NUHS harnesses tech to help manage hospital facilities

From security robots to touch-free lift buttons

With more technology, NUHS hospitals seek to minimise labour-intensive work and move to a more efficient, safer and productive way of managing its facilities.

Shabana Begum

As you walk through the doors of Ng Teng Fong General Hospital (NTFGH) for the first time, a robot will scan your safety entry check-in and record your temperature.

Some staff will also detect visitors and patients who are not wearing masks or following social distancing rules, and don’t comply with rigorous hand hygiene.

The robot will be deployed at NTFGH from next month, and will also be trialled at Alexandra Hospital from November.

Around the same time, the National University Hospital will be testing a nursing security robot that can identify suspicious activities such as crowding and people linking in restricted areas.

The three hospitals are part of the public healthcare cluster under the National University Health System (NUHS).

NUHS said robots, drones and touch-free technologies will become the new normal. The shift to technology-based solutions comes as the hospitals seek to minimize labour-intensive operations and move to a more efficient, safer and productive way to manage its facilities. This will not only save time but also allow staff a more time-efficient way to manage their daily tasks.

"From delivery to circulating technology, how do we improve our processes?” said Dr Ng Yee Wah, the chief operating officer of NUHS.

"Instead, the technology will be used to support them in their work and give them the opportunity to reskill and upskill,” added Mr Ng.

INTERNET OF THINGS SENSORS AND THERMAL SENSORS

- Prevent falling and wristwater overflow
- Prevent temperature-related damage such as fires and thermal shutdown
- If sensor detects rising water levels, facility management staff will be alerted via SMS

TOUCH-FREE BUTTONS IN LIFTS

- Prevent the spread of bacteria and viruses
- Will be installed in lifts frequented by patients and visitors

CONCIERGE AND SECURITY ROBOT

- Scan safety entry checks and record temperature
- Alert security officers during emergencies
- Detect visitors or patients without masks and prevent them from entering

SECURITY ROBOT

- Patrol National University Hospital (from November)
- Detect suspicious activities such as crowding, fights and bags left unattended
- Alert security officers during emergencies
- Detect breaches in safe distancing
- Identify people who need assistance (behind lifts, hall) and alert security officers

With the help of state-front line patrol and observing, security officers can focus on visiting areas to ensure that the robots send in drones are also being used to scan the buildings’ exteriors, look out for hazards and areas that need maintenance work.

NUHS is the first organisation in the local healthcare scene to use drones to inspect hospitals. Armed with high-resolution cameras, the drones can capture live footage of hard-to-reach areas such as roof gutters, and direct water pooling on roofs, a potential breeding ground for mosquitos and flies.

Previously, gorgeous - trained and moved by workers - were used to inspect building facades. Workers were also exposed to danger when scaling ladders and by walking on rooftops and gutters.

To prevent transmission of bacteria and viruses, the three hospitals will install touch-free buttons in lifts that patients and visitors frequently use. By next year, Touchless lifts at NTGHS’s Towers will have been installed with touch-free buttons.