BioSpectrum the business of Bio & Health Sciences ASIA EDITION

Redefining the Art of Patient Care in a Technology-Driven World

December 20, 2023 | Opinion

By Johnny Ong, APAC Healthcare Practice Lead, Zebra Technologies Asia Pacific



In recent years, there has been a notable surge in the advocacy for incorporating data and technology into healthcare practices, sparking conversations on the tangible benefits of such initiatives. Skepticism lingers as to whether this push toward a more technologically driven healthcare system is genuinely advantageous and truly enhances patient care.

One thing is clear – modern technology such as the digitalization of data, and electronic medical records (EMR) are revolutionizing the way patient care is delivered. The digitalization of patient data ensures that medical professionals have immediate access to patient history and present status, enabling quicker and more accurate diagnoses based on the “whole person” approach to healthcare.

The adoption of modern technology not only reduces the likelihood of errors but also significantly improves communication and collaboration among healthcare teams. This transformative shift results in a healthcare system capable of providing personalized and timely interventions, which ultimately translates into higher productivity and enhanced patient experience.

In Thailand, for example, Udon Thani Hospital has deployed Zebra’s printing and scanning solution to digitalize its patient registration process in place of its manual registration process. This has helped to increase its efficiency and accuracy while eradicating human errors leading to patient misidentification.

Navigating the New Norm: Balancing Healthcare and Hospitality

Accelerated by the COVID-19 pandemic, the healthcare industry is undergoing massive changes. Telehealth services in Asia, for example, have experienced a notable upswing, with an increasing number of patients seeking medical services and consulting their doctors online. In India, there has been a surge in mobile health applications, enabling remote consultations, health monitoring, and access to medical information. This transformative shift reflects a fundamental change in how healthcare is accessed and delivered, with virtual platforms becoming integral to patient care. As the world adapts to new norms, the surge in telehealth adoption signifies not just a response to the challenges posed by the pandemic, but a lasting evolution in the way individuals approach and engage with healthcare services.

There has also been a rush to mobilize all on-site staff, not just bedside nurses. Zebra's latest Healthcare Vision Study found that decision-makers plan to put mobile devices in the hands of all clinical and non-clinical employees this year in the hopes of improving communication, workflow efficiency, and the overall patient experience. With the focus on improving overall patient experience, the industry is shifting away from reactive tech requirements and toward proactive planning.

Historically, technology investments were primarily driven by the need to improve the clinician's experience and capabilities. But healthcare providers are starting to recognize that it is patient experience that strongly influences "recovery and revenue." Recognizing this shift, it becomes imperative for healthcare providers to make substantial technology investments geared toward improving patient experience.

The industry now demands a holistic approach, where considerations extend beyond mere medical interventions to encompass the entirety of the patient's experience. Patients are becoming more inclined to choose a healthcare provider that offers more than just clinical services. They expect elevated experiences, community engagement initiatives, and amenities such as big-screen TVs and tablets streaming entertainment in private patient rooms, high-speed internet for visitors, and on-site consultations with remote specialists.

In this era of heightened patient expectations, decision-makers are investing billions of dollars each year in redesigning older buildings or, in some cases, tearing down and rebuilding facilities to improve the "whole experience." For example, Mount Elizabeth Hospital, a private healthcare facility in Singapore recently announced that it will be investing $350 million in renovation and upgrades of its building and facilities.

However, the more modern clinical and patient experience become ingrained in – or dependent on – technology, the more IT teams are recognizing the limitations of the healthcare system's infrastructure.

Healthcare of Tomorrow, Shaped by Yesteryears

In the ever-evolving realm of healthcare, the compass for requirements and investments should be driven by three crucial principles: the need to maintain continuity of care, elevate the quality of care, and deliver on the expanded definition of "healthcare" at both the granular (facility) and holistic (community) levels.

Today, hospitals and clinics are feeling the push to migrate to newer wireless network technologies like Wi-Fi 6 and 5G. For instance, the National University Health System (NUHS) in Singapore is looking to leverage multi-access edge computing technology to develop and trial integrated 5G-enabled devices such as an augmented reality (AR) visor to enhance its healthcare services. While this is a step in the right direction, it is important to note that the strategy should not solely revolve around a rip-and-replace mentality with the latest devices, considering the perpetual emergence of "next-gen" wireless network technologies. Strategic decisions should factor in the dynamic nature of technological evolution.

It is crucial to consider the physical limitations to technology upgrades depending on the age, design, and density of existing building infrastructure. Healthcare organizations must also consider whether fundamental changes can realistically be made to hardware, software, networks, and other technology systems so data can be transported quickly and securely. All while ensuring that patients and community members enjoy a luxury experience that supports their physical, mental, and emotional well-being.

Achieving the Next Chapter of Healthcare Modernization

Collaboration between technology solution providers will be key, as joint innovation, validation, implementation, and support can help to achieve a digitalized healthcare utopia in which patients can receive the timely, quality care they need at every point of care.

Navigating the healthcare modernization journey requires a delicate balance between innovation and operational continuity. Hospitals are live, working facilities and cannot be shut down for days, or even hours so that IT installations can occur. The challenge extends to migrating to modern technologies without interrupting clinical workflows and patient flows, and training staff on new hardware and software tools without overwhelming them or hindering their ability to deliver high-quality patient

experiences.

A second consideration revolves around not overtaxing networks and limiting staff capabilities for the sake of better patient experiences. The demand for high network bandwidth activities such as video streaming and guest Wi-Fi services must not get in the way of more critical tasks such as uploading of patient records, ordering labs and prescriptions, and controlling robotics automation tools used for surgeries.

Lastly, it is important to have the capacity to introduce automated workflows and real-time location or move to a more predictive care model. According to the same Zebra study, around 89% of executive decision-makers and 83% of clinicians surveyed agree real-time intelligence is essential for optimal patient care. While clinical workflow may be fully automated and running smoothly, it often remains disjointed from ancillary workflows, such as billing and supply chain management. Achieving proper workflow automation necessitates a holistic approach that integrates these systems, ensuring a seamless and unified healthcare experience for patients.

In the dynamic landscape of healthcare, the integration of technology and patient care is crucial. Strategic collaboration among technology providers, mindful of infrastructure limitations, is essential to balance innovation and operational continuity. The journey toward modernization requires the latest devices and a seamless, unified healthcare experience where patients receive timely, quality care.