

MEDIA RELEASE

**NHG POLYCLINICS AND CARECAM TO BUILD AI-POWERED
FRAILTY SCREENING TOOL TO DETECT EARLY PHYSICAL
FRAILTY AND PREDICT FALL RISK**

- NHG Polyclinics and CareCam are developing an AI frailty screening tool that can detect early physical frailty and predict fall risk using 3D-gait technology.
- Researchers will study walking, sit-to-stand and balance movements in up to 1,000 participants who are physically fit, pre-frail and frail to train the AI algorithm.
- The study will assess the usability of the newly developed automated AI screening tool in the polyclinic setting.

Singapore, 15 September 2026 – NHG Polyclinics, the primary care arm of NHG Health, today announced a study with CareCam, a digital health company, to build an AI frailty screening tool using 3D-gait, a non-invasive video-based technology, to detect early physical frailty and predict fall risk. This collaboration brings together NHG Health's expertise in frailty research and intervention, and CareCam's specialisation in AI-driven motion analysis technology. The study has received the National Health Innovation Centre Singapore Innovation to Industry (I2I) Grant and Startup SG Tech - Proof-of-Concept (POC) Grant from Enterprise Singapore.

2 "Physical frailty is a growing challenge in a super-aged society like Singapore. The need is especially pressing for NHG Health as the regional health manager for Central and North Singapore, with its mature estates and a fast-growing population of seniors. NHG Polyclinics' collaboration with CareCam will transform early frailty management, reduce falls, and address the long-term care needs of our seniors. This marks a pivotal shift from treating frailty to preventing it," said Associate Professor Karen Ng, Chief Executive Officer, NHG Polyclinics, and Chief, Primary Care, Population Health, NHG Health.

3 During the ageing process, loss of function occurs across different physiologic systems, which includes the musculoskeletal system. In particular, these changes affect the lower limb, resulting in significant changes in mobility that may go undetected in early phases.¹ Reduced gait speed, strength and balance contribute significantly to physical frailty and may result in falls and worsening of frailty, leading to physical inactivity and exhaustion.

4 Gait is an important health metric because of its association with falls, hospitalisation, functional decline, cognitive decline and mortality. The research team is therefore developing a screening tool that can be deployed at scale in both primary care and community settings. This will support doctors in recommending targeted early interventions.

¹ Pirker W, Katzenschlager R. Gait disorders in adults and the elderly: A clinical guide. Wien Klin Wochenschr. 2017;129(3-4):81-95. doi:10.1007/s00508-016-1096-4

The Study

5 “Our work with NHG Polyclinics allows us to bring CareCam's mobility analysis technology into the daily workflow of primary care. We are proud to support NHG Health's vision of proactive, accessible frailty screening and help clinicians identify at-risk seniors,” said Dr Ramanpreet Singh Pahwa, Chief Technology Officer, CareCam Pte. Ltd.

6 In Phase 1, the study focuses on building an AI frailty screening tool to identify early physical frailty and predict falls within 5 minutes. We will be studying the walking patterns, sit-and-stand motions, and balance (stability) of up to 1,000 participants aged between 40 and 100 who are physically fit, pre-frail and frail. The participants are being recruited from NHG Ang Mo Kio Polyclinic and Kwong Wai Shiu Active Ageing Centres since April 2026. AI algorithms will be developed using these biomarkers to predict frailty, enabling early identification. This will enable the screening tool to be used across the full range of physical functions, rather than only in people who are already frail.

7 In Phase 2, a pilot implementation study will be conducted in a polyclinic under NHG Health next year. Participants will be recruited to assess the usability of the newly developed automated screening tool in the primary care setting. The tool uses 3D-gait technology to analyse human motion and generate objective measurements of how a person walks, their muscular strength and their ability to maintain balance, collectively known as digital biomarkers, detecting early signs of mobility issues that predispose older adults to falls.

8 “The deployment of an AI-powered frailty screening tool can help clinicians identify and improve frailty care through timely targeted interventions that reduce the risk of adverse outcomes such as falls, hospitalisation, loss of independence, and prolonged recovery after illness or injury. Early frailty management will enable seniors to age well and stay independent in the community,” said Assistant Professor Sabrina Wong, Family Physician, Senior Consultant and Deputy Director, Clinical Research Unit, NHG Polyclinics, and Principal Investigator of the study.

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About NHG Polyclinics

NHG Polyclinics is the primary healthcare arm of NHG Health, the regional health manager for the 1.5 million residents of Central and North Singapore.

NHG Polyclinics provides a comprehensive range of health services for the family, functioning as a one-stop health centre providing treatment for acute medical conditions, management of chronic diseases, women and children health services and dental care. The focus of NHG Polyclinics' care is on health promotion and disease prevention, early and accurate diagnosis, disease management through physician led team-based care as well as enhancing the capability of Family Medicine through research and teaching.

Through the Family Medicine Academy and the NHG Family Medicine Residency Programme, NHG Polyclinics plays an integral role in the delivery of primary care training at medical undergraduate and post-graduate levels. The Primary Care Academy provides a one-stop primary care training centre for primary healthcare professionals and the community.

More information is available at www.nhghealth.com.sg/nhg-polyclinics

About CareCam

CareCam is a Singapore-based digital health company founded in 2022, specialising in AI-powered motion analysis technology for clinical use. Its proprietary 3DGait platform uses video-based movement analysis, captured through a single camera on a standard tablet device, to generate objective digital biomarkers of gait, strength and balance, without the need for wearables, markers or multi-camera setups, supporting earlier and more accurate detection of mobility decline. The technology has been validated against gold-standard motion capture systems and in clinical populations, including studies in cardiac patients and stroke patients at Tan Tock Seng Hospital and National University Hospital. CareCam holds two patents and more than 20 intellectual property assets in gait and motion analysis. The company's mission is to make objective, non-invasive functional assessment accessible in everyday care settings, from hospitals to primary care and the community.

More information is available at <https://CareCam.ai/>

Name Glossary

Associate Professor Karen Ng Chief Executive Officer, NHG Polyclinics, and Chief, Primary Care, Population Health, NHG Health	黄明燕副教授 行政总裁, 国立健保集团综合诊疗所 总主任, 基层医疗, 国民保健, 国立健保集团
Assistant Professor Sabrina Wong Family Physician, Senior Consultant Deputy Director, Clinical Research Unit NHG Polyclinics	王琪慧助理教授 家庭医生, 高级顾问 副处长, 临床医学研究组 国立健保集团综合诊疗所
Dr Ramanpreet Singh Pahwa Chief Technology Officer CareCam Pte. Ltd.	Dr Ramanpreet Singh Pahwa 首席科技总监 CareCam
NHG Polyclinics	国立健保集团综合诊疗所 Poliklinik Kumpulan Jagaan Kesihatan Nasional தேசிய சுகாதார பராமரிப்புக் குழும பலதுறை மருந்தகங்கள்