

Pandemic highlights role of technology in patient health

Lynette Dicey | Business Day | 29 April 2021

THE adoption of digital technologies was accelerated by the Covid-19 pandemic in most industries, including in healthcare. Although the healthcare industry has been slower to adopt digital technologies than some other industries, the pandemic forced it into the future with the result that several new medical technologies were rolled out at scale in a relatively short space of time.

Telemedicine was the biggest winner. Research firm Forrester says healthcare providers must prepare for a “new virtual-first mode of operation”. It predicts that virtual healthcare visits represent a \$46-billion opportunity for healthcare providers and insurers in 2021 in the US alone. In fact, says Forrester, virtual care will become part of the core operating model for healthcare organisations to the extent the word “virtual” will fall away.

Although Covid-19 was the driving force behind the greater demand for virtual care, Forrester says consumers will demand it going forward given that they have become accustomed to the convenience it offers. In a local context, telehealth solutions allow people convenient access to care even if they live in remote rural areas. However, healthcare providers need to understand that virtual care is not a stopgap measure which means workflows must be optimised like any other care setting.

Innovation and Digital Business Manager at Siemens Healthineers Darryl Petersen agrees the pandemic has highlighted the role technology plays in bringing together patients and providers. “It acts as an enabler for optimised efficient care, assists with streamlining processes and supports care providers with analysis and outcomes.” Large technology providers that have not traditionally competed in the healthcare space, he adds, are increasing their footprint in this area. Data-driven healthcare has significant potential for improving treatment options and patient outcomes.

Consultancy firm Bain predicts healthcare’s big data market will reach nearly \$70-billion by 2025. The challenge, however, will be to ensure the ability to transfer and process one healthcare organisation’s data to another organisation.

Digital patient monitoring has seen an uptick during the pandemic driven by the greater adoption of wearable technologies and assisted by at-home diagnostics and remote clinical monitoring. Petersen says the device market is growing exponentially, in the process putting the responsibility and the power of monitoring one’s health back into the hands of patients. “I had a personal experience where monitoring my heart rhythms using my smart watch saved my life, with the result that I got cardioversion done in time to prevent a stroke or heart attack,” he says. Wearables are likely to have even more purpose in the future with wearable continuous glucose monitors due to become the norm for diabetes patients.

Nicolette Mudaly, head of Product Strategy at Altron HealthTech, says a single patient digital record allows a healthcare practitioner to have a holistic view of a patient’s history and therefore make a more accurate diagnosis and prescribe more appropriate treatments. “A single digital record could even reduce healthcare costs by avoiding duplicate tests as a practitioner would have sight of a previously conducted test,” she says.

Bertalan Mesko, author of *The Guide to the Future of Medicine*, believes that artificial intelligence (AI) has the potential to redesign healthcare completely. In 2020 it was reported that Google’s DeepMind artificial intelligence had outperformed radiologists in detecting breast cancer.

The benefit of AI in healthcare, explains Petersen, is that it helps generate actionable insights to improve treatment quality and healthcare organisation efficiency. “In radiology, for example, AI can act as a companion to increase productivity and quality in diagnostics for chest CT scans and X-rays, brain MRIs, prostate MRIs, radiotherapy and Covid19 test, among others.” He adds that robotic process automation, on the other hand, assists by freeing up teams from mundane, monotonous, often

easy to automate tasks, and creates consistency and accuracy for processes, as well as creating opportunities for fine-tuning existing skills as it lifts the burden and time spent on smaller tasks and allows more focus on more complex tasks and procedures.

According to Mesko, robotics is one of the most exciting fields of healthcare. In recent years developments in this area have included surgical robots, disinfectant robots and the first exoskeleton-aided surgery in 2019.

Virtual reality has similar potential and is already being used to train surgeons. According to a Harvard Business Review study published in 2019 surgeons trained on a virtual reality platform performed 230 percent better than surgeons who were trained traditionally: they completed the procedure an average of 20 percent faster and completed 38 percent more steps correctly in the procedure specific checklist. The study concluded that virtual reality may offer an important educational tool to augment surgeon training and continue to offer patients the very best care.

Another technology positively impacting healthcare is 3D printing which allows for implants, prosthetics and devices to be aligned and customised to the exact specifications of a patient. 3D printing is also now being used for cranial and orthopaedic implants and custom airway stents as well as for complex open-heart

surgeries. Technology is being increasingly utilised in the hospital environment. Mudaly says time will tell whether healthcare costs are positively or negatively impacted by the increased use of technology although, in theory, improved efficiencies should ultimately lead to cost savings.

“There is no question the use of technology in healthcare is leading to improved quality of care and better patient outcomes,” says Mudaly. “It’s about things as simple as improving the communication and flow of patient information through a patient’s healthcare journey or, at the other end, through the use of AI clinical decision-making tools based on clinical best practice. Interoperable platforms and technologies are growing as more people understand the power of leveraging individual capabilities and information for a more valuable insight or offering.”