

## MEDIA RELEASE

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### **NUH CLINCHES FIVE HOSPITAL MANAGEMENT ASIA AWARDS, CHAMPIONS INNOVATION AND SUSTAINABILITY**

*From AI-driven solutions to sustainability initiatives and building a resilient workforce, each winning team has brought positive influence*

SINGAPORE — The Emergency Department (ED) at the National University Hospital (NUH) sees over 120,000 patient attendances a year, operating round the clock and caring for patients in the darkest hours.

Recognising the importance of building a strong, resilient workforce to manage the frenetic intensity and emotional demands of working in the ED, a group of five doctors decided to launch a professional development programme in March 2024. The team was conferred the Hospital Management Asia (HMA) Excellence award on 11 September, under the Best in Talent Development category for their efforts.

Adapted from NUH's WeCare initiative, which encourages staff to care for each other and everyone they serve, the project, titled **'Caring for Caregivers: Building Connection and Resilience in the Emergency Department'** aims to address the need for greater psychological safety, interpersonal connection, and long-term engagement among ED physicians. In addition to a structured 12-module curriculum, the initiative included regular social bonding activities to reinforce trust, camaraderie, and shared purpose in informal settings.

A survey conducted after the launch of the initiative revealed that 92 per cent of respondents felt their work was meaningful and aligned with a culture of teamwork and professional fulfilment.

#### **Driving innovation to transform patient outcomes**

Late-onset gram-negative sepsis is a common and serious issue that threatens the health and wellbeing of premature babies in the neonatal intensive care unit (NICU). To tackle the cases of late-onset gram-negative sepsis occurring in the NICU at NUH, the neonatology department began conducting in-depth investigations.

This led to the inception of the **'Water-Less ICU – Eliminating Waterborne Infection Through Infrastructure Redesign and Workflow Innovation'** project, which has won the HMA 2025 Gold award, under the Infection Control Excellence category, after the team discovered the source – biofilm formation in sink traps and faucet aerators in the NICU, which acted as reservoirs for multidrug-resistant organisms.

Instead of undertaking expensive plumbing overhauls, the team reimaged ICU operations entirely, by replacing water-based hand hygiene protocols with alcohol-

based hand rubs, and utilising UV sterilisers and sterile water in patient care and milk preparation.

The Water-Less ICU project, which was rolled out from 2021 to 2024 in structured phases, was fully implemented last year across the NICU, through infrastructure redesign, protocol overhaul, staff-wide training and rigorous scientific research. Through the project, the team was able to slash the incidence of late-onset sepsis by 50 per cent in Very Low Birth Weight infants (babies below 1.5kg at birth), and achieve 80 per cent reduction in sink-related bacterial contamination.

Another project winner that clinched the HMA Excellence award under the Most Advanced Healthcare Technology category for advancing innovation to improve patient outcomes, is the **‘CalSense+: Real-Time AI-Driven Detection and Triage of Hypercalcemia’** initiative. Hypercalcemia (abnormally high levels of calcium in the blood) is a common but underdiagnosed biochemical abnormality, often indicative of serious underlying conditions such as parathyroid disease or malignancy.

Within the National University Health System (NUHS), of which NUH is part of, an analysis of 26,000 calcium tests over six months revealed over 1,600 abnormal results.

To close the gap, a team from the Division of General Surgery (Endocrine & Thyroid Surgery) at NUH spearheaded the CalSense+ project – an AI-powered, automated solution to detect calcium abnormalities in real-time and route patients for timely follow-up.

Since the start of the project in January 2024, and the implementation of a structured detection framework, NUHS has achieved a detection rate of up to 80 per cent across all hypercalcemia cases, and a 50 per cent reduction in time between an alert of an abnormal calcium result to a clinic visit for follow up.

Designed for long-term sustainability, there are plans to scale CalSense+ across diseases, to target cancer markers, cardiovascular abnormalities and renal dysfunction, utilising the same infrastructure and automation workflows.

### **At the forefront of sustainability**

Two other HMA award winners pushing the envelope on sustainability are the teams behind the **‘Optimising Care for Patients with Cellulitis’** and **‘Healing Patients While Healing the World’** projects.

The former, which won the HMA Excellence award under the Best in Financial Improvement category, was initiated by the Division of Infectious Diseases at NUH, in response to the challenges surrounding hospital discharge processes. A growing emphasis on delivering high-value care within the healthcare sector had brought to light opportunities for improvement, such as streamlining patient discharges and optimising resources.

Upon analysis of patient data from December 2023 to June 2024, the team discovered that only 48 per cent of patients admitted to the Acute Medical Unit with uncomplicated limb cellulitis were discharged following an average length of hospital stay of less than or equal to 3 days.

By strategically streamlining discharge processes and reducing the incidence of non-essential investigations, the team was able to alleviate bed shortages, generate cost savings for patients and the hospital, while optimising patient experience. After the implementation of the project, the percentage of patients with uncomplicated limb cellulitis who were discharged within three days rose from 48 per cent to over 80 per cent.

In line with the Singapore Green Plan, to achieve net-zero carbon emissions by 2045 for the public sector, the NUH Nursing team behind the **'Healing Patients While Healing the World'** project banded together with 53 Green Champions to form the Nursing Sustainability Committee (NSC), espousing the 4R strategy, "Refuse, Reduce, Reuse, Recycle", to drive green initiatives. The NSC gathers quarterly to cross-share and update on new and existing initiatives. NSC collaborates closely with the Group Hospitality department in several green initiatives. The team won the HMA Excellence award for their project, under the Most Sustainable Hospital category.

The team's initiatives include the creation of a Nursing Marketplace for trading and giving away of expiring items to reduce waste, education programmes on the proper disposal of biohazard waste versus general waste, medication sachet recycling, refurbishment of bedside cabinets, the Sort-At-Source initiative to increase paper and plastic recycling, and reducing paper waste by transitioning from A4 to A5 patient sticky labels.

The latter, which was implemented in October 2024, is projected to save 37,000 A4-size papers annually, which translates to approximately 183.5kg. The Sort-At-Source initiative also led to a 231 percent increase in plastic recycling and 47 percent increase in paper recycling.

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### Chinese Glossary

National University Health System (NUHS)	国立大学医学组织 (国大医学组织)
National University Hospital (NUH)	国立大学医院 (国大医院)
Acute Medical Unit	急诊内科病房

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### About the National University Hospital

The National University Hospital (NUH) is Singapore's leading university hospital. While the hospital at Kent Ridge first received its patients on 24 June 1985, our legacy started from 1905, the date of the founding of what is today the NUS Yong Loo Lin School of Medicine. NUH is the principal teaching hospital of the medical school.

Our unique identity as a university hospital is a key attraction for healthcare professionals who aspire to do more than practise tertiary medical care. We offer an environment where research and teaching are an integral part of medicine, and continue to shape medicine and transform care for the community we care for.

We are an academic medical centre with over 1,200 beds, serving more than one million patients a year with over 50 medical, surgical and dental specialties. NUH is the only public and not-for-profit hospital in Singapore to provide trusted care for adults, women and children under one roof, including the only paediatric kidney and liver transplant programme in the country.

The NUH is a key member of the National University Health System (NUHS), one of three public healthcare clusters in Singapore. For more information, visit [www.nuh.com.sg](http://www.nuh.com.sg)

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