CARES: Frailty in Primary Care

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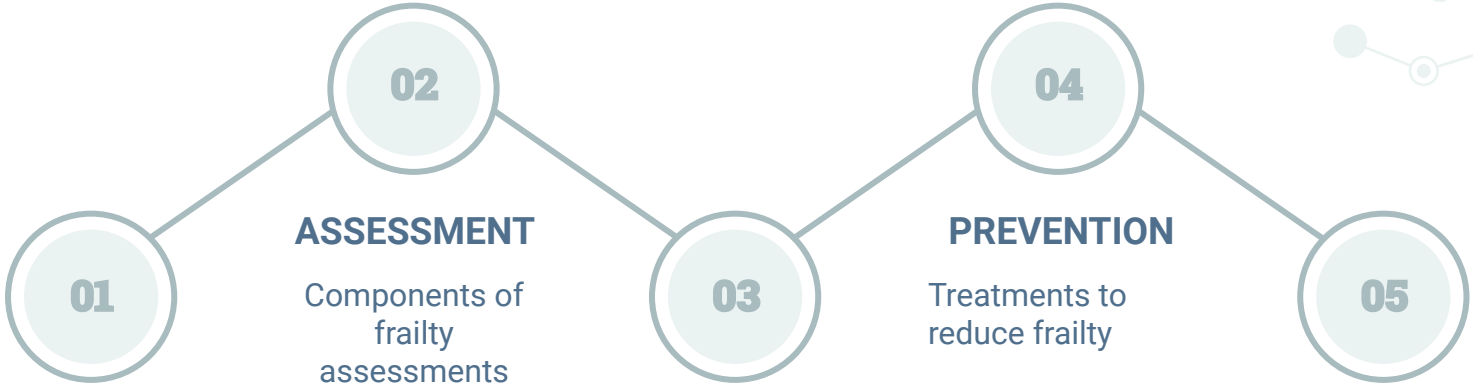
16 Feb 2021

Objectives



DEFINITIONS

What is frailty?

ASSESSMENT

Components of frailty assessments

IMPACT

Outcomes associated with frailty

PREVENTION

Treatments to reduce frailty

MANAGEMENT

Associated conditions and management of frailty

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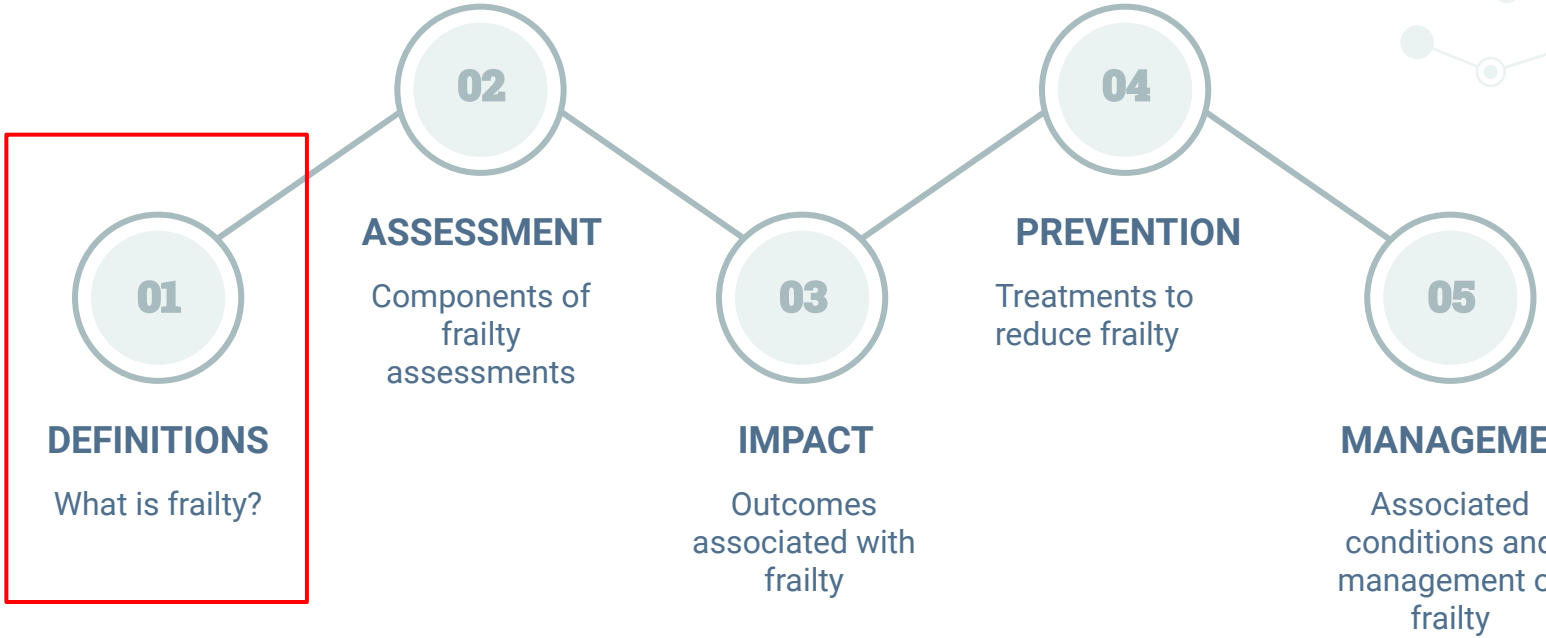
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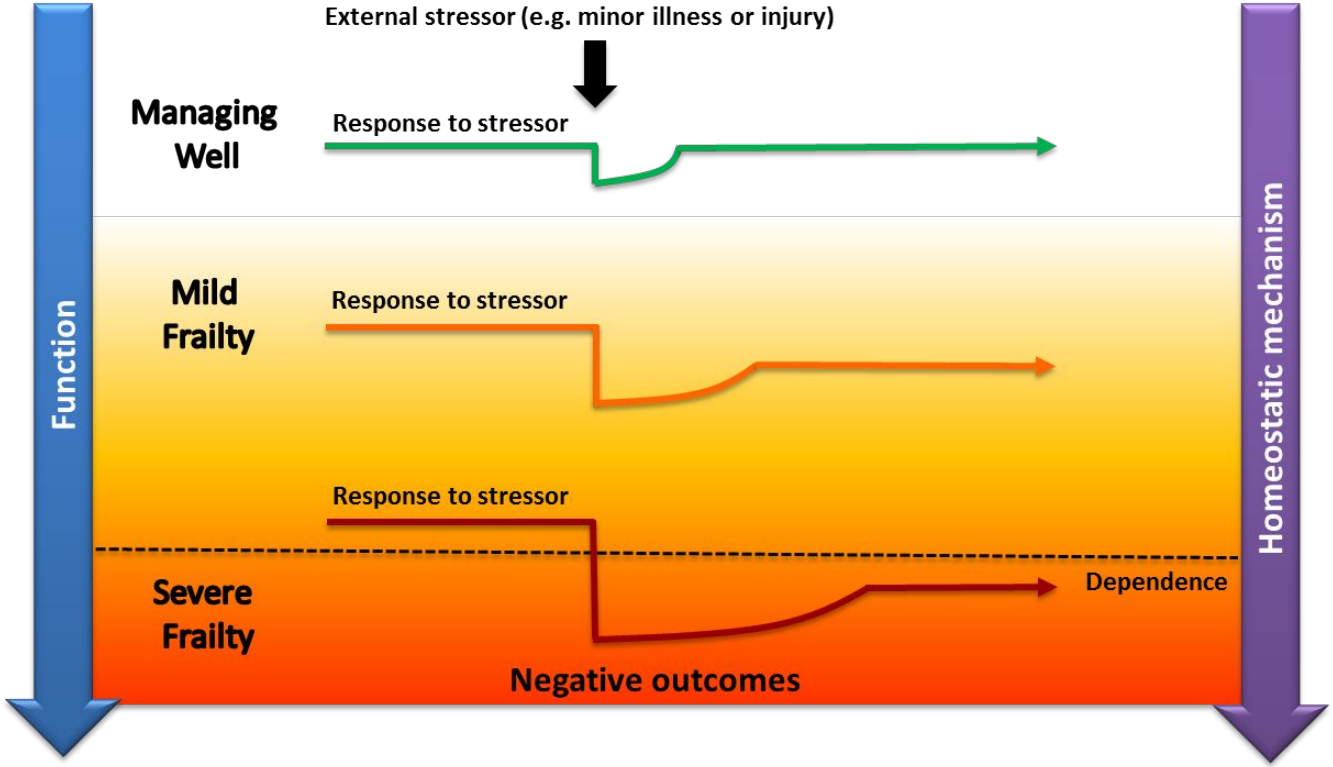
Frailty is a syndrome of increased vulnerability



Clegg et al, Lancet 2013.

Multiple domains and physiological changes are associated with frailty

ENDOCRINE

- Decreased GH and IGF-1
- Decreased DHEA-S
- Increased cortisol

INFLAMMATORY

- Higher IL6 and CRP levels
- Increased clotting markers

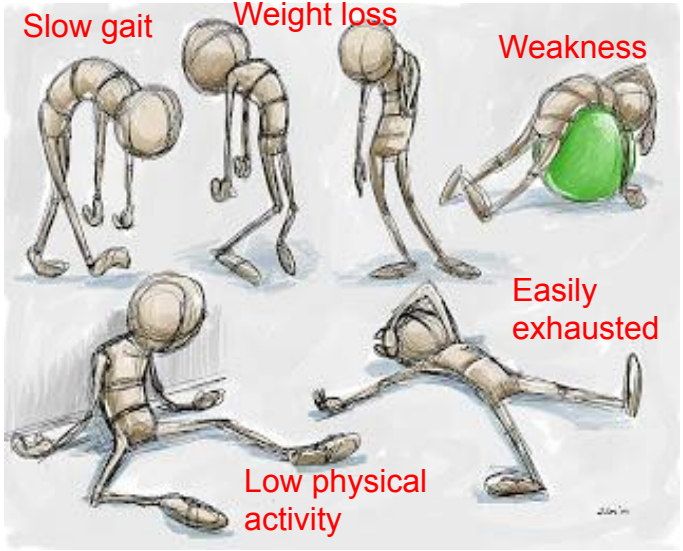
OTHER CHANGES

- Altered glucose metabolism
- Dysregulation of autonomic nervous system
- RAAS changes
- Mitochondria changes

There are multiple ways to assess for frailty

Fried's Frailty Phenotype

Phenotypic physical manifestations



Clinical Frailty Scale

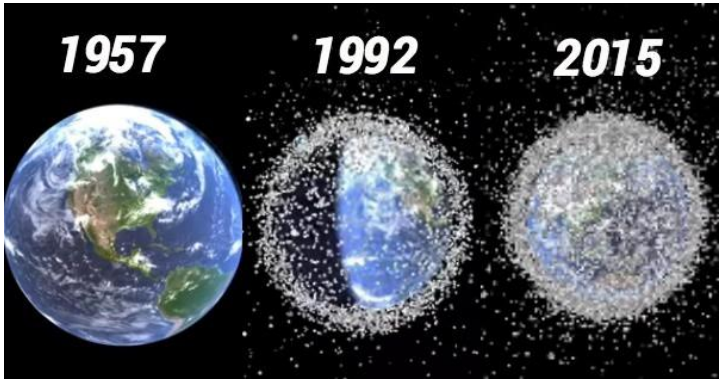
Baseline functional status

5 Mildly Frail – These people often have more evident slowing, and need help in high order IADLs (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6 Moderately Frail – People need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.

Frailty Index

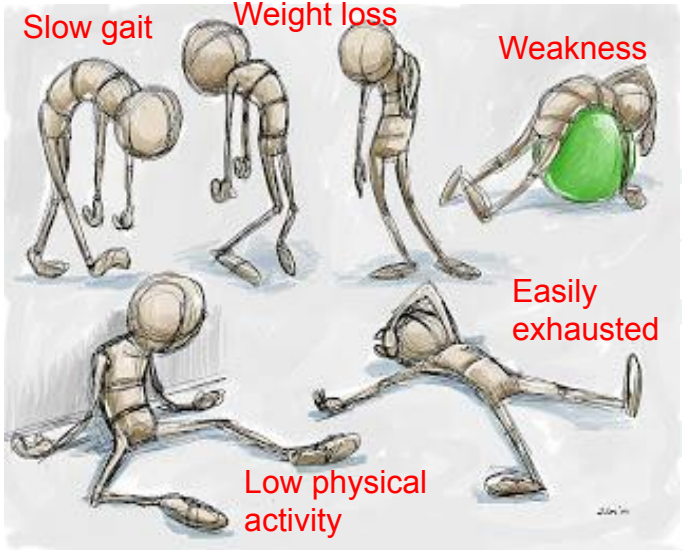
Accumulation of deficits with age



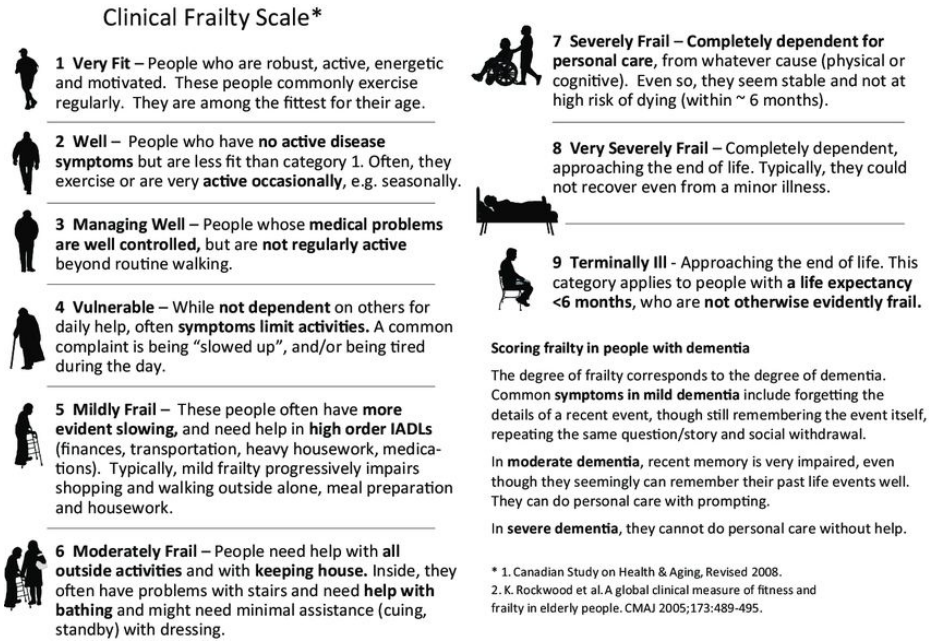
Phenotypic frailty is based on clinical presentations and some objective measurements

- 0: robust
- 1-2: pre-frail
- 3 or more: frail

Does not stage the degree of frailty and does not include other factors (e.g. cognitive, social, etc)



The clinical frailty scale is based on functional and cognitive status



Clinical Frailty Scale*

1 Very Fit – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 Well – People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g. seasonally.

3 Managing Well – People whose **medical problems are well controlled,** but are **not regularly active** beyond routine walking.

4 Vulnerable – While **not dependent** on others for daily help, often **symptoms limit activities.** A common complaint is being "slowed up", and/or being tired during the day.

5 Mildly Frail – These people often have **more evident slowing,** and need help in **high order IADLs** (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6 Moderately Frail – People need help with **all outside activities** and with **keeping house.** Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

7 Severely Frail – Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8 Very Severely Frail – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9 Terminally Ill - Approaching the end of life. This category applies to people with **a life expectancy <6 months**, who are **not otherwise evidently frail.**

Scoring frailty in people with dementia

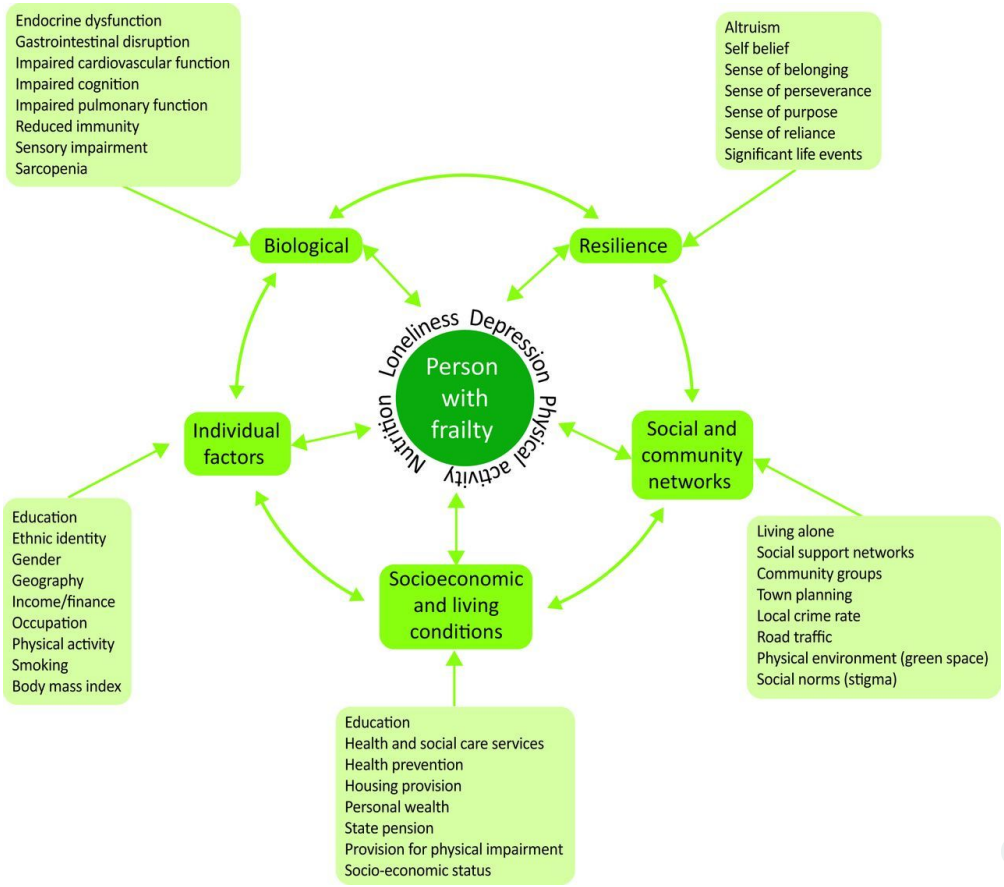
The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

* 1. Canadian Study on Health & Aging, Revised 2008.
2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489-495.

- Not as precise or sensitive to change as the frailty index, but easy to assess and can also grade degree of frailty



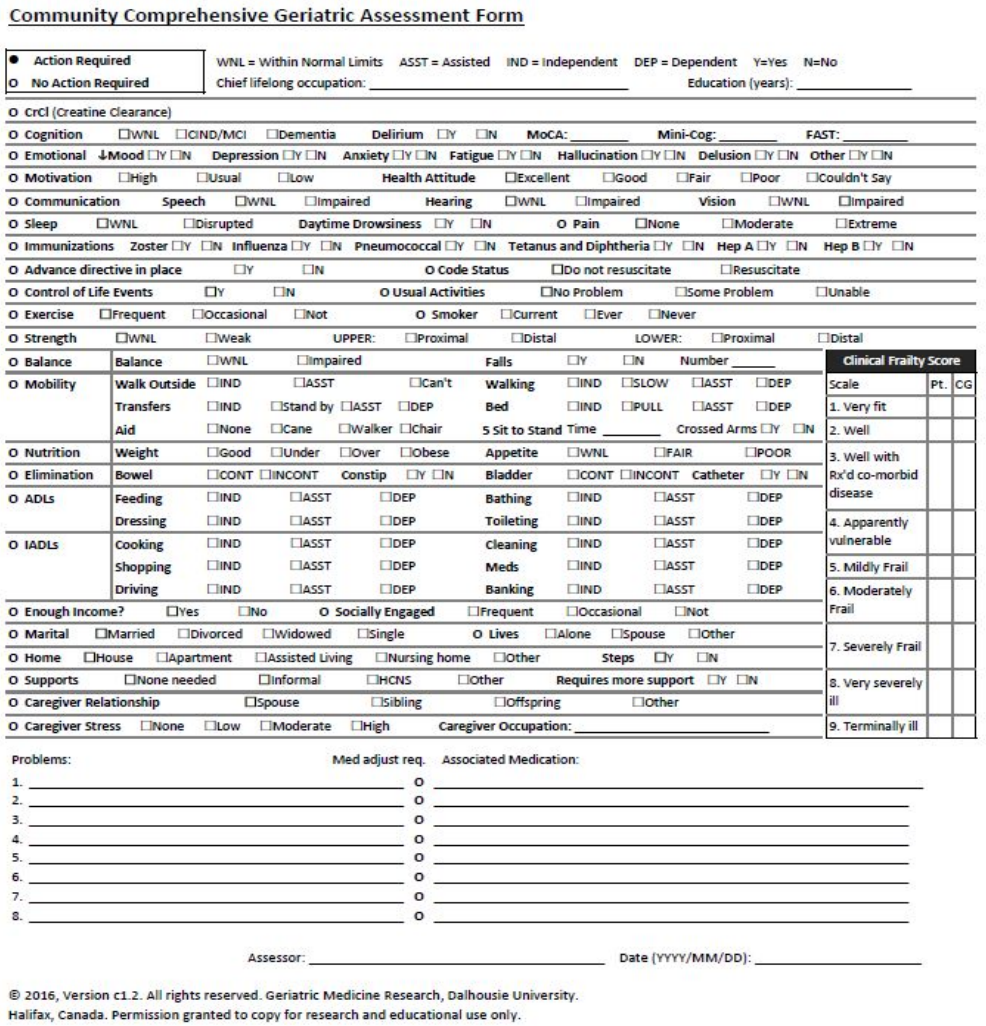
The frailty index is based on accumulation of impairments

- Highly sensitive to change and precise, but more time-consuming
- Incorporates numerous aspects of health (e.g. psychosocial, cognitive, functional, physical, and medical)

Hale et al, Clin Med 2019.

Comprehensive geriatric assessments can assess frailty in different ways

Can also help to flag areas for improvement to reduce adverse outcomes for older adults



Community Comprehensive Geriatric Assessment Form

● Action Required
O No Action Required

WNL = Within Normal Limits ASST = Assisted IND = Independent DEP = Dependent Y=Yes N=No

Chief lifelong occupation: _____ Education (years): _____

O CrCl (Creatine Clearance)

O Cognition ☐WNL ☐CIND/MCI ☐Dementia Delirium ☐Y ☐N MoCA: _____ Mini-Cog: _____ FAST: _____

O Emotional ↓Mood ☐Y ☐N Depression ☐Y ☐N Anxiety ☐Y ☐N Fatigue ☐Y ☐N Hallucination ☐Y ☐N Delusion ☐Y ☐N Other ☐Y ☐N

O Motivation ☐High ☐Usual ☐Low Health Attitude ☐Excellent ☐Good ☐Fair ☐Poor ☐Couldn't Say

O Communication Speech ☐WNL ☐Impaired Hearing ☐WNL ☐Impaired Vision ☐WNL ☐Impaired

O Sleep ☐WNL ☐Disrupted Daytime Drowsiness ☐Y ☐N O Pain ☐None ☐Moderate ☐Extreme

O Immunizations Zoster ☐Y ☐N Influenza ☐Y ☐N Pneumococcal ☐Y ☐N Tetanus and Diphtheria ☐Y ☐N Hep A ☐Y ☐N Hep B ☐Y ☐N

O Advance directive in place ☐Y ☐N O Code Status ☐Do not resuscitate ☐Resuscitate

O Control of Life Events ☐Y ☐N O Usual Activities ☐No Problem ☐Some Problem ☐Unable

O Exercise ☐Frequent ☐Occasional ☐Not O Smoker ☐Current ☐Ever ☐Never

O Strength ☐WNL ☐Weak UPPER: ☐Proximal ☐Distal LOWER: ☐Proximal ☐Distal

O Balance	Balance	☐WNL	☐Impaired		Falls	☐Y	☐N	Number _____	
O Mobility	Walk Outside	☐IND	☐ASST	☐Can't	Walking	☐IND	☐SLOW	☐ASST	☐DEP
	Transfers	☐IND	☐Stand by	☐ASST ☐DEP	Bed	☐IND	☐PULL	☐ASST	☐DEP
	Aid	☐None	☐Cane	☐Walker ☐Chair	5 Sit to Stand Time _____		Crossed Arms ☐Y		☐N
O Nutrition	Weight	☐Good	☐Under	☐Over ☐Obese	Appetite	☐WNL	☐FAIR	☐POOR	
O Elimination	Bowel	☐CONT	☐INCONT	Constip ☐Y ☐N	Bladder	☐CONT	☐INCONT	Catheter	☐Y ☐N
O ADLs	Feeding	☐IND	☐ASST	☐DEP	Bathing	☐IND	☐ASST	☐DEP	
	Dressing	☐IND	☐ASST	☐DEP	Toileting	☐IND	☐ASST	☐DEP	
O IADLs	Cooking	☐IND	☐ASST	☐DEP	Cleaning	☐IND	☐ASST	☐DEP	
	Shopping	☐IND	☐ASST	☐DEP	Meds	☐IND	☐ASST	☐DEP	
	Driving	☐IND	☐ASST	☐DEP	Banking	☐IND	☐ASST	☐DEP	

O Enough Income? ☐Yes ☐No O Socially Engaged ☐Frequent ☐Occasional ☐Not

O Marital ☐Married ☐Divorced ☐Widowed ☐Single O Lives ☐Alone ☐Spouse ☐Other

O Home ☐House ☐Apartment ☐Assisted Living ☐Nursing home ☐Other Steps ☐Y ☐N

O Supports ☐None needed ☐Informal ☐HCNS ☐Other Requires more support ☐Y ☐N

O Caregiver Relationship ☐Spouse ☐Sibling ☐Offspring ☐Other

O Caregiver Stress ☐None ☐Low ☐Moderate ☐High Caregiver Occupation: _____

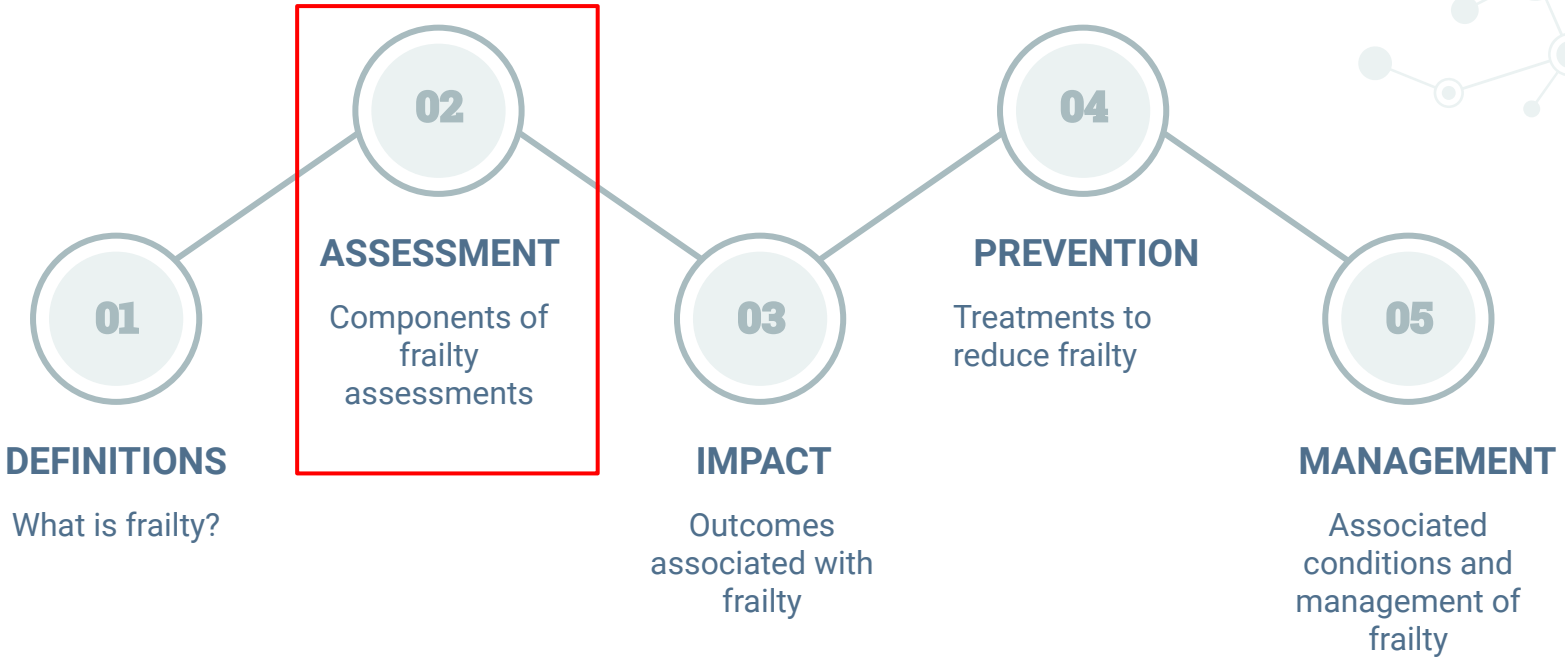
Clinical Frailty Score

Scale	Pt.	CG
1. Very fit		
2. Well		
3. Well with Rx'd co-morbid disease		
4. Apparently vulnerable		
5. Mildly Frail		
6. Moderately Frail		
7. Severely Frail		
8. Very severely ill		
9. Terminally ill		

Problems:	Med adjust req.	Associated Medication:
1. _____	O	_____
2. _____	O	_____
3. _____	O	_____
4. _____	O	_____
5. _____	O	_____
6. _____	O	_____
7. _____	O	_____
8. _____	O	_____

Assessor: _____ Date (YYYY/MM/DD): _____

Objectives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Multiple domains can have impacts on a patient's frailty and should be assessed

Medical

Health conditions
Medications

Physical

Mobility
Strength
Gait speed

Cognitive

Degree of cognitive impairment (if any)

Functional

IADLs
ADLs
Sensory impairments

Social

Social supports and caregiving supports
Living situation
Finances

Psychological

Mood
Health attitude
Locus of control

Physical assessments

Strength - physical exam, 5 time sit to stand

Gait - gait speed, TUG

Balance - BERG

Transfers

Cognitive testing can be done a number of different ways

Mini-cog - clock draw test and 3 word delayed recall; fastest and simplest to administer

MoCA - more sensitive but less specific; tests numerous domains, but fairly dependent on education and language

MMSE - quick to administer but limited domains tested and lower sensitivity than some other tests

RUDAS - designed for low education and less language-based; scores correlate well with MMSE

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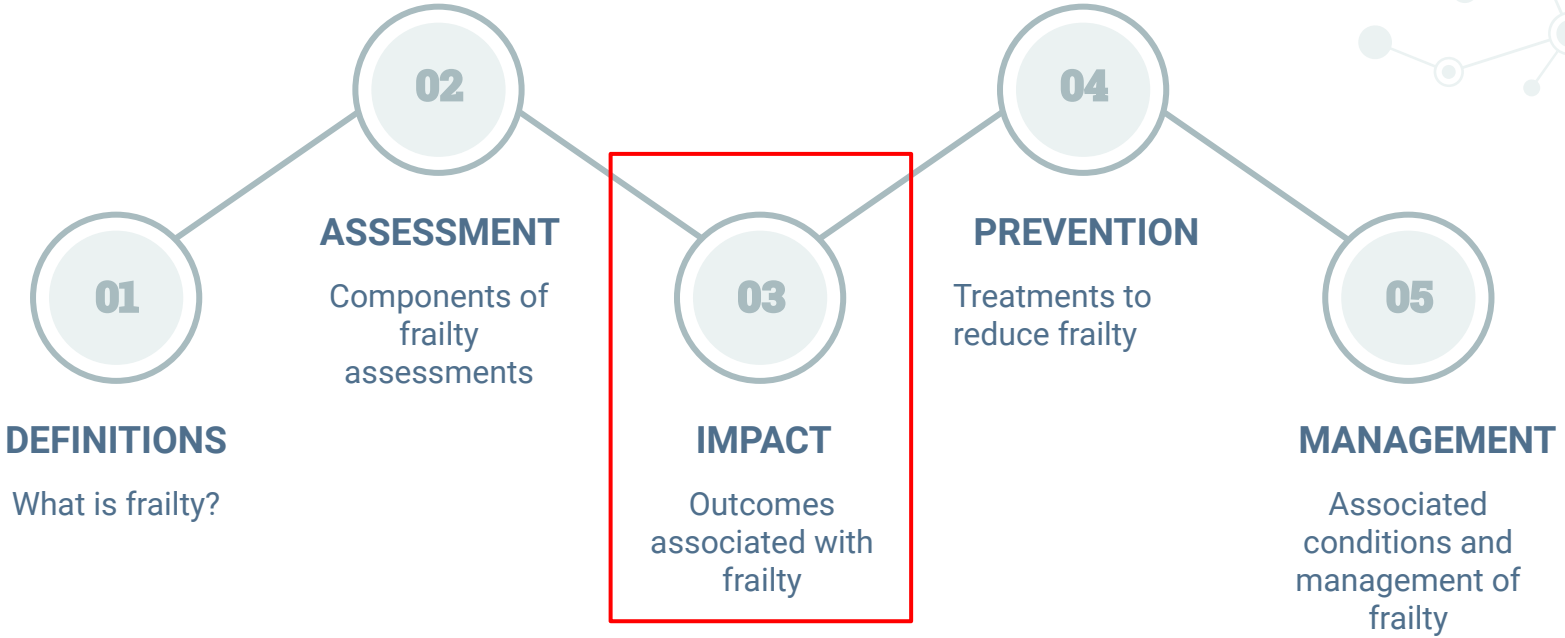
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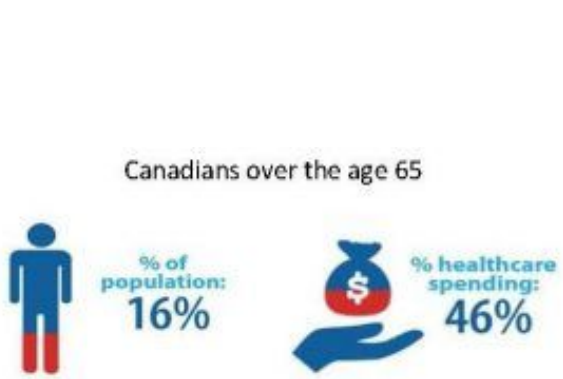
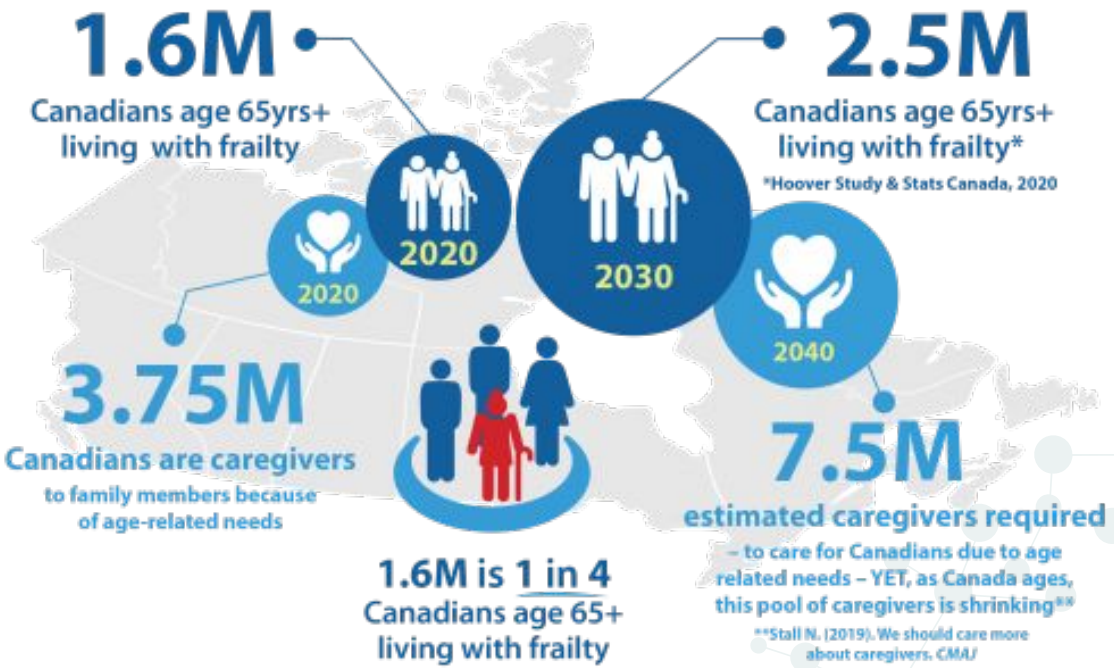
Frailty is prevalent and leads to increased health care expenditures





Frailty Matters, Canadian Frailty Network 2019.

Frailty is...

- Reversible to a certain degree
- A warning sign of increased vulnerability
- A trigger to consider further care planning

- Not inevitable
- Not a normal part of aging
- Associated with worse outcomes across numerous interventions

Frailty can present in many different ways

Warning signs include:

Mobility decline

Weight loss

Cognitive decline

Polypharmacy

Increasing support needs

Social isolation

*Signs indicated with **bold** * may raise a higher level of suspicion of frailty*

Medical:

- **unintentional weight loss*** (esp. if ≥ 10lbs/4.5kg over past year)
- **incontinence***
- loss of appetite
- loss of muscle/strength (sarcopenia)
- osteoporosis
- impaired vision/hearing
- chronic pain
- repeated ER visits/hospitalization

Psychological:

- **delirium***
- cognitive impairment/**dementia***
- depression
- irrational fears/concerns
- inappropriate behaviour
- irregular sleep patterns

Functional:

- **declining functional status***
- **immobility***
- **recent fall**(s)*, fear of falling
- impaired balance
- fatigue or loss of energy
- reduced physical activity/endurance

Medications and alcohol:

- **susceptibility to medication side effects***
- polypharmacy related issues
- increased alcohol consumption

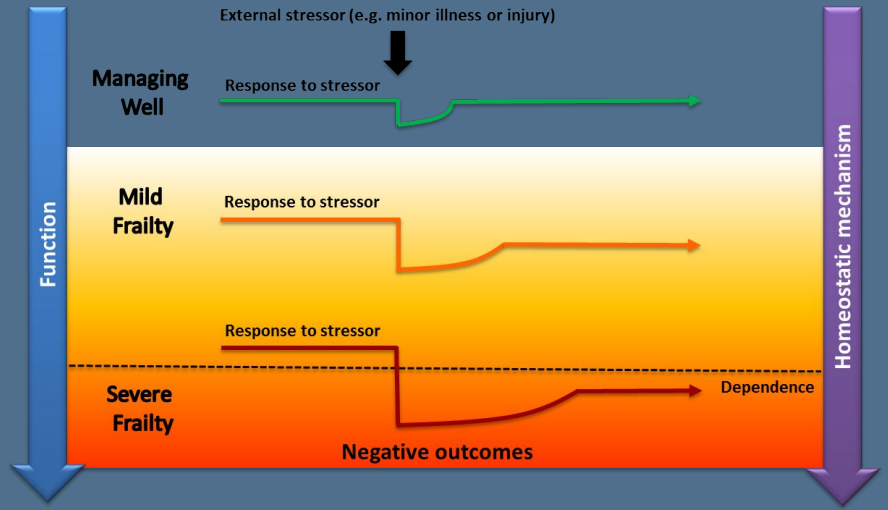
Social and environmental:

- social isolation
- transition in living circumstances
- change in family/caregiver support
- caregiver stress

Frailty in Older Adults, BC Guidelines 2017.

Early identification of frailty can help us create care plans to reduce progressive frailty and dependence

Caveat - acutely unwell patients can appear very frail. Assessment of frailty should be based on their baseline 2 weeks prior.

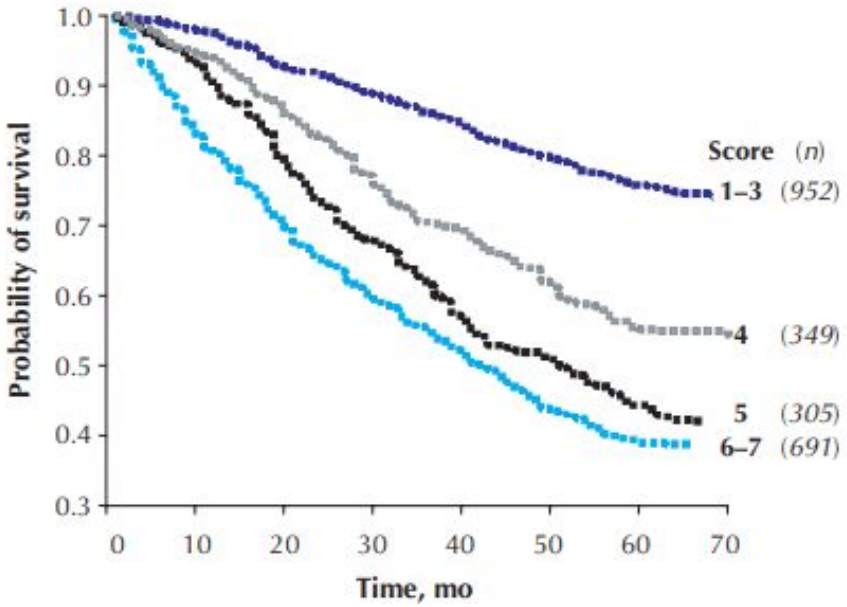


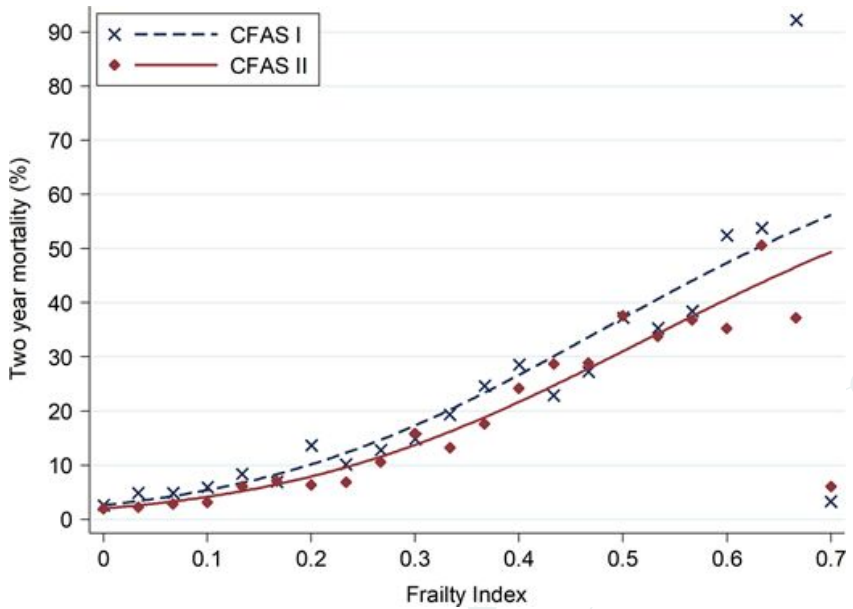
Frailty is associated with worse outcomes and increased mortality

Preventing frailty is important.

Frailty can also help guide decision-making in patients with more advanced frailty.

Frailty is predictive of mortality in the general community-dwelling population





Fried et al, J Gerontol 2001. Rockwood et al, CMAJ 2005. Mousa et al, Age and Aging 2018. Stow et al, Age and Aging 2018.

Frailty is a predictor of CPR outcomes

- Age is associated with worsening survival and neurologic outcomes
- Frailty (defined as needing ADL support) is also an independent predictor of poor outcomes: only 1.1% of frail patients had good neurologic recovery after CPR

Table 2. Outcomes of patients within the age strata.

Outcome	Aged <65 years ($n=881$)	Aged 65–74 years ($n=576$)	Aged 75–84 years ($n=449$)	Aged >85 years ($n=317$)	p-value
ROSC, n (%)	387 (44.4)	224 (39.6)	159 (36.2)	76 (24.5)	<0.001
Death at scene, n (%)	410 (47.1)	330 (58.3)	272 (62.0)	249 (80.3)	<0.001
30-day survival, n (%)	224 (25.7)	92 (16.3)	39 (8.9)	12 (3.9)	<0.001
CPC 1 + 2, n (%)	180 (20.7)	68 (12.0)	21 (4.7)	6 (1.9)	<0.001

Categorical data are presented as counts and percentages and were analysed using a test for linear association (Maentel–Haenszel chi-squared test).
ROSC: return of spontaneous circulation; CPC: cerebral performance category.

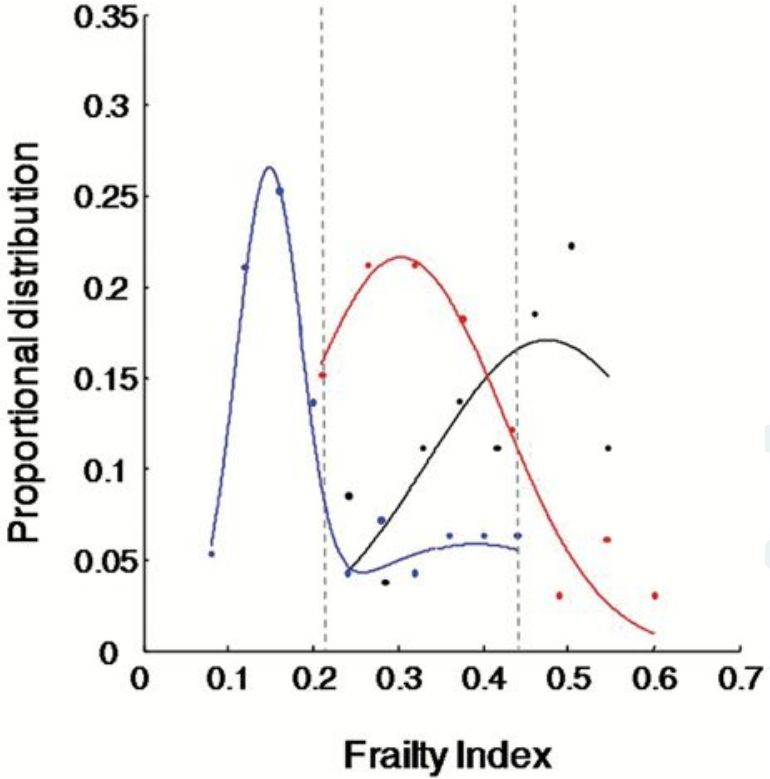
Sulzgruber et al, Eur Heart J 2016

Frailty is predictive of mortality in the ICU

Higher mean frailty scores (0.41) in those who died in 30 days versus those who survived to 300 days (0.22)

- No one with a frailty index score >0.46 survived past 90 days
- All patients with a frailty index score <0.22 survived at least 30 days

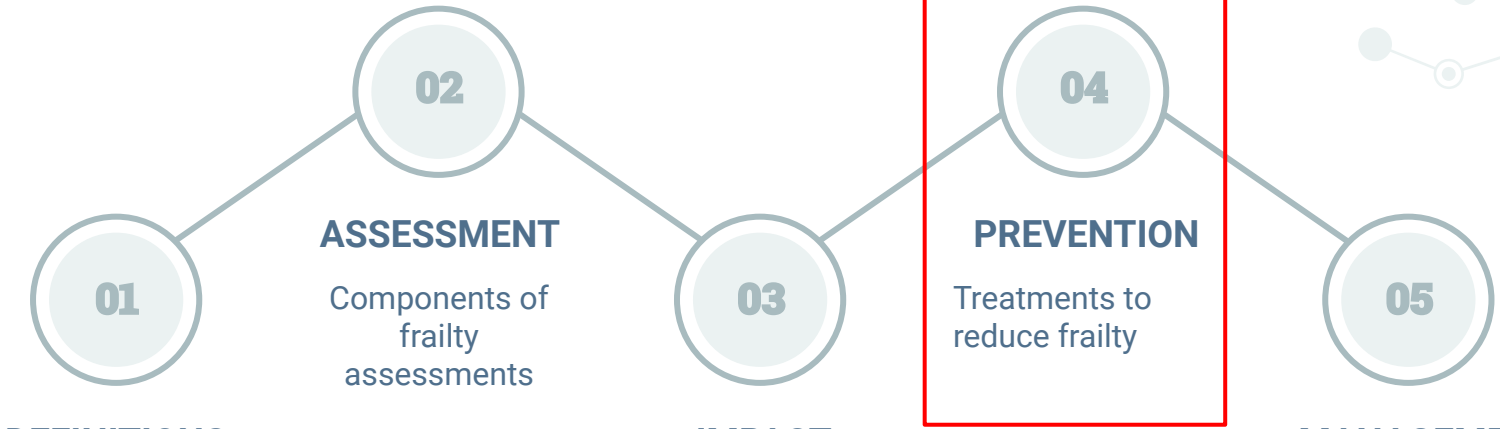
Each 1% increase in the FI from the previous level was associated with an 11% increase in the 30-day mortality risk



Blue: patients who survived 90 days
Red: died between 31 and 90 days
Black: died within 30 days.

Zeng et al, J Gerontol 2015.

Objectives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Frailty helps to prognosticate and adjust treatment plans

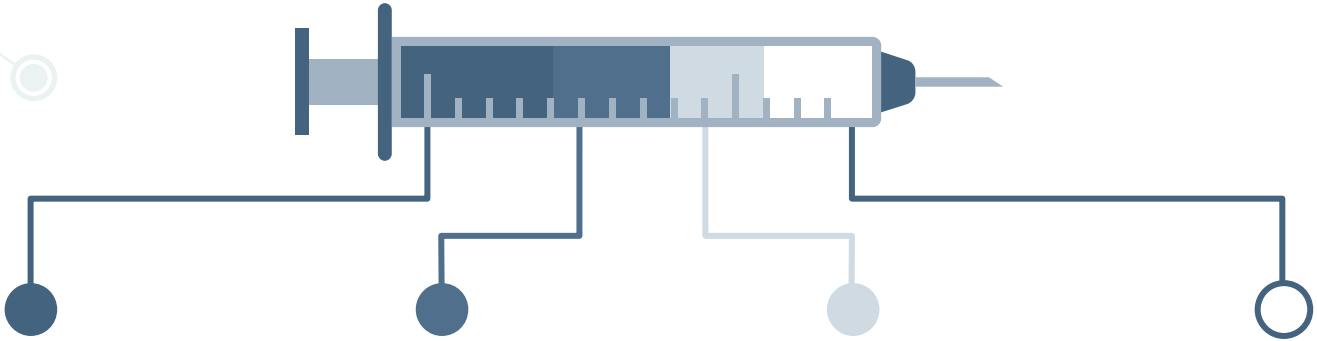
Discuss advance care planning - including goals of care and future planning

Review what therapeutic interventions are indicated based on age, frailty, prognosis

Medication reviews - look at risks and benefits of medications

Consider adjusting treatment targets based on frailty

Degrees of frailty and intervention plans



Robust

Lifestyle: nutrition, exercise, preventative care, dental health, community engagement, sensory impairment

Vulnerable

Optimize: medical conditions, social isolation, fall prevention and screening, advance care planning

Mildly frail

Review: medications, consideration of supports needed, assistive devices

Moderately to severely frail

Adjust: treatment goals, reduce harms and risks, revisit care plans

Exercise to any degree, even in frail patients, can help reduce frailty

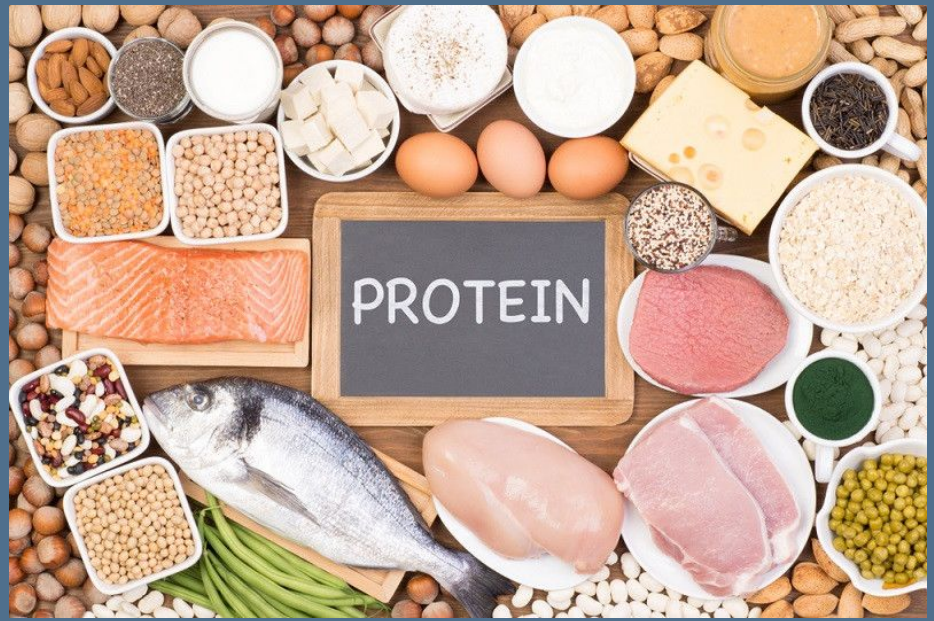
Exercise can:

1. Reduce or delay progression of frailty
2. Improve mobility
3. Delay the onset of dependence

This can involve high-intensity resistance or simply low levels of physical activity.

Group exercise may be more effective.

Apóstolo et al, JBI Database System Rev Implement Rep 2018. Fiatarone et al, NEJM 1994. Miller et al, JAGS 2000.



Nutrition including protein and energy supplementation can reduce frailty

Energy and protein supplements can help with weight gain in high-risk older adults.

Puts et al, Age Ageing 2019. Milne et al, Cochrane Database Syst Rev 2009.

Other factors to consider in healthy aging and prevention and reduction of frailty

Staying mentally engaged - puzzles, games, education

Becoming socially engaged - volunteering, community centres

Preventative health - oral hygiene, routine screening, fall prevention

Treating sensory impairments - hearing and vision

Approach to Care Plan Development

1. Inquire about the patient's primary concerns
2. Review patient goals of care, values, preferences
3. Review history, current medical conditions, and interventions
4. Consider conducting a medication review
5. Initiative advance care planning discussions
6. Communicate the care plan
7. Reassess the care plan at selected intervals

Frailty in Older Adults, BC Guidelines 2017.

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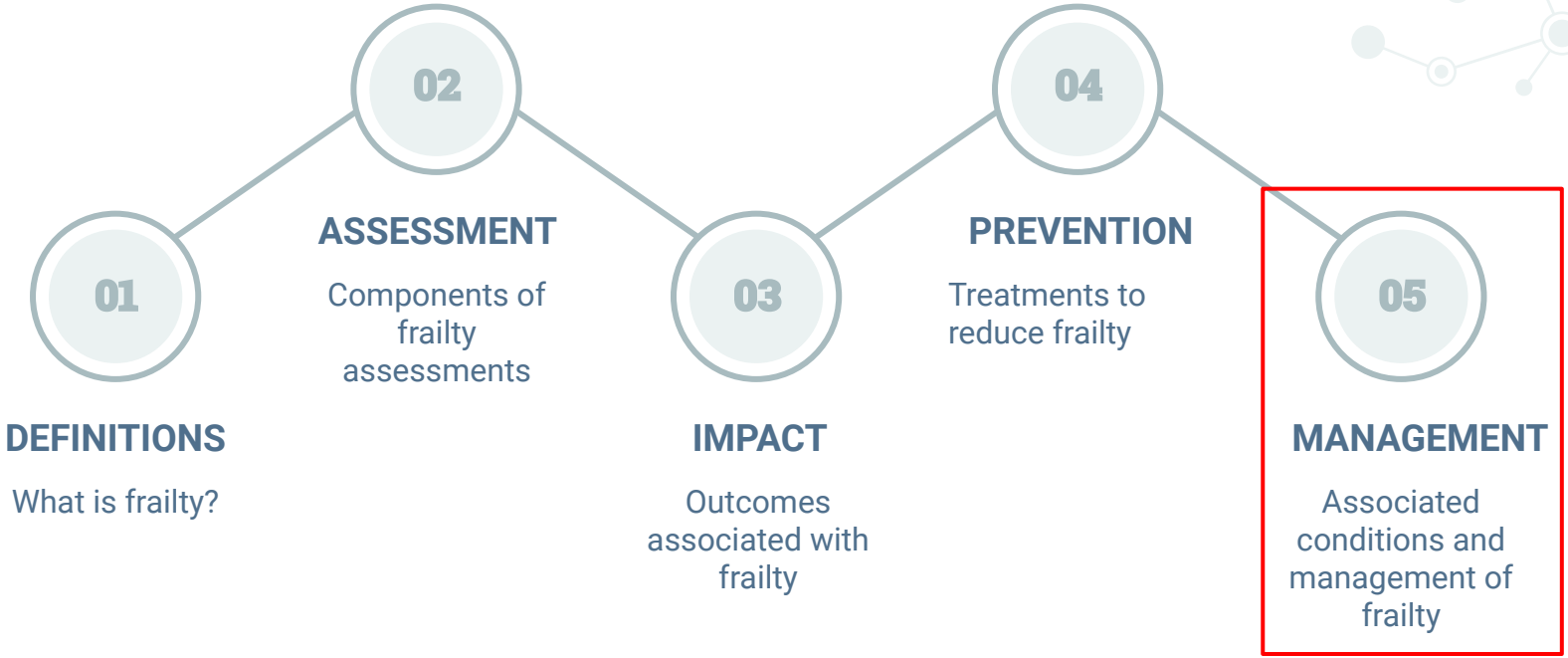
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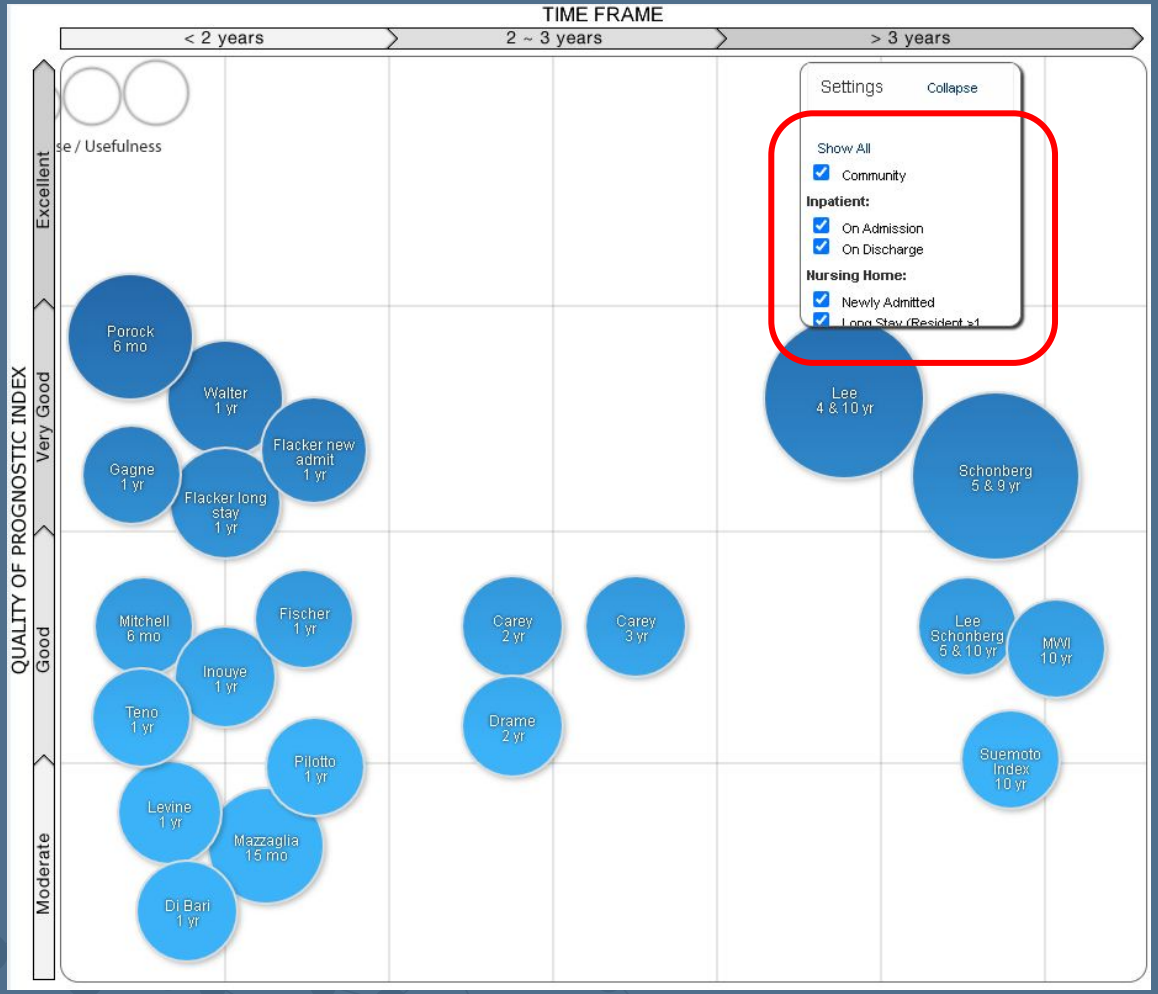
More advanced frailty can lead to increasing risk of side effects and harm with therapeutics.

Treatment goals and medications should be revisited in the setting of frailty.

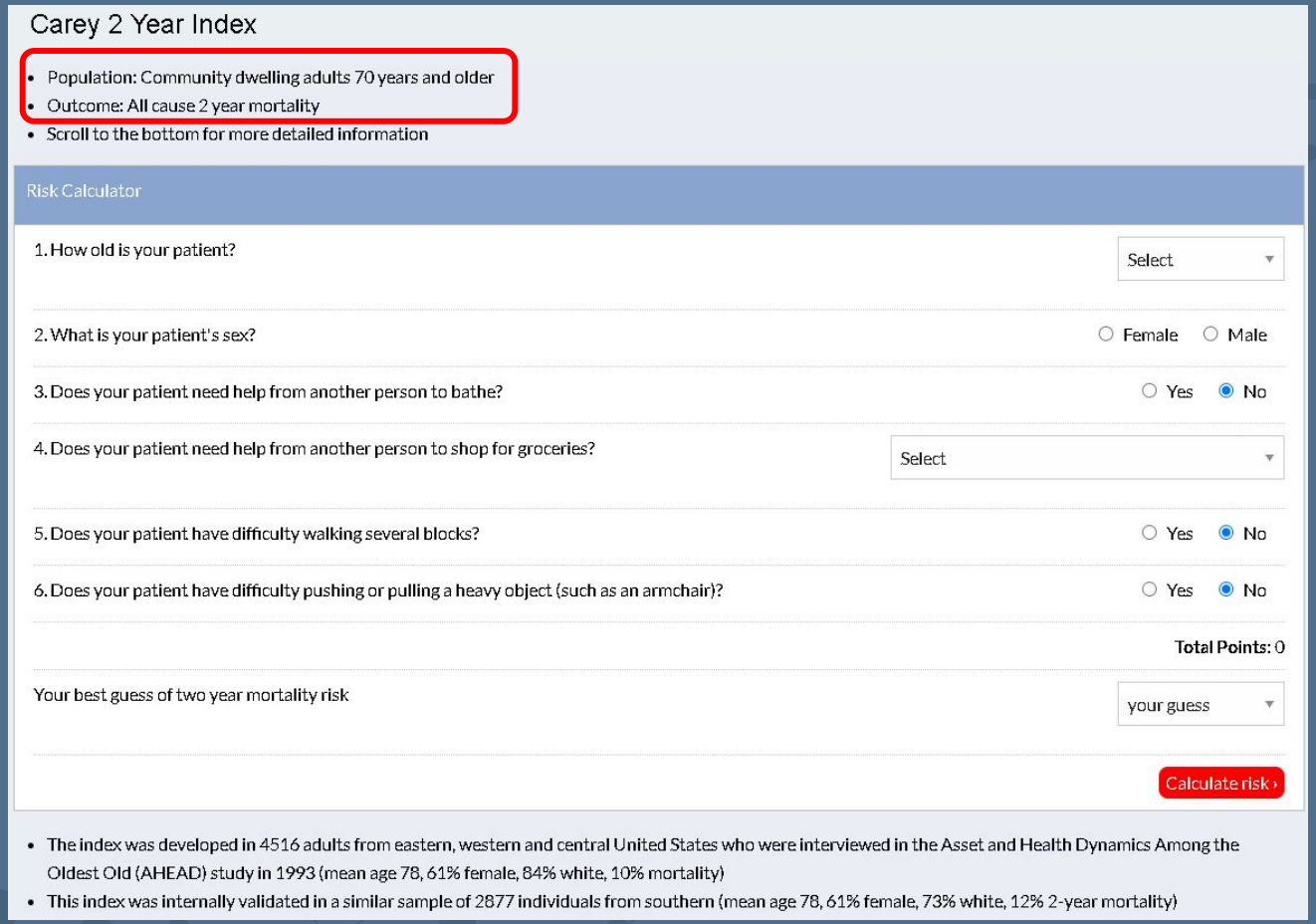
Frailty is not about rationing care. It's about making care rational.



ePrognosis provides a set of indices for prognostication

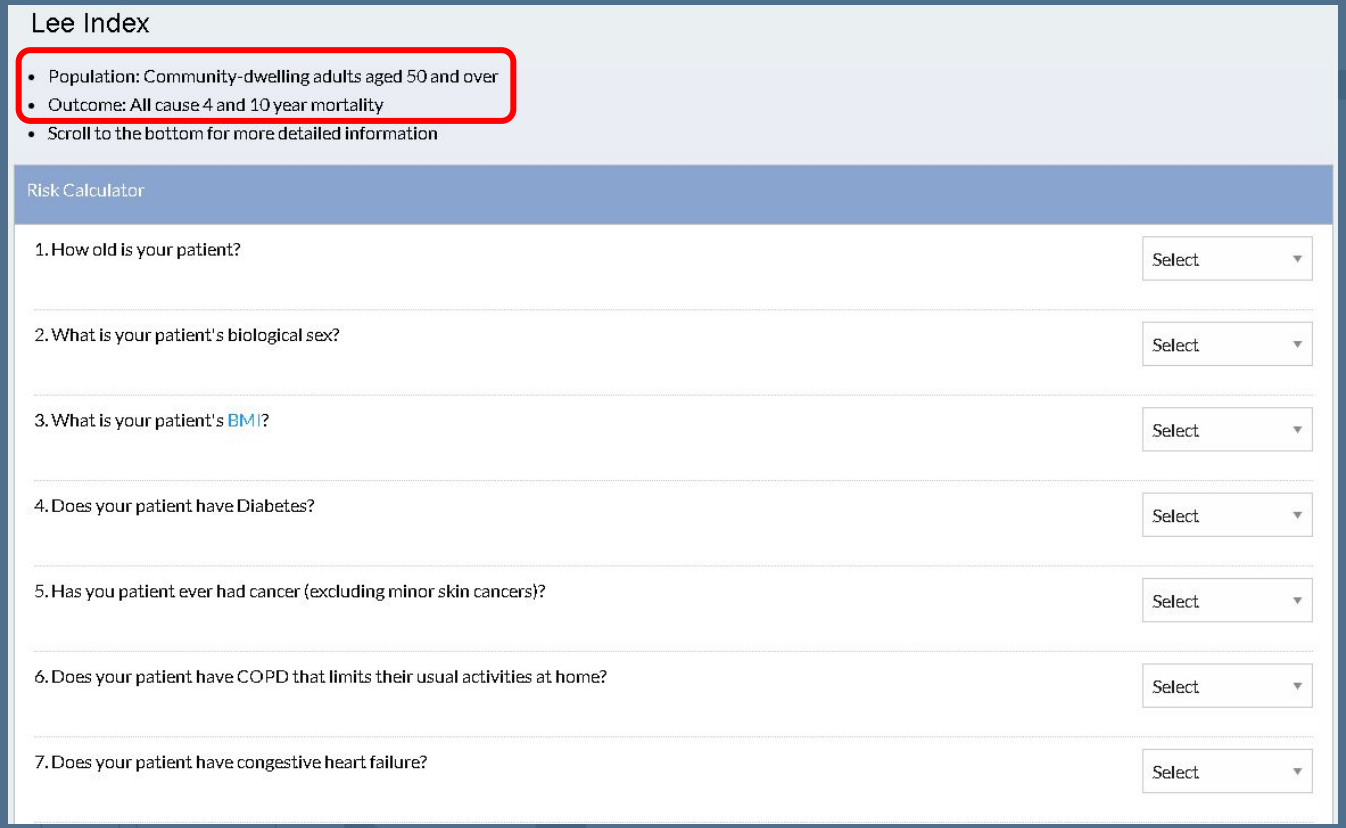
This can be relevant for decision-making in moderately-severely frail patients.

Select which population applies best to your patient: community, inpatient, or LTC patients



The indices are variable in their populations and outcomes

For adults in the community, typical indices look at some aspect of function, incorporating some aspects of frailty.



Select the index based on what outcomes you are looking at

Some indices incorporate more medical conditions (a different aspect of frailty).

Results Based on Score:
Your total score is **14**

Four Year Mortality	
Points	**Risk of 4 year mortality**
0-3	< 5%
4-6	6-9%
7-8	15-20%
9-10	20-28%
11-12	44-45%
13	59%
14+	64%

After the data is inputted, it can give you an idea of prognosis

This is based on similar patients and cannot definitively predict for your patient, but it can help guide decision-making.

Deprescribing is individualized and decisions should be made with the patient

1

FRAILTY/PROGNOSIS

Patient goals, values, fears, overall prognosis and frailty

2

ADHERENCE

Are meds being taken as prescribed? Any dysphagia?

3

RISKS

Any harms (cognition, falls) or burdens (monitoring labs)?

4

BENEFITS

Are the medications still indicated at present based on prognosis?

5

HARMS

Consider any harms of deprescribing (withdrawal, undertreatment)

6

DEPRESCRIBE

Consider alternative med options, make one change at a time, close follow-up / monitoring

Treatment of common medical conditions based on moderate-severe frailty

Hypertension - strict targets may increase risk of hypotension, falls, and acute kidney injury. Targets for more frail patients could be systolic BP of 140-160.

- SPRINT population: excluded diabetics, orthostatic hypotension, previous stroke, GFR <20, dementia, LTC patients

Diabetes - more lenient diabetic targets (A1c 7.5% - 8.5%) to reduce risk of hypoglycemia and falls. Sulfonylureas and insulin pose an especially high risk of hypoglycemia.

If patients have had weight loss, reassess these medications, as this weight loss can affect hypertension and diabetes and lead to more adverse events from medications.

STOPPFRAIL tool can be used to help guide discontinuation of medications in frailty

Consider in patients with: end-stage irreversible pathology with poor 1 year survival, severe functional or cognitive impairment, priority on symptom control

Drugs for primary prevention and drugs for secondary prevention with long time-to-benefit:

- Primary prevention: antiplatelets, statins
- PPIs and ranitidine unless symptoms
- Osteoporosis medications and calcium
- ACE or ARB for diabetic nephropathy
- Nutritional supplements
- Some prophylactic antibiotics

Lavan et al, Age Ageing 2017.

Consider your interventions carefully in the setting of moderate-severe frailty

Surgery and recovery - can have prolonged or incomplete recovery; consider plans for postoperative assistance

Chemotherapy - tolerability and recovery may be limited. Radiation therapy is generally better tolerated

Invasive investigations or interventions - consider risks and benefits

Screening for malignancies - should be based on overall prognosis and benefit

Advance care planning should include goals of care and future planning for everyone

Goals of care discussions

- Decisions should be made based on the values and wishes of each patient (e.g. longevity, quality of life)
- Frailty is associated with worse ICU outcomes as well as CPR outcomes
- Help frame and guide realistic outcomes in the setting of frailty

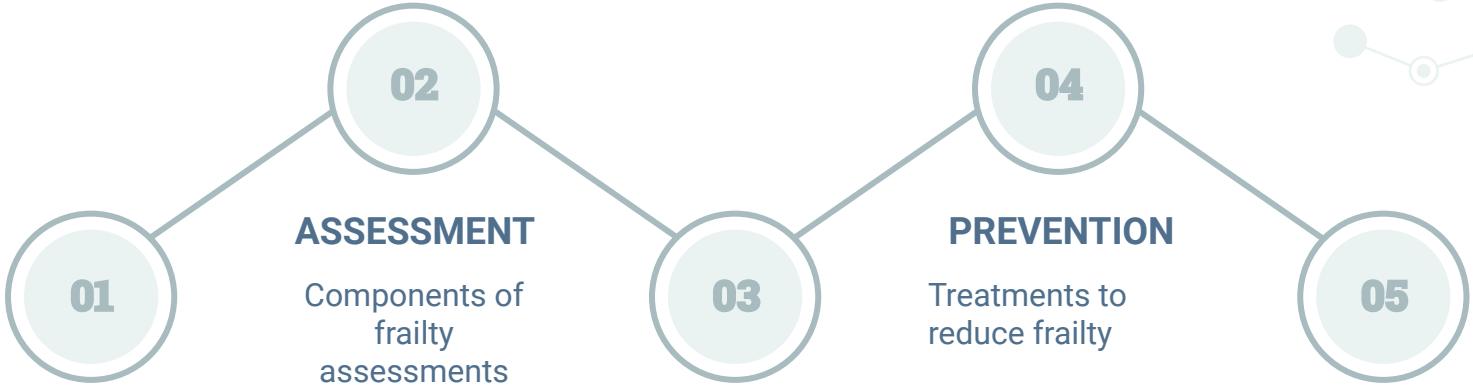
Future planning

- Enduring power of attorney (financial management) and representation agreement (health care decisions)

Direct your patients to free resources:

- *Planning for Your Future* (People's Law School)
- *My Voice: Expressing My Wishes for Future Health Care Treatment* (BC government)

Objectives



DEFINITIONS

What is frailty?

ASSESSMENT

Components of frailty assessments

IMPACT

Outcomes associated with frailty

PREVENTION

Treatments to reduce frailty

MANAGEMENT

Associated conditions and management of frailty

Frailty is associated with poor outcomes, but early screening and prevention can help guide therapy

Screening for frailty allows us to focus on patients who are at higher risk of functional decline and care planning can help us address these factors early.

In moderate to severe frailty, outcomes and prognosis are worse. Preventative care and goal-directed therapies are key.

Thanks!

Please visit the BC guidelines on frailty for further information.

CREDITS: This presentation template was created by Slidesgo, including icons by Flaticon, and infographics & images by Freepik.

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