Executive Summary

The patient experience reigns supreme in today’s value-based, highly competitive healthcare environment. With Medicare reimbursement now tied to patient satisfaction, the desire to boost Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores is a key factor driving hospitals to adopt a more patient-centric focus. At the same time, higher satisfaction helps build loyalty as well as attract additional patients, especially as more patients share positive – and negative – experiences via social media. Not surprisingly, state-of-the-art technology at the point of care plays a starring role in raising satisfaction ratings, as well as spreading the word about hospitals.

Bedside infotainment systems that combine a computer, television, telephone and nurse call button into a single smart terminal or mounted AV screen provide a host of customized and interactive education, communication and entertainment options for patients, as well as a convenient clinical tool for physicians, nurses and other caregivers. Investment in these versatile patient-facing systems has started to climb as hospitals recognize their potential for improving not only patient satisfaction, but also patient safety, clinician productivity, quality outcomes and bottom lines.
A Plethora of Possibilities at the Point of Care

All-in-one point-of-care solutions can significantly enhance the patient experience by efficiently connecting patients to a broad spectrum of capabilities. These include accessing the Internet, playing video games, watching television or movies on demand, listening to music or the radio, calling or video chatting with friends and family, learning about medical conditions and treatment, summoning help, ordering meals, completing hospital forms and controlling the lights, room temperature and automated window coverings.

In addition, hospitals can personalize the services they deliver through these systems based on patient profiles. For example, patients with diabetes can be offered menu selections tailored specifically to their dietary requirements. Individualized discharge and post-hospital care instructions can be provided, and language translation services are available at the touch of a button. Hospitals can also choose to offer revenue-producing pay-for-use services such as media on demand and online shopping.

When bedside infotainment technology is connected to hospital health information systems such as EMRs, electronic prescribing, PACS and CPOE, it serves as a valuable clinical tool for physicians, nurses and other care providers. With the tap of an RFID badge, the press of a thumb or other authentication technologies, authorized clinicians can conveniently gain instant and secure access to the most up-to-date patient data. They can also directly input patient vitals, order tests and medications, and provide patient discharge information, as well as share test results or view diagnostic images with patients — all from the same terminal.

Technology Requirements

Depending on their requirements and budgets, hospitals have numerous options to choose from when designing and implementing these highly customizable bedside infotainment solutions. End devices such as smart terminals or mounted AV displays can connect individually to the infrastructure via a wired or wireless network, or be converged onto a single network running on a common platform and cabling plant. To support seamless performance, all systems require a robust back-end infrastructure of servers, virtualization software, storage and other components.

Core components

PoC end systems. End devices at the patient bedside can include smart terminals, thin clients or large-screen, high-resolution monitors that can be wall-mounted. Desktops delivered virtually can be either persistent or non-persistent machines. In non-persistent machines, no patient data is saved once the patient using the machine is discharged, enhancing data security and supporting HIPAA mandates.

Unlike retail TVs and computer terminals, bedside infotainment screens must meet medical-grade standards for durability and maximum patient safety. Built-in antibacterial coatings allow the equipment to be frequently washed and disinfected without damage, which supports infection control objectives. UL-certified components ensure safety standards are met, such as minimizing electrical emissions and preventing harm to patients from ongoing exposure to equipment. In addition, fan-less terminals increase patient comfort, thanks to their near-silent operation.

An easy-to-use touchscreen user interface is often preferred to keyboards and mice, especially when space is limited. Equipping devices with ultrasonic microphones and voice recognition software enables patients with limited physical ability to control them with voice commands. And providing expanded pillow speaker capability puts volume control for mounted monitors within easy reach of patients.

There’s a variety of other monitor options to consider. These include on-screen menu and preferred setting customization functionality; displays with 3D and OLED (organic light-emitting diode) that offer better colors and clearer viewing angles; and low-power, environmentally friendly monitors that save on energy costs as well as reduce the load on hospital infrastructure. Integrating authentication technologies such as biometrics, smart card readers and RFID ensures security of critical data. Hospitals also may want to consider additional expansion ports for peripherals such as barcode scanners and magnetic stripe readers.
**Network.** The bedside infotainment system is centrally managed, with applications generally delivered via a cloud or virtual environment and Internet access delivered through either wired or wireless connectivity. Although many older facilities continue to operate with Category 3 cabling, all-in-one point-of-care solutions require a network with a minimum of Category 5 cabling for reliable performance. In that environment, the Ethernet capability provides bigger bandwidth and more speed less expensively, enabling hospitals to invest in more content for patients. For hospitals interested in delivering HD content, it is particularly important to evaluate bandwidth capability to assure it can handle the increased demand.

The network must incorporate sufficient numbers of wireless access points, enabling devices to readily connect to a wired network via Wi-Fi, Bluetooth and related standards. Network routers are also critical, having evolved from devices dedicated to connecting disparate networks into integrated services devices that deliver voice, video, data, Internet access and other applications across the entire healthcare enterprise. Switches and routers must be capable of prioritizing traffic to avoid information delivery delays that could threaten patient safety.

**Back end.** Bedside information systems demand a robust infrastructure capable of supporting the additional power and storage required to push out and manage a constantly expanding spectrum of applications, including unified communications, EMR, CPOE, and multi-media educational and entertainment applications. Depending on the depth of in-house I.T. expertise and resources, hospitals may consider a variety of hosted and managed services, ranging from content aggregation to backup to support. The hospital data center must include substantial server and storage capability, as well as ample voice and video gateways. GigE connectivity is preferred, and the increased traffic may also require upgrading WAN links to support new bandwidth requirements. Client virtualization software helps optimize physical server utilization, rapid provisioning of virtual machines, high availability of all applications and improved responsiveness.

A centralized programming hub and content repository make it easy and convenient to stream multiple applications to the end devices by taking advantage of IP telephony. It also offers I.T. staff centralized control and management ability, improving efficiency and security. At the same time, however, this approach creates a potential central point of failure. As a result, it is important to explore cloud-hosted solutions that can provide full rack co-location and other business continuity and disaster recovery options, as well as additional storage.

**Custom-tailored to maximize ROI**

Not all bedside infotainment systems are created equal and not all healthcare organizations’ needs — or budgets — are identical. A broad range of in-depth expertise is necessary to assess, design, configure, install and support a scalable system that cost-effectively meets current and future needs.

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**Thinking about jumping on the bedside infotainment bandwagon?**

Your planning process should incorporate these key elements:

- **Evaluate** how all-in-one point-of-care systems can support your goals of improving patient satisfaction, safety and quality of care
- **Determine** what, if any, upgrades your hospital’s existing network and infrastructure would require to handle the new demands
- **Identify** the features most important and valuable to your patients and your clinical staff
- **Consider** whether to integrate the technology with your clinical applications
- **Partner** with a trusted I.T. expert to help you evaluate your needs and select, deploy and support the right integrated point-of-care technology solution
A Bedside Infotainment Solution

CDW Healthcare: A Technology Partner that Gets IT

Hospitals need a trusted partner that understands how to efficiently and securely take full advantage of the opportunities bedside infotainment and mounted AV systems offer to educate, empower and entertain patients. CDW Healthcare’s knowledgeable experts understand your I.T. infrastructure and leverage our strategic technology partnerships to enable you to select, implement and support the solutions that best meet your organization’s needs. We provide the expertise, services and point-of-care technology to help you improve patient satisfaction, a critical foundation for delivering better outcomes and maximizing reimbursement in today’s demanding environment.

To learn more about how CDW Healthcare can help your hospital capitalize on bedside infotainment technology to elevate the patient experience, contact your account manager, call 800.500.4239 or visit CDW.com/commuIT.

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How do you improve patient safety and the patient experience? Deliver streamlined clinical access and staff productivity improvements? Barco’s point-of-care smart terminals deliver great benefits for both patients and clinicians. Patients have TV, Internet, games, telephone and video on demand at their fingertips. Clinicians benefit from bedside access to their EMRs, nursing documentation and medication administration. Barco smart terminals provide dual benefits of delivering patient entertainment and education, helping improve HCAHPS scores. Barco is the global market leader with more than 80,000 terminals deployed, serving 10 million patients and 500,000 healthcare professionals each year.