Multi-complexity.

Dementia Care with Complex Chronic Co-morbidities and Frailty

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WORKSHOP PRESENTATION VERSION RED DEER 2017-12-08

PHC IGSI: College of Family Physicians Canada Conflict of Interest slide

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- **Faculty:** Duncan Robertson

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  - **Other:** Formerly SMD SH SCN AHS

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Overview

- Relevant Terms and Definitions
- Emerging consensus on Multi-morbidity
- Individualised care plans
- Frailty
- Dementia, multimorbidity and Frailty overlap
- Atypical presentation of illness

Uncertainty in medicine

"Uncertainty has rightly been described as ' a fundamental feature of medicine-the physician's constant companion.' Much of medicine is, in fact, about making effective decisions in the face of uncertainty."

http://global.onclive.com/publications/Oncology-live/2009/Mar2009/ON_risk_of_risk

The Risk of Risk: Nace GS 2009

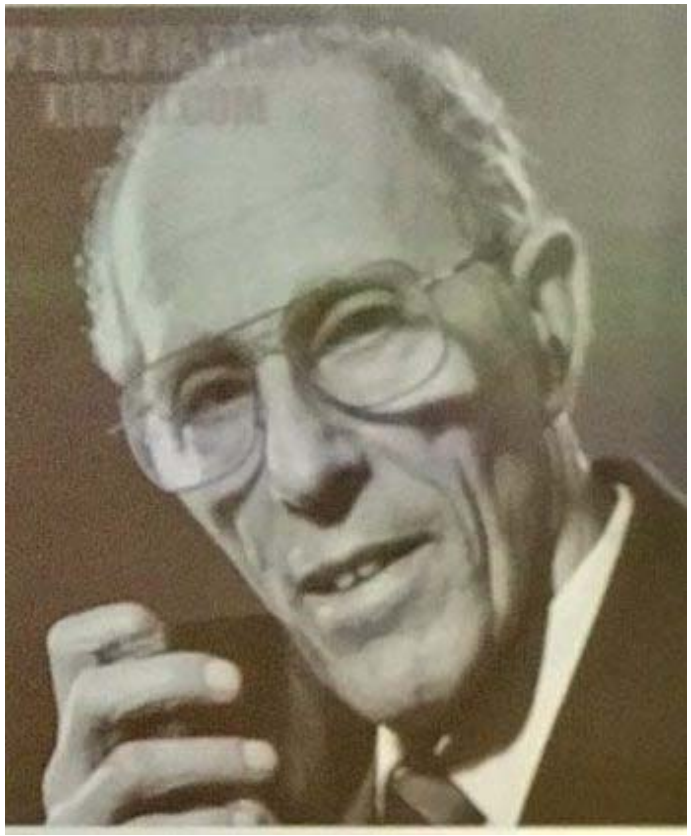
Relevant Terms and Definitions

Note: precision of use in elder care in evolution

- Geriatric
- Geriatric Giants
- Syndrome (vs Disease, Condition, Illness etc.)
- Comorbidity
- Multimorbidity/Multimorbidity
- Complexity
- Multi-complexity (Multiple Interacting conditions)
- Frailty

“Geriatric Giants”

Professor Bernard Isaacs 1924 - 1995



“The giants of geriatrics are immobility, instability, incontinence and intellectual impairment.

They have in common: multiple causation, chronic course, deprivation of independence and no simple cure.”

Isaacs B 1965 and

The Challenge of Geriatric Medicine, Oxford University Press, 1992

Relevant Terms and Definitions

Note: precision of use in elder care in evolution

- **Geriatric:** 1906 *Greek:* Gera, Geron and Iatros.
- **Syndrome:** *Greek* σύνδρομον, "concurrence“ - a set of medical signs and symptoms that are correlated with each other.
- **Geriatric Syndrome:** 1995 “multifactorial health conditions that occur when the accumulated effects of impairments in multiple systems render (an older) person vulnerable to situational challenges Tinetti et al JAMA 1995: 273(3): 1348-1353
- **Co-morbidity:** 1985 concomitant unrelated disease
- **Multi-morbid :** 2+chronic diseases/conditions
- **Multi-complexity:** a complex of multiple things

“Geriatric Syndromes”

Geriatric Syndrome:

“Multifactorial health conditions that occur when the accumulated effects of impairments in multiple systems render (an older) person vulnerable to situational challenges”

(Tinetti et al JAMA 1995: 273(3): 1348-1353)

Various authors 21st century

- Cognitive impairment
- Mobility impairment
  Visual Impairment
- Hearing Impairment
- Urinary Incontinence
- Frailty

Prevalence of Geriatric Syndromes in Newcastle 85+ Study 2016

https://www.hindawi.com/journals/bmri/2016/8745670/

Urinary incontinence	31.3 % (222)
Falls	17.2 % (122)
Visual impairment	36.2 % (257)
Hearing impairment	60.4 % (429)

Multi-morbidity: a definition

Multimorbidity refers to the presence of 2 or more long-term health conditions, which can include:

- defined physical and mental health conditions such as diabetes, dementia, schizophrenia
- ongoing conditions such as learning disability
- symptom complexes such as frailty or chronic pain
- sensory impairment such as sight or hearing loss
- alcohol and substance misuse.

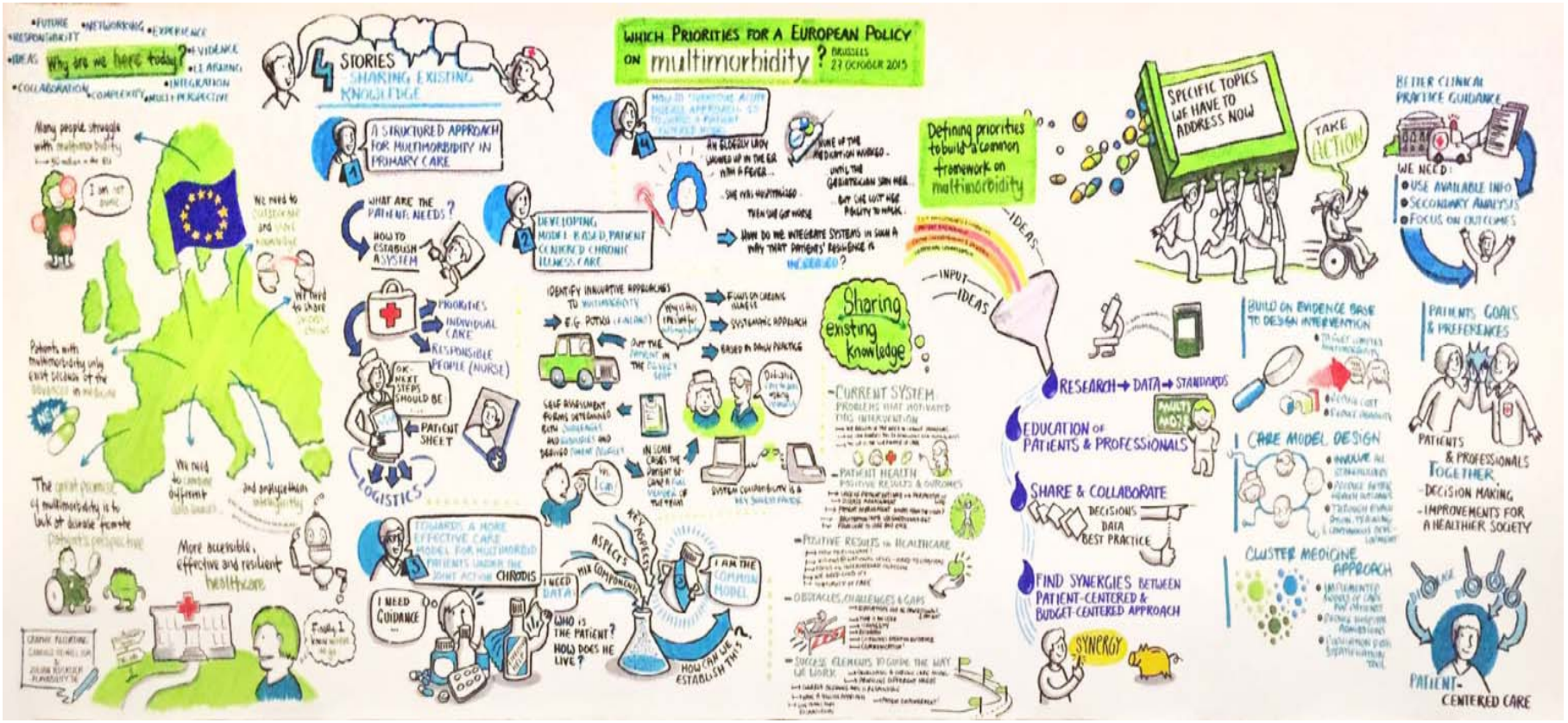
https://www.nice.org.uk/guidance/ng56

Prevalence of Multi-morbidity
Barnett et al

Scotland 1.7 million persons NHS Data

- 45-64 30.4%
- 65-84 64.9%
- >85 81.5%

Which Priorities for a European Policy on Multimorbidity?: Infographic 2015



Priorities for a European policy on Multi-morbidity Brussels; October 27 2015

Positive impact of multimorbidity interventions on patient health outcomes:

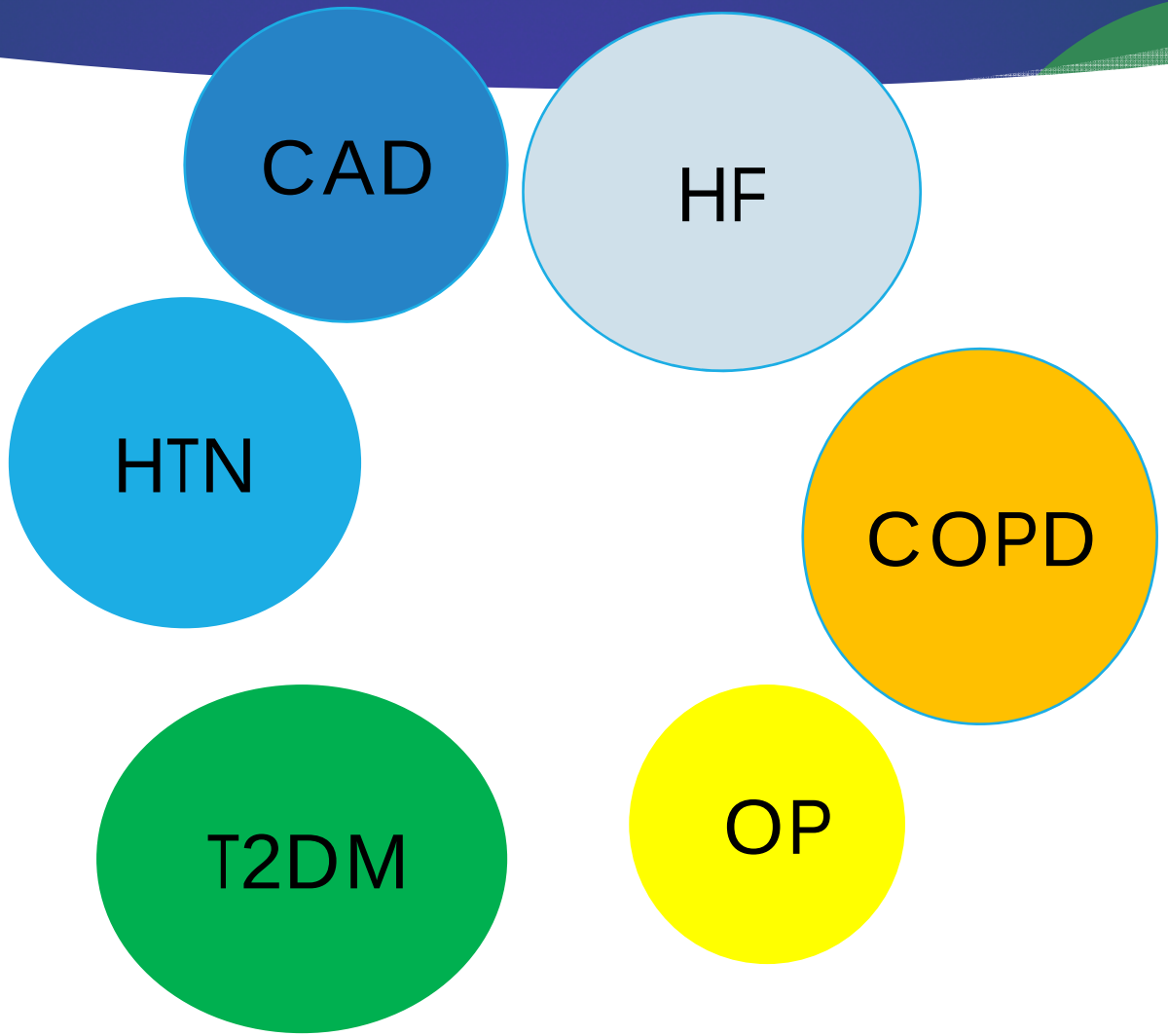
- Increased patient-centredness
- Better quality of life outcomes and not only better health outcomes
- Higher patient satisfaction level
- Increased patient involvement and responsibilities: "working with them and not for them"
- Reduction of drug interactions and adverse drug events
- Increased continuity of care
- Reduction of mortality rates

Positive impact of Multimorbidity interventions on healthcare systems:

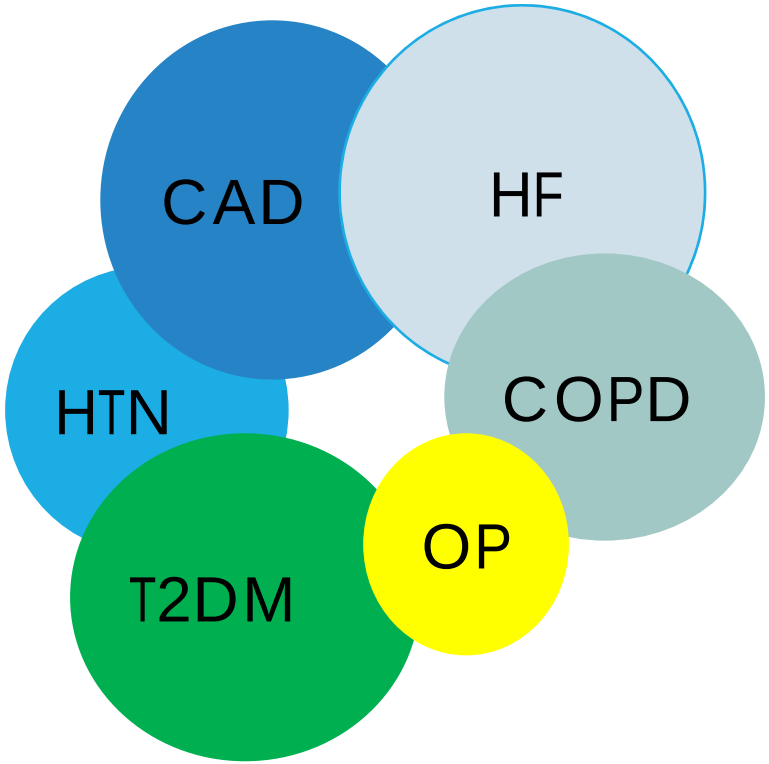
- Reduction of the use of health care resources (e.g. visits to GPs and hospitalizations)
- Increased effectiveness in the use of health care resources (e.g. increased responsibilities or other healthcare profiles as nurses and pharmacists

https://ec.europa.eu/health//sites/health/files/ageing/docs/ev_20151027_ccl_en.pdf

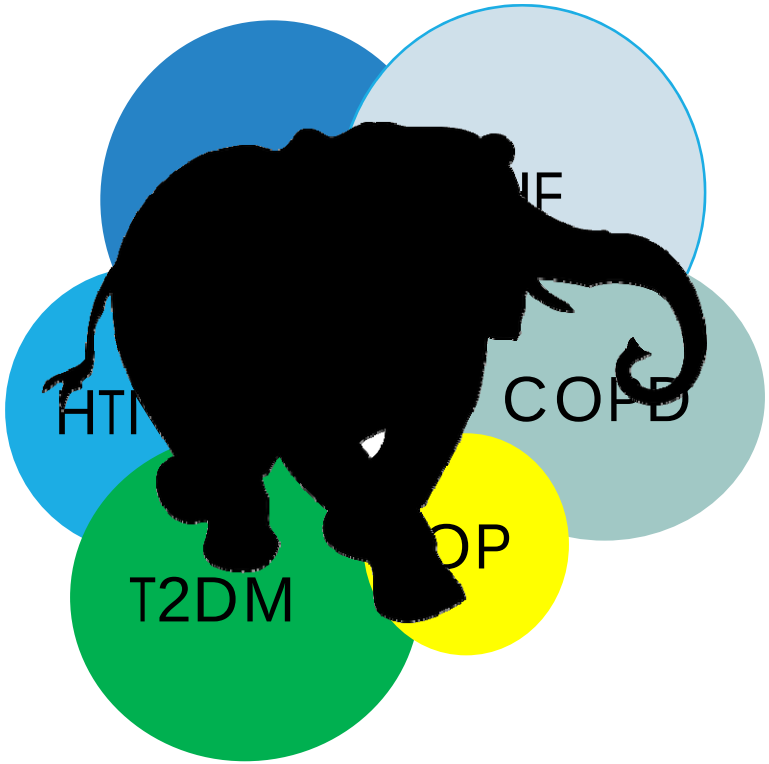
CPGs for each Chronic Disease?



Managing Multi-morbidity - what's missing?



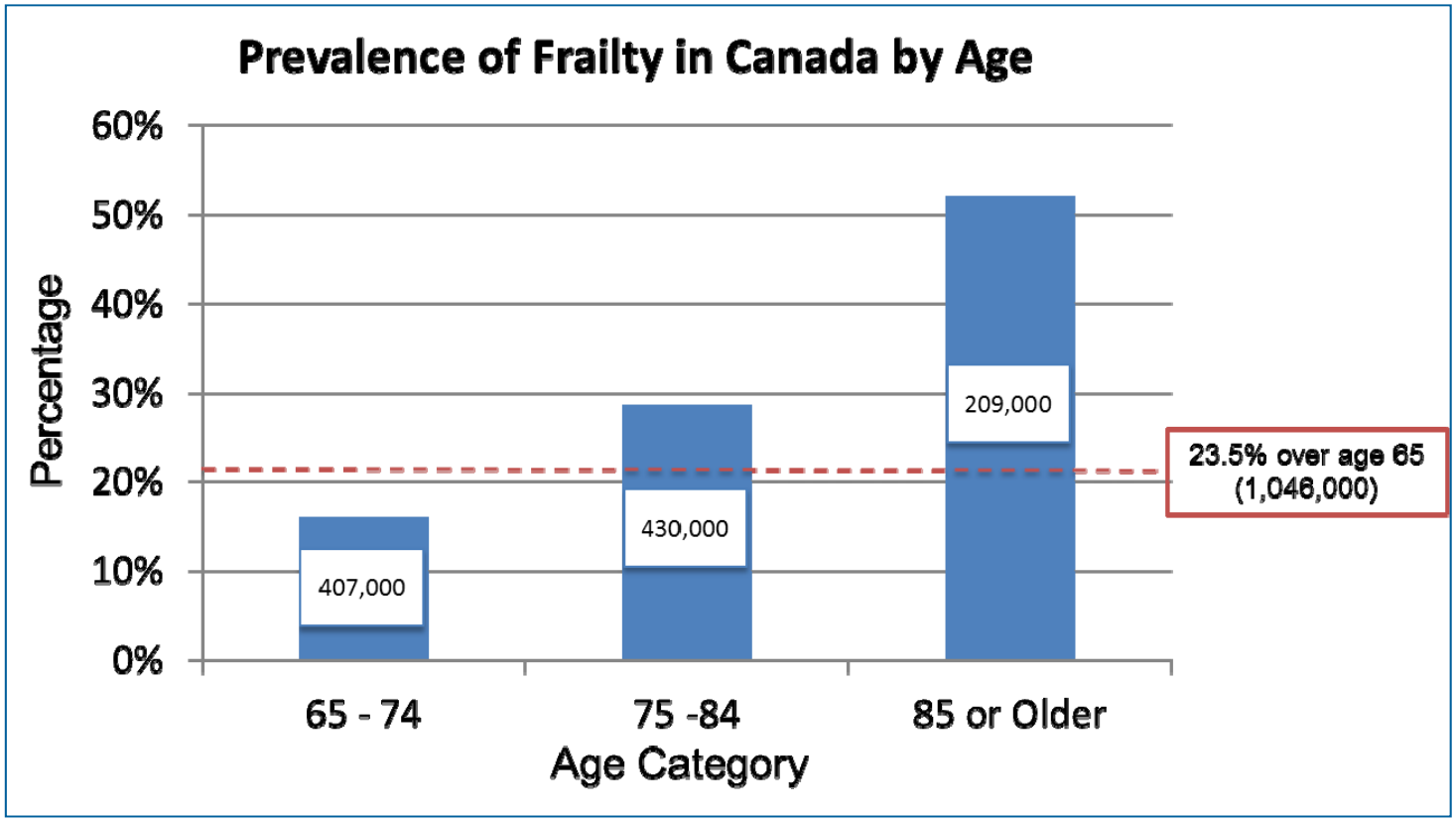
Living with Multi-complexity



" The most expensive Chronic Disease *when all costs are taken into account* "

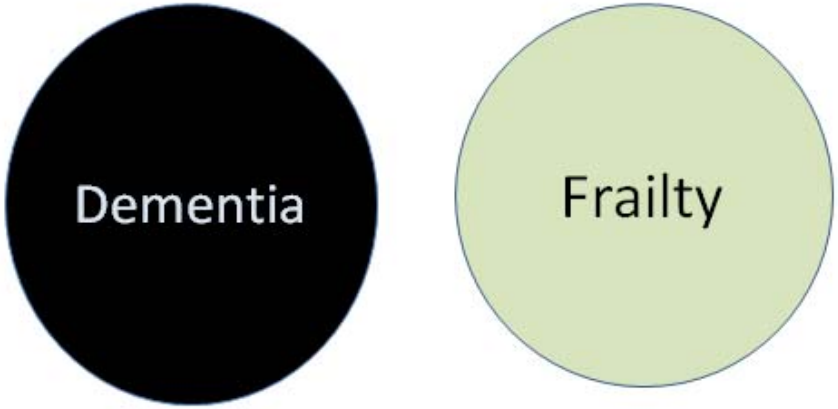
The Dementia Risk Calculator Doubling Rule (de la Torre, 2004, Gauthier et al.,1997 and Siu, 1991)	
Risk doubles for every 5 years of age <65 years 1% 65 years 2% 70 years 4% 75 years 8% 80 years 16% 85 years 32%	Each additional vascular risk factor approximately doubles the risk (One risk factor: risk multiplier is 2; 2 or more risk factors: risk multiplier is 4)
	Positive family history doubles the risk. (One family member: risk multiplier is 2; 2 or more family members: risk multiplier is 4)
Overall risk = age risk _____% x family hx risk multiplier___x vascular risk multiplier ___= ___%	

How common is Frailty in the Canadian Population ?



Sources: Rockwood et al, Journal of Gerontology: 2004; 59: 1310;
Statcan.gc.ca/pub/82-003-x/2013009/article/11864-eng.htm

Inter-relationship of Dementia and Frailty and both are risk factors for delirium.



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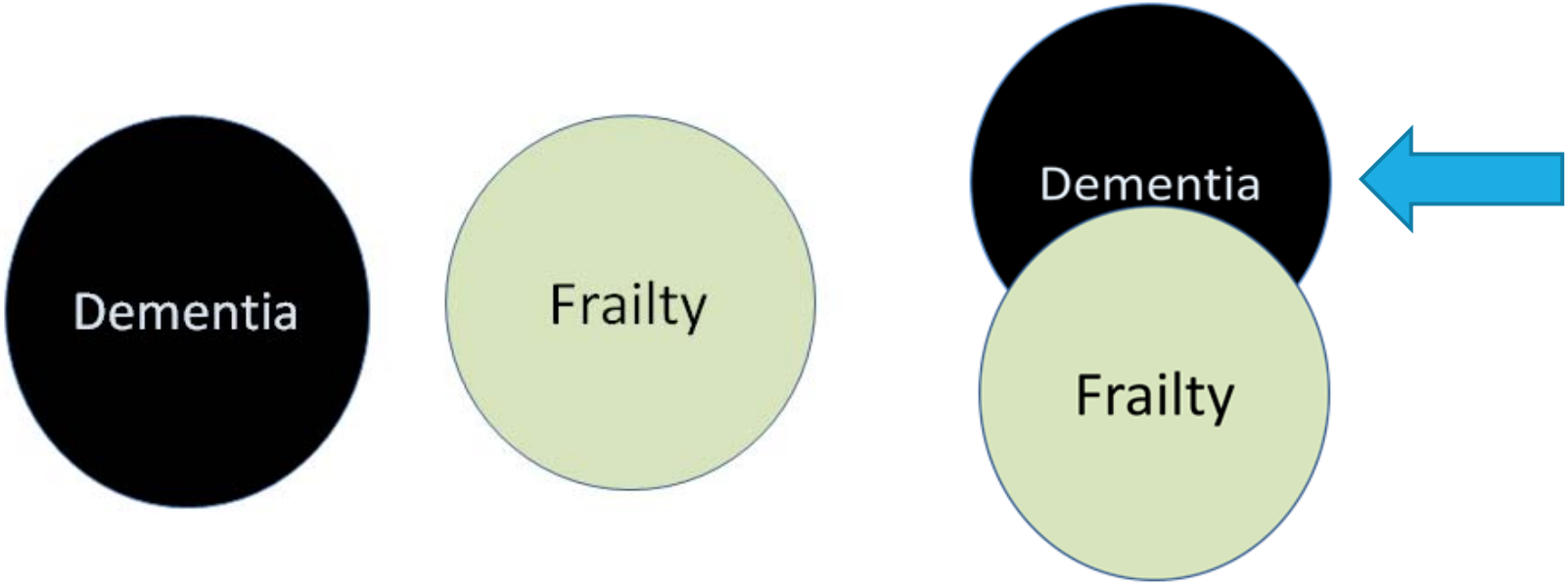


http://www.huffingtonpost.ca/russell-williams/aging-population-problems-canada_b_8631236.html 2015-11-15

More than **1M** Canadians are medically frail. This is expected to double within 20 years.

Solutions:

Provide tailored interventions that:

- delay the onset of poor health
- prevent unnecessary or unwanted treatment
- improve end of life care

Frail and Frailty synonyms and near synonyms

- Failure to thrive
- Progressive Incapacity of aging
- Biologically older than their chronological age
- Functionally dependent
- Vulnerable
- Functionally disabled/dependent
- “At-risk”
- Fragile
- “Decrepitude”

Frail and Frailty antonyms

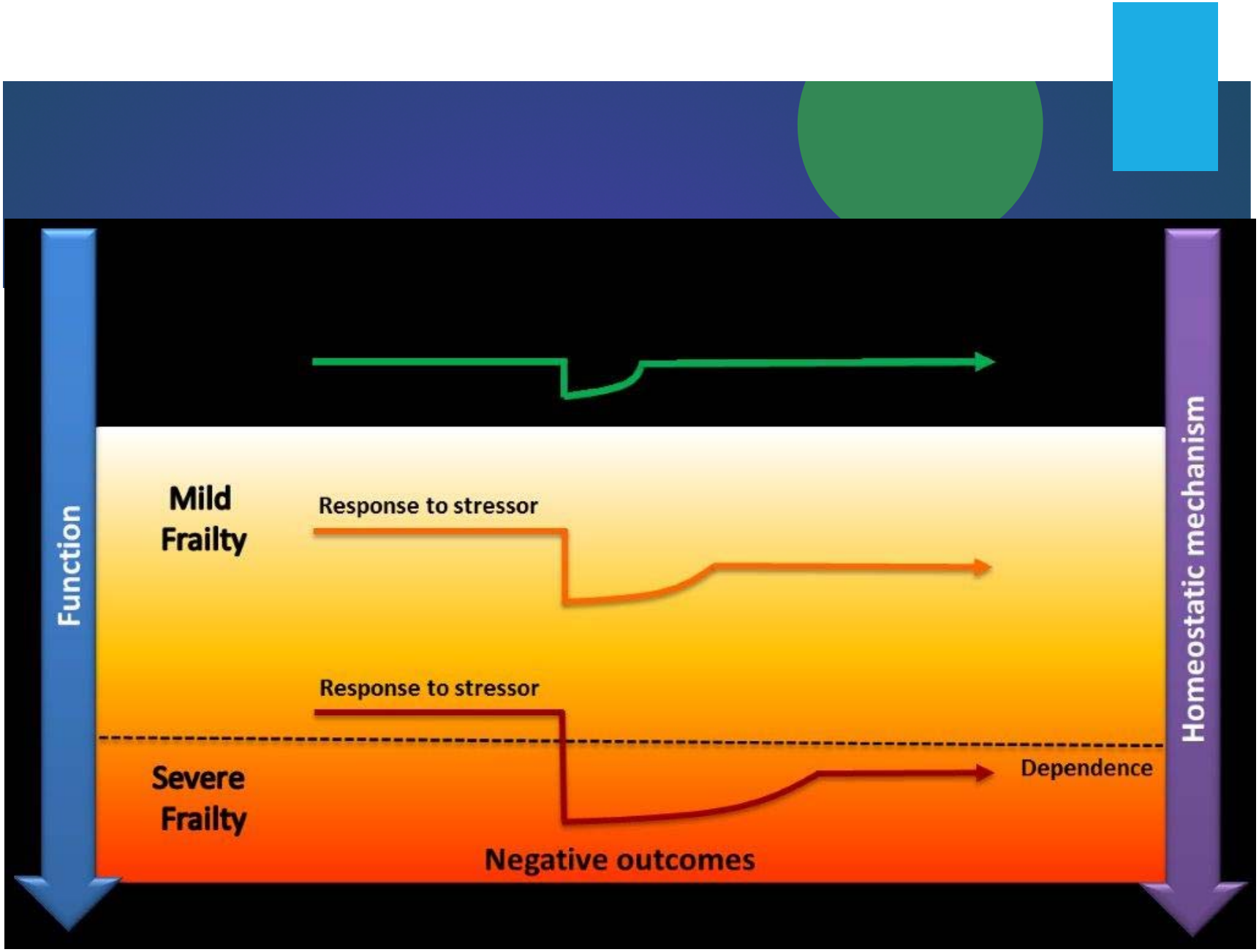
- Vitality
- Resilience
- Capability
- Hale and hearty
- Hardiness
- Robustness
- Self-reliance
- Autonomous

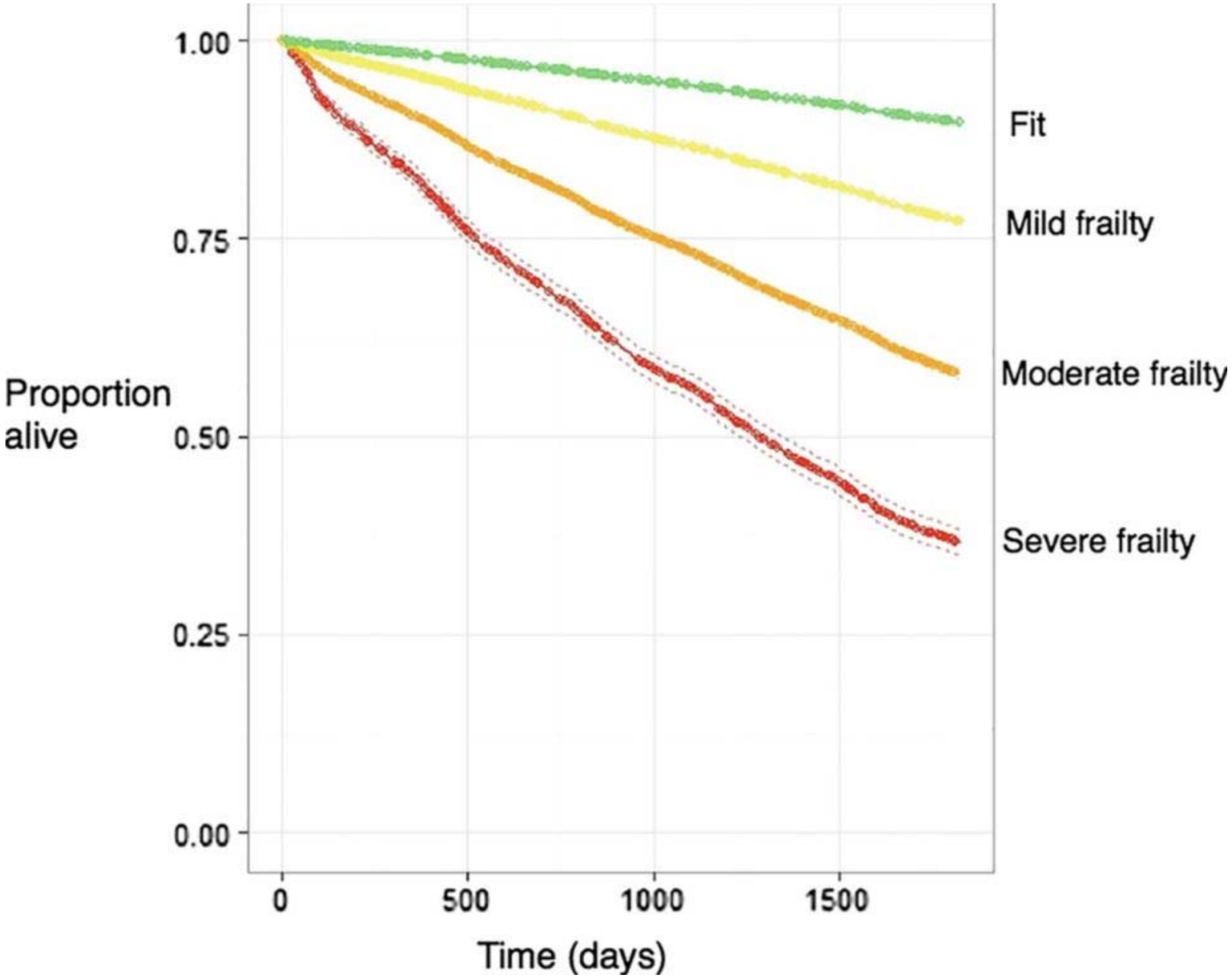
Key Features of Frailty

- A ***state*** of increased vulnerability to stressors
- A ***syndrome***, more common in older persons that overlaps multi-morbidity and disability
- Arises from impairments in multiple systems
- **Increases risk** of falls, cognitive and functional decline, delirium, adverse drug effects, avoidable hospital stays, nosocomial -acquired disability, LTC admission and death.

What is Frailty?
One of many definitions

A state of increased vulnerability characterized by diminished resilience to stressors resulting from impairments in multiple body systems arising from age-related physiological decline and often associated with, but separate from, multi-morbidity, cognitive impairment and disability.


Function
Homeostatic mechanism
Mild
Frailty
Response to stressor
Response to stressor
Severe
Frailty
Dependence
Negative outcomes


1.00
0.75
0.50
0.25
0.00
Proportion alive
0
500
1000
1500
Time (days)
Fit
Mild frailty
Moderate frailty
Severe frailty

Frailty: Identification and Measurement

- Judgment-based (CSHA Clinical Frailty Scale)
- Physical performance measure-based

  (sit to stand, gait speed, grip strength)
- Physical frailty (C V Health Study criteria)
- Multi-dimensional frailty (Edmonton Frail Scale)
- Frailty index

  Accumulation of deficits i.e. total number of deficits present divided by maximum potential number of deficits.

Screening for Frailty in Primary Care

Three studies investigated seven simple methods for identifying frailty; these were:

- **PRISMA 7 Questionnaire** - which is a seven item questionnaire to identify disability that has been used in earlier frailty studies and is also suitable for postal completion. A score of > 3 is considered to identify frailty.
- **Walking speed (gait speed)** - Gait speed is usually measured in m/s and has been recorded over distances ranging from 2.4m to 6m in research studies. In this study, gait speed was recorded over a 4m distance.
- **Timed up and go test** - The TUGT measures, in seconds, the time taken to stand up from a standard chair, walk a distance of 3 metres, turn, walk back to the chair and sit down.
- **Self-Reported Health** - which was assessed, in the study examined, with the question 'How would you rate your health on a scale of 0-10'. A cut-off of < 6 was used to identify frailty.
- **GP assessment** - whereby a GP assessed participants as frail or not frail on the basis of a clinical assessment.
- **Multiple medications (polypharmacy)** - where frailty is deemed present if the person takes five or more medications.
- **The Groningen Frailty Indicator questionnaire** - which is a 15 item frailty questionnaire that is suitable for postal completion. A score of > 4 indicates the possible presence of moderate-severe frailty.
- **The identification of frail older adults in primary care: comparing the accuracy of five simple instruments**

Emiel O. Hoogendijk1,2⇓, Henriëtte E. van der Horst1,2, Dorly J. H. Deeg2,3, Dinnus H. M. Frijters1,2, Bernard A. H. Prins4, Aaltje P. D. Jansen1,2, Giel Nijpels1,2 and Hein P. J. van Hout1,2
Age Ageing (2012) doi: 10.1093/ageing/afs163 First published online: October 28, 2012

Frailty syndromes

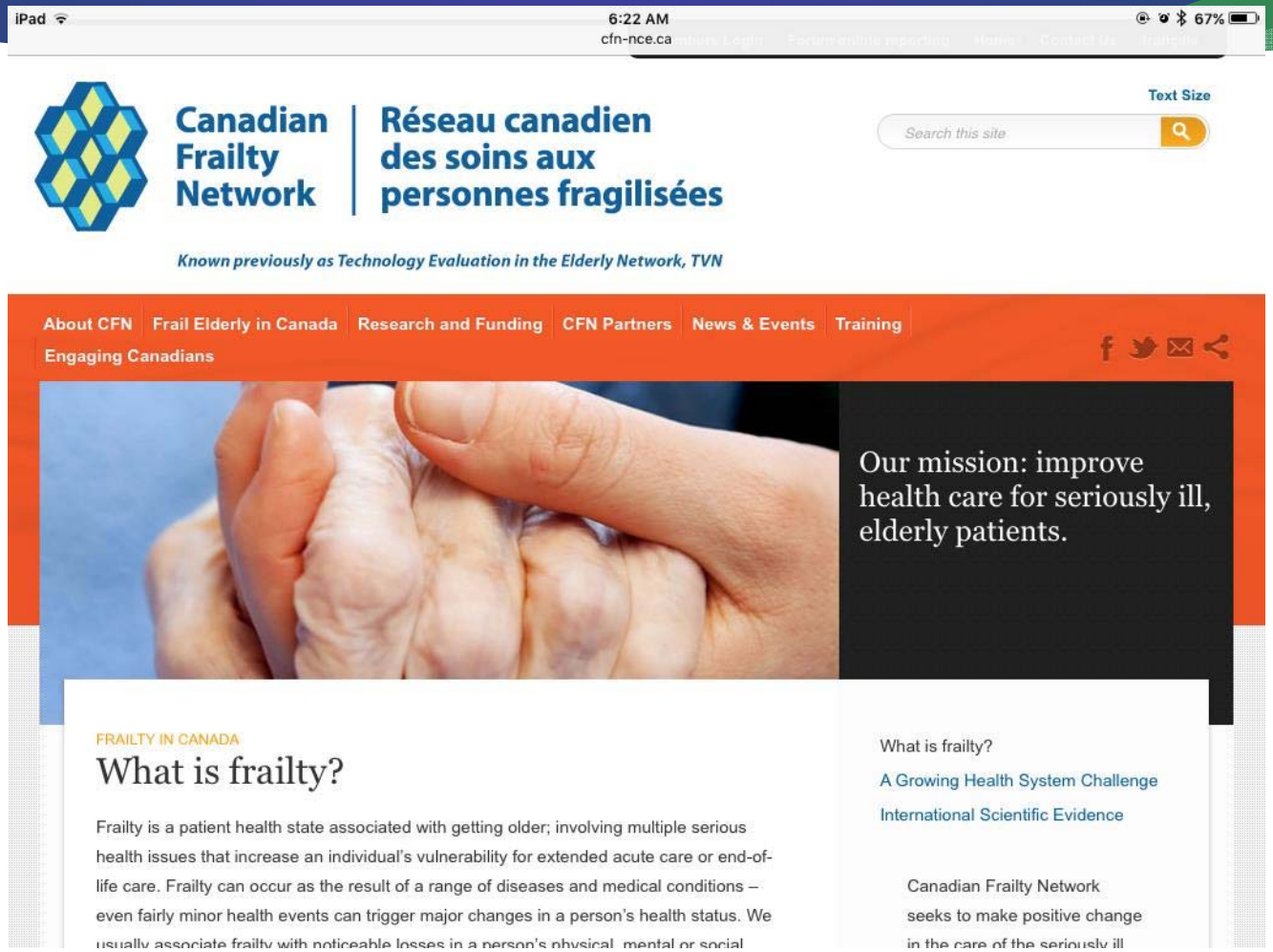
http://www.bgs.org.uk/campaigns/fff/fff_short.pdf

The presence of one or more of these 5 syndromes should raise suspicions that the individual has frailty and that the apparently simple presentation may mask more serious underlying disease:

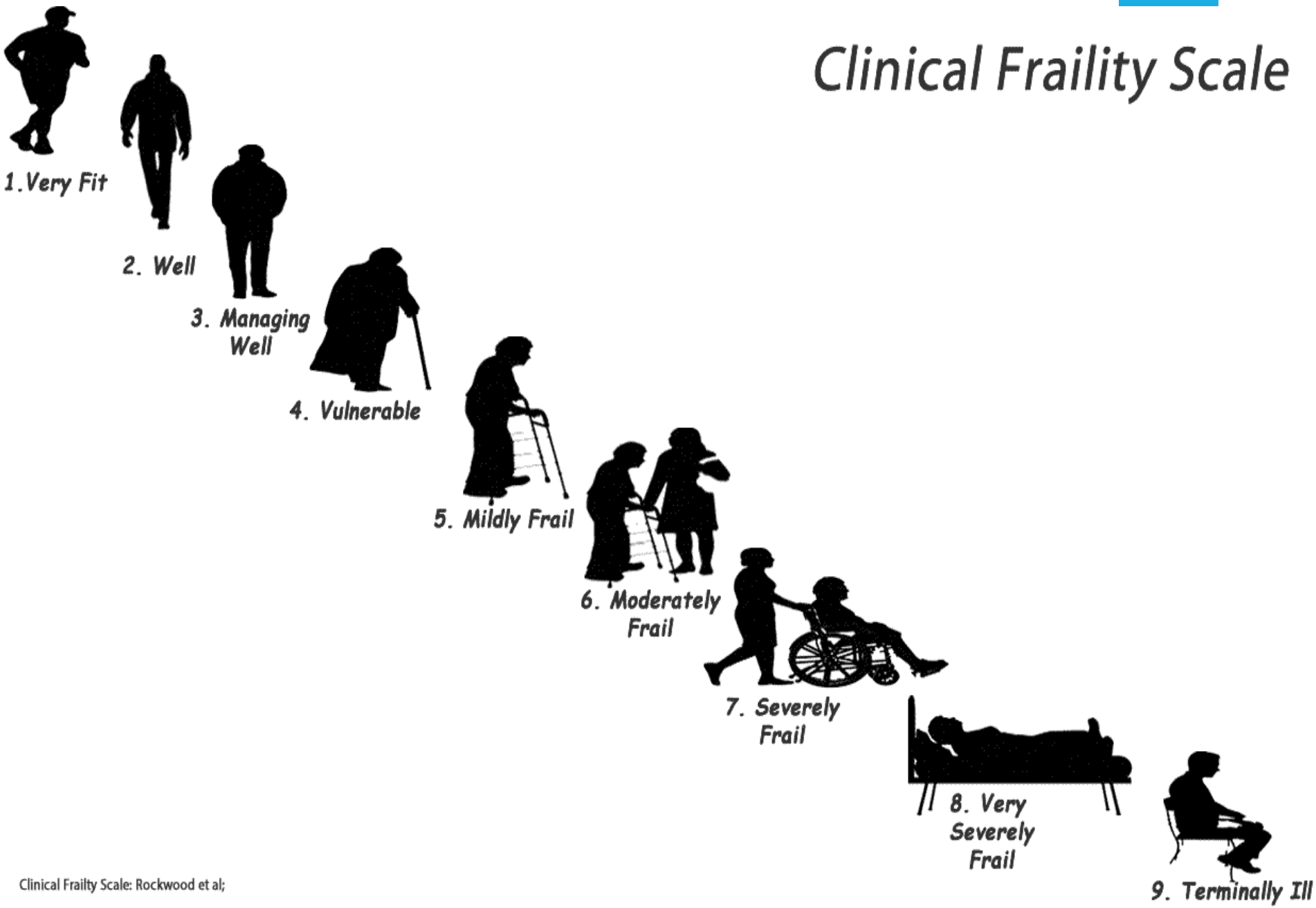
- Falls
- Immobility (sudden change in mobility)
- Delirium /Dementia (e.g. worsening of pre-existing confusion)
- Incontinence (new or increased urinary fecal incontinence)
- Susceptibility to side effects of medication

Canadian Frailty Network (Formerly TVN)

www.cfn-nce.ca



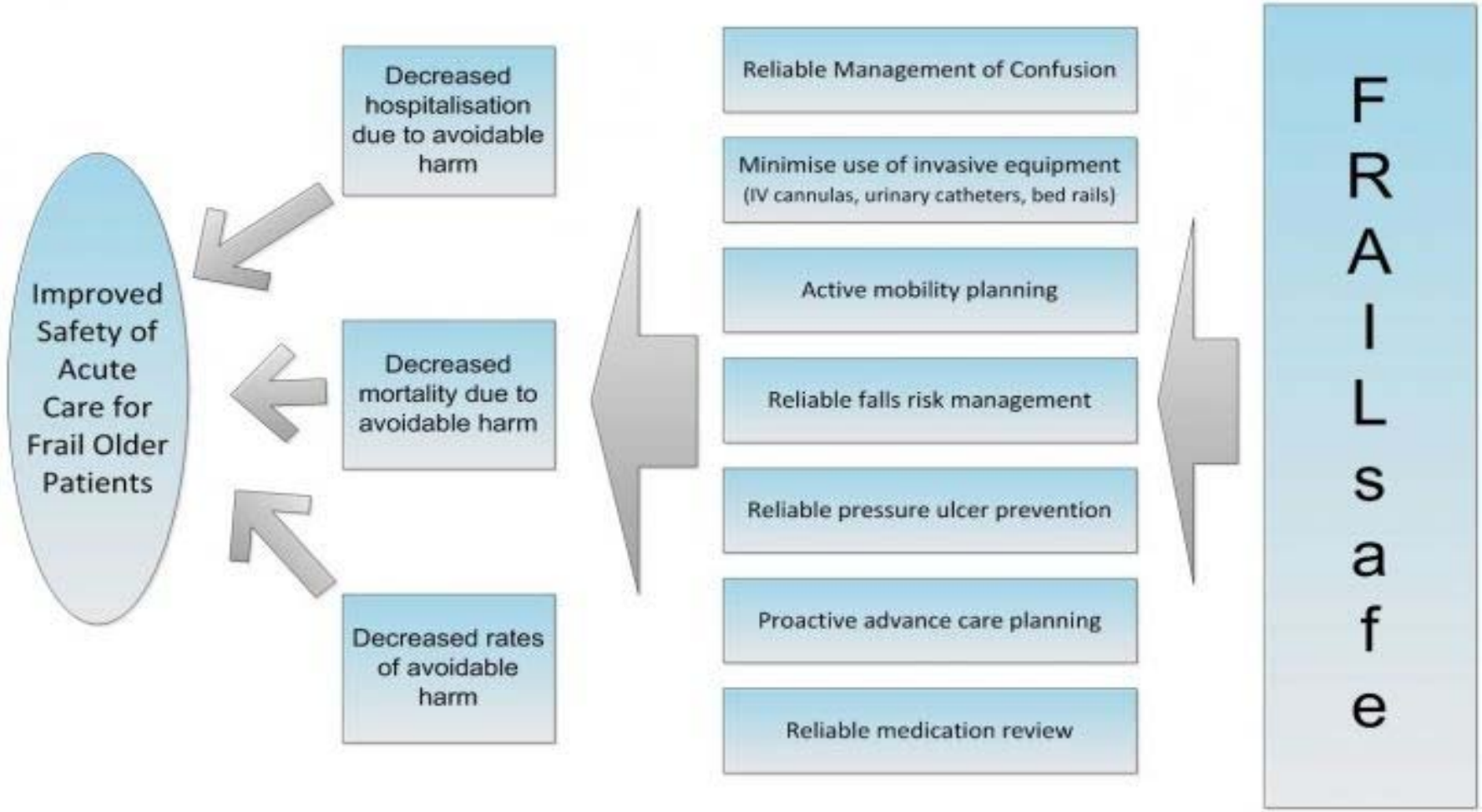
Clinical Frailty Scale



Clinical Frailty Scale: Rockwood et al;

Integrating Dementia, Multimorbidity & Frailty Assessment in Care Planning

http://www.frailsafe.org.uk/the_problem



NICE Guidance on Frailty in Primary Health Care

How to assess frailty

- Consider **assessing frailty in people with multimorbidity**.
- Be **cautious** about assessing frailty in a person who is **acutely unwell**.
- Do not use a physical performance tool to assess frailty in a person who is acutely unwell.

Primary care and community care settings

When **assessing frailty in primary and community care settings**, consider using 1 of the following:

- an informal assessment of gait speed (for example, time taken to answer the door, time taken to walk from the waiting room)
- self-reported health status (that is, 'how would you rate your health status on a scale from 0 to 10?', with scores of 6 or less indicating frailty)
- a formal assessment of gait speed, with more than 5 seconds to walk 4 metres indicating frailty
- the PRISMA-7 questionnaire, with scores of 3 and above indicating frailty.

https://www.nice.org.uk/guidance/ng56

Impact of Frailty <-> Hospitals

- Frailty increases risk of ED visit and admission
- 25-50% of older persons in ACH are “frail”
- Most are unrecognized and coded according to organ system problems
- Loss of functional abilities resulting from ACH stay (nosocomial-acquired disability)
- Premature decision making re LTC
- Post-hospital syndrome; vulnerability post-ACH

Frailty Screening Tool from "Think Frailty" NHS Scotland

Any 1 positive response identifies elders coming to acute care as candidates for Comprehensive Geriatric Assessment

- **F**unctional impairment in context of significant multiple conditions (new or pre-existing)
- **R**esident in a care home
- **A**cute confusion (Think Delirium), for example the 4AT screening tool -is there a diagnosis of dementia or a history of chronic confusion?
- **I**mmobility or falls in last 3 months
- **L**ist of six or more medicines (polypharmacy)

http://www.healthcareimprovementscotland.org/his/idoc.ashx?docid=8abd8530-48f3-4152-bbfb-d0918b870ec9&version=-1

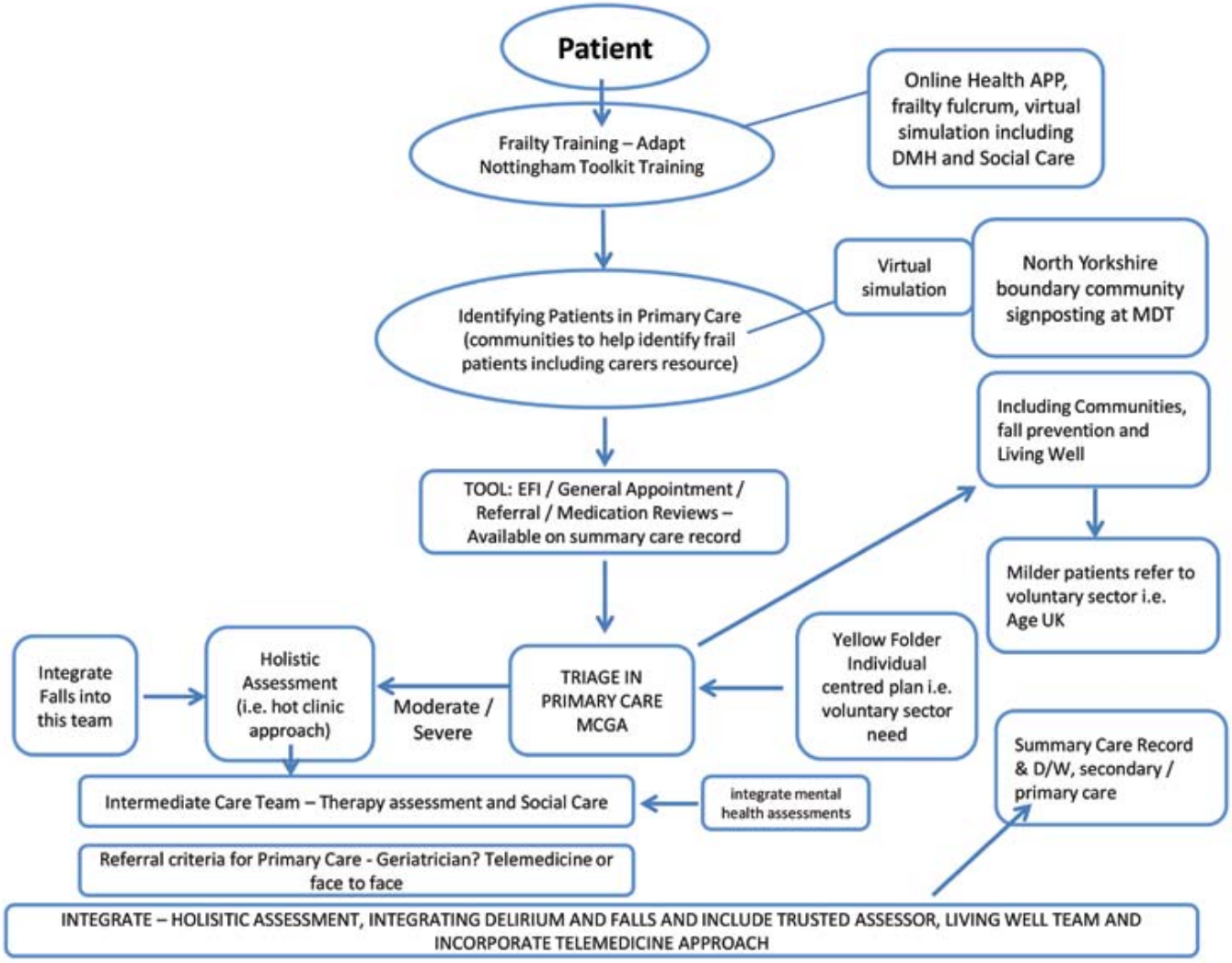
Living well with complex comorbidities, dementia and frailty

https://www.england.nhs.uk/wp-content/uploads/2014/02/safe-comp-care.pdf

- Systematic, targeted case-finding.
- Proactive comprehensive geriatric assessment (CGA) and follow-up.
- An identified keyworker who acts as a case manager and coordinator of care across the system.
- General practices monitor hospitalisation and avoidable ED visits
- Carers are offered an independent assessment of their needs and signposted to interventions to support them in their caring role.
- Opportunities to participate in exercise available to frail older people.
- Frail older people have access to services to prevent falls.
- A comprehensive service for those with dementia must be available and accessible.
- Services are available to reduce polypharmacy in frail older people.

NE Yorkshire Mapping a Frailty Pathway

https://www.england.nhs.uk/wp-content/uploads/2014/02/safe-comp-care.pdf



Frailty Assessment for Care-planning Tool (FACT)

FINAL SCORING SHEET

path clinic

	Mobility is at baseline? ○ YES ○ NO			Cognition is at baseline? ○ YES ○ NO
	Baseline Mobility	**Social**	**Function**	**Cognition**
1. Thriving	○ Fit, exercises regularly (among fittest for age)	○ In charge of organizing social events	○ Still working at job or high level hobby	○ Thriving: impresses others with memory and thinking
2&3. Normal Aging	○ Active/exercises occasionally	○ Socializes weekly & would have a caregiver if needed	○ Subjective impairment (i.e. Does everything on own but finds things more difficult)	○ Normal aging: patient worried about memory but family (caregiver) is not ○ Normal aging: patient worried, collateral not available
4. Vulnerable	○ Starting to slow down and often tired during the day	○ Socializes less than weekly OR might not have a caregiver if needed	○ Not dependent on others but symptoms often limit activities	○ Vulnerable: minor deficits on testing (cognitive impairment, not dementia)
5. Mild	○ Walking slower and regularly uses (or should use) a cane or walker	○ Socializes rarely	○ Needs help with some instrumental activities of daily living (IADLS) (e.g. housework, banking or medications)	○ Mild stage dementia: vague/incorrect recall of current events, can recall name of US president
6. Moderate	○ Needs help of another person when using stairs, walking on uneven ground, or getting in/out of bath OR Has fallen more than once in the past 6 months, excluding slip on ice	○ Mostly house-bound	○ Needs assistance or dependent for IADLS and cueing with basic activities of daily living (BADLS) (e.g. help choosing what to wear or requires reminders to bathe)	○ Moderate stage dementia: Incorrect recall of US President, can recall name of children/spouse ○ No collateral present
7. Severe	○ Always needs someone's help or supervision when walking OR Unable to propel self in manual wheelchair	○ House-bound and isolated OR caregiver stress/or no available caregiver to meet care needs	○ Needs hands on help with BADLS (bathing, toileting, dressing)	○ Severe stage dementia: Unable to name children, spouse or siblings
8. Very Severe	○ Bed bound, unable to participate in transfers	○ Unable to participate in any social exchange, even when visited	○ Dependent for all aspects of daily life	○ Very severe stage dementia: Limited language skills with few words verbalized
9. Terminal	○ Terminally ill with a life expectancy ≤ 6 months regardless of function, cognition or mobility status			

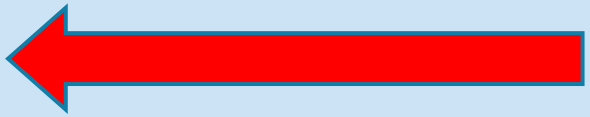
Compatible with: Rockwood K. CMAJ 2005;173:489-95; Bowen S. Int J Geriatr Psychiatry 2000;Nov 15(11):1031-37; and Reisberg B. Psychopharmacol Bull 1988;24:653-59.

Signature

Date

The 5Ms of an individualized Care Plan

MIND	Mentation, Dementia, Delirium, Depression
MOBILITY	Balance and gait impairment, fall and injury prevention Driving and Transportation
MEDICATIONS	Polypharmacy and De- prescribing, Medication optimization and management Adverse medication effects (especially Anticholinergics) and medication burden
MULTI-COMPLEXITY	Multi-morbidity, Complex bio-psycho-social situations
MATTERS MOST	Each individual's own meaningful health outcome goals and care preferences.



Benefits of an individualized plan of care for Multimorbidity and Frailty 1/2 What?

Improving quality of life by taking into account an individual's lifestyle, goals, values and priorities, and preferences for treatments thereby:

- Preventing fragmented or uncoordinated care
- Improving coordination of care across services
- Reducing treatment burden
- Avoiding unplanned hospital/facility admissions
- Reducing occurrence of adverse events

Modified from https://www.nice.org.uk/guidance/ng56

Benefits of an individualized plan of care for Multimorbidity and Frailty 2/2 How?

By identifying with Patient/Care-partner:

- treatments that could be stopped
- treatments with “high burden”
- medicines with high risk of adverse events
- possible non-pharmacological treatments
- alternative arrangements for follow-up
- coordination/optimisation of follow up

Modified from https://www.nice.org.uk/guidance/ng56

Guidance for developing and implementing an individualised plan of care

Based on the person's personal goals, values and priorities, burden of health conditions and treatment burden develop an individualised care plan with the person and, with their agreement, their care-partner/key family members .

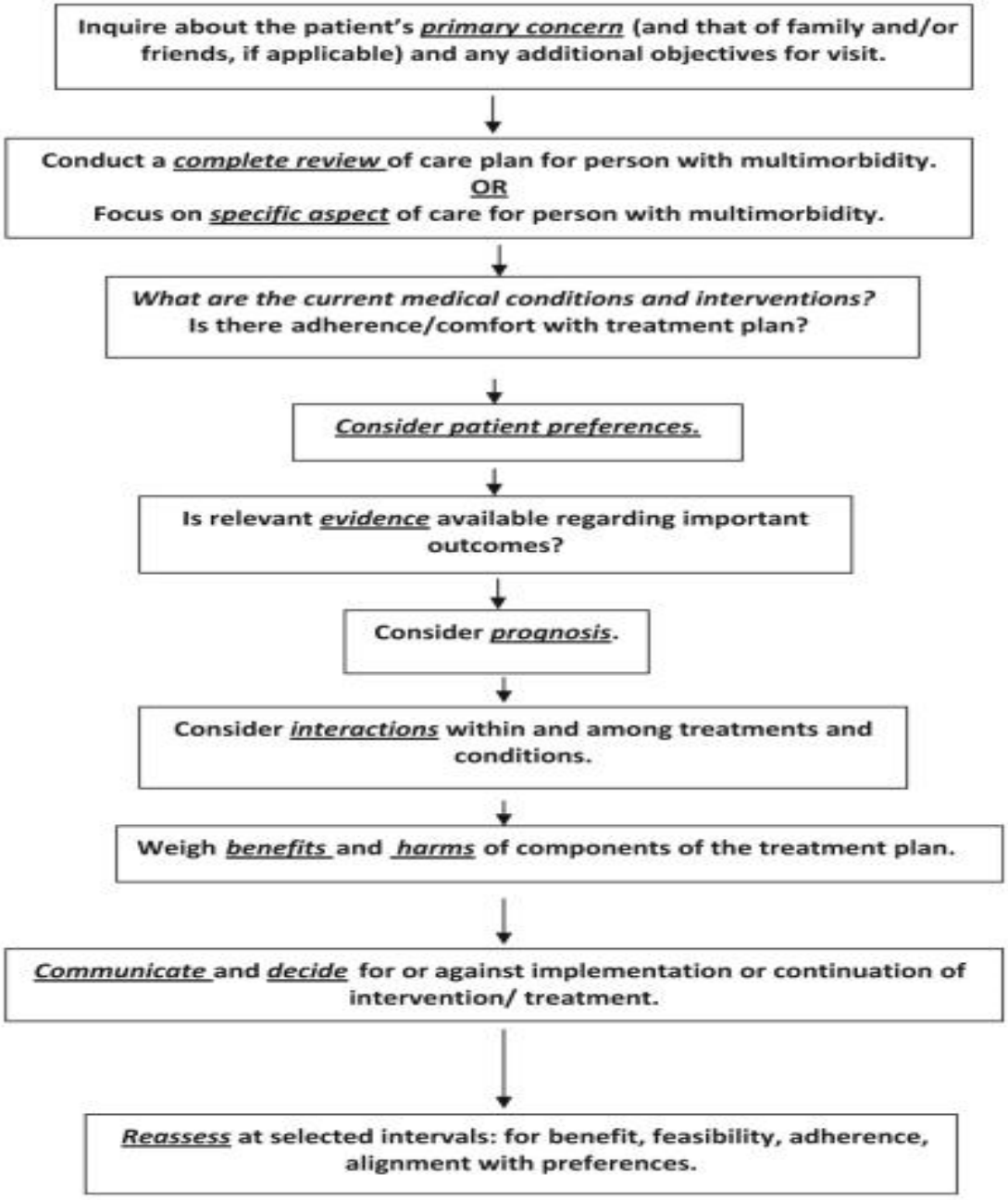
This could include:

- prioritising healthcare investigations, consultation and followup appointments
- anticipating and planning for possible changes in health and functional abilities
- identifying responsibility for coordination of care and ensuring this is communicated to other healthcare professionals and services
- arranging a follow-up and review of decisions made.
- starting, stopping or changing medicines and non-pharmacological treatments
- providing informational resources for the person, care-partners & family members

Then:

- Share copies of the care plan with the person (eg Greensleeve)
- With the person's permission share with other people involved in care including other healthcare professionals, a spouse or care-partner, family members.
- Review and revise periodically especially after a change in health status

Modified from https://www.nice.org.uk/guidance/ng56



https://www.ncbi.nlm.nih.gov/core/lw/2.0/html/tileshop_pmc/tileshop_pmc_inline.html?title=Click%20on%20image%20to%20zoom&p=PMC3&id=4450364_nihms-693573-f0001.jpg

Atypical disease presentation with Frailty

- Atypical disease presentation* (ADP) is in fact “typical” in frail elders
- ADP is independently associated with poor outcome in hospitalized patients
- Represents diminished reserves and failure of integration in complex systems

Why do we miss underlying and potentially treatable illness?

- Patients ,families (& some health professionals) regard symptoms as a "normal" part of aging
- Insidious onset and vague symptoms
- Communication difficulties (hearing, visual and cognitive impairment)
- Reluctance of some older people to complain due to anxiety over feared consequences and threat to their independence

Some underlying causes of atypical presentation of illness in frail elders

- **Drugs** (Rx and non-Rx, alcohol, others)
- Infection (UTI, Chest, Sepsis, most common)
- Heart disease (ACS, MI, CHF; new onset AF)
- Dehydration
- Electrolyte and Metabolic abnormalities

Remember that all these categories AND other causes may be present simultaneously.

Key references on frailty in practice

Integrated care for older people with frailty Innovative approaches in practice

http://www.bgs.org.uk/pdfs/2016_rcgp_bgs_integration.pdf

Safe, compassionate care for frail older people using an integrated care pathway

https://www.england.nhs.uk/wp-content/uploads/2014/02/safe-comp-care.pdf

Frailty in Older Adults - Early Identification and Management BC

http://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/frailty

British Geriatrics Society Fit for Frailty

http://www.bgs.org.uk/index.php/fit-for-frailty

http://www.bgs.org.uk/index.php/fitforfrailty-2m

Scotland NHS

http://www.healthcareimprovementscotland.org/our_work/person-centred_care/opac_improvement_programme/frailty_report.aspx

Summary

- Relevant Terms and Definitions
- Emerging consensus on Multi-morbidity
- Individualised care plans
- Multimorbidity, Dementia and Frailty overlap
- Frailty in Primary Health care
- Atypical disease presentation