



REN CI HOSPITAL TAKES TOP HONOURS AT THE NATIONAL HEALTHCARE INNOVATION & PRODUCTIVITY MEDALS 2022

Ren Ci Hospital won the National HIP Excellence Champion Medal for its smart geo-fencing system. The team behind this innovation is made up of Teo Lay Hong, Tang Sze Chia, Moh Moh Hlaing, and Sito Jowyn. Find out what drove the team at Ren Ci Hospital to innovate for their residents.

By Tjut Rostina, CHI

Close to 100 submissions were received for the National Healthcare Innovation and Productivity (HIP) Medals this year!

This year, eight winning projects were recognised for their excellence in Care Redesign, Automation, IT and Robotics Innovation, Workforce Transformation, and Adoption.

The top award – the National HIP Excellence Champion Medal - was presented to Ren Ci Hospital for its smart geo-fencing system that keeps its nursing home residents with dementia safe by alerting staff if they wander outside zoned areas.

With this in place, residents have been empowered to move about independently and safely with minimal supervision.

The team behind this innovation is made up of Teo Lay Hong, Executive Director, Tang Sze Chia, Manager, Moh Moh Hlaing, Resident Care Associate Lead, and Sito Jowyn, Executive.

Find out what drove the team at Ren Ci Hospital to innovate for their residents.



Part of the team receiving the award from Dr Janil Puthucheary, Senior Minister of State, Ministry of Communications and Information, and Ministry of Health



Problem & Background

To promote active aging and empowerment for the hospital's residents, Ren Ci encourages ambulant and physically abled residents to move about freely within safe areas. The residents are able to venture out of their households to participate in daily exercise routines, socialise with their friends within the nursing home, or take part in activities that are organised within the facility.

However, more than 30 percent of Ren Ci's residents suffer from dementia, and these residents have the tendency to unintentionally wander off and have difficulty finding their way back. There is also the risk of the residents getting hurt when they step out of their household or leave the vicinity of the nursing home. When a resident is found to be missing, the nursing home staff would spend a considerable amount of time trying to locate the resident.

Notably, Ren Ci's Ang Mo Kio Nursing Home (AMKNH) has 11 floors, with a (SCC) on Level 2, and 28 households from Levels 3 to 10. The senior care centre has over 60 clients and households, catering to the more than 400 residents.

Manpower is also lean with care staff having to attend to medical needs and assist with activities of daily living, such as toileting. Furthermore, to create a familiar homely environment, residents are dressed in home clothes which makes it challenging to identify nursing home residents should they wander out of their households to non-permitted areas.

The Solution



Small and water proof RFID tag/s sewn into the seams of residents' clothes

In order to address this issue and ensure the safety of the residents, without compromising their sense of empowerment in movement, residents' clothes are tagged with a small RFID chip, and areas that are monitored have been installed with an RFID reader.

Tablet computers for monitoring have also been made available at the respective staff stations in the households and at the security post.

When residents step into non-designated areas such as lift lobbies/staircases, the Smart-Geofencing System would immediately trigger warning alerts to the tablets, enabling care staff and security personnel to promptly stop residents from wandering out of the premises.



Safe and Empowered Movement

Based on the AMKNH study, the time to locate a resident has decreased from 2 hours to 10 minutes with the Smart Geofencing System. With the targeted 12 percent (approximately 50) of AMKNH residents with dementia, the time taken to locate these 50 residents (assume 1 occurrence per pax per month) would reduce from 100 hours to 8 hours per month.

This translates to a potential time saving of 92 hours per month – an increase of 92 percent in efficiency to locate residents who have wandered off.

The system enables community living and social interaction which is important for the cognitive health (eg: remembering routes, playing chess, reminiscing the past through conversations) of our residents.

The move has been well received by family members who are heartened to know that their loved ones are able to move around and interact with others freely, knowing that they are safe within the nursing home.

About the National HIP Medals

Launched in 2016, the National HIP Medals is a prestigious, national-level award that recognises local healthcare and community care institutions that have demonstrated thought leadership through the implementation of innovative productivity projects. It is open to all local healthcare institutions from the primary, acute and community care sectors.

The recipients of the National HIP Medals have shown how the spirit of innovation is thriving and continuously progressing to deliver value in healthcare, while building resilience in the face of future challenges. To find out more about the winning projects, watch their video [here](#).



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