



Press Release – Immediate Release

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Nethersole Charity Foundation’s “Double Based Rehabilitation Service Model” helps community dwelling elders achieve ageing in place and reduce their number of hospital readmission by improving their ability of independent living

Elderly patients at large suffer from remarkable impairment in mobility, activities of daily living and even cognitive function due to different diseases such as stroke, frequent falls or Parkinsonism. To enhance the ability of these patients to live healthily and independently in place, it is essential to provide sustained and comprehensive home-based rehabilitation service during the initial 3 to 12 months after the surgery or diagnosis confirmed (the “optimal rehabilitation period”). In 2000, Alice Ho Miu Ling Nethersole Charity Foundation (AHNCF) has pioneered a unique model of Home-Based Rehabilitation Service (HBRS) for the elderly in Hong Kong, namely **“Double Based (Hospital & Community Based) Rehabilitation Service Model”**, in efforts to filling the gap in home-based rehabilitation service. The research team (led by Professor Diana Lee, Professor of Nursing, and Professor Iris Lee, Associate Professor) from the Nethersole School of Nursing, Faculty of Medicine, The Chinese University of Hong Kong conducted a study¹ to evaluate the effectiveness of this service. The results showed that the comprehensive HBRS under this model can reduce hospital readmission rates among the elderly participants and significantly improve their mobility, physical activities of daily living, instrumental activities of daily living, cognitive function and quality of life. The service also showed positive effect in reducing caregivers’ caregiving strain. The AHNCF called on the government to introduce this service model across the 18 districts of Hong Kong so as to create an all-win situation for the elderly, caregivers and the society.

Hong Kong to be swamped by a “Silver Tsunami” and the problem of “elderly doubletons”

As the elderly population in Hong Kong continues to grow, the number of people aged 85 years old or above is projected to triple² by 2041 - the “Silver Tsunami” is coming. In 2017, the number of patients aged 65 or above accounted for 44%³ of the total number of patients admitted in hospitals under the Hospital Authority (HA), many of whom suffer from major diseases such as stroke, frequent falls or Parkinsonism, which causes remarkable impairment in mobility, physical activities of daily living and cognitive function. The ability of these elderly patients to live independently is thus reduced. Meanwhile, there are 25.2%⁴ of elders are elderly doubletons in Hong Kong. The caregivers, as a senior themselves, are under

¹ Iris Fung-Kam Lee et al. Evaluating the impact of a home-based rehabilitation service on older people and their caregivers: a matched-control quasi-experimental study. *Clinical Interventions in Aging*, 2018, vol.13, page 1727-1737

² HKSAR Government Press Releases, Speech by the Secretary for Labour and Welfare (Chinese only) <https://www.info.gov.hk/gia/general/201711/24/P2017112400545.htm>

³ Medical and Health - Inpatient and day inpatient discharges and deaths of private hospitals by age group and sex, Census and Statistic Department https://www.censtatd.gov.hk/hkstat/sub/gender/medical_and_health/index.jsp

⁴ Hong Kong 2016 Population By-census - Thematic Report : Older Persons, Census and Statistic Department https://www.bycensus2016.gov.hk/data/16BC_Older_persons_report.pdf



great pressure to look after their other halves who become unable to care for themselves after being discharged from hospital.

Lack of home-based rehabilitation service during the optimal rehabilitation period

The optimal rehabilitation period for the elderly falls is between the initial 3 to 12 months after surgery or diagnosis confirmed. However, HA only provides post-hospitalization rehabilitation services for around 1 to 3 months. While the Social Welfare Department (SWD) provides long-term care services for people with moderate to severe impairment, seamless transition from HA rehabilitation service to community care cannot be achieved. The waiting times for its home care services (including rehabilitation service), nursing homes, as well as subvented and contract homes are 1 to 2 years, more than 2 years, and more than 3 years⁵ respectively. The service gap created leads to risks of deconditioning or readmission as it prevents the elderly from seizing the optimal rehabilitation opportunity. Not only these consequences place a heavy burden on caregivers and the healthcare system, but they also diminish the hope of the elders to age in place. The elderly may eventually be sent into elderly residential care homes.

Comprehensive home-based rehabilitation service that fills the service gap

In view of this, the AHNCF, which serves the community with the core value of "Holistic Care with Compassionate Love", has pioneered a unique model of HBRS, namely the "**Double Based (Hospital & Community Based) Rehabilitation Service Model**". Mr. Felix N. YAU, Physiotherapist I, Nethersole Outreaching Rehabilitation Mission (NORM) said, "A team of physiotherapists, occupational therapists, nurses and rehabilitation assistants would communicate with the hospital caring teams and provide home visits as soon as 3 days after referral received. Personalized HBRS including physical and cognitive training, home modification and caregiver training are provided in order to seize the optimal rehabilitation opportunity of the elderly and eventually restore or improve their ability of independent living. The service period would be determined according to the care needs of the elderly while the service fee would be subsidized by the AHNCF." The service targets are frail patients (mainly elderly) referred by hospitals in Tai Po, patients with difficulties accessing hospitals (e.g. living in rural area / non lift-landing housing) and people whose rehabilitation need is at home (such as Parkinsonism).

Double Based Model – Hospital and Community Based

This home-based rehabilitation model is both hospital and community based – with office located in the hospital, the HBRS team members, who are honorary staff of the HA, are able to work closely with hospital caring teams to enable seamless referral (i.e. rehabilitation training can be implemented as soon as 3 days after referral received). In the meanwhile, being community based allows the team to be familiar with the rehabilitation resources in the district and ensure timely referral of the elderly patients to other appropriate community care services, e.g. enhanced home and community care services, according to their needs.

Unplanned number of hospital bed days decreased by 14 days on average

To evaluate the effectiveness of the service, the research team from the Nethersole School of Nursing, Faculty of Medicine, The Chinese University of Hong Kong conducted a matched-control quasi-experimental study¹. The study results have been published on an

⁵ eElderly - service waiting time (Chinese only) <https://www.e123.hk/ngo/pages/110>



international journal entitled “Clinical Interventions in Aging” in September 2018. The study consisted of 122 pairs of elders and caregivers with 61 pairs in the intervention group and another 61 matched pairs in the control group. The health status of the elderly participants in terms of mobility, physical activities of daily living, instrumental activities of daily living, cognitive function, quality of life and their caregivers' caregiving burden were evaluated. After a 3-month follow-up, the intervention group reported significant improvement across the elders' five health aspects (see Annex 1). The **elders' mobility has been enhanced by 24.2%, and there is a positive effect in reducing caregiving strain by 19.2%.**

The intervention group also reported significant reduction in hospital services utilization, including the number of Accident & Emergency Department attendances and unplanned hospital admissions. In particular, the unplanned hospital bed days have been reduced by an average of 14 days in 3 months (see Annex 2).

The Foundation calls on the government to introduce this model to all 18 districts

Dr. Pamela MK LEUNG, JP, Chairman, the NORM Steering Committee, said, "Hong Kong is facing the “Silver Tsunami” and the problem of elderly doubletons. While meal delivery and household cleaning services might be essential, HBRS is the key to seizing the optimal rehabilitation opportunity – which helps restore the elderly's ability to live healthily and independently, as well as reduce hospital readmission and the demand of admitting into residential care homes for the elderly. The study results showed that the remarkable effectiveness of the "**Double Based (Hospital & Community Based) Rehabilitation Service Model**" can help achieve an all-win situation for the elderly, caregivers and society. This model is currently put into practice in Tai Po District. The Foundation hopes that the government will introduce this model to all 18 districts of Hong Kong."

Home-based rehabilitation helps 74-year-old senior and her caregiver to lead a healthy and independent life, achieving ageing in place ultimately

Mrs. Liu, age 74, was admitted to hospital in March last year due to a fall. After being discharged from hospital, she initially received rehabilitation service at the Geriatric Day Hospital. After the two months service period, she was lucky to be referred to the HBRS.

Her husband, Mr. Liu, recalled that his wife had always been physically healthy. The couple used to travel around frequently and even flew all the way to the United States to visit relatives. Since 2015, Mrs. Liu had become low-spirited and sluggish, to the extent that she had trouble in simple lie-to-sit or sit-to-stand movement and experienced several occasions of falling at home. She ended up hospitalized due to a fall while using the toilet at night and her health had been deteriorating ever since.

The NORM team received referral of Mrs. Liu's case in May last year. At that time, she had already shown Parkinsonism symptoms, along with impaired cognitive function and mobility, such as difficulties in getting out of bed or using the toilet and unsteady gait. In the past 10 months, the occupational therapist have assisted Mrs. Liu in enhancing home safety, such as installing handrail at bedside and toilet, providing reality orientation training, a method to strengthen patients' memory of the surrounding environment and slow down the degradation by enhancing their understanding of the 3Ws - when, where and who, as well as cognitive training. Physiotherapist and rehabilitation assistant have also taught her the proper way to exercise and walk.



Ms. Sally S.H. YIM, Occupational Therapist I, NORM stated that, "The score of Mrs. Liu's cognitive function has increased from the initial 12 points to the current 17 points. She also showed improvement in reality orientation and attention. For example, during the short-term memory training with the use of iPad, the number of items she can remember increased from 1 to 3. With respect to daily life, Mrs. Liu is capable of looking after herself now. She can take on some housework to help relieve Mr. Liu's pressure and even take a ride from Tai Po to Tseung Kwan O to visit friends by her own. Meanwhile, she has not reported any incidence of falls or hospital admission since taking part in the rehabilitation training."

Mr. Liu confessed, "As the only caregiver of my wife, and an elder suffering from chronic low back pain myself, watching her health and daily living skills getting worse day by day really overwhelmed me. Fortunately, we got assistance and guidance from the NORM team, who provided home-based training and made home modifications for my wife. Seeing her improvement and progress makes me feel relieved. In my opinion, this is a great programme that is worth extending to other districts. There are many elderly people in Hong Kong with similar needs. In addition to enhancing home safety, this programme provides various trainings that can enable the elderly to continue living at home, not to mention the declined number of hospital admission and reduced demand for residential care homes. I hope that the government can help the elderly and caregivers in Hong Kong to benefit from this service."

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Alice Ho Miu Ling Nethersole Charity Foundation

Alice Ho Miu Ling Nethersole Charity Foundation (i.e. former named as The Executive Committee of The Alice Ho Miu Ling Nethersole Hospital) endeavours to provide multi-discipline medical and nursing care to the people of Hong Kong with our core value "Holistic Care with Compassionate Love" since 1887. We have launched chaplaincy service, elderly residential care, outreaching rehabilitation mission, and established an educational institute that promotes the culture of holistic health and holistic care.

Nethersole Outreaching Rehabilitation Mission

Nethersole Outreaching Rehabilitation Mission (NORM) was inaugurated on 1 April 2000. On-site rehabilitation service is provided to patients who are unable to use hospital service or centre-based service due to mobility or remote residence. It helps the disabled overcome limitations, live an abundant life with full potential and meaning.



Annex 1: Outcome measures of intervention group at 3 months follow-up

Health outcomes	% of increase / decrease
Mobility	↑24.2%
Physical activities of daily living	↑16.0%
Instrumental activities of daily living	↑19.3%
Cognitive function	↑4.6%
Quality of life	↑9.7%
Caregivers' caregiving burden	↓19.2%

Annex 2: Hospital services utilization of intervention group at 3 months follow-up

Unplanned number of	At 3 months follow-up
AED attendances	↓0.66 times
Hospital admissions	↓0.59 times
Hospital bed days	↓13.98 days