

APAC has potential to be a strong leader in personalised healthcare with Singapore ranking at top

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With GE Healthcare soon to an independent public company in 2023, it will allow it to achieve even greater speed and agility in its response to the industry's needs. This includes their efforts in advancing Precision Health, a key priority in Singapore's healthcare reform plan to refocus the sector on patient-centred preventive care. BioSpectrum Asia spoke to Chris Khang, President & Chief Executive Officer (ASEAN, Korea and ANZ), GE Healthcare at length on how the company is strengthening digital healthcare in Asia Pacific (APAC).



How is GE Healthcare helping to enhance the concept of precision healthcare within APAC?

Precision health is an approach to preventing and treating disease that considers a person's genetic makeup, health history, environment and lifestyle to develop a personalised health plan for each patient. One of the key elements to enable precision health is the use of healthcare artificial intelligence (AI) technologies that can analyse massive sets of health data and distil actionable insights for the care of individual patients. GE Healthcare is helping to advance the concept of precision health by developing the technologies and applications that enhance and augment clinicians' and researchers' decision-making to deliver more precise care to patients.

The Personalised Health Index developed by Roche and leading public health experts shows that Asia Pacific has the potential to be a strong leader in personalised healthcare – with Singapore ranking at the top. While personalised healthcare is in its infancy worldwide, the index also highlights that it is gaining significant momentum in Asia.

Recently we streamlined our organisation to increase coverage and leverage deep clinical and product expertise across the region to be closer to customers and better respond to their demands. Additionally, we have highly trained professionals in 12 markets across the region to provide tailor-made healthcare solutions that respond to the needs of each market.

What are the major products/technology being rolled out in this regard?

Artificial intelligence (AI) plays a crucial role in precision healthcare, as it can help make sense of large amounts of clinical data gathered and turn them into insights for healthcare providers and clinicians. GE Healthcare has a suite of products that leverages AI technology to improve the accuracy and speed of diagnoses, help raise efficiency in decision making, or expand access to care. Below are three examples:

VscanAir: In 2021, GE Healthcare introduced its latest pocket-sized colour ultrasound scanner, Vscan Air. It is a handheld, wireless device that beams images from the ultrasound probe to an app on a smartphone – bringing an essential tool to the point of care. Through an ecosystem of AI-powered applications, Vscan Air has made it easier to acquire and interpret high-quality ultrasound images wherever care needs to be delivered. This has enabled doctors to diagnose patients even in rural and remote areas of Asia.

Edison Platform: GE Healthcare is opening the path towards precision health through its powerful artificial intelligence platform, Edison. It can combine data sets from multiple healthcare networks, modalities, vendors and technologies to deliver the insight clinicians need to care for their patients. Edison also leverages analytics, machine learning, deep learning and AI to convert vast patient data into actionable insights. These help practitioners diagnose more quickly and accurately, reduce their workload and deliver the most personalised patient care possible.

Command Centre Software: The Covid-19 pandemic has caused hospitals to think strategically about best managing critical resources like mechanical ventilators and ICU beds. GE Healthcare's command centre software has been instrumental in helping hospitals make those decisions. Working in the background, AI algorithms gather and analyse data generated by hospitals – from admissions and nursing flows to ventilator usage and bed requests – and turn it into real-time operational insights. For example, GE Healthcare worked with Omi Medical Center in Japan to set up its command centre in April 2021, which has increased its management efficiency significantly. Even during high bed occupancy, the overtime hours of medical staff were reduced by 44% in 2021 compared to the year before.

What are some products/technologies that GE Healthcare is currently focused on for the APAC region?

In March 2022, GE Healthcare announced its intention to introduce Edison Digital Health Platform. The platform aggregates applications and patient data from multiple sources and integrates them with existing clinical workflows for easy access. The vendor-agnostic platform also allows providers to select their preferred apps safely and securely, without the typical requirement of multiple individual integrations or being locked into a single vendor. Thus, with this platform, clinicians will have actionable insights at their fingertips, helping them better serve their patients.

Besides working on our own suite of products, GE Healthcare also has a healthcare accelerator supporting start-ups that develop promising, low-cost med-tech technologies specifically designed for emerging markets. One of the start-ups that we are working with is Tricog – a predictive healthcare analytics firm focused on improving survival rates of heart attacks in India by reducing the average time between symptoms and treatment. Using cloud-connected ECG devices in medical centres, Tricog helps doctors diagnose a patient within minutes of their arrival at a clinic, improving access to quick, accurate, and affordable diagnosis, which can lead to significant mortality reduction.

What are the current challenges facing the precision healthcare market in APAC?

The first challenge involves recognising and demonstrating the value precision health brings to the healthcare industry. Many stakeholders need to come on board for it to succeed, including governments, payers, providers and patients. Thankfully, we are beginning to see countries in APAC realise its value and move toward patient-centred care and data-enabled solutions across the continuum of care. For example, in Singapore, the Government recently launched Healthier SG. This healthcare reform focuses on improving the health of all Singaporeans by working with family physicians to develop a personalised health plan. Based on their profiles, they may also be encouraged to go for nationally recommended health screenings and vaccinations.

Finally, the management of massive amounts of data and clinical information is a critical challenge for hospitals and clinics in the region. Precision health relies on getting data from patients and turning them into actionable insights for practitioners. However, many countries in APAC lack the digital infrastructure to store and process this data efficiently. According to the HIMSS Analytics Infrastructure Adoption Model (INFRAM), which assesses technology infrastructure adoption and maturity, the participating hospitals in APAC were at stage 2.3 (out of 7) on average. This shows that countries in the region need to

continue building a more robust digital infrastructure that can support the growth of precision health.

GE Healthcare aims to accelerate digital transformation to enhance efficiency and improve patient outcomes. For instance, Edison Digital Health Platform is designed to seamlessly aggregate data from multiple sources and vendors to enable clinical applications that support integrated care pathway management and holistic views of each patient.

Are you planning new investments or collaborations to increase adoption of precision healthcare within APAC?

GE Healthcare has inked partnerships with several leading healthcare providers in Asia Pacific to accelerate the adoption of precision healthcare.

We have recently announced a new collaboration with the National Cancer Centre Singapore (NCCS) – a first of its kind for GE Healthcare in the APAC region. The partnership will develop new AI-powered solutions for data analytics and clinical workflows, combining GE Healthcare's Edison Digital Health Platform and related imaging and monitoring capabilities with NCCS's deep expertise in research and development, testing and consultation.

We also signed a memorandum of understanding (MoU) with Seoul National University Bundang Hospital (SNUBH) earlier this year. The partnership will allow SNUBH to leverage our Edison Digital Health Platform and other services within its hospital system. Through this collaboration, we also aim to support and accelerate Korean start-ups in the development and deployment of clinical and operational applications on the platform.

On a global scale, we have partnered with Elekta, a leader in precision radiation therapy, to provide hospitals worldwide with a comprehensive and holistic offering across imaging and radiotherapy for cancer patients. We hope to meet the crucial need for radiotherapy solutions across both developed and developing markets through this partnership.

We will continuously pursue strategic partnership opportunities with healthcare providers and relevant industry-leading companies to offer competitive healthcare solutions and lead transformations in care pathways together.

Which other digital health areas are a priority for GE Healthcare? What are the plans in the digital healthcare space in the coming years?

Digital health remains a key priority for GE Healthcare. We will continue to develop digital solutions that improve efficiency and productivity for health systems and clinicians, deliver personalised and precise care for patients, and improve access to healthcare for more people across APAC.

Burnout is a common issue plaguing healthcare workers in APAC and worldwide. For example, a July 2021 study by Singapore's Institute of Mental Health found that primary care doctors felt higher anxiety, depression, and burnout rates than before the pandemic. We believe technologies like AI and digitalisation are critical tools that can enable doctors to diagnose and treat patients quickly and accurately. But more crucially, they also lighten the workloads of healthcare workers and streamline workflows across the healthcare institutions, thus bringing overall efficiency through the system.

The pandemic has also highlighted the inequity of healthcare access globally. 43 percent of people worldwide do not have healthcare services within an hour's walk of their home, and nearly 10 percent do not have access to facilities within a one-hour drive. GE Healthcare hopes to improve access to care through a variety of technology-powered innovations such as telehealth services, which can connect clinical experts in one city to patients in remote or rural areas; and portable, handheld medical devices that bring crucial diagnostic technologies to wherever it is needed most.

For example, in May 2022, we entered the homecare segment by investing up to \$50 million in Israeli start-up Pulsenmore. Through this investment, we aim to accelerate the global adoption of Pulsenmore's homecare ultrasound solutions, allowing women to perform ultrasound self-scans at home and receive fast clinical feedback from healthcare professionals.

Finally, being an independent public company in 2023 will allow us to achieve even greater speed and agility in our response to the industry's needs.

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