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Achieving a Smarter and Connected Healthcare Landscape with Cloud-based Ecosystem

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APAC region is leading in the adoption of new technology, with both 97% of decision-makers and 83% of clinicians surveyed agreeing that technology helps prevent medical errors" explains Johnny Ong, APAC Healthcare Practice Lead, Zebra Technologies





Healthcare staff shortages and burnout continue to plague the healthcare industry globally and across Asia Pacific (APAC). Thankfully, new research as seen from the Philips Future Health Index 2022 report shows that almost one third of healthcare leaders surveyed are placing employee satisfaction and retention at the top of their priority list. This begs the question – how can healthcare organizations more effectively attract and train new talent without compromising safety or integrity? One way to do so is by automating workflows to augment their workforce.

With workforce shortages, organizations are trying to figure out how to do more with less. Particularly, healthcare organizations are working hard to close gaps and assess ways to improve every aspect of their current business and care models.

As pointed out by my colleague, Rikki Jennings, Chief Nursing Informatics Officer, patient experience and better-connected care are objectives that unify the global healthcare community. As healthcare systems across the region recover from the pandemic, efforts need to be refocused towards overhauling local health systems and closing long-standing gaps within health systems which were revealed and thrusted into the spotlight during the pandemic.

To do so, the healthcare community must transform their thoughts and tolerances surrounding technology and reconsider its role as a healthcare enabler. But as healthcare organizations ramp up innovation, it is also crucial to remember that simplicity is vital. Fragmented or complex systems are likely to fail in solving problems and might even create setbacks for both consumers and healthcare workers, where more than 90% of consumers in APAC say they'd prefer a single touchpoint to manage their healthcare, compared to only 70% two years ago. Ultimately, the healthcare ecosystem of the future should be one that breaks down silos and creates more opportunities for public and private players to collaborate and bring patients into a new era.

Streamlining Workflows Across a Cloud-based Ecosystem

In Zebra's latest Healthcare Vision Study, the insights gathered revealed a stronger commitment to advanced technology tools, as acute care providers strive to become more resilient and digitalize the patient journey. With technology, care models can become more predictive, workflows can become more automated, and patients can enjoy more personalized and elevated experiences that help to speed recovery and reduce return visits. Further, there is the potential of rapid innovation, where hospitals, pharmacies, imaging centers, and medical device factories can become truly "intelligent enterprises".

However, in order for the journey to a sustainable digital health system through smarter and more connected healthcare systems and supply chains to be smooth – it is important for healthcare organizations to focus on simplicity.

This entails choosing hardware and software platforms that can be implemented, managed, secured, accessed, and/or scaled remotely. By shifting to a cloud-based ecosystem, it is easier to keep people and information systems online and in sync, no matter where they are physically or virtually located. It also becomes simple to adapt both standalone and interconnected technology platforms to accommodate evolving workflows. In Singapore, the government launched Healthcare-Cloud (H-Cloud) – a consolidated cloud computing platform that supports over 50,000 healthcare staff across the island-state, as part of their ongoing healthcare digitalization efforts for cost efficiencies and security benefits. It is the public healthcare's first private cloud setup that helps to reduce operational costs by an average of 55% by 2025 and improve infrastructure availability to 99.95%.

Healthcare executives no longer need to be physically present to implement new features or functionalities into the system. Simple software updates pushed over the air – or by remote IT managers – can get the job done.

More hospital decision-makers are deploying enterprise-grade mobile solutions than they did five years ago. According to the same study, the APAC region is leading in the adoption of new technology, with both 97% of decision-makers and 83% of clinicians surveyed agreeing that technology helps prevent medical errors. Understanding the need to enhance their blood scanning processes in order to deliver the highest quality care, The Royal Children's Hospital in Melbourne, Australia implemented a custom solution to improve their scanning method. This custom solution programmed with custom-built sequencing software, was designed to make the blood scanning process as efficient as possible, enabling staff to give lifesaving transfusions as quickly and safely as possible. This implementation helped to improve the accuracy level of data documentation while reducing overall stress for clinicians by enabling a smoother workflow.

Over time, it is predicted that more will look at real-time locationing, workflow automation, and predictive analytics tools to utilize data on hand to make better decisions.

Technology Adoption: Think Value

As hospitals plan to increase their technology spending, where approximately nine in 10 decision-makers surveyed in the same Zebra study plan to increase their technology investments in IT, clinical mobility and location solutions, with over 35% indicating that the increase will be more than 10%, hospital and pharmaceutical supply chain leaders are poised for big technology spending plans beyond 2022. While investments may be daunting, adopting new technology may be an effective solution.

Fortunately, everything from mobile computers, barcode scanners and printers to radio frequency identification (RFID), machine vision, analytics and robotics automation systems are now being designed – or redesigned – with simplicity at the forefront. For example, RFID sleds can be attached as accessories to mobile computers so that staff can instantly read thousands of RFID tags within a predefined range. There are even off-the-shelf software and read-to-cloud RFID application interfaces that allow RFID to be deployed as a solution in hospitals, drug stores and pharmacies without any on-premise infrastructure needed. On manufacturing lines, machine vision systems powered by intelligent software can now be trained to detect quality or labeling issues with medical devices and pharmaceuticals. If a component is missing or a bottle is mislabeled, the system will automatically "fail" the item.

The Possibility of Improving Retention with Simplicity

Through having machine vision systems automate the decision process, it is now possible for someone who has little to no experience in manufacturing to be able to conduct quality control inspections on medical devices and pharmaceuticals. By ensuring simplicity in these jobs and improving confidence and agility, the labor-intensive nature of these jobs is now reduced. This expands the labor pool, improving recruitment success, while increasing workers' success, ultimately aiding in retention.

Similarly, healthcare executives are more inclined to adopt and use new technology solutions that are user-friendly and familiar, to lighten their workload. If the user interface on an enterprise mobile computer looks like the one on their personal smartphones, there may not be resistance to learning new software specially designed to speed up or automate tasks. They may appreciate the prescriptive nature of certain apps or the simplicity of single-button task actions, such as positive patient identification. When clinicians feel their jobs are made simpler with technology, this increases job satisfaction and decreases the chances of them leaving.

In a nutshell, a more holistic and unified approach to the healthcare ecosystem is required. Forward-thinking clinicians and decision-makers recognize that in doing so, it can provide increased patient care in the most operationally efficient way. Such a move will significantly simplify healthcare management and improve access to the quality jobs, supplies, and medical care needed to benefit the well-being of staff, patients, and society.

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