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NHG POLYCLINICS FRAILITY PROGRAMME PREVENTS ONSET, REVERSES PROGRESSION AND ENHANCES HEALTH OUTCOMES AMONG PATIENTS

Targeted interventions empower patients to take charge of their health and well-being

Singapore, 24 October 2024 – Frailty is a prevalent condition among elderly patients which increases their risk of falls, hospitalisations, disabilities and even mortalities. As Singapore’s population ages, the prevalence of frailty is expected to increase. The 2023 National Frailty Strategy Policy Report¹ reported that the number of seniors aged 65 years and above will increase from 510,000 in 2017 to over 900,000 in 2030, when one in four Singaporeans will be 65 and above. Local studies² conducted from April 2019 to December 2019 have found that at least 30% and 5% of our senior population were pre-frail and frail respectively. Resistance exercises and high protein diets are the most effective interventions for managing frailty in primary care settings³.

2 In June 2022, the National Healthcare Group Polyclinics (NHGP) introduced the Frailty Programme to prevent the onset of frailty, reverse its progression and improve long-term health outcomes. The programme targets teamlet patients aged 65 years and above, who fall into Clinical Frailty Scale (CFS) scores 3 (Managing Well) and 4 (Living With Very Mild Frailty). Incorporating behavioural change techniques, the programme encourages the adoption of interventions that help reduce frailty.

3 Chief Executive Officer of NHGP, Dr Karen Ng said, “As Singapore’s ageing population continues to grow, frailty will be an increasing challenge, impacting the quality of life among the elderly. However, frailty can be prevented, reversed, or delayed with timely intervention. By focusing on early detection and proactive measures, we can prevent progression into frailty, optimising patients’ functional abilities, enhancing their participation in daily activities and improving overall quality of life. The NHGP Frailty initiative enables us to identify and manage frailty effectively, ultimately elevating the standard of care and outcomes for elderly patients.”

¹ Ministry of Health, National Frailty Strategy Policy Report, April 2023, <https://www.moh.gov.sg/resources-statistics/reports/frailty-strategy-policy-report>

² Rapid Geriatric Assessment Using Mobile App in Primary Care: Prevalence of Geriatric Syndromes and Review of Its Feasibility, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7360669/>

³ Travers J, Romero-Ortuno R, Bailey J, Cooney MT. Delaying and reversing frailty: a systematic review of primary care interventions. *Br J Gen Pract.* 2019 Jan;69(678):e61-e69.

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A Multi-Disciplinary Approach to Preventing and Reversing Frailty

4 “In the pilot phase of the Frailty Programme, we found that 55% of the patients screened belonged to CFS 3 and 4, highlighting an opportunity for NHGP to impact population health outcomes. Our focus was on preventing frailty in patients with CFS 3 and reversing it in those with CFS 4. Both groups consist of independent individuals who are physically inactive or showing early signs of frailty such as slow gait. As they age, their mobility declines, significantly impacting their ability to perform daily activities. However, through the collaborative efforts of the multi-disciplinary team, including doctors, care coordinators and clinical pharmacists, we have successfully improved frailty outcomes of these patients,” said Dr David Ng, Family Physician, Senior Consultant, Deputy Director, Clinical Services, Lead, NHG Polyclinics’ Frailty Programme, NHGP.

5 Professor Joe Sim, Group Chief Executive Officer of National Healthcare Group, emphasised the programme’s importance, “This Frailty Programme demonstrates NHG’s commitment to addressing the healthcare needs of Singapore’s ageing population by offering proactive, primary care interventions early. It aligns with our efforts to support our frail patients in Central and North Singapore regain their later years generally spent in poor health, and turn them into productive, healthy, and quality ones. This holistic, multi-disciplinary approach to care by our polyclinics is timely in not only mitigating the effects of frailty but also empowering elderly patients to lead healthier active lives.”

6 The Frailty Programme focuses on three key components: (1) Frailty intervention, (2) Referral to Community Exercise Programmes, and (3) Medication Deprescribing.

Frailty intervention

7 Care Coordinators (CC) within NHG Polyclinics’ Teamlet model plays a crucial role in screening patients for frailty using the CFS tool. For patients identified to be CFS 3 and 4, the CC measures patients’ hand grip strength to introduce behaviour change techniques and kickstart a conversation on frailty intervention. Thereafter the CC provides educational materials and lifestyle advice on ageing well, such as increasing resistance exercises, high-protein diets, and fall prevention.

8 When necessary, patients are referred by their doctors to dietitians and/or physiotherapists, particularly in cases where complex conditions such as chronic kidney disease (CKD) or musculoskeletal (MSK) issues require specialised interventions.

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Community Exercise Programmes (CEP)

9 Another aspect of the Frailty Programme is facilitating access to Community Exercise Programmes (CEP). The CC introduces CEP to patients by checking on their interest to participate. For interested patients, CC will inform the doctor who assesses their suitability and refer them to appropriate exercise programmes coordinated by NHG's Community Health Team (CHT). CHT will then ensure patients' participation in CEPs aligns with their preferences, CFS score, and location.

10 Ms Yeo Loo See, Deputy Director, Nursing Services, NHG Polyclinics, elaborated on the role of the Care Coordinator in this effort. "Our Care Coordinators are primarily responsible for preventive care. In addition to their regular duties of supporting NHGP Teamlets that look after patients with chronic conditions, they have been upskilled to assist in the Frailty Programme. By screening for frailty, the Care Coordinators play a key role in building trust and rapport between the care team and patients. This connection is crucial in encouraging patients to participate in the recommended Community Exercise Programmes. The contributions of our Care Coordinators are invaluable in ensuring the success of the Frailty Programme."

Medication Deprescribing

11 Elderly patients are at a higher risk of experiencing adverse events, due to medication side effects. For instance, high doses of diabetes mellitus (DM) medications may lead to an increased incidence of low sugar levels (hypoglycaemia) and a higher risk of falls. In the Frailty Programme, if an elderly patient's HbA1c level is below 6.5% and they are taking multiple diabetes medications, a clinical pharmacist reviews their medication plan and recommends adjustments to deprescribe medications. These recommendations are then further reviewed by the Family Physician.

Encouraging Results from Frailty Programme

12 From November 2020 to September 2024, over 7,100 patients were screened, and close to 3,600 with CFS 3 and 4 received interventions. At the 12-month follow-up, around 48% of CFS 3 patients and 31% of CFS 4 patients showed improved hand grip strength of one kilogram or more, which is associated with a reduction in mortality⁴. 16% of CFS 3 patients

⁴Malhotra R, Tareque MI, Tan NC, Ma S. Association of baseline hand grip strength and annual change in hand grip strength with mortality among older people. Arch Gerontol Geriatr. 2020 Jan-Feb;86:103961.

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and 31% of CFS 4 patients had improved CFS scores. These results highlighted the programme's success in reversing frailty and improving patient outcomes.

Future Developments

13 Launched officially on 20 June 2022, the Frailty Programme is currently available at NHG Polyclinics in Toa Payoh, Ang Mo Kio, and Hougang. By the end of 2025, NHGP will implement the programme to all its polyclinics in the central region where the population is older.

For the full description of Clinical Frailty Scale, please refer to Annex A.

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About National Healthcare Group Polyclinics

National Healthcare Group Polyclinics (NHGP) forms the primary healthcare arm of the National Healthcare Group (NHG). Its nine polyclinics serve a significant proportion of the population in the central and northern regions of Singapore.

NHGP provides a comprehensive range of health services for the family, functioning as a one-stop health service centre providing treatment for acute medical conditions, management of chronic diseases, women & children services and dental care. The focus of NHGP's 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, NHGP plays an integral role in the delivery of primary care training at medical undergraduate and post-graduate levels. With the Primary Care Academy, NHGP provides training to caregivers and other primary care counterparts in the community sector.





More information is available at www.nhgp.com.sg.

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ANNEX A

CLINICAL FRAILTY SCALE

	1	VERY FIT	People who are robust, active, energetic and motivated. They tend to exercise regularly and are among the fittest for their age.
	2	FIT	People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g., seasonally.
	3	MANAGING WELL	People whose medical problems are well controlled , even if occasionally symptomatic, but often are not regularly active beyond routine walking.
	4	LIVING WITH VERY MILD FRAILITY	Previously "vulnerable," this category marks early transition from complete independence. While not dependent on others for daily help, often symptoms limit activities . A common complaint is being "slowed up" and/or being tired during the day.
	5	LIVING WITH MILD FRAILITY	People who often have more evident slowing , and need help with high order instrumental activities of daily living (finances, transportation, heavy housework). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, medications and begins to restrict light housework.

	6	LIVING WITH MODERATE FRAILITY	People who need help with all outside activities and with keeping house . Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.
	7	LIVING WITH SEVERE FRAILITY	Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).
	8	LIVING WITH VERY SEVERE FRAILITY	Completely dependent for personal care and approaching end of life. Typically, they could not recover even from a minor illness.
	9	TERMINALLY ILL	Approaching the end of life. This category applies to people with a life expectancy <6 months , who are not otherwise living with severe frailty . (Many terminally ill people can still exercise until very close to death.)

SCORING FRAILITY IN PEOPLE WITH DEMENTIA

The degree of frailty generally corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting. In **severe dementia**, they cannot do personal care without help. In **very severe dementia** they are often bedfast. Many are virtually mute.



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Rockwood K et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489–495.

Source: Rockwood, K., & Theou, O. (2020). Using the Clinical Frailty Scale in Allocating Scarce Health Care Resources. Canadian geriatrics journal: CGJ, 23(3), 210–215. <https://doi.org/10.5770/cgj.23.463>