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MEDIA RELEASE

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NUH LAUNCHES NEW DIGESTIVE CENTRE TO PUSH NEW FRONTIERS IN EARLY CANCER DETECTION AND CARE EXCELLENCE

The new National University Centre for Digestive Health aims to strengthen patient access to cutting-edge diagnostic technologies and innovations in early detection and quality specialised care

SINGAPORE — The National University Hospital (NUH) is embarking on a major initiative to establish the National University Centre for Digestive Health, slated for completion in the first half of 2025. With a vision to be the region's leading academic centre for digestive health, the Centre will pioneer research, innovations and clinical practices with an amplified focus to elevate the standards of early disease detection, precise diagnosis, treatment and prevention of digestive illnesses.

Through the integration of artificial intelligence (AI) and advanced technology, the new Centre will serve as a comprehensive one-stop centre for gastroenterology and hepatology services, catering to the growing needs of patients with stomach, colon and liver-related diseases, including cancers.

Gastrointestinal cancers and liver cancer rank among the leading causes of cancer-related deaths in Singapore. It was reported by the Singapore Cancer Registry Annual Report 2021 that gastrointestinal cancers made up one-third of cancer cases in males and approximately one-fifth of the cases in females[1].

Harnessing the power of AI and technology

The establishment of the National University Centre for Digestive Health heralds a new approach where specialised care, from radiology and diagnostics to surgery and therapeutic procedures, is significantly enhanced by AI and technology. This advancement not only promises streamlined patient services, but also ensures early detection and more effective intervention strategies, thanks to same-day diagnostics and treatment capabilities.

The Centre is currently the only one in Singapore to put in place three AI-enabled systems, known as the Computer-assisted detection (CADe), Computer-assisted diagnosis (CADx) and Computer-assisted quality control (CAQ), which work in tandem to not only identify early gastrointestinal lesions more effectively, but also enable the

[1] https://www.nrdo.gov.sg/docs/librariesprovider3/default-document-library/scr-ar-2021-web-report.pdf?sfvrsn=591fc02c_0

real-time cancer diagnosis of these lesions. This can translate to earlier treatments or follow-up interventions for patients identified with high-risk lesions, potentially leading to improved prognosis and treatment outcomes.

Early gastrointestinal lesions, which are abnormal changes involving the tissues in the stomach area, may be indicative of cancer. As such, early detection and diagnosis are crucial for better prognosis and lay a strong foundation for successful treatment and recovery.

The Centre is pioneering the development of a more accurate blood-based diagnostic test for stomach cancer. The test will better identify individuals at high-risk of stomach cancer, potentially reducing the necessity for invasive endoscopy in low-risk cases. The team is also developing novel biomarkers to improve the precision of early colorectal cancer detection, as well as new pancreas and liver cancer assays.

Adjunct A/Prof Lee Guan Huei, Head and Senior Consultant, Division of Gastroenterology and Hepatology, Department of Medicine, NUH said: “At the forefront of our mission within the National University Centre for Digestive Health is the fusion of AI and advanced technologies with deep clinical expertise. This signifies our commitment to innovation as well as our dedication to offering our patients the best experience and most advanced care options possible."

Enhanced capabilities in diagnostics and surgical interventions

Amid preparations for the completion of the new Centre by 2025, NUH has significantly enhanced its Endoscopy Centre to cater to the escalating needs of an ageing population and the increased incidence of gastrointestinal cancers. Offering a wide spectrum of endoscopic procedures, ranging from basic diagnostic screening to advanced therapeutic interventions, the NUH Endoscopy Centre plays a pivotal role in delivering comprehensive care.

Since August 2023, the NUH Endoscopy Centre has introduced a high-performance X-ray based visualisation system, the first of its kind in Southeast Asia. This system boasts an advanced 3D imaging feature, which enhances the capability of surgeons to locate diseased tissues and identify potential issues that may not be visible with traditional 2D imaging. The system’s high precision, advanced 3D imaging, and high contrast resolution provide optimal visual control during sophisticated lesion removals and minimise procedure times. At the same time, it is also able to calculate the optimal dose for each patient, which helps to minimise radiation exposure.

Over the past year, NUH has also expanded its facilities, introducing four new procedure rooms, along with additional recovery bays, triage rooms, and a dedicated counselling space, to meet the rapidly growing need for screening endoscopy that can be expected from HealthierSG.

Another practice-changing innovation is the development of a leading-edge robotic-assisted endoscopic surgery system, which marks a significant leap forward in less invasive surgical techniques and underscores the dedication to progressive healthcare solutions. This system takes a novel incision-less surgical approach that eliminates gastric and colon tumours through natural orifices like the mouth, hence reducing surgery time, patient discomfort, and enhancing recovery speed. Clinical trials have demonstrated a reduction in complication rates to below five per cent and hospital stays to less than a day.

Associate Professor Asim Shabbir, Head & Senior Consultant, Department of Surgery, NUH, said: “At the National University Centre for Digestive Health, we are continuously striving for better outcomes where treatment is less invasive, more effective, and tailored to the individual needs of each patient. The introduction of new technologies into our surgical practices will be a game-changer. As we continue to expand our infrastructure and embrace technological advances, the Centre is poised to redefine digestive health for the future.”

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About National University Hospital (NUH)

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.