Robotics designed and customised for the healing environment can improve patient care while relieving manpower shortages, and provide a better working environment.
PHOTO: FILE

HEALTHCARE SECTOR NEEDS TO EVOLVE

Modern healthcare professionals must be able to manage technological capabilities and deliver patient-centric solutions. BY LOKE WAI CHIONG

UNSURPRISINGLY, healthcare has been identified by the Committee on the Future Economy (CFE) to be a key growth cluster in areas of scalable technology, wearables and solutions in predictive analytics and disease prevention, and has been earmarked for an Industry Transformation Map (ITM).

For healthcare in Singapore, similar to other developed and emerging economies, the pressure to ensure accessibility, affordability, quality and sustainability, while leveraging technology if possible, will be as great, if not greater, in the coming year. This will likely be reflected in the upcoming Budget 2017 announcement .

As healthcare moves into the future, the quest for quality and affordability continues to be the key driver for transformation. There are four shifts in the global arena which could directly support this move, perhaps even changing the way we think about these issues.

Wellness focus

Traditional healthcare is often said to be more "disease-care" than "health-care", with healthcare systems focusing on caring for the sick, expanding and improving infrastructure, and figuring out long-term financing for healthcare in an ageing population.

Increasingly, both medical science as well as consumers are recognising that prevention is better than cure, especially for chronic diseases. In Singapore, for example, this is evident from the momentum and traction various programmes – such as War on Diabetes and National Steps Challenge, launched by the Health Ministry and Health Promotion Board respectively, have been gaining.

There has also been a plethora of health and wellness apps – from nutrition apps (for example, Healthy368 and Nutritionist Buddy) to fitness trackers monitored by wearable sensors (for instance, FitBit, Xiaomi and Apple Watch) – that support this shift.

Such technology not only monitors and offers insights on a person's physiological status, but also recommends nearby healthy eateries and food selections, fitness-related events as well as exercise facilities. This places personal health and preventative care rightfully back into the individual's hands, shifting the outcome towards a more active and healthier community.

Automation and scale

When it comes to technology adoption, the healthcare industry is lagging far behind other industries such as banking and consumer businesses that have gone digital and virtual, providing greater access and convenience in terms of transactions, record-keeping and payments.

This resistance to transform is likely bolstered by concerns about patient data privacy, a dependence on highly specialised skills, professional ethics and a traditional emphasis on the human touch in the practice of medicine.

The good news is that signs of disruption away from traditional face-to-face interactions are already apparent. In Singapore, all hospitals have gone digital to a large extent, and the government is supporting nursing homes and GP (general practitioner) clinics across the island to follow suit.

Ng Teng Fong General Hospital was recently recognised for achieving the Healthcare Information and Management Systems Society (HIMSS) Stage 7 certification – the first hospital in Singapore and in South-east Asia to be certified. With an Electronic Medical Record system, real-time Integrated Health Information Systems and an automated inpatient pharmacy already implemented, the next step for the hospital will be widespread telehealth services for discharged patients and the elderly in the community.

Looking ahead, robotics will play a big role in healthcare. Robotics designed and customised for the healing environment can improve patient care while relieving manpower shortages,

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Technologies empowering self-management, such as remote monitoring and point-of-care diagnostics for chronic diseases, can help reduce costs and enable ageing-in-place.

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and provide a better working environment. Hospital wards will function with rehabilitation artificial intelligence, robot cleaners, wheelchair beds, automated porters, Internet of Things (IoT) vendor-managed inventory and radio frequency identification tags for patient and equipment tracking.

In this future environment, with everything including life-support systems hyper-connected in this new IoT world, cybersecurity will become of utmost importance.

Asset-light approach

Even though the Singapore government is building up essential infrastructure to cater for a rapidly ageing population, the future of healthcare for the elderly must be predominantly community-based or home-based. The Healthcare Manpower Plan 2020 focuses on improving family medicine clinics, community facilities and senior care centres to enable seniors to age-in-place, and making home care more accessible and affordable.

In this regard, creating a tech-driven healthcare delivery model has come into focus. The SMU-TCS iCity Lab is test-running the SHINESeniors project, equipping homes with sensors to provide a safe and comfortable environment through the use of IoT cloud platforms.

Electronic modes of communications enable new healthcare delivery models. Technologies empowering self-management, such as remote monitoring and point-of-care diagnostics for chronic diseases can help reduce costs and enable ageing-in-place.

With these initiatives, the Singapore healthcare system will evolve away from building infrastructure or heavy capital equipment towards a tech-enabled and decentralised ecosystem, making it more affordable for appropriate care to be delivered to homes and the community.

New mindsets

Even as many industries are downsizing, the healthcare industry seems constantly in need of more manpower. With policies and support for mid-career shifters, such as the enhanced healthcare professional conversion programme and the Return to Nursing programme, the aim is to recruit 30,000 more healthcare professionals by 2020.

While manpower attrition continues to be an issue, retraining of mid-career shifters through scholarships and sponsorships to increase doctor training, together with research and development of new technology, seems to be the way forward.

Despite the fact that some medical encounters must remain high-touch and intensely personal – especially for bedside or consult-room discussions regarding life, death and disability – job automation from technology advances will transform training and practices, shifting the priority towards educating and training healthcare professionals to leveraging technology and improving productivity.

In order to adapt to societal needs, modern healthcare professionals need to be well-educated in the management of technological capabilities and deliver patient-centric solutions.

The increasing demand for specialised medical skills and expectations of patients call for adjustments to current healthcare training. Soft skills such as empathy and communication remain important, even as medical practice shifts towards telemedicine, ageing-in-place, and community or home-based care.

❚ The writer is Deloitte South-east Asia's healthcare sector leader. The views expressed are his own.