction can also directly impact finances. The Centers for Medicare & Medicaid Services (CMS) measures patient satisfaction regarding various aspects of hospital care with the Hospital Consumer Assessment of Healthcare Providers and System (HCAHPS). Those hospitals that score the highest receive additional payments, totaling $1.9 billion in FY 2020[5]. Underperforming hospitals, however, can be penalized with negative payment adjustments.

With the right technologies, hospitals can proactively address issues negatively affecting patient experience and improve HCAHPS scores. They can also double down on those aspects elevating satisfaction. Using surveys and communications presented via advanced in-room displays and tablets, caregivers can source valuable insights directly from patients. Data in hand, hospitals can work to improve patient experiences and outcomes.

Tomorrow's patient room today

Hospitals don't want to invest in technology that is already obsolete or will soon be, and they also cannot simply wait for meaningful innovations to completely mature before investing in them. Technology evolves constantly, although not consistently. The best patient rooms are designed from the get-go with this evolution in mind—to create a stable platform from which to introduce new advancements over time.

Digital displays act as a portal for many software solutions, for example. As software platforms evolve, display systems can be updated to take advantage of the latest features. Likewise, an organization may opt to implement some features today, and others tomorrow. A hospital might replace hand-written whiteboards first, before enabling in-room food ordering.

Cutting-edge providers like Samsung design their solutions to adapt, meaning hospitals can integrate new tools into their ecosystem, such as wayfinding displays, menu boards, interactive touchscreens, tablets, and a broad array of software to power them—all with seamless control and management. With the Patient Room of the Future, hospitals can invest in patient experience today and build upon that investment over time. By using robust, future-proofed technologies, administrators can ensure investments add value for years to come.

Get in touch today to learn how Samsung's comprehensive digital display solutions help healthcare facilities modernize to enhance the patient experience and drive better health outcomes.

Footnotes

[1] Butler, R., et al. (2018). Estimating Time Physicians and Other Health Care Workers Spend with Patients in an Intensive Care Unit Using a Sensor Network. The American Journal Of Medicine.

[2] Yen, P. Y., et al. (2018). Nurses' Time Allocation and Multitasking of Nursing Activities: A Time Motion Study. AMIA ... Annual Symposium proceedings. AMIA Symposium, 2018, 1137–1146.

[3] Paavola, A. (2021). Margins remain narrow for US hospitals, Becker's Hospital Review.

[4] Wynne, B. (2018). The real reason loyalty lacks in healthcare, Becker's Hospital Review.

[5] CMS Hospital Value-Based Purchasing Program Results for Fiscal Year 2020, CMS.gov.

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