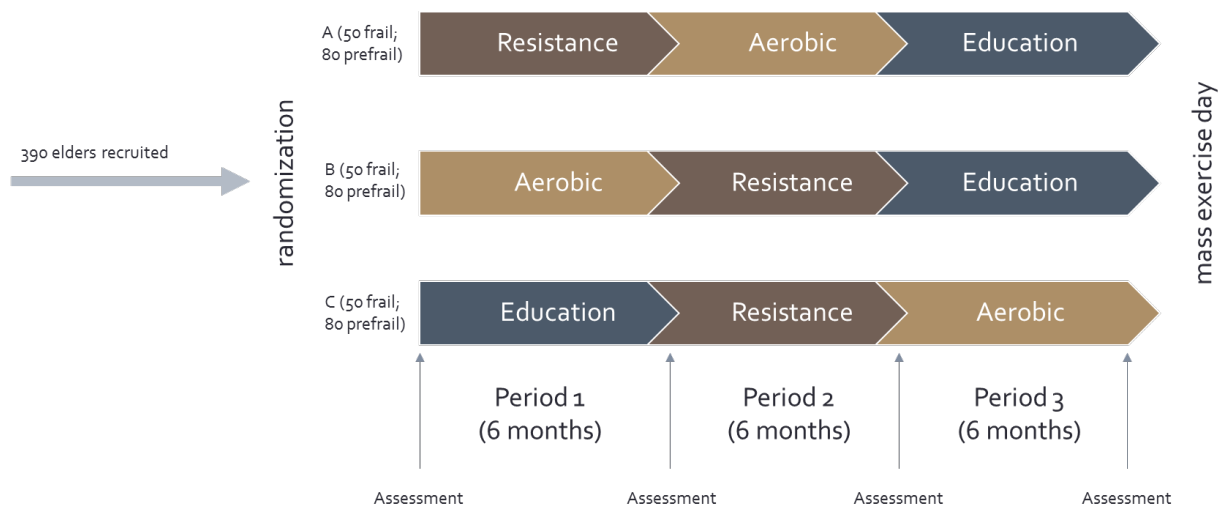


## *Project GrandMove*

# A Healthy Ageing x Productive Ageing Project To Promote Elders' Robustness against Frailty

## STUDY PROTOCOL

The 390 participants were randomly assigned to one of the three intervention arms: Resistance-Aerobic-Education (RAE), Aerobic-Resistance-Education (ARE), and Education-Resistance-Aerobic (ERA). Each arm had 50 frail and 80 pre-frail participants.



*Figure 1. Design of intervention*

The intervention was divided into three 6-month periods. All exercise groups were led by two O'coaches and had 10 participants, either all frail or all pre-frail. All education groups were led by a nurse. Each 6-month intervention period was designed as follows:

- 1<sup>st</sup> month: group practice (1/week), home visit (2/week)
- 2<sup>nd</sup> month: group practice (1/week), home visit (1/week), phone call (1/week)
- 3<sup>rd</sup> month: group practice (1/week), phone calls (2/week)
- 4<sup>th</sup> month: phone calls (2/week)
- 5<sup>th</sup> month: phone calls (1/week)
- 6<sup>th</sup> month: weaning period

Each group exercise or home visit lasted for 60 minutes. The schedule was designed to provide active coaching and intervention (with decreasing input from coach) in the first 3 months, monitoring and supervision in the 4<sup>th</sup> and 5<sup>th</sup> month, and weaning for self-sustained behaviour in the 6<sup>th</sup> month. During the group exercise session, the O'Coaches delivered either GM resistance exercise training or GM aerobic exercise training. In the lifestyle education condition, the 12 sessions covered topics of self-management, exercise, nutrition, sleep, constipation, mood, hypertension, diabetics, cognition and pain.

Table 1 shows the details of the implementation of the GM Training Programme. For the pre-frail groups, there were eight groups (80 participants) in each arm. For the frail groups, since the frail older adults might have difficulties to attend group practice, so the number of participants for the frail group was adjusted to 7-10. As a result, there were six RAE groups (54 participants), five ARE groups (44 participants) and six ERA groups (52 participants) in the frail groups. The interventions were conducted between February of 2016 and December of 2018 in 14 districts.

**Table 1.** Details of the implementation of the GM Training Programme.

<b>Pre-frail (Total 240 participants)</b>	<b>No. of participants</b>	<b>District</b>	<b>Exercise group</b>
Aberdeen Kai-fong Welfare Association			
Fong Wong Wun Tei Neighbourhood Elderly Centre	10	Southern	ERA
Chinese YMCA of Hong Kong			
Chai Wan Neighbourhood Elderly Centre	10	Eastern	ARE
Christian Family Service Centre			
Wong Tai Sin Integrated Home Care Services	10	Wong Tai sin	RAE
Evangelical Lutheran Church of Hong Kong			
Shatin District Community Centre for the Golden-Aged	10	Shatin	ERA
Ma On Shan District Elderly Community Centre	10	Shatin	ARE
Hong Kong Family Welfare Society			
Kowloon City centre for Active Ageing	10	Kowloon City	ERA
Viva – Cho Yiu centre	10	Kwai Tsing	ERA
Hong Kong Housing Society			
Cho Yiu Chuen	10	Kwai Tsing	ARE
Chun Seen Mei Chuen	10	Kowloon City	ARE
Clague Garden Estate	10	Tsuen Wan	ERA
Jat Min Chuen	10	Shatin	RAE
Ka Wai Chuen	10	Kowloon City	RAE
Kwun Lung Lau	10	Central & Western	ARE
Lai Tak Tsuen	10	Wan Chai	RAE
Ming Wah Dai Ha	10	Eastern	RAE
Moon Lok Dai Ha	10	Tsuen Wan	ARE
Yue Kwong Chuen	10	Southern	ERA
Hong Kong Sheng Kung Hui Lady MacLehose Centre			
Cheung Hing Wah Charitable Foundation Cheung Hang Rehabilitation Centre	10	Kwai Tsing	ERA
Sik Sik Yuen			
Ho Chui District Community Centre for Senior Citizens	10	Wong Tai Sin	RAE
Ho Wing Neighbourhood Centre for Senior Citizens	10	Kwun Tong	RAE
The Neighbourhood Advice-Action Council			
Pak Tin Social Centre for the Elderly	10	Sham Shui Po	ERA
Yan Oi Tong			
Tuen Tsz Wai / San Hing Tsuen Tsing Chuen Wai Rural Community Service Centre	20	Tuen Mun	RAE / ARE
Yang Memorial Methodist Social Service			
Choi Hung Community Centre for Senior Citizens	10	Wong Tai Sin	ARE
<b>Frail (Total 150 participants)</b>			
Aberdeen Kai-fong Welfare Association			
Fong Wong Wun Tei Neighbourhood Elderly Centre (2 groups)	15	Southern	ARE / EAR
Hong Kong Family Welfare Society			
Tivoli Service Centre	10	Kwai Tsing	ARE
Hong Kong Housing Society			
Cheerful Court	8	Kwun Tong	ARE
Chun Seen Mei Chuen	9	Kowloon City	RAE

Healthy Village (2 groups)	18	Eastern	RAE / EAR
Jolly Place	9	Sai Kung	RAE
Ka Wai Chuen	9	Kowloon City	ERA
Kwun Tong Garden Estate	9	Kwun Tong	RAE
Lok Man Sun Chuen	8	Kowloon City	ARE
Ming Wah Dai Ha	9	Eastern	RAE
Hong Kong Sheng Kung Hui Lady MacLehose Centre			
Cheung Hing Wah Charitable Foundation Cheung Hang Rehabilitation Centre	10	Kwai Tsing	ERA
International Women's League Neighbourhood Elderly Centre	10	Yau Tsim Mong	RAE
Hong Kong Sheng Kung Hui Tseung Kwan O Aged Care Complex			
Jockey Club District Elderly Community Centre	10	Sai Kung	ARE
Sik Sik Yuen			
Ho Ping Neighbourhood Centre for Senior Citizens	8	Wong Tai Sin	EAR
The Neighbourhood Advice-Action Council			
Pak Tin Social Centre for the Elderly	10	Sham Shui Po	EAR

Participants were assessed at baseline before the intervention ( $T_0$ ), at the 6<sup>th</sup> month after the first round of intervention ( $T_1$ ), at 12<sup>th</sup> month after the second round of intervention ( $T_2$ ), and at the 18<sup>th</sup> month after the third round of intervention ( $T_3$ ), or when they withdrew from the study. All assessments were conducted by trained research assistants employed under this project blinded to the type of intervention. Each assessment lasted for about an hour.