Project Title

Western Silver Care: Integration of Health & Social Services for Active Aging

Project Lead and Members

Project Lead: Dr Grace Chiang

Project Members: Lynette Lim, Cheung Siew Li, Lim Huai Yang, Samantha Chua, A/Prof Tan Boon Yeow

Organisation(s) Involved

St Luke's Hospital, Fei Yue Community Services, Tzu Chi Foundation

Healthcare Family Group(s) Involved in this Project

Allied Health, Ancillary Care

Applicable Specialty or Discipline

Public Health, Palliative Medicine, Medical Social Workers

Project Period

Start date: 2018

Completed date: 2022

Aims

To reverse frailty among community dwelling older adults and keep them in a robust state for as long as possible

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

1. Digital Solutions offer Strategic Flexibility and Agility. The ability to adapt due to external stimuli is key to the operational success of any programme. Adoption of digital solutions offer a strategic tool to overcome many traditional constraints.

2. Tight – Loose – Tight Principle. When running programmes, it is critical to establish clarity of the long-term outcomes and intermediate outcomes; the Theory of Change and logic model has to be 'tight'. In terms of execution and delivery, flexibility and innovation is key since rigid RCT-like methods will not survive the real world. In terms of measuring outcomes, the accuracy and comprehensiveness of data collection must be 'tight'.

3. What we would have done differently.

    - Build in digital solutions from the start. We would have been in a much better position to provide service continuity and reach when COVID-19 restrictions struck. Applying our lessons, we have begun work on a mobile application for WSC.

    - Ensure robust outcome measurement including data collection from controls.

    - Provision of a lead Health Coach. SACs employed staff without prior healthcare experience as Health Coaches. While they all underwent training at SLH, a professionally qualified lead Health coach would improve the quality of health coaching on the ground.

    - Anticipated challenges in the future include funding and sustainability, ensuring standardisation, quality assurance, securing commitment of partners, and navigating a rapidly evolving healthcare IT landscape with cyber security challenges.

Conclusion

See poster appended/ below

Additional Information

Our model has been implemented at three SACs ran by two different organisations (Fei Yue and Tzu Chi). We are in talks with NUHS to expand the programme in the west.

- In the ideal long-term state, this model may be replicated across the West cluster under NUHS or even throughout all the SACs across Singapore. This will allow Singapore to have a standardized care model that integrates health and social elements, and anchors care in the community in sustainable way.
- If instead of SACs, clusters may also choose to replicate this model in partnership with other community and grassroots organisations, or even at RCs, Community Centres, and Polyclinics.

Project Category

Care Continuum, Intermediate and Long Term Care & Community Care, Nursing Home, Right-Siting, Population Health, Physical Health

Care & Process Redesign, Value Based Care, Functional Outcome

Technology, Digital Health, Telehealth, Mobile Health

Keywords

Frailty, Social Prescribing, Senior Activity Centre (SAC), Older Adult

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Western Silver Care: Integration of Health & Social Services for Active Aging

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1. St. Luke's Hospital

Background

Frailty has emerged as one of the major geriatric syndromes and impose a significant burden on the health care and social support systems world-wide. Studies have demonstrated that the frail state is reversible and that combinations of physical, nutritional, cognitive, and medical interventions yield the best results.

However, medicalised frailty prevention programmes are costly, and may not sustain the effects in the long-term as the underlying social determinants that drive health outcomes are still inadequately addressed.

We designed a holistic evidence-based frailty intervention programme that includes social and environmental needs assessment and social prescribing as a key feature. Furthermore, we partnered Senior Activity Centres (SACs) to train their staff as Health Coaches in order to bring Health elements into their programmes, so as to anchor care for older adults in the community.

Goal and Objectives

The overarching goal of our programme is to reverse frailty among community dwelling older adults and keep them in a robust state for as long as possible. In order to achieve this, our programme needs to satisfy three objectives.

OBJECTIVE 1: LONG-TERM EFFECTIVENESS

The programme must employ an effective combination of evidence-based interventions to reverse frailty and sustain the results by addressing the underlying social determinants of health.

OBJECTIVE 2: SCALABILITY

The programme must be technically and operationally scalable to other communities across the nation so that it can truly have a positive impact on our healthcare system.

OBJECTIVE 3: FINANCIAL SUSTAINABILITY

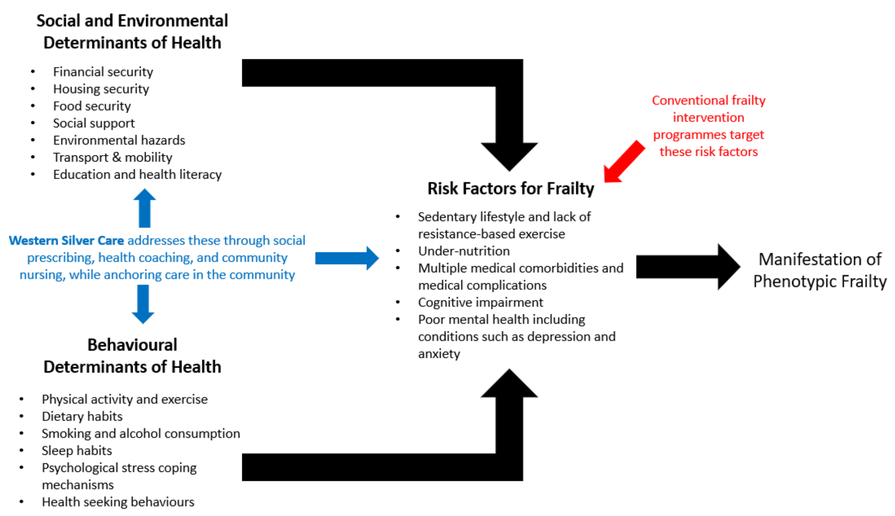
In order to create lasting impact at scale, the programme has to be cost-effective and mainstreamed. Over-medicalised programmes are typically not cost-effective and places too much strain on healthcare resources.

Problem Analysis

We identified two major challenges that has thus far, prevented our healthcare system from successfully tackling frailty.

1. **Over medicalisation of frailty intervention**, resulting in diagnostic labelling and symptomatic treatment; heavy reliance on healthcare workers; and institution/centre-based programming.
2. **'Illness model' approach that characterises our current healthcare system** is not designed to address social or behavioural determinants of health. Instead, a 'wellness' model is required to help us move upstream.

Figure 1. Essence of Western Silver Care

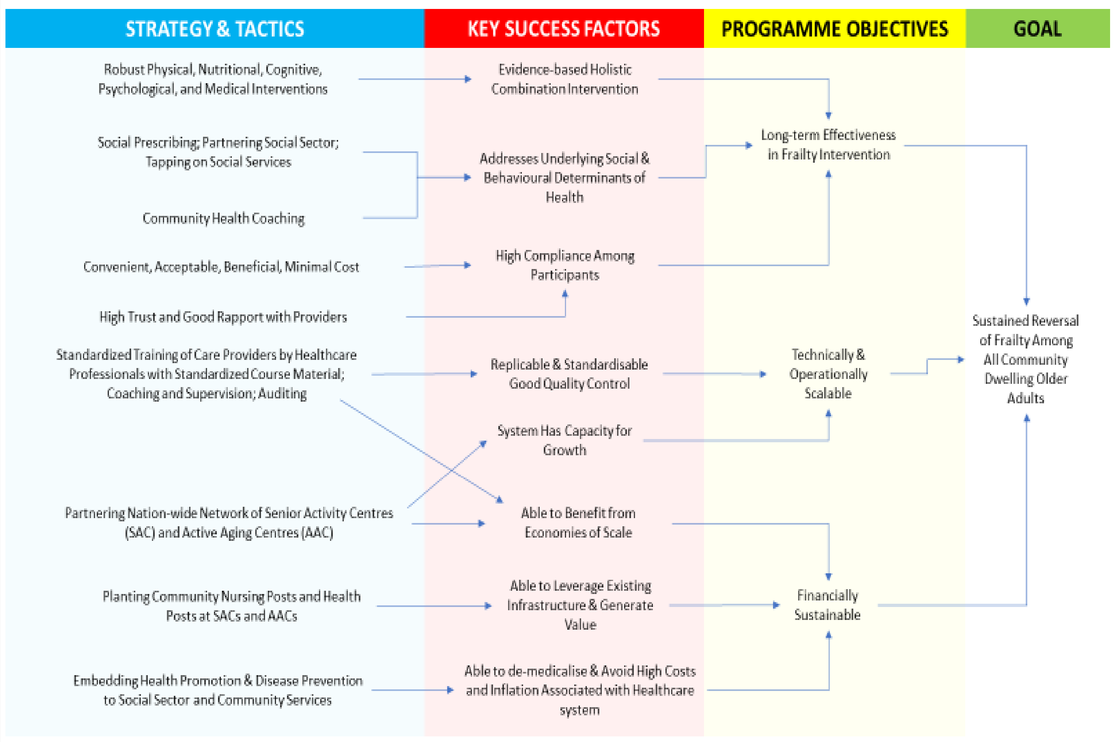


Strategy & Theory of Change

Our 3 Strategic Thrusts are:

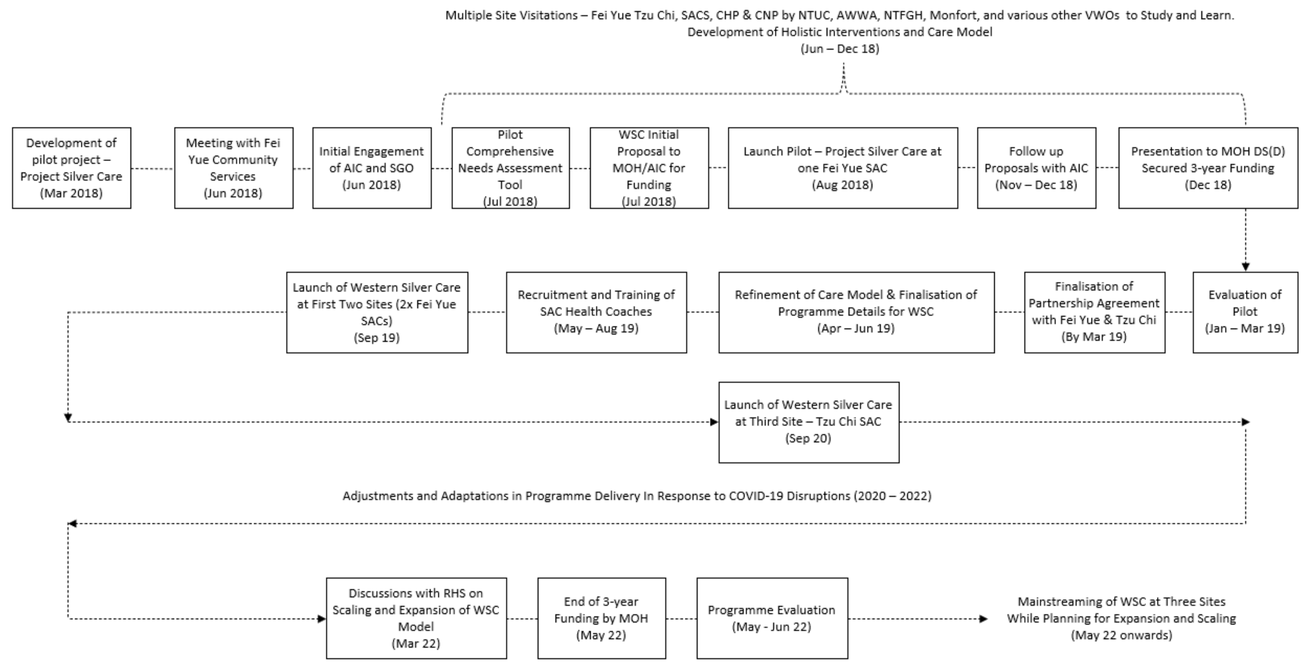
1. A holistic intervention programme that addresses frailty risk factors as well as underlying determinants of health.
2. Partnering Social Welfare Organisations running SACs/AACs to anchor care in the community
3. Integrated Health & Social care at the care provider level, programme level, organisational level, financial level, and IT system level.

Figure 2. Theory of Change



Implementation of Western Silver Care

Figure 3. Project Timeline with Major Milestones



Broad Phases

Phase I : Piloting Model of Care, Establishing Partnerships, Securing Funding.
Phase II : Implementation of Western Silver Care.
Phase III : Programme Evaluation and Development of Plans for Scaling & Mainstreaming.
Phase IV : Expansion of Model of Care Regionally (In Discussions).

Results

We conducted a pre and post paired sample comparison of the various intermediate outcomes at baseline and 6mths. We found statistically significant improvements in participants' systolic BP, nutritional scores, functional ambulatory scores, and self-reported health ratings.

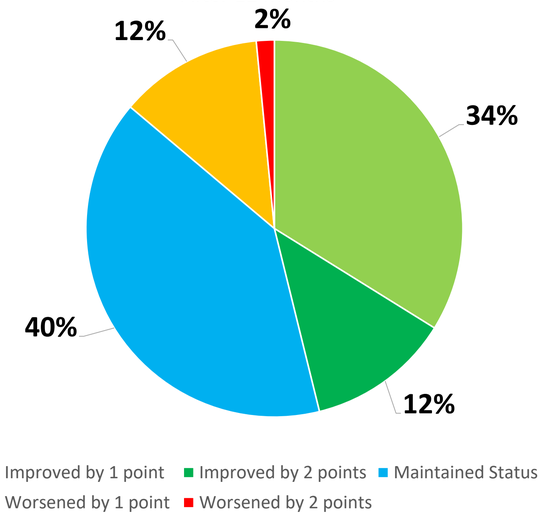
Outcomes	Means		Paired Differences			*p*-value
	Baseline	6 months	Mean	SD	95% C.I. of the Difference	
Systolic Blood Pressure (mmHg) n=104	136.88	130.31	- 6.57	20.00	2.68 – 10.46	**0.0011**
Mini Nutritional Assessment -SF Score n=100	12.53	12.93	+ 0.4	1.63	-0.72 – -0.08	**0.0161**
Functional Ambulatory Category Score n=70	4.81	4.94	+ 0.13	0.45	-0.24 – -0.02	**0.0190**
Self-Reported Health Rating n=91	64.91	69.25	+ 4.34	13.71	-7.20 – -1.49	**0.0033**

Changes to Frailty Status at 12 months

We performed paired sample comparisons of the FRAIL score of participants at 12 months to baseline.

- **Mean FRAIL score improved by -0.43 from 1.94 to 1.51** (SD 0.92 95% CI [-0.66 – -0.20], $p<0.001$)
- A total of 46% showed improvement in FRAIL score, 40% remained status quo, and 14% showed worsening of scores at 12 months.
- Among participants who improved, 27% improved by 2 points, 73% improved by 1 point. Comparatively, among those with worse scores, 11% declined by 2 points, 89% by 1 point.
- Given that severity of frailty is associated with worse health outcomes and heavier utilisation of healthcare resources, the greater the degree of improvements in FRAIL scores, the more effective is the programme.

Figure 4. Changes to FRAIL Score Among Participants After 12 months



Lessons Learnt

1. Adopting digital solutions and providing training in the use of Virtual Care, Telemedicine, Mobile Applications, and Online resources will vastly increase accessibility, convenience, and therefore reach; especially with newer generations of digitally savvy older adults.
2. Invest in long-term partnerships with organisations that work in the community, focusing on stakeholders who can help shape the community into healthy precincts.
3. Adopt a 'Tight-Loose-Tight' approach in programme design and implementation. Set SMART goals with a long-term horizon; allow flexibility and innovation in execution through continuous improvement initiatives; and finally, collect outcome indicators and performance indicators religiously for the purposes of programme evaluation, so as to have evidence to guide the way ahead.

Way Ahead

1. We have begun talks with the RHS to fund our programme and expand an enhanced version of it across the Community Health Posts and Nursing Posts within its cluster.
2. We are also exploring digitalization of certain programmes and services so as to increase penetration, convenience, and mitigate against future disruptions. test

Acknowledgements

We would like to acknowledge the valuable contributions from the following partners: MOH and AIC for providing population health data and for funding the project between 2019 – 2022; Fei Yue Community Services and Tzu Chi Foundation for their enduring partnership at the various SACs; Silver Generation Office and Ambassadors for accompanying our team on house visits; NUS Project Silver Care Students for volunteering for the pilot.