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FINAL REPORT

FRAILITY IN COMMUNITY DWELLING OLDER PEOPLE—USING FRAILITY SCREENING AS THE CANARY IN THE COAL MINE

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Frailty in community dwelling older people— *Using frailty screening as the canary in the coal mine*

November 2017

Report produced by Benetas

A project funded by the Australian Government Department of Health under the Aged Care Service Improvement and Healthy Ageing Grants Frailty in Community Dwelling Older People—Using Frailty Screening as the Canary in the Coal Mine.

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Executive Summary

Introduction

With increasing longevity and an ageing population overall, health promotion strategies that support and enable healthy, active ageing will become ever more important. Recognising the policy implications of population ageing, the Department of Health (originally the Department of Social Services) funded the Frailty in community dwelling older people - using frailty screening as the canary in the coal mine - 4-YZZ55V (the Frailty Project) under the Aged Care Service Improvement and Healthy Ageing Grants (ACSIHAG) Fund. The purpose of the grant was to support the program objective of activities that promote healthy and active ageing.

This project addressed the following key areas of focus for ACSIHAG funding: activities to improve the evidence base for healthy, active and productive ageing; increasing access to information so that older people can make informed decisions; providing intervention and management strategies that support older people, their carers, family and friends, health professionals and service providers.

The Frailty Project aimed specifically to investigate and promote strategies for early detection of frailty in older people, and the provision of appropriate support services for those identified as frail. Frailty is a condition in which the individual is vulnerable, and at increased risk of adverse health outcomes and/or dying when exposed to a stressor, even a relatively minor one. For older people, frailty is the “canary in the coalmine” that can detect an adverse decline before it happens.

Once detected, a person who is found to be frail or pre-frail can be provided with information, resources and support to assist them to maximise healthy and active ageing, and potentially reverse their degree of frailty.

The aims of the project were achieved through addressing a number of related goals, including:

- To identify and measure the presence and level of physical frailty amongst community dwelling older people through operationalising an evidence-based, simple, reliable, robust, frailty screening tool;
- To provide referral pathway for frail older people to receive education, support and interventions to address physical frailty;
- To promote care strategies that stabilise or reverse the trajectory of physical frailty and help preserve the functional independence of community dwelling older people for as long as possible.

To address these, the project was broken down into seven related sub-projects, each of which addressed specific aspects of the overall study. These are discussed in detail in this report.

Outcomes

The project outcomes bear directly on the identification of community dwelling older people with frailty, and the feasibility of, and options for, applying frailty screening in a range of settings. Outcomes with applicability across the broader aged care sector for each area include:

- Development of a reliable measure of the prevalence and degree of frailty in the Australian community dwelling population of people aged 65 years and older seeking aged care services;
- Development of a reliable measure of the prevalence and degree of frailty in the Australian community dwelling population of people aged 65 years and older;
- Development of a reliable measure of the trajectory of and rate of change of frailty status in the Australian community dwelling population of people aged 65 years and older;
- Assessment of the clinometric and psychometric properties of the simple 5 item FRAIL Questionnaire Screening Tool for screening frailty in community dwelling older people;
- Testing of the FRAIL Questionnaire Screening Tool for use in general practice;
- Development of a Mandarin version of the FRAIL Questionnaire Screening Tool;
- Trialling the embedding of frailty screening using the FRAIL Questionnaire Screening Tool in a telephone triaged health service;
- Development of a suite of online screening, education, support and referral resources for frail people.

Taken collectively, the outcomes and findings of the Frailty Project demonstrate that the prevalence of frailty among community dwelling Australians aged 65 years and older is a significant problem both for the individuals affected and for those who care and provide services for them. The validation of a simple and reliable screening test for detecting frailty, that has been shown to be implementable in a variety of settings, is a major achievement of the Frailty Project. Introduction of frailty screening using the FRAIL Questionnaire Screening Tool can enable clients, carers, service providers and policy makers to easily and accurately identify older people who are frail and to provide early, appropriate, proactive support based on good evidence to help preserve their functional independence for as long as possible. Another major achievement of the Frailty Project is the development of the online Positive Ageing Resource Centre which makes both screening and resources for the amelioration of frailty easily and freely accessible to the general public.

Recommendations

On the basis of the findings from the Frailty Project, a number of key recommendations for the practical translation of frailty screening into practice and policy settings are made. These include:

- That the Department of Health commission an annual follow-up prevalence study to track the incidence, prevalence and trajectory of frailty in the general Australian population of community dwelling people age 65 years and older;
- That the Department of Health commission the development of a map of inferred frailty prevalence for all of Australia, using Geographical Information Systems (GIS). Such a resource would be invaluable to researchers and policy makers.
- That frailty screening be promoted and extended to the broader health sector. The proof of concept pilot study of frailty screening with the DoctorDoctor medical deputising service demonstrates that extension of frailty screening within the aged care and health sectors can be easily achieved.
- That information and resources on frailty and frailty screening be made readily accessible to GPs, with encouragement to utilise these resources in Primary Care settings.

Conclusion

Frailty in community dwelling older people - using frailty screening as the canary in the coal mine has developed outputs and outcomes which, when implemented, will make demonstrable impacts at many levels. Importantly the project outcomes are readily transferable across the aged care and health care sectors.

Acknowledgements

This was a large and complex project. We extend our sincere thanks to all the people and organisations who provided invaluable support and cooperation to the research team. Without their support this project would not have been possible.





Introduction

As is occurring in Western nations across the globe, Australia's population is ageing. Between the 2011 Census and the 2016 Census, the median age has increased by one year, from 37 to 38. The proportion of the population aged 65 years and over increased from 14% to 15.8% and of those aged 85 years and over, from 1.9% to 2.1% (1). The 2016 Census counted 3,500 people aged over 100 years (2).

With increasing longevity and an ageing population overall, health promotion strategies that support and enable healthy, active ageing will become ever more important. As the average lifespan of Australians increases, policies and support systems aimed at increasing the healthspan—the length of time where an individual is in optimal health—will be essential, not only to optimise the wellbeing of older people, but to ensure that health and social support systems are not overwhelmed. Being able to identify those community dwelling older people who are at greater risk of slipping below optimal health is an essential first step towards putting in place interventions to ameliorate this risk or, where possible, stabilise or reverse remediable health decline and maintain functional independence.

The overarching purpose of this research project is to contribute to this goal by investigating a screening tool to detect physical frailty that can be embedded into existing interactions that occur between older people and aged/health care sectors. The instrument used in this project is the FRAIL Questionnaire Screening Tool. This screening tool is a simple five item self-reported questionnaire designed to screen for physical frailty, a condition indicating increased vulnerability and risk for a range of adverse health and social consequences. The evidence base for this instrument, its reliability and ease of use in various settings is examined, as is the provision of education and referral to support services that can provide appropriate evidence-based early intervention to maximise health and functional independence. Assessing frailty in this way has the potential to provide a time and cost-efficient way of identifying those most vulnerable to adverse events, and who will benefit most from preferential access to systems and supports for frail older people. Once identified, education, support and interventions designed to slow or reverse the trajectory of physical frailty can be implemented.

The overall project was divided into a number of sub-projects, each of which investigated a different aspect of frailty, its prevalence and measurement, and how screening for frailty can be utilised within health and aged care services to promote healthy ageing and functional independence. Each of the sub-projects adds a piece to the overall project, which forms a coherent body of work. Each sub-project is covered in detail in its own chapter within this report.

The purpose of this introductory chapter is to provide the conceptual framework for the project. It begins by discussing the concept of frailty: what it is, why it is important, and how it can be measured. The utility and importance of screening for frailty from a policy and practice level is addressed, and the overall design and structure of the research project described.

Frailty

What is frailty?

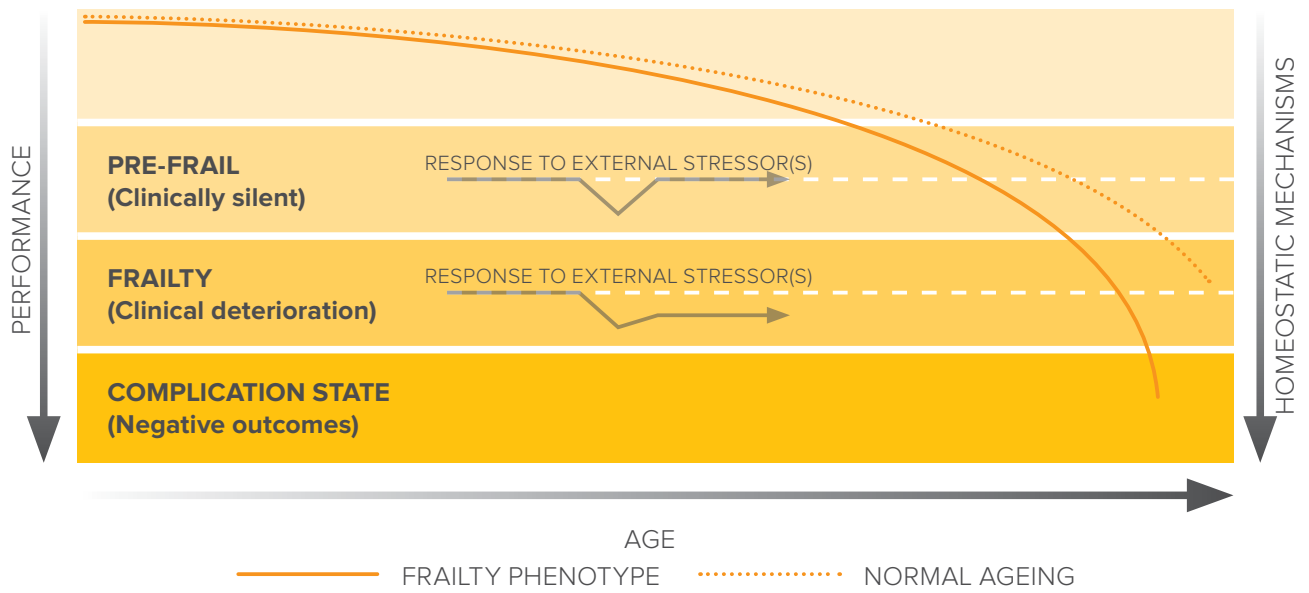
Frailty is an important concept for all those who plan and provide care for older people. Whilst there is as yet no internationally recognised standard definition of frailty, it is generally conceived as 'a geriatric condition characterised by an increased vulnerability to external stressors' (3). Frailty prevalence increases with age but it occurs independently from chronological ageing, which on its own is not a sensitive predictor of morbidity or mortality. There is considerable variation in how older people tolerate stressors, even when disease severity and comorbid conditions are taken into account. While some people remain fit and active as they grow older, others experience complex problems: chronic disease, dependency and disability. Frailty is a term to describe this latter group, capturing differences in health status among older people. The term 'frail' is intended to identify vulnerable older people at high risk of adverse outcomes including the major geriatric syndromes of falls and delirium, worsening disability, institutionalisation and death. Where frailty is present, an older person is at markedly increased risk of decreased functional capacity, increased dependence on others for help with the Activities of Daily Living (ADLs), significant morbidity (including preventable hospital admission), admission to a Residential Aged Care Facility (RACF), and premature death (4).

Biological mechanisms leading to frailty differ from those that cause the ageing process per se. While the specific causal factors leading to frailty are not yet fully understood, frailty is thought to have a strong biological component, indicating cumulative damage at the cellular level, with inflammation being an established pathophysiological pathway. Frailty occurs when multiple physiological systems are in a diminished state and repair mechanisms are unable to maintain system homeostasis (3).

A state of pre-frailty, or latent frailty has also been identified in the literature and is seen as a precursor to frailty (3). Pre-frailty has been described as a clinically silent process where some symptoms of frailty are present, but physiological reserves are not as depleted as they are in those who are frail. In pre frailty there is some chance of recovery from injury, acute disease or psychological stress, although transition from the pre-frail state to frailty is generally triggered by such factors (5). Early identification of the pre frail may offer the greatest opportunity for intervention as the severity of frailty is less and, at least theoretically, is most amenable to support and remediation, offering the greatest gains to maintain functional independence for longer than those whose frailty is more established.

The relationship between ageing, and the development of frailty is presented graphically in Figure 1. Since the development of frailty with advancing age is a dynamic process, which begins with a latent phase of pre-frailty, opportunities exist for early detection and delaying or even reversal of the process (5). Simple, inexpensive interventions: diet modification, vitamin D supplementation, exercise and de-prescribing, have been found to be beneficial (6).

Figure 1: Development of frailty with advancing age. Adapted From Lang, Michel & Zekry (5)



What frailty is not

Like much that we deal with in health care ('health', for example), frailty is insubstantial, having no claim to existence in a way that is separable from that which it describes. There is no consensus on how to define frailty in a way which is operationally useful. If what constitutes frailty is ill-defined, there is even less literature on what frailty excludes; it other words what frailty is not. Frailty is either physical or psychological or a combination of these two components, and is a dynamic condition that can improve or worsen over time. Importantly, the fact that frailty is not present in all elderly persons suggests that it is associated with ageing but not an inevitable process of ageing and may be prevented or treated.

There are frailty biomarkers, including not only sarcopaenia and osteopaenia, but vitamin D, interleukins and C-reactive peptide. These measures, along with the battery of frailty rating scores and other health measurement scales are describing the syndrome of frailty, but not diagnosing it. They may all be epi-phenomena that are associated with, but not causally related to frailty.

So frailty remains in the diagnostic category of being a syndrome; we can describe its constituent parts, but not the underlying cause. Frailty is associated with age and comorbidity, but not caused by them. Frailty is not an inevitable part of old age nor of cumulative chronic disease. Physical frailty differs from multi-morbidity. Both are common, but multi-morbidity is more pervasive, being present in 75% of people aged 65 years and over and in 25% of those younger than 65 years. Physical frailty focuses on specific areas for which a general treatment approach can be developed. Frailty is associated with functional decline, but it is generally agreed that frailty is a 'pre-disability state' with the potential for intervention.

Although recognizing that frail individuals could be disabled and that not all disabled persons are frail, case finding should target the pre-disabled, not the dependent. Targeting those who are frail and pre-disabled in this manner, case finding becomes of major importance, as it allows interventions that could prevent dependency.

Properly defined, with the major contributing factors to frailty teased out, it is a useful concept and is the essential component of that most important condition of old age—unstable disability.

Disability indicates loss of function. Frailty indicates instability and risk of loss, or further loss, of function. Disability may arise from a single catastrophic event such as a stroke or traumatic amputation in an otherwise robust individual. After recovery minor, day-to-day fluctuations in function occur.

Unstable disability occurs when function fluctuates markedly with minor external events. Small precipitants, such as a change in drug therapy, cold weather or an attack of bronchitis, produce such a deterioration in performance that independence is threatened. Frailty, as we define it, is the root cause of unstable disability in older people and an appropriate focus for prevention, rehabilitation and public health programmes in old age.

In short frailty is:

- A clinical syndrome;
- Not multi-morbidity;
- Not disability;
- Increased vulnerability in which minimal stress can cause functional impairment;
- Might be reversible or attenuated by interventions;
- Mandatory for health workers to detect as soon as possible;
- Useful in primary and community care.

Why screen for frailty?

People who are pre-frail, and even those who are frail often function (or appear to function) in the community reasonably well. Consequently they and their family can be unaware that frailty is present. Clinically trained health professionals can also fail to detect frailty, as its presence is often masked by apparent social coping. However, as noted above, where frailty or pre-frailty can be identified, intervention to remediate frailty can slow the process, preventing or delaying adverse events and reducing the consequences of functional decline.

Interventions to prevent or reduce frailty in community-dwelling older people have been found to be effective (7). Where intervention occurs, there is the potential for older people to experience better physical health, improved functional capacity and improved quality of life. The likelihood of adverse health outcomes, including hospital admission, is reduced, and they are more likely to be able to age in place for longer (8, 9). This has benefits for cost and demand reduction in the acute health system and the aged care system. In addition, this supports older people to maintain functional independence, allowing them to age in place.

A recent study by the Productivity Commission investigating the housing and financial decisions of older Australians found unambiguously that the majority of older people prefer the option of ageing in place. Around 80 percent live in their own home, and most only make the move to age-specific housing when declining health makes it unavoidably necessary. It is not until past the age of 90 years that mainstream housing ceases to be the dominant form of accommodation for older people (10).

Effective frailty screening, followed by timely evidence-based support for those found to be frail or pre-frail has the potential to assist older Australians to exercise their strong preference for remaining in their own homes for longer and to achieve the goal of maximising healthy and active ageing.

There are also benefits to be reaped at a policy and health and aged care systems level. With the ageing of the population, the provision of residential and community based aged care services is a growing expense for government. However, the cost of providing residential aged care is much higher than the cost of delivering community based aged care. The Australian government contributes to the cost of community care for three times as many people as receive subsidised residential aged care, while expending one third the funds (10). While this is in part due to the higher care needs of those in residential facilities, nonetheless home care requires significantly lower levels of public funding (10). Thus, to the extent that the preference of older Australians for ageing in place can be facilitated by the timely provision of appropriate frailty screening and subsequent intervention and support services, there are clear benefits to governments' fiscal sustainability objectives.

Being able to assist older people to remain healthier for longer, while living in the community, is also of benefit to the health and aged care systems. Service providers and clinicians can directly, but less obviously, achieve gains for the aged care system if they can use frailty screening to detect clients at greater risk. They will have a reliable, robust, defensible and evidence-based structure upon which to prioritise service provision to these people and to manage waiting lists in circumstances where demand for services may exceed the available service supply. This has important benefits in terms of efficient and effective resource allocation. It is also a powerful risk management tool as repeated screening for frailty is easy and quick: those older people whose frailty level has increased since their last screening can be reallocated to a more appropriate level of support in a timely manner.

The social benefits of older frail people being able to enjoy healthier ageing in place are also considerable. Frailty screening and the subsequent provision of information and services can assist older people and their families to make more informed decisions based on sound information about what supports to seek that will allow them to age happily, productively and well. Similar benefits apply to health professionals and service providers. These professional carers will have access to hitherto unavailable information that can guide their clinical and professional practice in a better, more patient-centric way, based on best evidence.

There is a cogent rationale to develop and integrate a simple, robust, reliable, and sensitive way to detect physical frailty, especially amongst community-dwelling older people who are frail but do not appear to be so. In short, detection of frailty will enable clients, carers and service providers to easily and accurately identify older people who are frail and to provide early, appropriate, proactive support based on good evidence to help preserve their functional independence for as long as possible.

As frailty is easy to overlook, this project offers an opportunity to embed frailty screening in current assessment processes and provides a pathway for simple management to ameliorate or even reverse frailty and promote healthy active ageing. For older people, frailty is the 'canary in the coalmine' that can detect an adverse decline before it is apparent and before serious adverse sequelae occur.

Screening for and assessing frailty

For the purposes of this project a major review of systematic reviews of frailty screening and measurement was conducted. The review considered available evidence from the published systematic review literature on the use of instruments to assess and screen for frailty and considered the quality and reliability of the methodologies used (11)¹.

Frailty can be identified via a comprehensive geriatric assessment (CGA), the global standard clinical assessment for older people, which 'includes medical, nutritional, functional and psychological assessments by a multidimensional team' (3). Various frailty indexes, based on data from a CGA have been developed.

Dent et al suggest that a breakthrough in frailty measurement occurred in the 1990s when it was shown that taken together, various manifestations of frailty such as weight loss and slow gait were better predictors of adverse clinical outcomes than when these components were considered independently. They note that since then, combination scores have been typically used to define frailty with many and varied frailty measurements being put forward for use in both clinical and research contexts (3).

Two frailty models and associated measurement tools dominate the literature: the phenotype model and an accumulated deficits model of frailty (12).

- **Phenotype:** this model views frailty as a biological syndrome resulting from cumulative decline across multiple physiological systems. It includes five major criteria: weight loss, fatigue and exhaustion, weakness, low physical activity and slowness, and mobility impairment. Frailty is diagnosed when three or more criteria are present (13).
- **Accumulation deficit:** this model consists of adding together an individual's number of impairments and conditions to create a Frailty Index (FI). It considers frailty as a multidimensional risk state that can be measured more by the quantity than by the nature of health problems (14).

Other operational concepts of frailty can be considered on a spectrum between these two approaches (15).

Another way of looking at the measurement of frailty is to consider the distinction between screening and assessment. Although often mentioned together, these are different processes, as explained in this description from a US Health Department report:

Screening is a process for evaluating the possible presence of a particular problem. The outcome is normally a simple yes or no.

Assessment is a process for defining the nature of that problem, determining a diagnosis, and developing specific treatment recommendations for addressing the problem or diagnosis (16).

CGAs, and indexes derived from them focus on assessment and are unsuitable for simple, quick, and reliable screening for physical frailty. They are time-consuming to administer, they require at least one physical assessment or test that requires specific equipment or clinical expertise, and they all require at least some level of specialist clinical acumen to interpret. Assessments often involve multiple medical and health disciplines with the goal of improving and managing all aspects of an older person's care (17). CGAs fulfil an important role and are the gold standard for assessing physical frailty.

For the purposes of this study, a short screening tool that can be used in settings that lack specific expertise and specialist resources was sought. A screening tool based on the FRAIL Questionnaire Screening Tool met these criteria and is discussed below. Validation of this instrument against a more comprehensive geriatric assessment is a major objective of this project, and is covered in Chapter One.

¹ A briefing paper on this overview of Systematic Reviews (SR), was prepared for the Australian Government Department of Health in August 2016, and is included as an Appendix.

Background to the FRAIL scale and FRAIL Questionnaire Screening Tool

As noted above, this project utilises and operationalises a screening instrument based on the FRAIL (Fatigue, Resistance, Ambulation, Illnesses and Loss of weight) scale, the name being derived from the acronym of its component measured domains. The FRAIL scale and subsequent FRAIL Questionnaire Screening Tool have their genesis in a “comprehensive review of the definitions and assessment tools on frailty in clinical practice and research” carried out by a taskforce of the International Academy of Nutrition and Aging (IANA), discussed and considered at a Geriatric Advisory Panel (GAP) meeting held in May 2007 (18). The systematic review of literature and GAP meeting initiated by the IANA taskforce aimed to arrive at a consensus definition of frailty with a longer term goal of developing a reliable, quick, and easy to use tool that could be used to identify people at heightened risk due to frailty (18).

Whilst a consensus definition of frailty was not achieved by the taskforce, agreement was reached concerning a clear distinction being made between the consequences of frailty and frailty per se, such that frailty is defined as a pre-disability state. In consideration of a suitable tool for screening for frailty among populations at risk, the GAP reached agreement on a range of factors that should be included in such a tool. They concluded: “The tool should comprise the following 5 domains: Fatigue, Resistance (defined as the ability to climb stairs), Ambulation (ability to walk certain number of meters), number of Illnesses and Loss of weight (>5%), named FRAIL scale” (18) (p36). The GAP further noted the need for the validity of any such tool to be confirmed.

In a subsequent paper reporting on the work done by the IANA taskforce and GAP, the “FRAIL” Scale for use as a screening tool was presented as a list of the five domains, ordered to create the acronym FRAIL (see Table 1) (19). The Scale was presented as a way to rapidly identify people who are frail and to subsequently target interventions to support them. However, the scale as presented was in the form of criteria referencing features of clinical significance, leaving operationalisation of the scale within both clinical and research settings open to those using it. One study, published in 2012, developed a number of fairly involved questions to measure each of the five domains, some of which used Likert scale type scoring while others adhered to a dichotomous yes/no answer format (20). Searle et al suggest that: “If a single frailty index is to be used serially on the same people, the items that make up the frailty index need to be the same from one iteration to the next. The requirement to use the same items need not apply to comparisons between samples—i.e. samples that use different frailty indexes appear to yield similar results” (21). We have followed this advice in this project.

This heterogeneity of form, while allowing ready adaptation to local circumstances, undermines the need for consistent use of standard frailty screening tools.

Table 2: The simple FRAIL Questionnaire Screening Tool

3 or greater = frailty; 1 or 2 = pre-frail; 0 = robust
Fatigue: Are you fatigued?
Resistance: Cannot walk up 1 flight of stairs?
Aerobic: Cannot walk 1 block?
Illnesses: Do you have more than 5 illnesses?
Loss of Weight: Have you lost more than 5% of your weight in the past 6 months?

From Frailty Consensus: A Call to Action (22)

The FRAIL Questionnaire Screening Tool has the potential to screen for physical frailty using a short list of questions that can be administered simply and quickly by clients, carers, family and friends, health professionals and service providers. Its simplicity recommended it as suitable for use and evaluation through this project. However, the original conceptualisation of this simple approach to screening for physical frailty, and its subsequent development and operationalisation by clinicians and researchers, raised a number of issues when considering how to operationalise it for the purposes of this project.

Operationalisation of the FRAIL Questionnaire Screening Tool

Professor Shane Thomas, a consultant with expertise in the area of instrument development and the validation of screening and diagnostic instruments, was engaged to provide advice on the design, conduct and analysis, and validation of the FRAIL Questionnaire Screening Tool for use in this context².

In consultation with Professor Thomas, the decision was made to modify the Resistance and Aerobic items, which as originally presented, were framed as negative performance outcome reference criteria. It was preferable to reword these as straightforward questions with simple yes/no answers. Whilst making this change did alter the original FRAIL questionnaire, as published by Morley et al (22), the changes were minimal, and facilitated use of the tool in the context of this project.

In addition to reframing the Resistance and Aerobic items to positive questions, the research team considered the usefulness of the weight loss questions as formulated by Morley et al (22). Two issues arose with regard to this question. First was the possibility that weight loss might be intentional, and second, the issue of respondents’ ability to easily answer a question presented in terms of a percentage weight loss. Worded this way, the question presupposes that the respondent knew their previous weight, will know their current weight and can easily perform the mental mathematics required to calculate a percentage difference of any weight loss experienced. Experience of “real world” clients suggest that this is difficult or impossible for many, thus undermining the reliability and usefulness of the instrument.

² Professor Shane Thomas was engaged to collaborate on the research project to advise on aspects of the study design and implementation relating to psychometric data analysis, item scale analysis, internal consistency, internal factor structure, reliability and validity analyses.

One prior study, reportedly based on the FRAIL Questionnaire Screening Tool asked subjects their current weight and their weight one year ago. The researchers then calculated the percentage of any reported weight loss for the participant (20). Whilst this formulation of the FRAIL Questionnaire Screening Tool solves the problem of expecting respondents to assess their own weight loss as a percentage, it complicates the tool, and does not address the possibility of intentional weight loss that could, in some instances, be beneficial.

In order to remain faithful to the original FRAIL Questionnaire Screening Tool—a requirement in terms of evaluating the tool—the decision was made to use the original question ‘Have you lost more than 5% of your weight in the past 6 months?’, but to also add alternative weight loss questions, which addressed the issue of intentional weight loss. The additional questions were:

- In the last 6 months have you had an unexpected weight loss?
- If yes, how much did you lose?
- What did you weigh before you lost the weight?

The addition of these alternative questions, preceded by the original questionnaire items, has allowed for the research design to incorporate a comparison of results obtained using each of these two approaches to the domain of weight loss. At the stage of analysis these questions have been considered separately and have been labelled the FRAIL Questionnaire Screening **Standard** Tool and the FRAIL Questionnaire Screening **Alternative** Tool.

An additional question asking subjects to self-rate their level of health on a Likert scale was also included.

- In general, how would you say your health is?

<input type="checkbox"/> Excellent	<input type="checkbox"/> Fair
<input type="checkbox"/> Very Good	<input type="checkbox"/> Poor
<input type="checkbox"/> Good	<input type="checkbox"/> Can't say

This is a question that is included in the Australian Bureau of Statistics Australian Health Survey and also in the Household, Income and Labour Dynamics in Australia (HILDA) Survey, a household-based panel study that collects information about economic and personal well-being, labour market dynamics and family life in Australia. The HILDA Survey follows the lives of more than 17,000 Australians each year, with participants being followed over the course of their lifetime (23). Its use in both these major surveys makes it an important question to include for comparative purposes, as well as enabling an analysis of measured frailty versus self-rated health status in community dwelling older people.

The final FRAIL Questionnaire Screening Tool used in most of the sub-projects of the Frailty Project included both the standard and alternative weight loss questions, resulting in nine questions as shown in Table 3. For sub-project 5, which looked at FRAIL Tool use and acceptance in primary care, and sub-project 7, the Positive Ageing Resource Centre, only the standard weight loss question was used.

Table 3: Frail Questionnaire Screening Tool

FRAIL QUESTIONNAIRE SCREENING TOOL (incorporating Standard and Alternative Weight loss questions)			
1.	Are you fatigued?	<input type="checkbox"/> Yes = 1	<input type="checkbox"/> No = 0
2.	Can you walk up one flight of stairs?	<input type="checkbox"/> Yes = 0	<input type="checkbox"/> No = 1
3.	Can you walk at least one block?	<input type="checkbox"/> Yes = 0	<input type="checkbox"/> No = 1
4.	Do you have more than five illnesses?	<input type="checkbox"/> Yes = 1	<input type="checkbox"/> No = 0
5.	Have you lost more than 5% of your weight in the past six months?	<input type="checkbox"/> Yes = 1	<input type="checkbox"/> No = 0
6.	In the last 6 months have you had an unexpected weight loss?	<input type="checkbox"/> Yes = Go to Q. 7 & 8	<input type="checkbox"/> No = Go to Q. 9
7.	If yes, how much did you lose?		
8.	What did you weigh before you lost the weight?		
9.	In general, how would you say your health is?	<input type="checkbox"/> Excellent <input type="checkbox"/> Fair	<input type="checkbox"/> Very Good <input type="checkbox"/> Poor
			<input type="checkbox"/> Good <input type="checkbox"/> Can't say

Scoring can be based on either the first five questions (for the FRAIL Questionnaire Screening Standard Tool), or questions 1 to 4 and a calculated loss of weight of 5% or more using questions 6 to 8 (for the FRAIL Questionnaire Screening Alternative Tool). A total score of 3 or more = frail, 1 or 2 = pre-frail, and 0 = robust³. Question 9 was included for comparison purposes and is not part of the scoring for frailty.

³ The terms “frail” and “pre-frail” and what they represent have been extensively discussed, defined and debated within the literature on frailty and frailty screening. The term “robust” has received less attention, but is increasingly used within the literature to refer to those who are neither frail nor pre-frail, and thus is used across this Project to designate those who score zero on the FRAIL Questionnaire Screening Tool.

Project design

The overall focus of the project was to provide support for activities that promote healthy and active ageing. This was achieved through addressing a number of related aims, including:

- To identify and measure the presence and level of physical frailty amongst community dwelling older people through operationalising an evidence-based, simple, reliable, robust, frailty screening tool;
- To provide referral pathway for frail older people to receive education, support and interventions to address physical frailty.
- To promote care strategies that reverse the trajectory of physical frailty and help preserve the functional independence of community dwelling older people for as long as possible.

To address these aims, the project was broken down into seven related sub-projects, each of which addressed specific aspects of the overall study and is discussed in detail in subsequent chapters.

Frailty project reference group

One of the agreed activities for the Frailty Project was the establishment of a Project Reference Group, with representatives drawn from the community and aged care sectors, to provide input into the design and conduct of the project. The group was duly established and held its first meeting in September 2015. Six monthly meetings were subsequently held throughout the duration of the Project.

The membership consisted of:

- Dr John Burgess, Research Fellow, Centre for Epidemiology & Biostatistics, Melbourne School of Population & Global Health, University of Melbourne
- Professor Pēteris Dārziņš, Professor of Geriatric Medicine, Monash University. Director of Geriatric Medicine and Executive Clinical Director of Aged Medicine, Eastern Health
- Professor Collette Browning, Honorary Professor, Australian National University
- Dr Paula Eustace, Research Officer, Eastern Melbourne Primary Health Network
- Reverend Matthew Ooi, Assistant Minister, St Mark's Anglican Church, Camberwell
- Mrs Margaret Kirwan, Consumer representative, Retired teacher & student welfare officer
- Associate Professor Catherine Joyce, Manager, Research and Innovation, Benetas

Ethics approval

Each sub-project underwent separate ethics approval. All sub-projects except number 1, were submitted to and received approval through the Monash University Human Research Ethics Committee (HREC). Sub-project 1, which involved Eastern Health patients was submitted and received approval through the Eastern Health Human Research Ethics Committee.

No adverse events have occurred in relation to the project overall, or any of the sub-project components, and no complaints been received. All reporting with regard to ethics approval has been completed and accepted by the relevant HREC.

Overview of report

The body of this report consists of seven chapters that deal with each of the sub-projects and a conclusion which brings the sub-projects together and makes recommendations with regard to the future application of frailty screening for community dwelling older Australians.

The following table lists each of the chapters with a brief description of the sub-project covered in it. Details of the methodology used for each sub-project, findings, implications and recommendations are provided in the sub-project chapters.

Chapter		Brief description
1.	Clinometric and psychometric validation of FRAIL Questionnaire Screening Tool	This sub-project evaluated the clinical and psychometric properties and performance of the FRAIL Questionnaire Screening Tool by applying it to a targeted sample where the prevalence of frailty was likely to be high, and comparing results with those obtained using the SHARE-FI frailty screening tool, the FRAIL Questionnaire Screening Tool when completed by a relative or carer for the subject, and finally, with a Comprehensive Geriatric Assessment.
2.	Prevalence of frailty among community dwelling aged care service seekers	The FRAIL Questionnaire Screening Tools was administered by telephone to 173 callers to the Benetas Customer Care Centre, with the objectives of: <ul style="list-style-type: none"> • Trialling the use of the FRAIL Questionnaire Screening Tool via telephone with aged care service seekers; • Measuring the prevalence of frailty among community dwelling older people seeking aged care services.
3.	Prevalence of frailty in the general population of community dwelling Australians aged 65 years and older	A telephone based survey was conducted with a national representative sample of 3,000 people aged 65 years and older using both the Standard and Alternative FRAIL Questionnaire Screening Tools, with the objectives of: <ul style="list-style-type: none"> • Accurately estimating the prevalence of frailty in the population of people aged 65 years or older; • Obtaining statistically reliable data about the prevalence of frailty, by gender, location and age strata; • Testing two different loss of weight questions for the FRAIL questionnaire Screening Tool, to assess which approach is more effective; • Providing data that can be used to produce a national frailty prevalence atlas at LGA level.
4.	Frailty in the general population of community dwelling Australians aged 65 years and older: 12 month follow-up survey	This sub-project involved a follow-up survey of 2000 respondents from the initial prevalence survey. The objectives of this sub-project were to: <ul style="list-style-type: none"> • Measure changes in the prevalence of frailty in the community dwelling older people in 2017; • Assess the trajectory of frailty at the individual level over a 12 month interval.
5.	FRAIL Questionnaire Screening Tool use and acceptance in primary care	Thirty-two General Practitioners (GPs) (12 Mandarin speakers and 20 English speakers) were recruited to trial use of the Standard FRAIL Questionnaire Screening Tool in the context of GP consultations with patients aged 65 years and older. Focus groups interviews were subsequently held with the GPs to analyse their experience of using the FRAIL Questionnaire Screening Tool and its suitability for use in primary care.
6.	Trial of the FRAIL Questionnaire Screening Tool within a telephone triage service	DoctorDoctor (previously Australian Locum Medical Service) was used to trial the FRAIL Questionnaire Screening Tool to assess the feasibility of embedding frailty screening in this and kindred types of services.
7.	Positive Ageing Resource Centre	Development and evaluation of an online Positive Ageing Resource Centre (PARC), where community dwelling older people or their carers can use the FRAIL Questionnaire Screening Tool to screen for frailty and be provided with advice and referral information based on the individual's results.

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Conclusion

Underlying project philosophy

This project is rooted firmly in the philosophy and practice of the “New Public Health”, a contemporary application of a broad range of evidence based scientific, technological, and management systems, informing implementation of measures to improve the health of individuals and populations. The New Public Health was formalised by the 1978 Alma-Ata Declaration and refined by the 1986 Ottawa Charter which advocated for increased opportunities for people to make healthy choices with regard to specific disease-precipitating factors by providing them with health information and education to enhance life skills. In essence, the New Public Health is concerned with action. It is concerned with finding a blueprint to address some of the major health and social issues of our time, but also with identifying implementable strategies in the endeavour to solve these problems.

Consistent with the New Public Health paradigm, the Frailty in community dwelling older people - using frailty screening as the canary in the coal mine has maintained an unswerving focus on developing sound evidence upon which to base activities targeting older Australians that are effective, evidence based and can be achieved in practice. The Project activity outcomes have generated an innovative model of better health care connections between existing health and aged care services that are effective, cost efficient, and improve the way the health and aged care systems work to meet the needs of older people.

Project background and purpose

The project aimed to promote healthy ageing by detecting frailty amongst community dwelling older people. Once detected, the frail person can be provided with information and resources that will empower them to access the support needed to maximise healthy and active ageing, and potentially reverse their degree of frailty. Early detection and support for frailty in older people is important since frailty is a condition in which the individual is vulnerable and at increased risk of adverse health outcomes and/or dying when exposed to a stressor, even a relatively minor one. For older people, frailty is the “canary in the coalmine” that can detect an adverse decline before it happens.

Frailty is an important concept for all those who plan and provide care for older people. It is closely linked to advanced age and disease-related processes, yet is a distinct construct. While some people remain fit and active as they grow older, others experience complex problems: chronic disease, dependency and disability. Frailty is a term to describe this latter group, capturing differences in health status among older people. Chronological age alone is not a sensitive predictor of mortality; there is considerable variation in how older people tolerate stressors, even when disease severity and comorbid conditions are taken into account.

The term “frail” is intended to identify vulnerable older people at high risk of adverse outcomes including the major geriatric syndromes of falls and delirium, worsening disability, institutionalisation and death. Where frailty is present the client is at markedly increased risk of decreased functional capacity, increased dependence on others for help with the Activities of Daily Living (ADLs), significant morbidity (including preventable hospital admission), premature admission to a Residential Aged Care Facility (RACF) and premature death.

Frailty is common but often “invisible”, as most people who are frail function (or appear to function) in the community reasonably well. Consequently older people and their family are usually unaware frailty is present. Clinically trained health professionals often fail to detect frailty as its presence is masked by apparent social coping. As frailty is easy to overlook, this project developed and expanded frailty screening and support services in novel ways with the goal of embedding frailty screening in current assessment processes and to provide a pathway for simple management to reverse frailty and promote healthy active ageing.

With the right support at the right time, frailty can be halted or even reversed with safe, simple, inexpensive interventions: modified diet, vitamin D supplementation, exercise and de-prescribing. Where this occurs, the benefits for older people are many: better physical health, improved functional capacity and improved quality of life, reduced likelihood of adverse health outcomes including hospital admission, and greater likelihood of ageing in place for longer; thus recognising the preference for older adults to age in their own homes instead of in long-term care facilities and achieving the goal of maximising healthy and active ageing. The social benefits of such changes are significant. Older frail people are able to enjoy healthier productive ageing in place.

There are also benefits to be reaped at a policy, and health and aged care systems level. The benefits to the health and aged care systems of helping older people remain healthier for longer while living in the community are obvious.

There are other benefits to service providers and clinicians that can directly but less obviously achieve gains for the aged care system. If service providers are easily able to detect clients with frailty, they will have a reliable, robust, defensible and evidence-based structure upon which to prioritise service provision to these people and to manage waiting lists in circumstances where demand for services may exceed the available service supply. This has important benefits in terms of efficient and effective resource allocation. It is also a powerful risk management tool as repeated assessment of frailty is easy and quick: those older people whose frailty level has increased since their last assessment can be reallocated to a more appropriate level of support in a timely manner.

There is a clear need to develop and integrate a simple, robust, reliable, and sensitive way to detect physical frailty, especially amongst community-dwelling older people who are frail but do not appear to be so. Frailty in community dwelling older people - using frailty screening as the canary in the coal mine is a substantial step towards detection of frailty to enable clients, carers and service providers and policy makers to easily and accurately identify older people who are frail and to provide early, appropriate, proactive support based on good evidence to help preserve their functional independence for as long as possible.

Agreed project activities and additional project activities achieved

The Agreed Project Activities Frailty in community dwelling older people—using frailty screening as the canary in the coal mine were described in detail in the approved Activity Work Plan. In brief these are:

1. Implement frailty screening at the Benetas Customer Centre.
2. Partner with a telephone based health service (e.g. Nurse-on-call) to screen for frailty.
3. Develop a suite of education, support and referral resources for frail people.
4. Follow up frail older people at six and 12 months to evaluate the effectiveness of this program.

The project achieved all agreed project outcomes, but also vastly expanded the range of activities beyond those agreed. The additional project activities completed are:

5. Developing a reliable measure of the prevalence and degree of frailty in the Australian community dwelling population of people aged 65 years and older seeking aged care services;
6. Developing a reliable measure of the prevalence and degree of frailty in the Australian community dwelling population of people aged 65 years and older;
7. Developing a reliable measure of the trajectory of the and rate of change of frailty status in the Australian community dwelling population of people aged 65 years and older;
8. Measuring the clinometric and psychometric properties of a simple 5 item self-reported questionnaire (FRAIL) to screen for frailty in community dwelling older people;
9. Testing the simple 5 item self-reported questionnaire (FRAIL) for use in general practice;
10. Development of a Mandarin language version of the simple 5 item self-reported questionnaire (FRAIL) for use in general practice.
11. Briefing Paper for the Department of Health: Overview of frailty, frailty screening and measurement, and research findings.

These additional activities represent an ambitious major expansion of the scope of the Frailty in community dwelling older people - using frailty screening as the canary in the coal mine project. Nonetheless, the project has delivered all agreed project activities, as well as the additional activities delivered on time, within budget.

Partnerships

Eastern Health Geriatric Medicine Service

Eastern Health Geriatric Medicine Service is one of the largest and busiest geriatric medicine services in Victoria. The service provides inpatient and outpatient care under the care of a geriatrician and multidisciplinary team, which includes nurses and a comprehensive team of allied health staff. It aims to manage the complex conditions associated with ageing, cognitive dysfunction, chronic illness or disability. This includes subacute medical management, cognitive assessment, physical rehabilitation and discharge planning. The Inpatient Access Unit provides a single point of entry for referral to all Eastern Health sites. Referral to these services can be made by General Practitioner and Care Co-ordination teams.

Eastern Health Geriatric Medicine Service and Aged Care Research Centre

The Eastern Health Geriatric Medicine Service and the Geriatric Medicine Aged Care Research Centre are both led by Professor Peteris Darzins, Professor of Geriatric Medicine at Monash University Eastern Clinical School. The geriatric medicine aged care research and academic team holds affiliations with Monash University together with other Melbourne, national and international universities and agencies with a focus on a wide range of activities including research and education. The research focus spans a range of issues that are typically considered to be at the core of healthcare provision. These range from things such as prescribing for older people and the comprehensive assessment of older people in hospital, to issues that are of a broader social nature such as driving safety in older people and the protection of older people's financial assets.

Eastern Health Cognitive Dementia and Memory Service (CDAMS)

Eastern Health CDAMS is a specialist diagnostic clinic for people with early cognitive changes or concerns about memory loss. CDAMS provides expert clinical diagnosis and treatment; assessment of the impact of any impairment within a home or other familiar environment; feedback, education, support, short-term counselling, family therapy and advice; referral for appropriate investigations via a general practitioner or principal care provider; and referral, if appropriate, of clients or carers to other service providers. Medical, neuro-imaging and neuropsychological assessment will be conducted by CDAMS as needed.

Eastern Melbourne Primary Health Network

Eastern Melbourne PHN (EMPHN) is a Primary Health Network in Eastern Melbourne. It works across an area of 3,956 km² comprising a population of more than 1.5 million people across 12 local government areas in east and north east Melbourne.

DoctorDoctor Deputising Medical Service

DoctorDoctor, formerly the Australian Locum Medical Service (ALMS), has been providing after hours medical care to patients on behalf of General Practitioners for nearly half a century. Established as the first service of its kind in Melbourne and Perth, it also facilitates access to after-hours health care in Brisbane and Sydney, providing after hours primary care for the patients of more than 2,000 GPs. DoctorDoctor is a leading member of The GP Deputising Association (GPDA), an association of healthcare stakeholders working to improve conditions within the healthcare industry related to the provision of after-hours healthcare, including Medical Deputising Services acting for and on behalf of General Practice, General Practitioners and their patients.

General Practice

A large number of General Practices with different patient profiles were engaged as part of this project. These were: Belmore Road Medical Clinic, Balwyn; Box Hill Family Clinic, Box Hill; Box Hill Centre Clinic, Box Hill; Burwood Health Care, Burwood; Canterbury Medical Clinic, Canterbury; Churinga Medical Centre, Deepdene Surgery, Balwyn; Dr Yang Clinic, Box Hill; Glen Union Medical Centre, Glen Waverley; Knoxfield Medical Centre, Wantirna South; Mediscreen Clinic, Hawthorn East; Mount Medical Centre, Wantirna; Nillumbik and Research Medical Centres, Eltham; Total Wellbeing Clinic, Doncaster East.

Project activities

Overview of frailty screening

This paper provides an outline of current research on the nature of frailty and how it is measured and assessed. It is an overview of Systematic Reviews (SR), also known as an umbrella review or review of reviews that consolidates available evidence from the published literature about the use of instruments to screen and assess frailty, and considers the quality and reliability of the methodologies the studies used. This briefing paper seeks to bring relevant research to the attention of the Department of Health to help build a strong foundation for identifying focus areas, directing resources towards specific and quality research, and informing policy in Aged Care.

Sub-project objectives and findings

The overall research project was divided into seven sub-projects. Each of these has been described in detail in its own chapter, with a brief summary of the objectives and major findings provided here.

Clinometric and psychometric validation of FRAIL Questionnaire Screening Tool

The overall purpose of this sub-project was to evaluate the clinical and psychometric properties and performance of the FRAIL Questionnaire Screening Tool. Specific objectives were to:

- Compare the performance of the FRAIL Questionnaire Screening Tool to the “clinical gold standard” of a geriatrician’s clinical opinion of frailty;
- Compare the performance of the FRAIL Questionnaire Screening Tool to the SHARE-FI;
- Compare the performance of the FRAIL Questionnaire Screening Tool when self-completed to when the tool is completed by a close third party (e.g. spouse or adult child);
- Measure the psychometric properties of each of the items comprising the Standard FRAIL Questionnaire Screening Tool;
- Measure the psychometric properties of an alternative wording for the question of weight loss;
- Measure the performance of the FRAIL Questionnaire Screening Tool’s inter-rater reliability, test-retest reliability, parallel forms reliability and internal consistency reliability.

The FRAIL Questionnaire Screening Tool was found to perform well when compared to the “clinical gold standard” of a geriatrician’s clinical opinion of frailty and to the more involved SHARE-FI instrument. In terms of the psychometric properties of each item, the first four questions performed well. The fifth question, on weight loss, did not, regardless of whether the standard or alternative weight loss question was used.

Prevalence of frailty among community dwelling aged care service seekers

The second sub-project researched the prevalence of frailty among older people seeking aged care services. The objectives for this sub-project were to:

- Trial the use of the FRAIL Questionnaire Screening Tool with aged care service seekers;
- Measure the prevalence of frailty among older people seeking aged care services.

Telephone interviews were completed with 173 clients of the Benetas Customer Centre in Victoria. These were all people who had contacted the Centre seeking aged-care services other than admission to residential aged care. Thirty-three percent of respondents were identified as Frail and another 53% were screened as Pre-frail. Given that this sub-project was looking at a population of people who were seeking aged care services, the high numbers screening as frail or pre-frail are not surprising, but they do highlight the value of implementing frailty screening in such settings.

Prevalence of frailty in the general population of community dwelling Australians aged 65 years and older

This sub-project was also concerned with measuring the prevalence of frailty, in this case among community dwelling older people in the general Australian population. The research objectives of this sub-project were to:

- Accurately identify the prevalence of frailty in the population of people aged 65 years or older;
- Obtain statistically reliable data about the prevalence of frailty, by sex, age strata and location;
- Provide reliable data that can be used to inform and influence policy makers and in turn, strengthen the delivery of services which can lessen the impacts of frailty; and
- To test two different loss of weight questions for the FRAIL screening tool, to see whether the current question (about 5% weight loss) was more effective than the unexplained weight loss approach that was being considered.

This was a major survey, based on telephone interviews with 3000 Australians aged 65 and older from across Australia.

The survey found a frailty prevalence rate of 6% of the Australian community dwelling population aged 65 years or older. Another 38% fell into the pre-frail category. Slightly more than half (56%) were categorised as Robust. Not surprisingly, the proportion of the population found to be frail or pre-frail in the general population was far less than in the sample of Aged Care Service seekers.

There was a marked disparity in frailty prevalence related to sex, with women found to have a much higher incidence of frailty than men. While 5% of males were found to be Frail, 8% of females were. The Pre-frail category saw an even larger disparity with 34% of men falling into this category, while 41% of women did. Taken together, almost half of the women surveyed were either Frail or Pre-frail as measured by the Standard FRAIL Questionnaire Tool, while slightly less than 40% of men were.

As would be expected, the survey found higher prevalence rates of frailty as we move from the younger cohorts in the survey up to the older cohorts. Frailty prevalence also varied across the States, with the proportion of frail residents being lower in the large population States and higher in the smaller population States.

Frailty in the general population of community dwelling Australians aged 65 years and older: 12 month follow-up survey

The next sub-project involved a repeat administration of the 2016 survey with a sample of 2000 of the original respondents. This was carried out in 2017 using telephone interviews and the same questionnaire as for the 2016 survey. The objective for this sub-project was to:

- Measure changes in the prevalence and severity of frailty over 12 months in community dwelling people aged 65 years or older.

Major findings of the follow-up survey were that the proportion of the population screened as Frail remained unchanged at 6% while the number of people screened as Frail declined by over 8,000 to 179,322 due to a reduction in the size of the reference population due to deaths in the intervening 12 months. The proportion of people screened as Pre-frail increased from 38% in 2016 to 40% and there was also an increase in absolute numbers, from 1,142,000 to 1,164,000 people, an increase of over 22,000 despite the reduction in the reference population. The proportion of people screened as Robust declined as a proportion of the total study population – from 56% to 54% over the year, and also declined in absolute numbers by 79,500 people to 1,591,000 people.

These results are consistent with the 2016 survey findings that frailty prevalence increases with age. As the population represented by the follow-up survey sample has aged by one year overall, the percentage who were screened as Robust decreased both proportionally and in absolute numbers. In contrast, those screened as Pre-frail increased both proportionally and in absolute numbers. The proportion of those found to be Frail remained steady, but in absolute numbers decreased. It seems that the majority of the decline in absolute numbers of Frail in the 2017 survey was due to a higher proportion of deaths and non-contacts from this group.

FRAIL Questionnaire Screening Tool use and acceptance in primary care

The purpose of the fifth sub-project was to investigate the feasibility of using the FRAIL Questionnaire Screening Tool in the Primary Care setting, with specific sub-project objectives being to:

- Trial the use of the FRAIL Questionnaire Screening Tool with General Practitioners to assess suitability for use in primary care setting in the context of GP consultations with patients aged 65 years or older;
- Trial use of a translated Mandarin language version of the FRAIL Questionnaire Screening Tool with Mandarin speaking GPs and patients.
- Gain feedback from both English and Mandarin speaking General Practitioners on their experiences using the FRAIL Questionnaire Screening Tool with patients.

Overwhelmingly, the GPs found the FRAIL Questionnaire Screening Tool easy and quick to use in their normal clinical practice. This ease of use was consistent across those who administered the Mandarin language version as well as by those who administered the English language version. GPs were generally positive about the process. Although there were some mixed views as to whether screening for frailty within general practice was worthwhile, and some discussion of the appropriate age for routine screening, the results clearly suggest that screening for physical frailty in Australian General Practice using the FRAIL Questionnaire Screening Tool is readily achievable.

Trial of the FRAIL Questionnaire Screening Tool within a telephone triage service

This sub-project trialled frailty screening within a telephone health triage service to assess the feasibility of embedding frailty screening into existing health services accessed by older Australians. The objectives of the sub-project were to:

- Develop referral pathways and systems for frailty screening, and to
- Monitor those referral pathways.

To achieve this, a trial of frailty screening using the FRAIL Questionnaire Screening Tool was conducted by DoctorDoctor, a deputising medical service.

In total 116 people were screened for frailty during the trial period. Consistent with findings from both the survey of community dwelling aged care service seekers and the national prevalence survey, women were found to be more likely to be Frail (27%) or Pre-frail (55%) than men, 21% of whom were frail and 53% Pre-frail. Combined, 82% of women were either Frail or Pre-frail, while 74% of men were either Frail or Pre-frail.

The trial was described as highly successful by DoctorDoctor who saw it as providing added value to their existing clinical processes. DoctorDoctor embedded frailty screening into their ongoing business as usual practice after the trial finished.

Positive Ageing Resource Centre

In addition to a) identifying and measuring the presence and level of physical frailty amongst community dwelling older Australians and b) validating the FRAIL Questionnaire Screening Tool and trialling its use in various settings, the Frailty Project aimed to provide referral pathways for older people to receive education, support and interventions to address physical frailty and to promote strategies that reverse the trajectory of physical frailty. The final sub-project, development of the Australian Positive Ageing Resource Centre (PARC), makes a significant contribution to this aspect of the overall project. The sub-project objectives were to:

- Develop the Positive Ageing Resource Centre (PARC);
- Evaluate PARC.

PARC was successfully developed and went live on 15th August 2016. It was officially launched by the Hon Ken Wyatt AM, MP, Assistant Minister for Health and Aged Care, at the annual Benetas Industry Breakfast on the 24th November 2016. The Positive Ageing Resource Centre is a high quality online resource that has the clear potential to enhance positive ageing among community dwelling older Australians. More than 2000 people accessed PARC between the date of the launch and the end of September 2017. Around 20% of users who came to the site went on to complete the five frailty screening questions. This is potentially a large pool of older Australians who could find the resources provided by the site helpful in assessing their level of risk and accessing resources to ameliorate frailty and reduce their risk of adverse health events.

That 18% who went on to enrol in the study and were found to be Frail and 55% Pre-frail highlights the value of PARC. Those who are Pre-frail are most likely to benefit from the resources provided, and it appears that people who are most likely to benefit from these resources are also more likely to respond to social media advertising about the site.

In summary

Taken collectively, the findings from the various sub-projects of Frailty in community dwelling older people - using frailty screening as the canary in the coal mine mean that health professionals and service providers will now be able to reliably identify frail older people from their apparently similar non-frail counterparts and to prioritise service provision or allocation of scarce services to those at greatest need and to whom the greatest likely benefit will accrue. This sort of objective tool to assist with case management has hitherto not been utilised in aged care and primary care, but the results of this project demonstrate that its use in these sectors has the promise of being a powerful adjunct to the management and monitoring of existing services and programs.

Approximately 60% of residents coming newly to a Residential Aged Care Facility (RACF) are discharged directly following treatment in an acute hospital after unscheduled admission for management of a health crisis. Many of these hospital admissions are due to potentially preventable causes (like falls and delirium), the risk of which is strongly associated with frailty, and which are amenable to prevention and amelioration with the right early supports. The outputs of this project will enable older people, their carers, family and friends, health professionals and service providers to proactively support older people to maintain healthy ageing, rather than to provide assistance in response to a health crisis that causes greater dependence and disability (either permanent or temporary).

The long term benefits to be reaped from the use of the FRAIL Questionnaire Screening Tool and subsequent provision of education and referral to proactive support services are likely to be substantial. It will proactively bridge the gap between frail older people in the community and the health and aged care sectors in an innovative way, based on best evidence. It provides opportunity to educate aged care and health professionals about frailty as a marker of vulnerability whilst actively providing interventions to remediate the problem. At a population level this should result in fewer frail elderly requiring acute health care and will also compress any period of disability and dependence subsequent to an adverse health event. Even a small improvement in frailty in the elderly population, and the consequent improvement in general health and wellbeing, will have a major impact on demand for health services and high level aged care.

Furthermore, the FRAIL Questionnaire Screening Tool will be a powerful way to capture new information at a population level that can guide resource allocation and service provision for preventative primary community health care outside of the aged care system. This will be particularly important in the context of an increasing number of older people requiring support in the context of constrained resources. This new information about the health of the rapidly growing older population will be invaluable to demand prediction, service planning and policy development.

Recommendations for further work

There are a number of activities that naturally arise from this project. Each of these is readily achievable and has an immediate practice outcome to which it can be deployed.

Annual frailty prevalence follow-up survey

The data generated by the 12 month follow-up survey as described in Chapter 4 is the first of its kind to describe the prevalence, incidence and trajectory of frailty development in the Australian community dwelling population aged 65 years and older. This sort of longitudinal data is very powerful and also difficult to generate. Given that a cohort has been established for this purpose, it would be a straightforward and relatively inexpensive matter to recommission a series of annual follow up surveys of this cohort. This sort of time series and repeated measures data is invaluable to researchers and policy makers and is strongly commended to the Department.

Mapping of inferred frailty prevalence across Australia

The national prevalence of frailty population survey provides an important resource for service planners and policy makers if utilised well. To this end, it is possible to develop a map of inferred frailty prevalence for all of Australia, not just the 89 LGAs that were surveyed, based on these data. Such a map can be readily coded to useful boundaries like Local Government Area, Primary Health Networks boundaries, Regional Health Network boundaries, Aged Care Planning Region boundaries, Electoral Divisions, Suburb, Postcode, and more. Such applications are readily available and easily integrated with other health datasets using Geographic Information Systems (GIS). A preliminary example of this type of analysis has been performed on the data by National Centre for Geographic Resources & Analysis in Primary Health Care (GRAPHIC) at the Research School of Population Health, ANU College of Health & Medicine, The Australian National University. Below are “heatmap” representations of frailty, with deeper shades of red representing greater frailty prevalence, for Victoria, Greater Melbourne and the Casey LGA, respectively. This sort of GIS coded data is invaluable to researchers and policy makers and is strongly commended to the Department.

Extension of frailty screening to broader health sector

The feasibility and utility of frailty screening in telephone based health triage services has been taken from proof of concept to a successful pilot study. Consequently frailty screening is now able to be easily implemented at a range of kindred services like Nurse on call, after hours GP helpline, deputising medical services, ambulance service secondary triage call centres, private health insurance customer support centres and the like. This is a readily achievable and inexpensive application of the project findings to the broader health sector. The Department is ideally situated to commission or lead such initiatives. This action is commended to the Department.

Figure 1: Frailty prevalence heat map Victoria



Figure 2: Frailty prevalence heat map Melbourne



Figure 3: Frailty prevalence heat map Casey LGA



Inclusion of information about frailty and frailty screening in material provided to GPs

The successful trialling of frailty screening with GPs demonstrates the feasibility of introducing it into the Primary Care setting. In this regard, the following recommendations should be considered:

Engage with the Royal Australian College of General Practitioners to update the Medical care of older persons in residential aged care facilities (Silver Book). The most recent edition of the Silver Book is the 4th edition and was issued in 2006. This volume is overdue for a new edition and frailty and frailty screening are ideally suited to be included in this reference.

Revise the Health Assessment for People Aged 75 years and older to explicitly include screening for frailty using the FRAIL Questionnaire Screening Tool. This mandatory element should be required before a medical practitioner can claim MBS Items numbers 701, 703, 705 or 707. In addition, specific guidance and recommended actions should be joined to frailty assessment to encourage optimal, evidence based practice as provided in Dent E, et al. (2017). "The Asia-Pacific Clinical Practice Guidelines for the Management of Frailty." Journal of the American Medical Directors Association 18: 564-575.

Policy implications and recommendations

A number of well accepted frailty assessments exist. However, all of these are time-consuming to administer, they require at least one physical assessment or physical test that requires specified equipment or clinical expertise, and they all require at least some level of specialist clinical acumen to interpret. Such tools are unsuitable for simple, quick, and reliable detection of physical frailty.

Frailty in community dwelling older people - using frailty screening as the canary in the coal mine has made a major contribution in this regard. The FRAIL Questionnaire Screening Tool can be administered in a minute or two. It can be administered in person, over the telephone or online. FRAIL Questionnaire Screening Tool does not require specialised clinical assessments or physical measurements of any kind. The FRAIL Questionnaire Screening Tool identifies physical frailty which captures those at risk of any adverse events, but it is not bound by detecting just one specific illness or condition. The FRAIL Questionnaire Screening Tool requires no special knowledge or training to interpret. It can be used by clients, carers, family and friends, health professionals and service providers, and, after this project, on the myagedcare website.

Frailty screening using the FRAIL Questionnaire Screening Tool is a powerful way to capture new information at a population level that can guide resource allocation and service provision for preventative primary community health care outside of the aged care system. This will be particularly important in the context of an increasing number of older people requiring support in the context of constrained resources. This information about the health of the rapidly growing older population generated by Frailty in community dwelling older people - using frailty screening as the canary in the coal mine is invaluable to demand prediction, service planning and policy development.

In short, detection of frailty will enable clients, carers and service providers to easily and accurately identify older people who are frail and to provide early, appropriate, proactive support based on good evidence to help preserve their functional independence for as long as possible.

This has important benefits in terms of efficient and effective resource allocation. It is also a powerful risk management tool as repeated assessment of frailty is easy and quick: those older people whose frailty level has increased since their last assessment can be reallocated to a more appropriate level of support in a timely manner.





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