



Revolutionising patient care in Singapore



Intelligent connectivity for a patient-first future

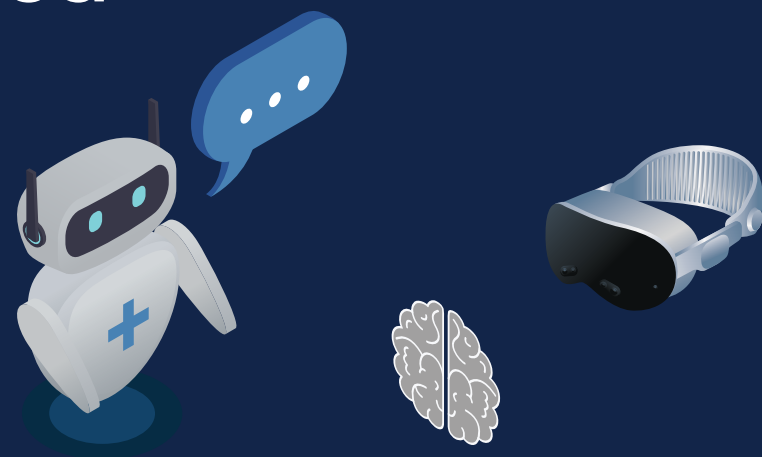
In a patient-first future, accessibility and efficiency in healthcare are paramount. Yet, Singapore's evolving healthcare system faces significant challenges that hinder progress.

Staff shortages strain patient care and overburden healthcare workers, limiting their ability to provide personalised attention¹.

To overcome these hurdles, intelligent solutions are essential — automation of routine tasks, advanced surgical innovations, and enhanced healthcare training are crucial.

Transforming patient care with 5G

Leveraging Singtel's dedicated, low-latency 5G and network slicing, the National University Health System (NUHS) in Singapore is pioneering innovations like mixed-reality Holomedicine and the Robot Nurse Companion.



5G-powered mixed-reality Holomedicine



Before HoloLens, neurosurgeons relied on 2D images displayed on distant screens, which disrupted focus and risked sterility in the operating room².

Now, through Holomedicine, NUHS leverages mixed-reality technology to deliver high- resolution, but data-intensive, 3D imaging, enabled by 5G's ultra-low latency, reliable bandwidth and network slicing.

Current Approach

- Surgeons interpret 2D scans on distant monitors
- Surgeons shift focus between patient and screen
- High-res 3D images may lag or stutter with standard connectivity
- Trainees observe surgery from afar with limited visibility
- Verbal explanations to patients may be unclear

5G-powered Holomedicine

-  3D holographic brain scans projected directly onto the patient for more precise tumour localisation.
-  Hands-free access to visual data via MR headset, improving safety and focus.
-  Dedicated 5G bandwidth ensures smooth, real-time image transmission.
-  HoloLens projects immersive, layered visuals for deeper understanding.
-  Visual 3D models help patients better understand conditions and procedures.

Robot Nurse Companion

NUHS' AI-powered Robot Nurse Companions handle routine tasks³, such as delivering medicines and monitoring patients, freeing staff for more personalised patient care. With 5G network slicing, it ensures seamless, reliable, and efficient operation across hospital premises.



NUHS' AI-powered Robot Nurse Companion



Patient teleconsultation

Smooth, real-time communication between patients and staff via a dedicated 5G network slice

Medicine delivery

Fast, autonomous transport of medications with low-latency connectivity

Vitals monitoring

Real-time and secure health data for timely medical decisions

Mobility and safety support in wards

Quick response and guidance to patient movement using reliable 5G coverage

24/7 autonomous operations

Continuously connected, self-charging, and ready with minimal downtime

The path to the future of patient-centric care in Singapore

With the rollout of Singtel 5G+, Singapore's healthcare system can harness it to deliver more patient-centric care through broader, deeper, and more reliable network coverage, extending from Singapore's denser urban areas to its heartlands.

Singtel 5G+ for the future of healthcare



Wider coverage enables smarter care delivery in urban hospitals and heartland clinics



Enhanced network slicing ensures priority bandwidth for critical applications



Optimised for future innovations, such as AI-driven diagnostics, immersive telemedicine, and wearable health devices

Discover how connectivity powers patient-first healthcare.

[Learn more about Singtel 5G+](#)

References

¹Healthcare Asia Magazine, Staff shortages and financial woes challenge Singapore's healthcare quality, 2024.

²National University Health System, NUHS embarks on Holomedicine research in Singapore, using mixed reality (MR) technology to enhance patient care, 2021.

³The Straits Times, Robot nurses that monitor patients' condition, issue medicine to be piloted at NUH in 2025, 2024.