



# RETHINKING AGEING



**Geriatric Education &  
Research Institute**

Annual Report 2017/2018

# VISION

A research institute to help Singapore better prepare for the challenges of an ageing population.

# PURPOSE

A geriatric institute based in Singapore to conduct research and education on age-related health issues to promote healthy ageing.



# MESSAGE FROM PROF PANG WENG SUN

EXECUTIVE DIRECTOR

Here at GERI, we are committed to our goal of conducting research and education on age-related health issues to promote healthy ageing. In the past year, we have grown, not only in terms of staff strength, but also in the size and scale of the projects that our research programmes are working on.

In 2017, GERI completed 21 research projects and have 32 currently ongoing projects. These projects were mostly supported by GERI's Intramural funds of \$1,066,861. For work with several other external collaborators in two separate projects, GERI was awarded a total of \$827,524.80 in extramural funding under the Land and Liveability National Innovation Challenge (L2 NIC) by the Ministry of National Development (MND) and National Research Foundation (NRF).

This year, we officially teamed up with the Ageing Research Institute for Society for Education (ARISE) at the Nanyang Technological Institute (NTU), having signed an agreement in November. Through this collaboration, we will be able to harness each other's multi-disciplinary expertise to better understand the needs of the elderly and improve care provision for our ageing population in Singapore.

Moving forward, GERI will continue to strive for excellence in our research, to find innovative and current ways to serve the ageing population in Singapore with our findings. We believe that it is imperative that we come together with our external collaborators and community partners to continually meet the needs and improve the lives of seniors in Singapore. Therein lies the true essence of Rethinking Ageing.

# SENIOR MANAGEMENT



**Prof Pang Weng Sun**  
Executive Director



**A/Prof Ding Yew Yoong**  
Deputy Executive Director  
Programme Lead  
*(Clinical Geriatrics & End of Life)*



**Dr Wong Chek Hooi**  
Deputy Executive Director  
Programme Lead  
*(Health Services & Policy Research,  
Senior Care Delivery)*



**A/Prof Wee Shiou Liang**  
Director  
Programme Co-Lead  
*(Frailty Identification, Prevention & Care  
Model Research Programme)*



**A/Prof James Alvin Low Yiew Hock**  
Programme Lead  
*(Geriatric Education Research)*



**Ms Kong Lai Ho**  
Senior Finance Manager

# JOINT FACULTY

- Dr Chong Mei Sian (The Geriatrics Practice)
- A/Prof Ng Tze Pin (National University of Singapore)
- Dr Tew Chee Wee

# ADJUNCT FACULTY

- Dr Allyn Hum (Tan Tock Seng Hospital)
- A/Prof Angelique Chan (National University of Singapore)
- Dr Christine Chen (Changi General Hospital)
- Dr Christopher Lien (Changi General Hospital)
- Dr David Matchar (National University of Singapore)
- A/Prof Edward Poon (Ang Mo Kio - Thye Hua Kwan Hospital)
- A/Prof Gerald Koh (National University of Singapore)
- Dr Laura Tay (Sengkang General Hospital)

# ADJUNCT FACULTY

- Dr Laurence Tan (Khoo Teck Puat Hospital)
- Dr Mallya Ullal Jagadish (Khoo Teck Puat Hospital)
- A/Prof Philip Yap (Khoo Teck Puat Hospital)
- Dr Raymond Ng (Tan Tock Seng Hospital)
- Dr Samir Sinha (Mount Sinai Hospital, Canada)
- A/Prof Tan Hwee Pink (Singapore Management University)
- Dr Mathew Mathews (Institute of Policy Studies, National University of Singapore)

# OUR PEOPLE



# OUR ADMIN TEAM



**From left to right:** Qiu Shijia (Research Governance & Administration)  
Teresa Elizabeth Koh, Stephanie Fong (Operations)

# EVENTS



## The Art of Data Science

Data Analytics is a scientific and data-driven approach to help organisations solve problems, make better decisions and increase productivity.

Our Senior Research Fellow, Dr Reuben Ng, held a session to share the learning points of successful analytics projects from a practitioner's perspective.

## Identifying Causal Relationships in Observational Research

In health research, identifying causal relationships is often more meaningful than merely demonstrating its association.

A/Prof Ding Yew Yoong conducted a learning session and introduced a graphical approach to causal inference, which also served to motivate researchers to include this approach in their methodological toolbox.



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- Tam WJ, Koh GC, Legido-Quigley H, Ha NHL, Yap PLK. **"I Can't Do This Alone": A study on foreign domestic workers providing long-term care for frail seniors at home.** *International Psychogeriatric Association*. 2017 Nov 20:1-9.
- Chen TY, Tan PJ, Chan A. **Ethnicity predicts falls among community-dwelling older adults in Singapore.** *Geriatrics & gerontology international*. 2018 Jan;18(1):72-79.
- Wong AK, Ong SF, Matchar DB, Lie D, Ng R, Yoon KE, Wong CH. **Complexities and Challenges of Singapore Nurses Providing Postacute Home Care in Multicultural Communities: A Grounded Theory Study.** *Journal of Transcultural Nursing*. 2017 Oct 1:1043659617736884.

# PUBLICATIONS

- Mat S, Ng CT, Tan PJ, Ramli N, Fadzli F, Rozalli FI, Mazlan M, Hill KD, Tan MP. **Effect of Modified Otago Exercises on Postural Balance, Fear of Falling, and Fall Risk in Older Fallers with Knee Osteoarthritis and Impaired Gait and Balance: A Secondary Analysis.** *American Academy of Physical Medicine and Rehabilitation.* 2017 Aug 18. pii: S1934-1482(17)30007-2
- Tan Q, Chye L, Ng D, Chong MS, Ng TP, Wee SL. **Feasibility of a community-based Functional Power Training program for older adults.** *Clinical Interventions in Aging.* 2018: 13 309-316
- Siddiqui S, Chua M, Kumaresh V and Choo R. **A comparison of pre ICU admission SIRS, EWS and q SOFA scores for predicting mortality and length of stay in ICU.** *The Journal of Critical Care.* 2017 May 25:41:191-3
- Tay HEF, Thompson C, Nieh CM, Koh HM, Tan JJC, Yap P. **Person-centered care for older people with dementia in the acute hospital.** *Alzheimer's & Dementia: The Journal of the Alzheimer's Association.* 2017:4:19-27
- G Magpantay, HJ Toh, JA Low, WK Chia. **Analysis of reasons for potentially preventable hospital transfers using the modified INTERACT-II Tool- Letter to the Editor.** *Journal of the American Medical Directors Association.* 19 (2018) 181e184.
- Dent E, Lien C, Lim WS, Wong WC, Wong CH et al. **The Asia-Pacific Clinical Practice Guidelines for the Management of Frailty.** *Journal of the American Medical Directors Association.* Jul 1;18(7):564-575.
- Zhou K, Vidyarthi AR, Wong CH, Matchar D. **Where to Go If Not the Hospital? Reviewing Geriatric Bed Utilization in an Acute Hospital in Singapore.** *Geriatrics & Gerontology International.* 2017 Oct;17(10):1575-1583.

# CLINICAL GERIATRICS & END OF LIFE

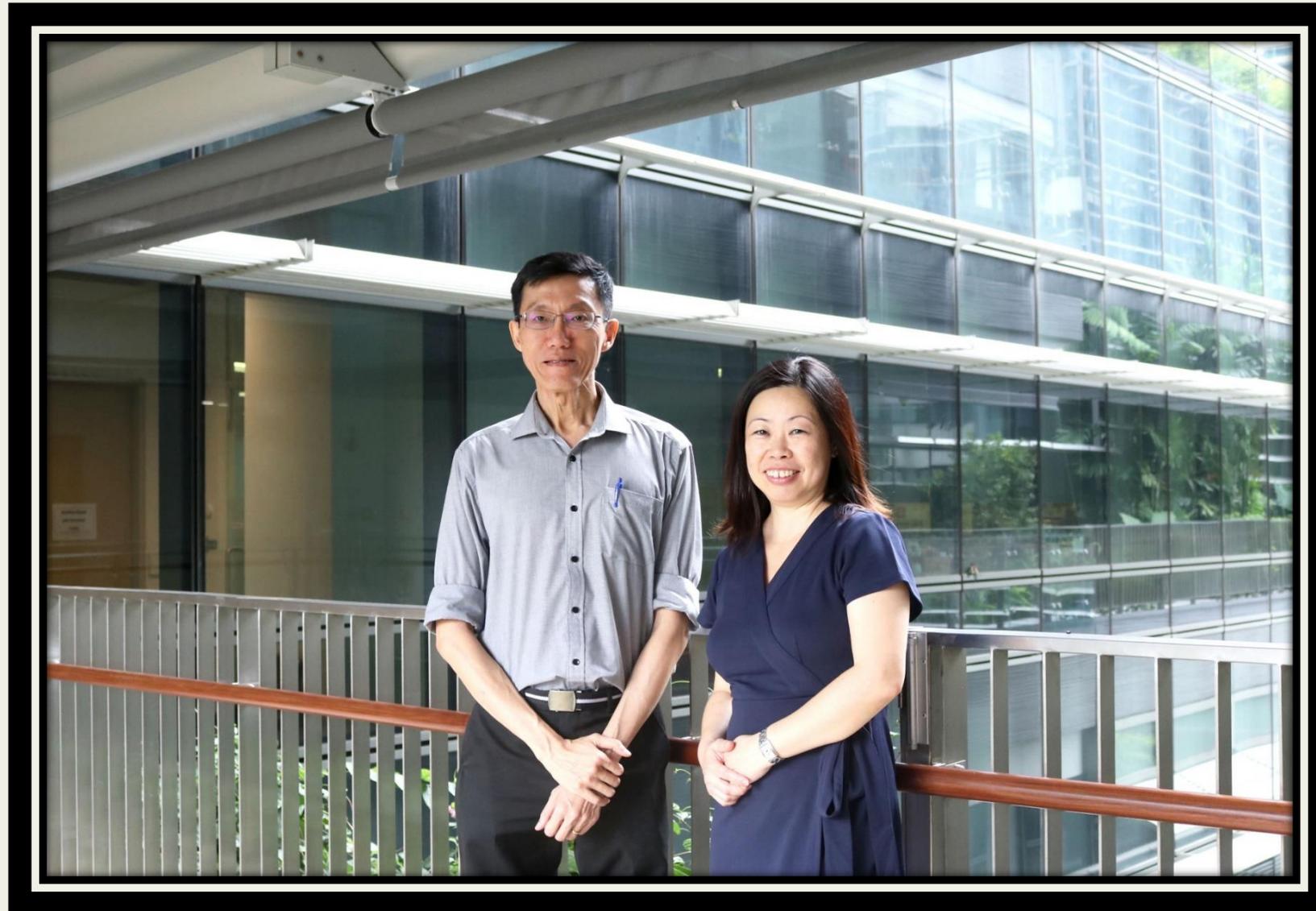
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“With our ageing population, there is an increasing need to address age-related conditions, multimorbidity, polypharmacy, rehospitalization, advanced illness and end life care, as well as caregiving. Thus, in collaboration with partners in our healthcare system and academic institutions, we aim to conduct research that impact practice in clinical care of older adults.

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# CLINICAL GERIATRICS & END OF LIFE

## *OUR TEAM*



**From left to right:** A/Prof Ding Yew Yoong, Penny Lun

# CLINICAL GERIATRICS & END OF LIFE

## UPCOMING PROJECTS

### **Prediction of Survival in Advanced Dementia: Developing Prognostic Models**

*Collaborators: Tan Tock Seng Hospital (TTSH), Khoo Teck Puat Hospital (KTPH), Health Services & Outcomes Research (National Healthcare Group)*

Palliative care is a specialized, multi-disciplinary, and holistic approach to caring for seriously ill people and providing support to their families. Currently, access to palliative care in advanced dementia is hindered due to the difficulty in prognostication. We aim to study variables which enable clinicians to identify patients with end stage dementia who are suffering from burdensome symptoms, thus improving access for them to further supportive care. A prognostic assessment tool which is applicable across different healthcare settings will ensure that patients dying with dementia do not have unaddressed symptoms, communication and palliative needs which are particularly prevalent in the last year of life.

### **Delineating Potentially Modifiable Causes for Early Re-Admission in Seniors following Acute Hospital Discharge: CEASE Study**

*Collaborator: Sengkang General Hospital (SKH), Tan Tock Seng Hospital (TTSH)*

Older adults are at increased risk of hospital admission and re-admissions, imposing significant burden on the individual as any hospital admission is hazardous for the frail elderly. The primary objective of this study will be to delineate potentially modifiable patient-, social- and healthcare system-related risk factors for unplanned re-admission within 30 days of hospital discharge in community-dwelling older adults in a local population. Our secondary objective is to examine whether inclusion of modifiable risk factors improves performance of existing predictive models incorporating predominantly administrative data for unplanned re-admission of seniors in Singapore.

# CLINICAL GERIATRICS & END OF LIFE

## UPCOMING PROJECTS

### **Appropriate Prescribing for Older Adults with Multimorbidity: From Barriers to Solutions**

*Collaborators: Tan Tock Seng Hospital (TTSH), Changi General Hospital (CGH)*

This study addresses the clinical issue of inappropriate prescribing for older adults with polypharmacy with the purpose of providing guidance for the development of an intervention program that promotes improved prescription for older adults receiving outpatient care. The specific aims are: 1) to estimate the prevalence of and identify the predictive factors for inappropriate prescribing among older adults with polypharmacy who are attending hospital outpatient clinics, 2) to identify key barriers to appropriate prescription for older adults who are attending hospital outpatient clinics, and 3) to identify interventions for facilitating appropriate polypharmacy among older adults in this setting.

# HEALTH SERVICES & POLICY RESEARCH

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With the increased eldercare services in Singapore, there is a need to assess and evaluate current practices to advance the state of knowledge in healthcare for the ageing population.

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# SENIOR CARE DELIVERY IN COMMUNITY & HEALTH OUTCOMES

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Coupled with an ageing population, an increasing in life expectancy puts pressure on public healthcare facilities. It is thus important to integrate the management of healthcare into the community.

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# OUR TEAM



**Back Row (From left to right):** Balachandar Nivedha, Ho Soon Hoe, Julian Loke, Isabel Ng  
**Front Row (From left to right):** Rachel Li, Isabelle Lim, Dr Wong Chek Hooi, Dr Tan Pey June  
Wong Lok Hang, Xie Bing  
**Not in photo:** Dr Mimaika Ginting, Dr Reuben Ng

# HEALTH SERVICES & POLICY RESEARCH

## **The ComSA Patient-Centered Care (COPACC) Study: Utilization, Health and Economic Evaluation of a Community-Based Primary Care Geriatric Hub at Whampoa**

*Collaborators: Tsao Foundation, Ministry of Health (MOH), National Healthcare Group (NHG)*

To evaluate the effectiveness of ComSA Hua Mei Clinic Whampoa which provides a new model of a centre-based primary care for complex and frail older adults aged 40 years and above. The new model of care uses a patient-centred care approach and care management for patients referred by partnering primary care providers and an acute hospital. This service integrates, at a single centre, the provision of primary care with bio-psycho-social needs assessment to address the issues of complex care as well as preventive health for complex older patients. A formative evaluation was conducted to report the early findings on medical quality and healthcare utilization; to understand feasibility and adaptations of the early implementation strategies, contextual factors, and adaptation strategies needed to achieve optimal goals. A summative evaluation, including impact evaluation on healthcare utilization, cost, health status, patient activation, quality of life, client satisfaction and experience of care, will be completed at the end of the study.

# HEALTH SERVICES & POLICY RESEARCH

## **National Fall Awareness and Prevention Programme: Knowledge, Attitudes and Practices of Falls, Fall-Related Risk Factors and Fall Prevention among Community-Dwelling Older and Middle-Aged Adults in Singapore (KAP Study)**

*Collaborators: Centre of Ageing Research and Education (CARE) Duke-NUS, Tan Tock Seng Hospital (TTSH), Khoo Teck Puat Hospital (KTPH)*

Falls are also the most common cause of accidental injury among older adults, which can lead to loss of function and mortality. The KAP Study was the first national cross-sectional study conducted in 2017 to understand the knowledge, attitudes and practices of falls, fall-related risk factors and falls prevention among older and middle-aged community-dwelling adults living in North and Central regions in Singapore. It is important to understand older adults' perceptions of falls, risk of falls and fall intervention to improve acceptability and adherence of falls interventions and fully engage them in the adoption of behaviours that aid in the reduction of falls risk. Understanding the knowledge and attitudes of middle-aged adults are also vital from a life course approach was to understand differences in perceptions in ageing and middle-aged adults as caregivers for an Asian perspective surrounding falls. Findings from this study will be presented as a symposium at the 8th Biennial Australian and New Zealand Falls Prevention Conference in 2018.

# HEALTH SERVICES & POLICY RESEARCH

## **Lifespace Mobility and Wayfinding Experience in Age-Friendly Neighbourhoods**

*Collaborators: Singapore University of Technology & Design (SUTD), Urban Redevelopment Authority (URA), Housing & Development Board (HDB), Ministry of Health (MOH), Alexandra Health System (AHS), Khoo Teck Puat Hospital (KTPH), Agency for Integrated Care (AIC), CPG Consultants, Lekker Architects Pte Ltd, PODesign Pte Ltd, Building Construction Authority, Aim and Associates*

Older adults experience shrinking lifespace as they age and become more dependent on their immediate neighborhoods to maintain independent mobility. The role of the built environment to support and promote the older persons' well-being and community participation becomes critical. This Mobility and Lifespace study is the first in Singapore to adopt a mixed-methods approach to understand the lifespace mobility, activities and travel behavior of community-dwelling older adults living in three neighborhoods. The study used GPS tracking technology to triangulate with travel diaries and walking interviews. In addition, focus group discussions and caregiver interviews of cognitively impaired persons gave insights into their perceptions of lived environments and how it influenced wayfinding behaviour among vulnerable older adults.

This study is part of the Innovative Planning and Design of Age-friendly Neighbourhoods in Singapore research and design project funded by the Ministry of National Development (MND) and the National Research Foundation (NRF) under the Land and Liveability National Innovation Challenge (L2 NIC). Results from the study will be used to inform evidence-based design and urban planning policies by architects, urban planners and policy makers to enable ageing-in-place and in the use of design to promote physical, mental and social wellbeing. The first abstract has been accepted for an oral and panel discussion at SALUS' Healthy City Design International conference at the Royal College of Physicians, London.

# HEALTH SERVICES & POLICY RESEARCH

## Care for Older Persons in ASEAN+3: The Role of Families, Local and National Support Systems

*Collaborators: College of Population Studies, Chulalongkorn University, Thailand; Department of Community Development, Ministry of Culture, Youth And Sports, Brunei Darussalam; Department of Elderly Welfare, Ministry of Social Affairs, Veterans and Youth Rehabilitation, Cambodia; Social Welfare Research and Development Centre, Ministry of Social Affairs, Indonesia; National Committee for Disabled People and The Elderly, Ministry of Labor and Social Welfare, Lao PDR; Department of Human Development and Family Studies, Universiti Putra Malaysia, Malaysia; Department of Social Welfare, Ministry of Social Welfare, Relief and Resettlement, Myanmar; Department of Social Welfare and Development, Philippines; Department of Social Welfare, Incheon National University, Republic of Korea and Department of Social Protection Studies, Institute of Labor Science and Social Affairs, Vietnam*

Increasing life expectancies and low birth rates in ASEAN countries have increased concerns regarding the provision, access, and quality of care provided for older adults. The challenges are not only in meeting the current and future projections of long term care needs but also how fast to scale up long term care while maintaining fiscal sustainability for the countries. Singapore promotes a model where care responsibilities are foremost the responsibility of the individual, followed by the family, the community and finally the government. Thus, the different actors (family, community, Voluntary Welfare Organizations, private sector and government) take varying degrees of responsibilities in funding, regulating, and actually providing care. These distributions of tasks have been changing over time: for example, the government is increasingly taking the role of being a care provider.

The summary report on Care for older adults in ASEAN has been published and was introduced by the Prime Minister of Thailand at Thailand's Social Expo on August 3, 2018 in Bangkok. ASEAN will publish the full consolidated report on all the countries later in 2018. This project is led by Chulalongkorn University, and will provide the first comprehensive report that on long term care for the 13 ASEAN countries, China, Japan and South Korea. As these countries experience rapid population ageing, we hope that this would provide a platform for increased discussion and cooperation among ASEAN+3 countries on care for older adults. The country report on Singapore was written by GERI and CARE with inputs from the Ministry of Health (MOH) and of Social and Family Development (MSF).

# SENIOR CARE DELIVERY IN COMMUNITY & HEALTH OUTCOMES

**Exploring Meaning, Loss, and Identity among Terminally-Ill Patients through Engagement in Food Related Occupational Therapy in a Community Hospital Palliative Sub acute Care Ward in Singapore**

*Collaborators: Yishun Community Hospital (YCH), Khoo Teck Puat Hospital (KTPH) Department of Geriatric Medicine & Department of Psychological Medicine*

Limited research has been done to explore the impact of food-related occupational engagements on terminally ill patients. In this study, a qualitative study was conducted to explore the impact of food-related occupational therapies on patients' meaning, loss, resilience and identify from the perspectives of inpatients and healthcare professionals in the palliative ward of a local community hospital. These findings could inform the future practice on food-related occupational therapy for palliative patients in Singapore and how it could potentially contribute to improve their end of life experiences. This study is supported by Agency of Integrated Care's ILTC research grant.

# SENIOR CARE DELIVERY IN COMMUNITY & HEALTH OUTCOMES

## **Health Springs: A Community Facility to Promote Healthy Aging at High Rise Housing in Singapore**

*Collaborators: Texas A&M Department of Architecture, Khoo Teck Puat Hospital (KTPH) Department of Geriatric Medicine*

This new study will test the general applicability of the Health Springs design proposal as a new public amenity for housing estates on different groups of the community to promote overall physical health, social interaction and intergenerational activity. Housing residents, as well as design and planning professionals will be among the groups to be approached. We seek to understand the views, opinions and attitudes on ageing related to coping with physiologic changes and the built environment, the perceived benefits of the Health Springs concept, and alternative strategies between the end user groups and groups involved in housing planning.

## **Health Outcome & Process Evaluation on Project Tri-generational Homecare (HOPE @ Trigen)**

*Collaborators: National University of Singapore (NUS) Yong Loo Lin School of Medicine*

Evaluates the impact of a multidisciplinary student volunteer healthcare team comprising of Medical, Nursing, Pharmacy, Psychology and Social Work university students (TriGen Homecare) on frequently readmitted community-based patients under the Ageing-in-Place (AIP) programme, with regards to improving their self-efficacy in chronic disease management and quality of life (QoL) and to examine the impact on hospital admission rates and length of stay (LOS).

# SENIOR CARE DELIVERY IN COMMUNITY & HEALTH OUTCOMES

## **Ageing in Place Community Care Teams Evaluation (AIP-CCT)**

*Collaborators: Health Services and Systems Research Programme Duke-NUS Medical School, Khoo Teck Puat Hospital (KTPH)*

To characterize and identify which population segments benefit the most among the frequently hospitalized complex patients enrolled in the 3-month multidisciplinary home-based intervention, the Ageing-in-Place Community-Care-Team (AIP-CCT) programme, and map them for resource allocation. Analyses include mapping and segmenting the population based on Simple Segmentation Tools (SST) and current AIP-CCT stratification, including demographic, psychosocial, hospital utilization, disease complexity and clinical variables. Preliminary analyses were done to look at the trend in population segments' utilization and explore the psychosocial modifiers in the relationships between disease complexity and hospital utilization. Final analyses will include characterizing the utilization (hospital and program services) by modeling approach.

# SENIOR CARE DELIVERY IN COMMUNITY & HEALTH OUTCOMES

## **40-year Projections of disability and living arrangements of older adults in Singapore**

*Collaborators: Ministry of Health (MOH), Central Provident Fund (CPF)*

Against a rapidly ageing population, projections are done to size up the demand for long term care (LTC) services for long-range policy planning. These projections typically focused on functional factors such as disability. Recent studies indicate the importance of social factors such as living arrangements—seniors living alone are more likely to be institutionalised, resulting in higher demand for LTC services. This study projects LTC demand based on functional and social factors and provide 40-year projections of disability prevalence and elder living arrangements in Singapore through secondary analyses of Singapore's nationally representative Retirement and Health Survey and data. These projections provided a glimpse of the growing demand for LTC services for rapidly ageing Singapore.

## **Analysing the impact of ageing policy on age stereotypes in Singapore**

*Collaborators: National University of Singapore (NUS), Yale University, Brigham Young University*

While trends in ageing-related stereotypes in large online corpus have been studied in many Western countries, no studies of Singapore English online sources have been done to date. By doing so, we hope to analyse age stereotypes in Singapore, as well as the factors associated with ageing stereotypes. In addition, analysing data both prior and after the introduction of ageing-related policies, we aim to ascertain potential changes in societal attitude due to policy changes. This could be an important tool to understand the impact of policies on societal perceptions.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

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To maximise the level and functional independence among elderly, it is important to understand the determinants of frailty in order to innovate solutions to prevent and manage it.

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# OUR TEAM



**Standing (From left to right):** Grace Tan, Liu Xiao, Khalid Abdul Jabbar, Amber Lim, Lynette Ha, Ivana Chan, Charlene Lau, Dr Ong Siew Pei, Robin Choo

**Sitting (From left to right):** Sean Nicholas, Daniella Ng, Mary Ng, Yeo Pei Shi, A/Prof Wee Shiou Liang, Benedict Pang, Jean Seah, Kate Ying

**Not in photo:** Queenie Tan, Aizuriah Mohamed Ali

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

## *Theme 1: Improving Model of Dementia Care*

With population ageing and an expected rise in the number of people with dementia and cognitive impairment, clinicians will evaluate and treat growing numbers of patients experiencing cognitive decline. Clinicians will also be confronted with issues related to the care of patients with dementia, in particular the behavioural and psychological problems displayed.

Dementia requires multi-faceted interventions as part of a person and family centred care model. These interventions aim to maintain engagement, improve well-being and quality of life, reduce psychological/behavioural symptoms, manage other co-morbidities and alleviate caregiving burden.

We study the implementation of some of these interventions and care models. In addition, local nursing homes are increasingly aware of the importance of person centred care (PCC) and are looking to incorporate person centred care principles in the design of the facility, as well as the care model and processes. As such, we are also working with local stakeholders and nursing homes to implement person centred design and care models.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

## *Theme 1: Improving Model of Dementia Care*

### Ongoing Projects

#### **End of Life in Dementia – Grief in Dementia Family Caregivers (GRIEF)**

*Collaborators: Institute of Mental Health (IMH), National University of Singapore (NUS)*

With population ageing and the corresponding increase in the number of people with dementia living longer, formal and informal community care must complement each other well. This study aims to find out about the changing emotional needs of informal caregivers of people with dementia over time, so as to determine how to better support the caregivers and persons with dementia in their home environment.

#### **Knowledge-based decision support system to empower caregivers in dementia care (NMRC NIC Cognition grant)**

*Collaborators: Khoo Teck Puat Hospital (KTPH), Institute of High Performance Computing (IHPC)*

It is estimated that 70% of persons with dementia live at home, and most of them are cared for by family members with or without domestic helpers. Without sufficient knowledge and skills, frustration and helplessness may creep in during the course of care. A pressing need of both family members and domestic helpers is dementia-specific information and skills of coping with patients' problem behaviours. The proposed project aims to design and develop a novel Information Technology (IT) driven knowledge based decision support system to assist users in the provision of care to persons with dementia. With personalized knowledge and skills from our proposed system, caregivers can feel less stressed but more empowered to care for the patients.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

## *Theme 1: Improving Model of Dementia Care*

### Ongoing Projects

#### **Integrated smart diaper and monitoring system for people with dementia and incontinence (A\*MedTech Grant)**

*Collaborator: Institute of Bioengineering and Nanotechnology (IBN)*

Incontinence and use of diapers is common in people with more advanced dementia, many of whom are residents of nursing homes. Ensuring timely change of soiled diapers is a challenge and residents often lie in soiled diapers for prolonged periods, increasing risks of diaper dermatitis, skin ulceration and/or infection. We worked with A\*Star Institute of Bioengineering and Nanotechnology (IBN) to develop and test an intelligent continence management system (iCMS) that would alert caregivers of diaper wetness to facilitate timely diaper change in frail patients with advanced dementia. In addition to wetness sensor, this 2<sup>nd</sup> phase is funded by A\*Star Med Tech Grant to develop additional faeces sensor.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

## *Theme 1: Improving Model of Dementia Care*

### Ongoing Projects

#### **Design Future-ready and Sustainable Nursing Homes with Person-Centric Care Model (L2NIC grant)**

*Collaborators: National University of Singapore (NUS), National University Hospital (NUH), CoNEX, Ren Ci, National University Health System (NUHS), Duke-NUS, Ministry of Health (MOH), MOH Holdings (MOHH), Urban Redevelopment Authority, Agency for Integrated Care, Building & Construction Authority (BCA)*

In the last 1-2 decades, there has been a core of consensus that person-centered care (PCC) involves valuing and using people's subjective experience of illness regardless of cognitive ability, and acknowledging that the person should be the focus of care delivery and not the disease or illness. This project aims to characterise the extent of person-centred care in nursing homes and determine its relationship with the quality of life amongst nursing home residents. It further involves a novel, non-linear, transdisciplinary evidence-based approach to the planning and design of nursing homes, based on a person-centric care model validated by high fidelity, real-world data and participation of neighbourhood communities. This empirically-driven, technologically-advanced and functionality based approach informs an evidence-based design research to create environments that are truly far more 'elder-friendly', 'dementia-friendly' and 'future-ready' than they have ever been – factors contributing to the sustainability of innovative new typologies of nursing homes.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

## *Theme 1: Improving Model of Dementia Care*

### Ongoing Projects

#### **Evaluating the epidemiologic and clinical significance of ApoE4 genotype in Alzheimer's Disease and other dementias in Singapore**

The study aims to explore the significance of the ApoE4 gene in dementia, especially AD, in Singapore. Individuals with 2 copies of the ApoE4 have a 50% to 90% chance of developing AD by the age of 85. However, most research on ApoE4 has been done with Caucasian populations. While a higher prevalence of this gene is found in AD patients in Hong Kong, China and Japan, its significance has not been examined in Singapore. Therefore, the study aims to explore the ApoE profile in patients with Mild Cognitive Impairment (MCI) and dementia.

#### **Effectiveness of choral singing for persons with dementia**

*Collaborator: The Esplanade Co Ltd*

This is a T2 pilot study to evaluate the feasibility and effectiveness of choral singing (a form of active music therapy) for community-dwelling older persons with dementia.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

## *Theme 1: Improving Model of Dementia Care*

### Upcoming Projects

#### **Evaluation of CARITAS – a hospital-community integrated care network for persons with dementia (Upcoming)**

*Collaborators: Khoo Teck Puat Hospital (KTPH), National University of Singapore (NUS)*

CARITAS is a MOH funded dementia integrated (complex) care intervention model in the North led by the KTPH memory clinic. The lack of understanding of how complex integrated care programmes achieve their outcomes due to the lack of acceptable methods leads to difficulties in the development, implementation, adaptation and scaling up of similar interventions. Using a theory-driven realist evaluation approach to examine CARITAS, this study aims to generate contextually relevant evidence for improving of efficiency and effectiveness of integrated dementia care as well as informing policy and practice regarding integrated care.

#### **Changing Patterns of Patient Characteristics in a Memory Clinic in Singapore**

*Collaborator: Khoo Teck Puat Hospital (KTPH)*

Promoting public awareness about dementia has been part of global initiatives in recent years. However, the impact on patterns of patient visits in memory clinics has not been well investigated in Asian countries. We will investigate longitudinal patterns of patient characteristics among consecutive referrals to KTPH memory clinic from the mid 2000s. Knowledge of the pattern of change over the years can allow better resource allocation to meet the needs of the patients as well as to guide research directions in the future.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

*Theme 2: Multi-domain community-based programs  
to reduce frailty and/or cognitive decline*

Frailty and malnutrition are related, and distinct syndromes prevalent in community dwelling older people. They also increase the risk of adverse health outcomes. Cognitive impairment and social factor confers additional health risk in frail/pre-frail individuals. Multi-domain intervention programmes comprise a combination of nutritional intervention, group exercise and/or cognitive training. Individually and/or in combination, these have the potential to delay cognitive decline or reduce the level of frailty. We study how these programmes can be translated into community practice so as to effectively help older people maintain health and function.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

*Theme 2: Multi-domain community-based programs  
to reduce frailty and/or cognitive decline*

## Ongoing Projects

**Functional Food for People with Dementia – MCT Based Liquid Powdered Non-dairy Creamer (MOE Translation and Innovation Grant)**

*Collaborator: Singapore Polytechnic*

From a nutritional standpoint, acute ingestion of Medium Chain Triglycerides (MCTs) has been shown to improve cognitive performance in people with cognitive impairment and during hypoglycemia in people with diabetes, by providing an alternative source of energy for the brain. MCTs can be found in coconut oil. However, the consumption of coconut oil is not recommended due to the presence of other saturated fats in the oil. The aim of this proposal is to incorporate pure MCTs into a food vehicle i.e. tea/coffee, which is often consumed by the elderly and can be taken consistently at an effective dosage. The project develops and tests acceptability of such a functional food.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

*Theme 2: Multi-domain community-based programs  
to reduce frailty and/or cognitive decline*

## Ongoing Projects

### **Evaluation of a community cognitive training programme on cognitive function, gait, and balance**

*Collaborators: Neeuro Pte Ltd, People's Association*

This project evaluates the effectiveness of a 12-week commercially available and community-delivered computerized cognitive training programme on cognition, gait and balance amongst healthy community-dwelling older adults. Neeuro is working with People's Association to implement this through their active ageing clubs. Participants pay for participation and other than effectiveness, we are also assessing its potential to scale up and be sustainable.

### **Malnutrition and Frailty: Integrated community-based and clinic-supported screening and lifestyle interventions (NMRC HSRG funded)**

Malnutrition is an important cause of frailty. Both are prevalent in community-dwelling older adults and predict disability, frequent hospitalization and admission to nursing homes. Successful design, development and evaluation of a community-based program of nutrition and frailty screening, assessment and treatment will guide the implementation of a simple, effective and generically appropriate program to reduce frailty in a community health and social setting.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

*Theme 2: Multi-domain community-based programs  
to reduce frailty and/or cognitive decline*

## Upcoming Projects

**Evaluation of multi-domain intervention for early dementia identification and prevention (NMRC NIC Cognition Grant)**

*Collaborators: KKT Technology Pted Ltd (Holmusk), Neeuro Pte Ltd, ProAge Pte Ltd, National University of Singapore (NUS)*

Cognitive impairment is not detected in substantial proportions of older people at primary care who have the condition. Early detection allows for earlier diagnosis and appropriate intervention, education, psychosocial support, and engagement in shared decision-making regarding life planning, financial matters and health care. This project aims at early and systematic detection and intervention of cognitive decline and dementia in the population. We will implement and evaluate the feasibility of a scalable preventive community-based intervention programme with the aid of a technological platform that can be used safely to improve and maintain the cognitive functioning in seniors.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

*Theme 2: Multi-domain community-based programs  
to reduce frailty and/or cognitive decline*

## Upcoming Projects

### **Community Pilot Study on effect of Ba Duan Jin in Functional Performance among Frail Seniors (Upcoming)**

*Collaborator: Tsao Foundation*

Ba Duan Jin (BDJ) is a simplified Qigong popular with seniors and can be a viable and sustainable group physical activity for community health promotion. There is evidence that BDJ benefits balance, strength and quality of life in older people. The strengthening of 'Qi' may also address the exhaustion aspect in the Fried frailty phenotype. With the chief TCM physician of Hua Mei clinic, we will investigate the feasibility and effect of a 12-week BDJ training to improve functional performance in pre-frail and frail community dwelling older adults

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

*Theme 2: Multi-domain community-based programs  
to reduce frailty and/or cognitive decline*

Completed Projects

## **Feasibility of a Community-based Functional Power Training Program for Frail Older Adults[Completed]**

*Collaborators: ProAge Pte Ltd, FILOS Community Services*

We conducted a feasibility pilot study functional power training program for frail older adults in the community. Frail older adults can be screened and recruited by community providers into the program. The program can be delivered by community providers such as the senior activity centres and has the potential to improve function and reverse frailty status. Randomized controlled studies of implementation research is being planned with senior activity centres.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

## *Theme 3: Better management of frailty, delirium and dementia in acute care*

Frailty and/or delirium can worsen health outcomes for older people during/following hospitalization. Screening for frailty and/or delirium can be useful for prognostication to better managed older adults during their hospitalization. These studies cover screening, risk stratification and clinical management of older people in geriatric clinics and the hospitals.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

*Theme 3: Better management of frailty, delirium and dementia in acute care*

Ongoing Projects

## **Patient Outcomes in receiving care in a) Memory and b) Geriatric Falls Clinic**

As part of a holistic evaluation of a complex intervention programme for persons with dementia, we will assess health outcomes of memory clinic interventions as well as cost-effectiveness of such interventions to the health system. KTPH Geriatric Falls Clinic data has been collecting Fall Risk Assessment data using Physiological Profile Assessment (PPA) and other balance related assessments. We will conduct retrospective analyses to examine the fall risk factors to inform fall prevention intervention.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

## *Theme 3: Better management of frailty, delirium and dementia in acute care*

### Upcoming Projects

#### **Perspectives of Frailty and Frailty Screening among Health Care Providers in Singapore**

*Collaborators: Khoo Teck Puat Hospital (KTPH), Ng Teng Fong General Hospital (NTFGH), Changi General Hospital (CGH)*

Accompanying the unprecedented growth in the older adult population worldwide is an increase in the prevalence of frailty, an age-related clinical state of increased vulnerability to stressor events. This increased vulnerability results in lower social engagement and quality of life, increased dependency, and higher rates of morbidity, health service utilization and mortality. Early identification of frailty is necessary to guide implementation of interventions to prevent associated functional decline. Consensus is lacking on how to clinically recognize and manage frailty. To facilitate the translation of frailty screening and intervention practice, this project explores the perspectives of health care professionals (general surgeons, orthopaedic surgeons, anaesthetists, nurses, and emergency doctors) on frailty and frailty screening, so as to develop a feasible and effective frailty screening program for older patients in the acute care settings in Singapore.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

*Theme 3: Better management of frailty, delirium and  
dementia in acute care*

## Completed Projects

### **Clinical Frailty Scale and Acute Geriatric Care Outcomes in a Multi-Ethnic Population**

*Collaborator: Khoo Teck Puat Hospital (KTPH)*

The Clinical Frailty Scale (CFS) is a reliable and valid tool for identifying frailty status in acute care. Our study found that Independent from disease severity and comorbidity, CFS scored by medical officers in acute ward setting predicts length of stay and short term mortality in order ( $\geq 70$ y) hospitalized patients. This T2/3 work has implications for frailty screening, risk stratification and clinical management in hospitalized older persons.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

## *Theme 4: Hearing Loss Intervention and Management*

We have shown that hearing loss is independently associated with incident mild cognitive impairment or dementia. Hence, hearing loss is a potentially modifiable risk factor for dementia. Our ongoing study employs audiometry and a hearing independent cognitive test battery to better understand and establish the hearing-cognition relationship in community-dwelling older people. In addition, we also aim to investigate the effect of hearing treatment on cognition in older people with hearing loss.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

## *Theme 4: Hearing Loss Intervention and Management*

### Upcoming Projects

#### **Effect of Hearing Aids on Cognition in Older Adults with Hearing Loss: a Randomized Controlled Trial**

***Collaborator: Jurong Health Services***

To investigate the effect of hearing treatment on cognitive function in older people with mild cognitive impairment and hearing loss.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

## *Theme 4: Hearing Loss Intervention and Management*

### Completed Projects

#### **Hearing Loss and Risk of Mild Cognitive Impairment and Dementia**

*Collaborators: Jurong Health Services, Ear Science Institute Australia*

Our study found that hearing loss is independently associated with prevalent dementia and incident MCI or dementia in older adults aged 55 years and above in Singapore. The next phase of the project will estimate the prevalence of hearing loss and mild cognitive impairment, as well as to establish the relationship between the two factors amongst community-dwelling older adults.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

## *Theme 5: Understanding and Monitoring Health Status of Older Adults*

Working with SNU-TCS iCity Lab, we test the use of unobtrusive, ubiquitous and pervasive sensor system to monitor elderly's physical and functional status and detect early physical and cognitive functional decline in a home setting.

We also study the biological, clinical, psycho-social and behavioural predictors of health status in prospectively followed up cohorts of older persons, and in healthy cohorts for comparison.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

## *Theme 5: Understanding and Monitoring Health Status of Older Adults*

### Ongoing Projects

#### **Normative Values of Physical and Cognitive Measures of Healthy (Older) Adults in Singapore**

*Collaborator: Khoo Teck Puat Hospital (KTPH)*

This study aims to develop a set of physiological functions and a neuropsychological function database for our population between 20 and above 85 years old community dwelling adults to better understand the physiological profiles across age groups. These assessments include gait, hand grip test, Timed Up and Go test (TUG), and Physiological Profile Assessment (PPA), body composition scan, Repeated Battery for the Assessment of Neuropsychological Status (RBANS). Establishing age-related normative standards can increase the usefulness of the tests and improve the interpretability of test scores in various ways. Healthcare professionals in future could utilize this information to better predict, manage and prescribe treatment related to health promotion and ageing issues in the clinical population.

# FRAILTY IDENTIFICATION, PREVENTION & MANAGEMENT

## *Theme 5: Understanding and Monitoring Health Status of Older Adults*

### Ongoing Projects

#### **Understanding Ethnic Differences in Attitudes and Behaviours Towards Active Ageing**

*Collaborators: Pioneer Generation Office (PGO), Ministry of Health (MOH)*

The Pioneer Generation Office (PGO) had obtained survey data on socio-economic status, health needs and attitudes through their regular engagements with local seniors aged 65 years and above. This collaborative project with PGO and Ministry of Health, Policy, Research and Economics Department (MOH PRED) explores possible ethnic differences in health seeking behaviours and attitudes towards active ageing. Where possible, it also aims to identify characteristics of seniors who can be prioritized for first or subsequent visits by PG ambassadors based on their healthcare needs.

#### **Singapore Longitudinal Ageing Studies (SLAS)**

*Collaborator: National University of Singapore (NUS)*

A longitudinal study conducted in collaboration with A/Prof Ng Tze Pin, investigating the biological, clinical, psychosocial and behavioural predictors of health status in prospectively followed up cohorts of older persons.

# GERIATRIC EDUCATION

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Our vision is to be at the forefront of education research and training in the care of older people in Singapore and the region. The aim is to enhance the capacity of healthcare professionals working with the older population to provide quality care. This would be achieved through research that informs the development and translation of effective training methods to address the evolving healthcare needs of the older person.

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# OUR TEAM



**From left to right:** Vivienne Le, Dr Yu Chou Chuen  
A/Prof James Alvin Low  
Emily Koh, Queenie Ng

**From left to right:**  
Shermaine Ong  
Nongluck Pussayapibul



# GERIATRIC EDUCATION RESEARCH

## ONGOING PROJECTS

### **A Mixed-Methods Study of the Effectiveness of a Community Nurse Training Programme in Singapore**

*Collaborators: Khoo Teck Puat Hospital Ageing-in-Place Community Care Team*

Community nursing as a nursing specialty is being developed to meet the shift towards care in the community setting. A comprehensive course in community nursing is piloted. This study seeks to evaluate the course and therefore aims to assess the effectiveness of a community training programme in improving knowledge, skills, attitudes and confidence, and also to explore participants' satisfaction of the training programme and their ability to translate acquired knowledge and skills into practice through qualitative-in-depth interviews.

# GERIATRIC EDUCATION RESEARCH

## ONGOING PROJECTS

### **Evaluation of the Living Matters Advanced Care Planning Training Course for Health Professionals Through a Multi-centre Study**

*Collaborators: Khoo Teck Puat Hospital (KTPH), Tan Tock Seng Hospital (TTSH), Singapore General Hospital (SGH), Agency for Integrated Care (AIC)*

The aim of this study is to explore the effectiveness of a national training workshop for Advance Care Planning (ACP) facilitators. The goals of this study are to determine the pre- and post-course knowledge, skills, attitudes, confidence and satisfaction of participants attending a workshop for ACP facilitators, to assess the participants' and trainers' acceptability and experiences of the ACP training workshop, to determine the barriers and enablers to the acquisition of knowledge and skills, translation of training into practice, and to make recommendations on how the course could better prepare ACP facilitators for the reality of practice.

# GERIATRIC EDUCATION RESEARCH

## ONGOING PROJECTS

### **Perspectives of Frailty and Frailty Screening among Health Care Providers in Singapore**

*Collaborators: Khoo Teck Puat Hospital (KTPH), Ng Teng Fong General Hospital (NTFGH), Changi General Hospital (CGH)*

Accompanying the unprecedented growth in the older adult population worldwide is an increase in the prevalence of frailty, an age-related clinical state of increased vulnerability to stressor events. This increased vulnerability results in lower social engagement and quality of life, increased dependency, and higher rates of morbidity, health service utilization and mortality. Early identification of frailty is necessary to guide implementation of interventions to prevent associated functional decline. Consensus is lacking on how to clinically recognize and manage frailty. To facilitate translation of frailty screening and intervention practice, this project explores the perspectives of health care professionals (general surgeons, orthopaedic surgeons, anaesthetists, nurses, and emergency doctors) on frailty and frailty screening, so as to develop a feasible and effective frailty screening program for older patients in the acute care settings in Singapore.

# GERIATRIC EDUCATION RESEARCH

## UPCOMING PROJECTS

### **Spirituality in Older Adults with Chronic Illnesses: Finding Meaning and Strength in Later Years**

*Collaborators: The Institute of Policy Studies, National University of Singapore, St Luke's Eldercare, Renci Community Hospital, Yishun Community Hospital, Jurong Community Hospital*

The biophysical-spiritual model was proposed as a more comprehensive and whole-person model of care and research. GERI collaborates with the Institute of Policy Studies (IPS), NUS and community hospitals to identify the spiritual needs of our local elderly.

This research project seeks to understand the elderly's perception and understanding of existential issues and spirituality when facing ill health and how the latter builds resilience in the face of adversity. The results of this project can potentially inform the development of formal spiritual care services in Singapore, and also the development of curriculum for spiritual care training of healthcare professionals.

# GERIATRIC EDUCATION RESEARCH

## UPCOMING PROJECTS

### **Unpacking Empathy – What’s in the Minds of Singapore Healthcare Professionals and Patients**

*Collaborators: Lee Kong Chian School of Medicine, Nanyang Polytechnic, Ngee Ann Polytechnic, Alice Lee Centre of Nursing Studies, Khoo Teck Puat Hospital (KTPH), Yishun Community Hospital (YCH)*

Empathy is an important trait that is necessary in the caring professions as empathetic behaviours by healthcare workers improve patient outcomes. Evidence showed that empathy can be developed through education interventions. However, there has yet to be an effective empathy measurement to determine the effectiveness of training effort. Therefore, GERI partners LKC School of Medicine, Nanyang Polytechnic, Ngee Ann Polytechnic, Alice Lee Centre for Nursing Studies, KTPH and YCH to develop the new empathy scale to measure the multicultural domains of empathy.

This study seeks to explore and understand the perception of empathy among medical students, doctors and nurses and to construct a framework for measuring empathy in the healthcare setting. The scale is especially beneficial in improving screening, training, and service delivery for healthcare workers working in geriatrics and eldercare, given the specialization’s high-touch nature.

# GERIATRIC EDUCATION RESEARCH

## COMPLETED PROJECTS

**Does post-course self-reported confidence and satisfaction correlate with test scores (SETS) in a nurse training course?**

*Collaborator: Khoo Teck Puat Hospital (KTPH)*

To look at the correlation between self-reported confidence and satisfaction with test score in a telegeriatrics nurse training course for LTC nurses.

**Towards the Dying and Death Anxiety in Acute Care Nurses – Can a Workshop Make Any Difference?**

*Collaborator: Khoo Teck Puat Hospital (KTPH)*

To examine nurses knowledge of End of Life care and measure their anxiety towards managing death in the acute hospital setting. Also, to evaluate whether an intensive 2-day multimodal workshop covering important principles in EOL care can improve nurses' skills, knowledge and attitude towards EOL care, reduce death anxiety and improve patient outcomes by providing appropriate care for patients and managing their psychosocial needs effectively.

# GERIATRIC EDUCATION RESEARCH

## COMPLETED PROJECTS

### **A Mixed-Methods Evaluation of a Cross-Cultural, Distance Teaching Programme between Singapore and Uganda**

*Collaborators: Khoo Teck Puat Hospital (KTPH), National University of Singapore (NUS) Saw Swee Hock School of Public Health & Yong Loo Lin School of Medicine, Mildmay Uganda*

Enablers included inter-personal real-time interactions between teachers and learners whereas misaligned perceptions of cross-cultural differences between Singaporean teachers and Ugandan learners was a barrier to teaching and learning. Rapport building, teacher motivation and institutional support were perceived to contribute to the programme's sustainability. Overall, Ugandan learners perceived that the training improved knowledge, skills, attitude and practice of geriatric care.

Participants suggested that future initiatives consider aligning cross-cultural perceptions between partners, conducting a training needs analysis, exploring complementary modes of information dissemination, as well as allotting time for more interaction, thereby reinforcing mutual sharing. Adequate publicity and appropriate incentivization may also better sustain the programme.

# GERIATRIC EDUCATION RESEARCH

## COMPLETED PROJECTS

### **A Mixed-Methods Study of the Effectiveness of an Intensive Palliative Care Course for Nursing Home Nurses**

*Collaborators:* Ang Mo Kio – Thye Hua Kwan Hospital, Khoo Teck Puat Hospital Department of Geriatric Medicine, GeriCare@North

To study pre- and post-course knowledge and attitudes of nurses enrolled into the palliative care course. Also, to understand Long Term Care (LTC) nurses' perspectives on attending a palliative care course in Singapore, including their opinions on the value of the teaching strategies employed. Finally, this project also aims to explore if the course was able to influence the behavior and practice of LTC nurses.

### **Survey of the Level of Confidence and Satisfaction among Nursing Home Nurses regarding Telegeriatics Nurse Training Course: A Singapore Study**

*Collaborator:* GeriCare@North

To quantitatively measure the impact of the Telegeriatics Nurse Training Course on nursing home nurses' self-reported confidence and satisfaction while acquiring their telemedicine knowledge and skills.

# GERIATRIC EDUCATION DEVELOPMENT

## ONGOING PROJECTS

### **Collaborative Teaching Programme between Singapore and Thailand: *Skills Training for Long-Term Care Nurses in Thailand***

*Collaborators: GeriCare@North, Khoo Teck Puat Hospital (KTPH), Ministry of Public Health (MOPH), Thailand, Chulalongkorn University*

This joint project between Singapore and Thailand aims at building capacity of the long-term care (LTC) workforce so as to collectively provide better quality of care for older adults in the region. This international bi-lateral teaching programme will equip nurses who work in the LTC facilities or those are interested to make a transition to the LTC in Thailand, with the relevant and contemporary skills and knowledge in order for them to cope with the increasing eldercare needs.

Phase 1 of this collaborative project features the delivery of a long-term care (LTC) curriculum, using blended teaching methods and leveraging on the use of technology. Educators and leaders of the LTC sector from Thailand (collectively known as Master Trainers) will undergo a 5-day intensive workshop in Singapore using this LTC curriculum which aims at improving their palliative and geriatric care skills. In order to further improve the quality of care in LTC facilities in Thailand, this training will be complemented with site visits to geriatric and dementia clinics as well as nursing home.

# GERIATRIC EDUCATION DEVELOPMENT

## COMPLETED COURSE

**Mental Health in Later Life, Master of Science in Applied Gerontology Programme (AY2017/18), Nanyang Technological University (NTU)**

This elective course is provided by GERI to Nanyang Technological University (NTU) School of Social Sciences, as part of NTU's Master of Science in Applied Gerontology course. The course provides learners with an overview of the principles and practice of mental health care for older adults, current knowledge gaps and research agenda. GERI's faculty member together with invited industry experts have designed, delivered and assessed this course by adopting a blended curriculum comprising of classroom activities, online lectures and field attachments.

# GERIATRIC EDUCATION DEVELOPMENT

## UPCOMING WORKSHOP/ COURSE

### **GERI Workshop: Decisions at Death's Door: Practical Ethics and Conversations at the End-of-Life for Busy Clinicians**

**Collaborators:** *Clinical Ethics Network + Research Ethics Support (CENTREs), Khoo Teck Puat Hospital (KTPH)*

This workshop is targeted at junior doctors. It will use a team-based learning (TBL) approach to impart practical knowledge and ethical principles that can be applied into day-to-day practices. Attendees will take away with them the ability and confidence to make better ethical decisions, especially for end-of-life patients.

### **Mental Health in Later Life, Master of Science in Applied Gerontology Programme (AY2018/19, Nanyang Technological University (NTU))**

Following our successful inaugural “Mental Health in Later Life” course in 2017, GERI is pleased to be delivering the second year running elective module in 2018/19. This 13-week course emphasizes a clinical approach to equip students with pragmatic knowledge and skills on mental health issues surrounding the older adults.

# COLLABORATORS



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# COLLABORATORS



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P O D



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# COLLABORATORS

