

# The best tool to assess frailty in general practice and rural communities

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## Abstract

**Relevance:** People living in rural and regional areas are older, have poorer health status and access to health services compared to those living in metropolitan areas. The design of health services should be informed by accurate health data for the community served. The concept of frailty has been used to assess the risk of morbidity and mortality in older people and could be a useful tool in such data collection. Frailty is related to the ageing process as an accelerated decline in the ability of body systems to respond and recover to physical insult. The more frail the individual, the higher their risk of morbidity and mortality. Frailty assessment is used by General Practitioners internationally to identify older people at risk of poor health outcomes who may benefit from targeted health interventions.

Data on frailty in a community could inform policy for rural health. The use of a frailty assessment tool would enable rural General Practitioners to identify frail clients in their practices. There is currently no consensus on the best tool with which to assess frailty. This presentation will report on a review of the literature to inform selection of a validated frailty assessment tool for use in frailty assessment in General Practice and rural and remote communities.

**Aim:** To investigate available tools to assess frailty and to consider which would be most useful for rural and remote communities, and in General Practice.

**Method:** Medline, OVID, CINAHL, and AUSTHealth were searched using the terms rural, health assessment, Family Physician, primary care, General Practitioner and Australia in conjunction with frailty. Researchers read the abstracts and selected relevant papers from this list and then read the full texts. This literature provided the background on frailty research and identified the assessment tools used to identify frailty.

**Results:** There are over 20 tools to identify or detect frailty and no gold standard. Frailty screening tools have been used in a variety of settings including the community and rural areas. The Edmonton Frail Scale, which has frequently been used in primary care, is a multi-dimensional validated frailty assessment tool which does not require specialist equipment or training, and is easy to use. The researchers identified this tool to be the most appropriate validated tool to use in a rural General Practice. With this knowledge, the authors are piloting the introduction of a frailty assessment in a rural general practice.

## Relevance

Nearly one-third of Australians live in rural and remote areas. People living in rural and regional Australia are older, have poorer health status and access to health services compared to those living in metropolitan areas(1). Chronic diseases such as arthritis, back pain, asthma and diabetes are more common in rural and remote dwellers than urban, and may reflect social, economic and educational disadvantage and lifestyle choices(1). Access to health care can be limited to rural and remote dwellers through workforce shortages and, or, distance to travel to specialized health services.

Australians are living to a greater age than ever before and longer than other developed nations. The average life expectancy of Australians (80.1 and 84.3 years for men and women respectively), is greater than that of the developed countries (77.8 and 83.1) (1). Older Australians want to age-in-place and the health services want them to live independently and out of hospitals. Subsequently, the government-funded Medicare Benefit Scheme compensates medical practitioners in primary care to assess, refer and provide health interventions to certain populations at specific times. This includes an annual health assessment for 45-49 year olds at risk of chronic disease and another for people over the age of 74 years (75+ Health Assessment).

The 75+ Health Assessment (75+HA), requiring the General Practitioner (GP) to evaluate medical and non-medical conditions such as cognition, depression and nutritional status, commenced in 1999. Originally, GPs were compensated according to where the patient was seen (medical facility or patient's home); however the payment structure has since been amended to reflect the time taken to complete the consultation (brief/standard/long/prolonged). General practitioners use the information obtained from the assessment to provide patient-specific interventions to promote positive health outcomes and support the patient to maintain optimal independence. These interventions may include referral for a comprehensive geriatric assessment with a geriatrician—the gold standard in geriatric assessment.

Uptake of the 75+HA by eligible patients has been poor and there is little evidence of its effectiveness to prevent hospitalization or improve health outcomes(2). Published data on uptake is limited however national figures reveal only 20% of age-eligible adults undertook the assessment to the period to 2010(2). There are alternative tools for assessing health status of older people in primary care(3).

In 2014, United Kingdom GPs were contracted by the government to offer care plans to the top 2% of their patients at risk of hospitalisation. The British Geriatrics Society and the Royal College of General Practitioners (UK) published a guidance report for GPs as a tool to identify those patients using a frailty criteria. In France, the Geriatric Frailty Clinic accepts patients specifically with signs or symptoms of frailty as assessed by GPs(4). The British Columbia Medical Association Canada, produced guidelines to advise GPs in the identification and subsequent care planning of patients with frailty. Each of these examples use different measures or tools to assess frailty in the individual.

Frailty is related to the ageing process as an accelerated decline in the ability of body systems to respond to and recover from physical insult. This affects physical, physiological, functional and psychosocial aspects of life. The more frail the individual, the higher their risk of morbidity and mortality(5). Identification of frailty and personalised interventions may reduce the effect and development of negative health outcomes associated with frailty (6-8). There are broadly two models of frailty: the phenotype (physical) and the cumulative deficit (multidimensional) models. Each model has its particular strengths, weaknesses and methods of measurement(8). Frailty assessment is generally considered appropriate for those aged 65 years and over compared to the Australian 75+HA.

Whilst used with effect in a number of international locations, assessment of frailty by GPs in Australia is uncommon. The use of a frailty assessment provides GPs a way to identify those older people who require further investigation or intervention to achieve optimum health and prevent hospital admission. We sought to find the most appropriate frailty assessment tool for use in general practice and rural and remote communities.

## Aim

To investigate available tools that assess frailty and to consider which would be most useful for rural and remote communities, and General Practice, in an Australian setting.

## Method

We undertook a search of the literature using Medline, OVID, CINAHL, and AUSTHealth databases using broad search terms, and combinations of these terms, anywhere in the title or abstract. The terms were 'rural', 'health assessment', 'Family Physician', 'primary care', 'General Practitioner' and 'Australia' in conjunction with 'frailty'. The search terms were purposely broad to ensure as many relevant studies were found as possible. Studies were considered relevant if the focus of the study was frailty and conducted in a primary care setting. References of relevant studies found were then hand searched. The researchers read the abstracts, selected relevant papers from this list, and then read the full texts.

## Results

Recent systematic reviews have identified over 30 individual instruments to assess or detect frailty in the primary care setting(8-13). Whilst the tools used in these studies have some similar components, there is no one particular instrument used consistently, nor 'gold standard'. Targeted research focusing on frailty in the primary care setting is more prevalent internationally compared to Australia. This is due in part to the UK National Health Service funding models of primary care built on a frailty registry (9). Research conducted in Australia(14-21) investigating frailty uses pre-existing population-based cohort studies as the data source. Subsequently, the instruments used to examine frailty were constructed based on the existing data collected for that particular study and not a specific frailty assessment tool.

## Discussion

Whilst increasingly popular internationally, the use of a frailty assessment in primary care is not yet routine practice. Practice time and resources are limited in primary care, so the assessment tool should be validated and provide useful information, at little to no financial cost, relatively quick and easy to use in the GP office, and acceptable to the professional and the patient.

The Edmonton Frail Scale (EFS) is a validated tool(22) which examines the basic concepts of frailty based on the responses given to nine questions and two tasks. These 11 items cover nine domains: cognition (the clock face drawing test), health status, functional independence, social support, medication use, nutrition, mood, continence and functional performance (timed up and go test). Points are assigned to each response to provide a total score from 0-17, where  $\geq 8$  indicates frailty (figure 1).

Figure 1 Edmonton Frail Scale (22)

### The Edmonton Frail Scale

NAME : \_\_\_\_\_

d.o.b. : \_\_\_\_\_ DATE : \_\_\_\_\_

Frailty domain	Item	0 point	1 point	2 points
Cognition	Please imagine that this pre-drawn circle is a clock. I would like you to place the numbers in the correct positions then place the hands to indicate a time of 'ten after eleven'	No errors	Minor spacing errors	Other errors
General health status	In the past year, how many times have you been admitted to a hospital?	0	1-2	≥2
	In general, how would you describe your health?	'Excellent', 'Very good', 'Good'	'Fair'	'Poor'
Functional independence	With how many of the following activities do you require help? (meal preparation, shopping, transportation, telephone, housekeeping, laundry, managing money, taking medications)	0-1	2-4	5-8
Social support	When you need help, can you count on someone who is willing and able to meet your needs?	Always	Sometimes	Never
Medication use	Do you use five or more different prescription medications on a regular basis?	No	Yes	
	At times, do you forget to take your prescription medications?	No	Yes	
Nutrition	Have you recently lost weight such that your clothing has become looser?	No	Yes	
Mood	Do you often feel sad or depressed?	No	Yes	
Continence	Do you have a problem with losing control of urine when you don't want to?	No	Yes	
Functional performance	I would like you to sit in this chair with your back and arms resting. Then, when I say 'GO', please stand up and walk at a safe and comfortable pace to the mark on the floor (approximately 3 m away), return to the chair and sit down'	0-10 s	11-20 s	One of : >20 s , or patient unwilling , or requires assistance
Totals	Final score is the sum of column totals			

**Scoring :**

- 0 - 5 = Not Frail
- 6 - 7 = Vulnerable
- 8 - 9 = Mild Frailty
- 10-11 = Moderate Frailty
- 12-17 = Severe Frailty

TOTAL /17

Administered by : \_\_\_\_\_

The EFS does not require specialist geriatric training(22) and the patient can complete the nine questions prior to consultation, thus saving time in a routine consultation. Both the 'clock face drawing test' and 'timed get up and go test' could be administered within the time of a medical consultation. Scoring is simple and can be completed on the spot during the consultation and still provide time for discussion between the patient and GP. Periodic administration of the EFS might provide the GP early warning of cognitive decline, or changes in function or mobility in the patients. Whilst there is a free app for the EFS, the current version (1.3) has not been updated since 2014 and contains some differences, and potential challenges, to the paper-based EFS. For example, the clockface drawing

test asks the patient to “draw a watch here” on the screen and to move numbers onto that drawing using touchscreen technology (figure 2 and 3).

Figure 2 App screenshot



Figure 3 App screenshot with circle



Published literature on frailty in older people and frailty assessment has increased exponentially over the past 10 years. Globally, health service funders are acknowledging the potential usefulness of, and allocating resources to, frailty assessment as a screening tool for GPs as a means to identify patients at risk of adverse health outcomes and hospital admission.

The Australian population is ageing, living longer and accessing a limited health care budget. Public hospitals are accommodating increasingly older patients with complex medical conditions. General practitioners can provide, to community-dwelling older clients, appropriate plans of care and interventions to prevent a range of negative health outcomes including hospitalization. General practitioners need appropriate tools to rapidly and accurately identify patients who can benefit from early identification and intervention. There many tools to identify or assess frailty in older people but no gold standard for use in primary care. The EFS is validated, requires no specialist geriatric training, simple to use and potentially more useful to GPs for identifying at risk older patients than the health assessments currently available. With this knowledge, the authors are piloting the introduction of the EFS in an Australian rural general practice.

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## Presenter

Dr Catriona Arnold-Nott (MBBS FRACGP) is a GP currently working in Malanda in the Atherton Tablelands. She graduated from the University of Sydney and did her early hospital years in Darwin. This was followed by a stint working as a volunteer for AVI in Vanuatu, where she and Peter were the only doctors for a province of 25,000 people. Catriona returned to the top end of the Northern Territory to do her GP training, and it was there that Catriona and Peter had their three children Grace, Reuben and Mimi. Looking for a bit more adventure, the young family moved to Thursday Island for four years. They have now settled in the Atherton Tablelands where they live on a farm and raise cattle and strive to grow as much of their own food as they can. Catriona is passionate about compassionate medical care and she really enjoys training registrars and students.