

# Frailty Screening & Assessment: Role(s) for Community Paramedics?

**Judah Goldstein PCP, PhD**

EHS Research Coordinator

Assistant Professor, Dalhousie Department of Emergency Medicine, Division of EMS  
Affiliated Scientist, Nova Scotia Health Authority, Department of Emergency Medicine  
Sessional Lecturer, Department of Biology, BSc Paramedicine Program, UPEI

**International Roundtable on Community Paramedicine**

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# No conflicts of interest to declare



Canadian  
Frailty  
Network

Réseau canadien  
des soins aux  
personnes fragilisées

*Known previously as Technology Evaluation in the Elderly Network, TVN*



CENTRE FOR AGING  
+ BRAIN HEALTH  
INNOVATION

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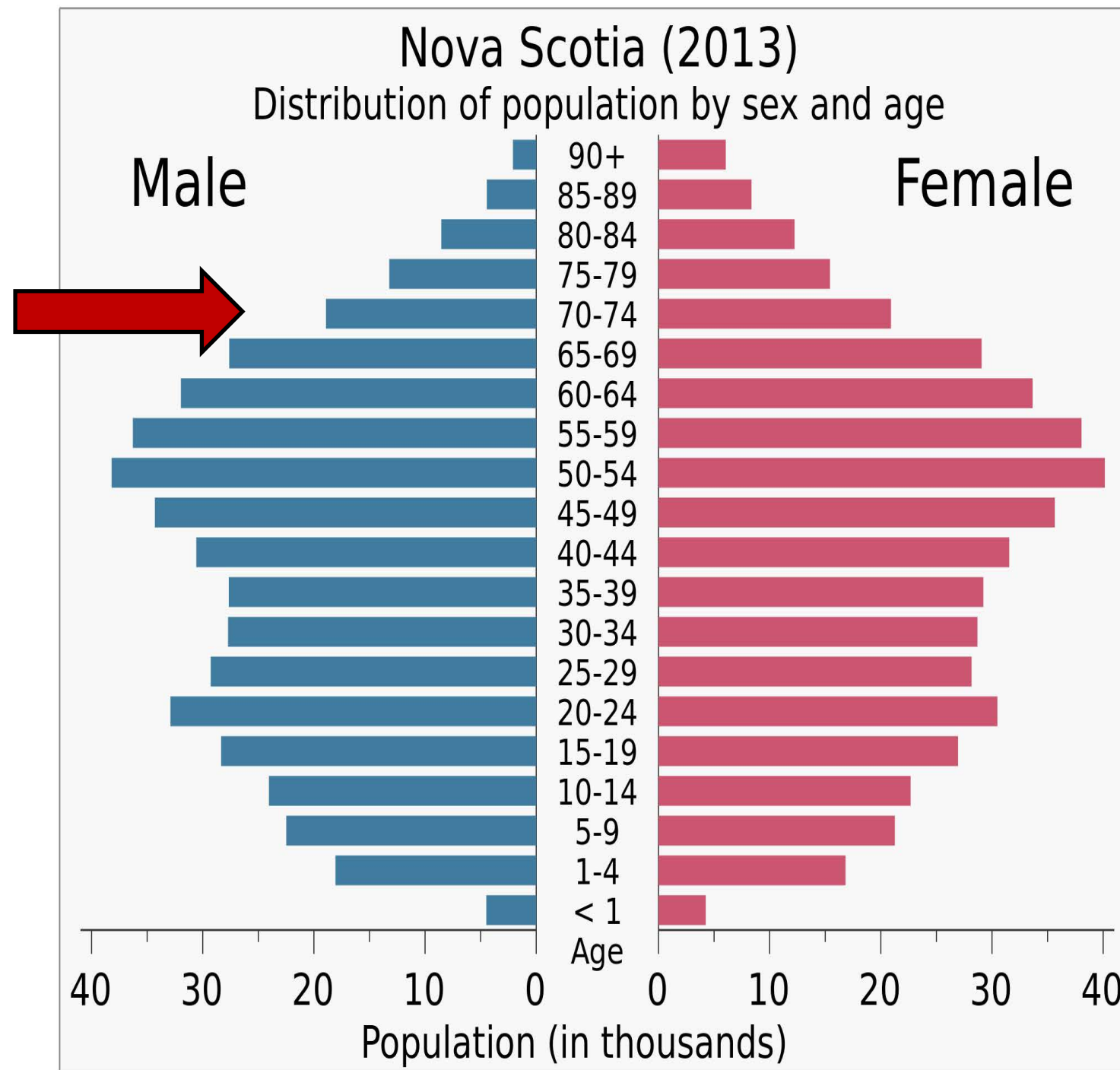
# What have I learned at the IRCP?



# Conclusion

- Frailty is important
- Community Paramedic assessments of frailty can generate new insights





## Canadian seniors now outnumber children for 1st time, 2016 census shows

Share of seniors in Canada's population sees biggest increase since Confederation

# Goals

- Discuss why older adults living with frailty are unique
- Discuss how to assess and manage frailty
- Explore the added value brought by community paramedicine

# Frailty

“Frailty is a core concept of geriatric medicine and possibly a vital sign for older adults yet it has barely infiltrated the EM literature or EM attitudes to older people”

Dr. Audrey-Anne Brousseau, Fellow Geriatric Emergency Medicine;  
British Geriatrics Society Blog 2018)

Brousseau et al. 2017 Age Ageing 47(2): 242

# What is Frailty?

- State of extreme vulnerability
  - Multidimensional,
  - Loss in redundancy (physiological reserve) and
  - Increased susceptibility to even minor stressors (minor trauma, infection) compared to people of the same age
- 89 measures of frailty identified (Theo et al. 2018)
- Distinguish between frailty screening versus assessment
  - Local context will dictate approach



# Phenotype of Frailty:

- syndrome model

## Rules-based:

- Exhaustion,
- Involuntary weight loss,
- Muscle weakness,
- Sedentary behavior
- Slow gait speed (Fried et al. 2001)



0 = Not frail

1-2 = Pre-frail

$\geq 3$  = Frail

Barrier to use:

- Performance based measures
- initial version did not account for cognition, often modified in clinical setting

# Frailty Index (FI)

- Accumulation of deficits model:
  - ✓ # of problems present/ total # considered (e.g.  $11/44 = 0.25$ )
  - ✓ Scored from 0 (fit) – 1.0 (frail)
  - ✓ Reproducible characteristics (upper limit = 0.7, sex differences, characteristic distribution)
  - ✓ Captured electronically (InterRAI, ePCR, registry)

Mitnitski and Rockwood 2001

# A standard procedure for creating a frailty index

Samuel D Searle , Arnold Mitnitski , Evelyn A Gahbauer , Thomas M Gill and Kenneth Rockwood ✉

*BMC Geriatrics* 2008 **8**:24



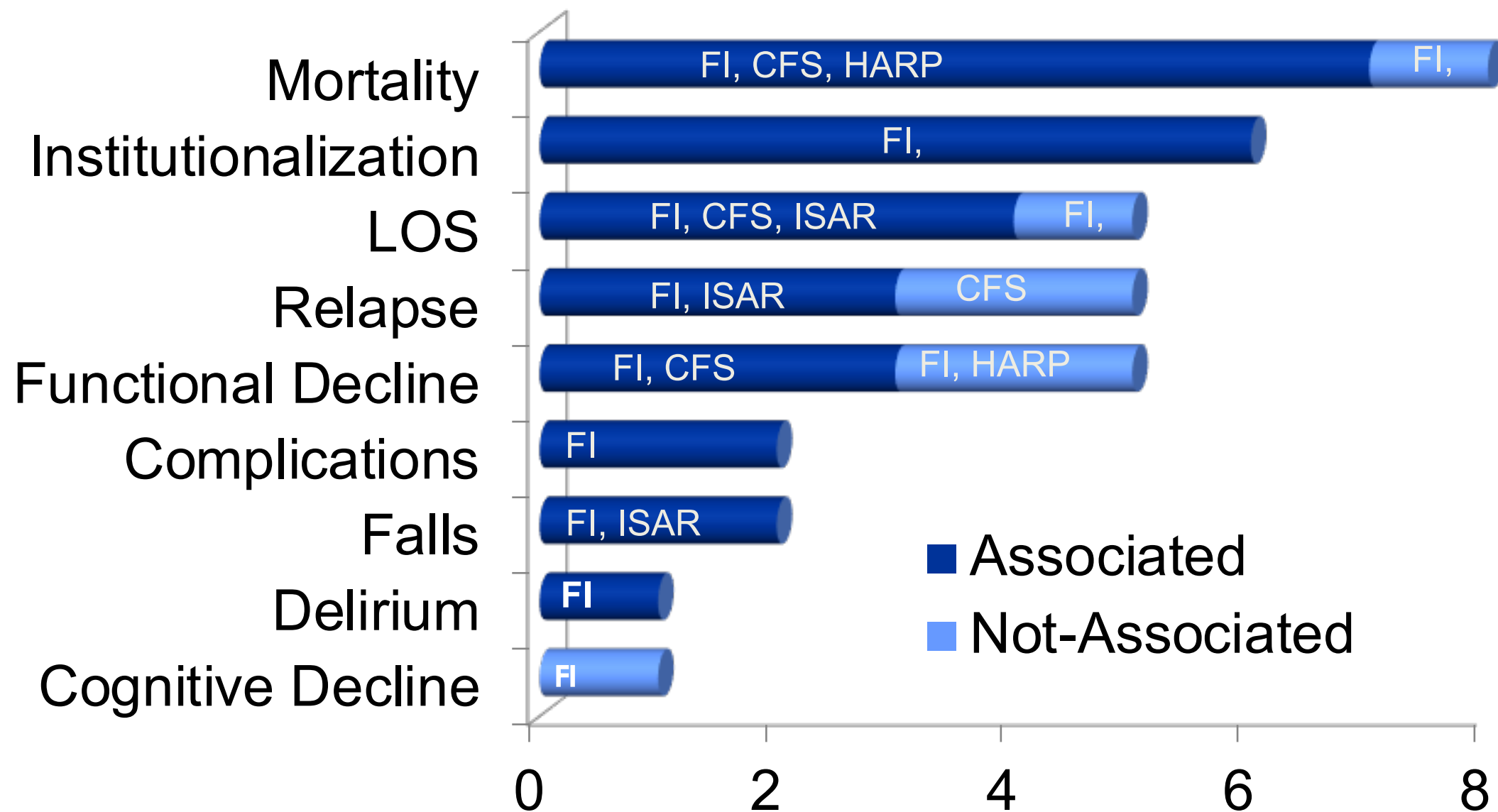
*Rockwood et al. Can Med Association 1994; 150:499-507*  
*Rockwood et al. J Am Geriatric Society 1996; 44:578-82*

List of 40 Variables included in the frailty index	Cut Point
Help Bathing	Yes = 1, No = 0
Help Dressing	Yes = 1, No = 0
Help getting in/out of Chair	Yes = 1, No = 0
Help Walking around house	Yes = 1, No = 0
Help Eating	Yes = 1, No = 0
Help Grooming	Yes = 1, No = 0
Help Using Toilet	Yes = 1, No = 0
Help up/down Stairs	Yes = 1, No = 0
Help lifting 10 lbs	Yes = 1, No = 0
Help Shopping	Yes = 1, No = 0
Help with Housework	Yes = 1, No = 0

**Barrier to use:**  
- Cumbersome, time



# Frailty in relation to outcomes in Emergency Medicine



Theou et al. 2018 BMC Geriatrics



# Illness Presentation in Older Adults

## Geriatric Giants

### “Atypical presentations”

- higher order functions fail first often before vital sign changes



Theou et al. 2019 CGJ

# How Should We Assess Frailty?

Case A. 83 yearold man. Wife called GMS.

**Comprehensive Geriatric Assessment**  
Division of Geriatric Medicine, Dalhousie University

**Mental Status** ☒ WNL ☐ Dementia ☐ Delirium ☐ CIND/MCI ☐ FAST: 3 MMSE: ND  
Chief lifelong occupation: Insurance/Sales Education (years): 16

**Emotional** ☒ WNL ☐ ↓ Mood ☐ Depression ☐ Anxiety ☐ Other

**Communication** Speech ☒ WNL ☐ Impaired Hearing ☒ WNL ☐ Impaired Vision ☒ WNL ☐ Impaired

**Mobility** Transfer Walking AID Baseline Current Notes  
I I A D I I A D

**Balance** Balance Falls Baseline Current Notes  
WNL N Y IMPAIRED WNL N Y IMPAIRED # standby

**Elimination** Bowel Bladder Baseline Current Notes  
CONSTIP CATHETER CONT INCONT CONSTIP CATHETER CONT INCONT

**Nutrition** Weight Appetite Baseline Current Notes  
UNDER WNL GOOD FAIR OVER POOR STABLE WNL LOSS FAIR GAIN POOR

**ADL's** Bathing Dressing Baseline Current Notes  
I I A D I I A D

**IADL's** Cooking Cleaning Shopping Medications Driving Banking Baseline Current Notes  
I I A D I I A D

**Social** ☒ Married ☐ Divorced ☐ Widowed ☐ Single Lives ☐ Alone ☒ Spouse ☐ Other Supports ☒ Informal ☐ HCNS ☐ Other ☐ Req. more support Home ☐ Level house (# ) ☒ Apartment ☐ Other ☐ Steps (# ) Caregiver stress ☒ None ☐ Low ☐ Moderate ☐ High caregiver occupation: housewife

**Problems:** 1 RFR ? seizure (fall) 2 hypertension 3 HTD 4 cholesterol 5 arthritis 6 cataract 7 glaucoma

**Associated Medications:** (\*mark meds started in hospital with an asterisk)  
hctz 12.5mg metoprolol 50mg BID atorvastatin 20mg day ibuprofen ad lib. + tylenol 'drops' q BID

Assessor/Physician: [Signature] Date: ----  
YYYY/MM/DD

- Co-morbidities
- Mobility
- Function
- Sensory impairment
- Bowels
- Bladder
- Social supports
- Nutrition
- Cognition

Dalhousie Geriatric Medicine Research Unit



# Pick One

- Grade frailty
- Multidimensional
- Interdisciplinary
- Actionable



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## 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.

# Frailty Screening



**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.

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## Frailty States:

1. Very Fit
2. Well
3. Managing Well
4. Vulnerable
5. Mildly Frail
6. Moderately Frail
7. Severely Frail
8. Very Severely Frail
9. Terminally ill

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

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<b>ID</b>	PracticePractice, P. P.					0	P 11:54:31
Patient ID	Reassessment	Treatment	<b>Protocols</b>		Summary		
<b>HPI</b>	<b>Community Paramedicine</b>						
Present Hx	<b>Community Paramedicine</b>		<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;">Wound Closure By Glue 6526.00</div> <div style="width: 30%;">Wound Closure By Steri-Strip (TM) 6525.00</div> <div style="width: 30%; background-color: #FFFF00;"><b>Clinical Frailty Scale</b></div> </div>				
<b>IA</b>	LifeFlight Adult						
Initial Assess	LifeFlight Pediatric						
<b>V/S</b>	Life Flight NeoNatal						
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Care Plan							
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Transport							

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# How should we measure frailty in clinical settings?

## Care Partner -FI-CGA

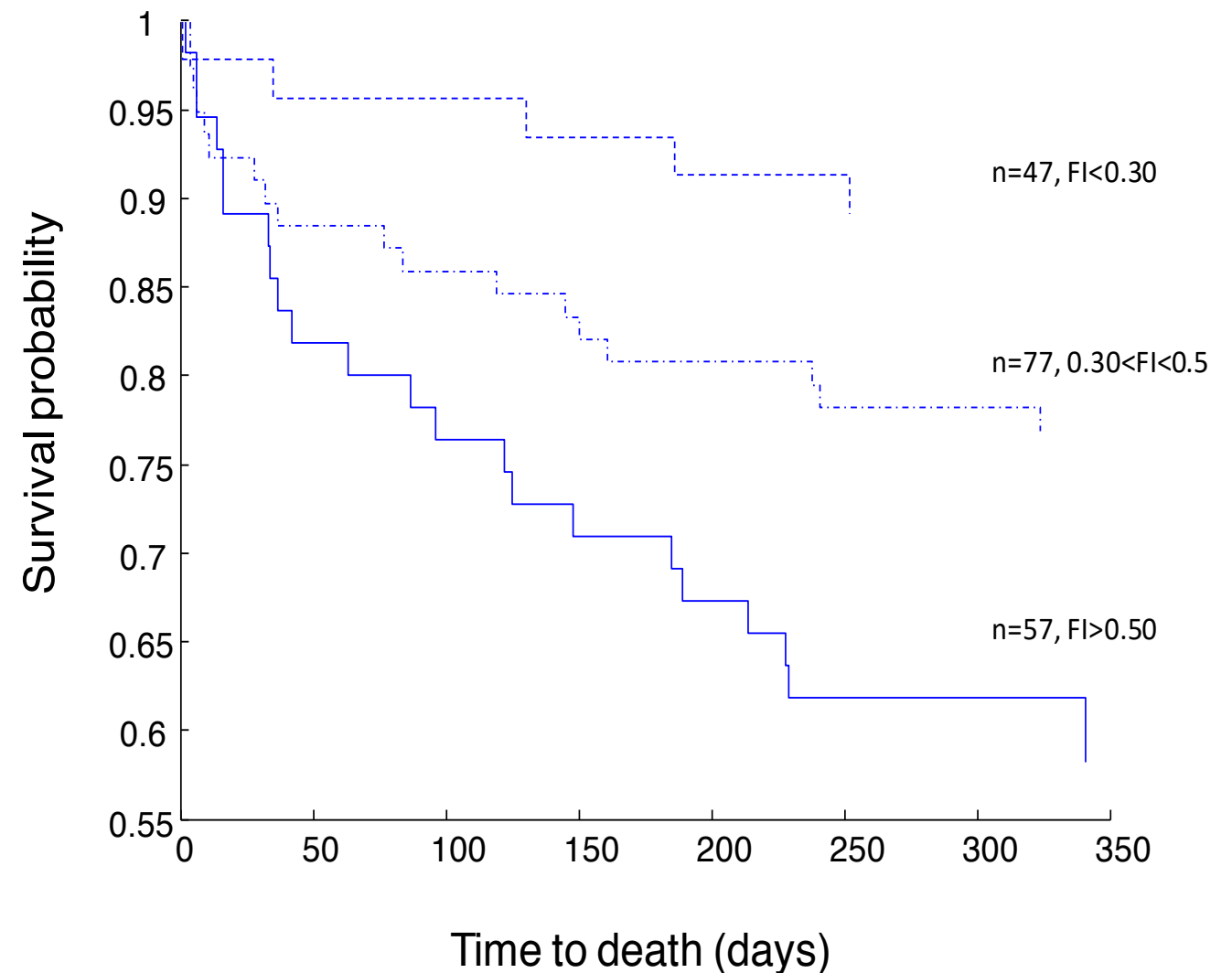
### Care Partner Comprehensive Geriatric Assessment pg.5

These questions also refer to the person you care for. Think of this person when you answer these questions.  
We want you to think about two time points – two weeks ago, which is in the left hand column, and today, which is in the right hand column.

		2 weeks ago	Today
<b>Function</b>			
Can the person you care for feed themselves?	YES, without help YES, some help NO, or only with significant help	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Can the person you care for take a bath or shower?	YES, without help YES, with some help Only with great deal of help	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Can the person you care for dress themselves?	YES, without help YES, some help Only with great deal of help	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Does the person you care for drive?	YES YES, but I am concerned about safety NO, has stopped NO, never drove	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Can the person you care for do day-to-day shopping?	YES, without help YES, some help NO, not at all NO, has never done shopping	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Can the person you care for do day-to-day household cleaning?	YES, without help YES, some help NO, can't do at all NO, has never done cleaning	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Can the person you care for cook well enough to maintain their nutrition?	YES, without help YES, some help NO, can't do at all NO, has never done cooking	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Can the person you care for look after taking their own medications?	YES, without help YES, some help NO, can't do at all NO, doesn't need any medications	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Can the person you care for look after their own banking and financial affairs (pay their own bills)?	YES, without help YES, some help NO, can't do at all NO, has never looked after finances	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Is the person you care for too weak to carry out some day to day tasks (e.g. open a jar)?	YES NO	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>

Research and Ethics Board Version #2 - October 17, 2008

Please continue the questionnaire on page 6. Thank you.



Goldstein et al. Age Ageing 2015

# THEOU: THE PICTORIAL FIT-FRAIL SCALE

**PICTORIAL FIT-FRAIL SCALE**

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

DATE: \_\_\_\_\_

**Instructions:** This scale is intended to assess your **USUAL** state in different categories using pictures ordered from best to worst. For each category, choose **ONE** picture that is closest to your **USUAL** state. Mark ☒ below that picture. There is no right or wrong answer.

**Example:** If your **USUAL** vision is closest to the second picture mark ☒ as shown.

**1 MOOD**

**2 NUMBER OF MEDICATIONS**

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**PICTORIAL FIT-FRAIL SCALE**

For each category, mark **ONE** BOX that is the closest to your **USUAL** STATE.

**3 MOBILITY**

**4 FUNCTION**

**5 BALANCE**

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**PICTORIAL FIT-FRAIL SCALE**

For each category, mark **ONE** BOX that is the closest to your **USUAL** STATE.

**6 SOCIAL CONNECTIONS**

**7 DAYTIME TIREDNESS**

**8 MEMORY AND THINKING**

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**PICTORIAL FIT-FRAIL SCALE**

For each category, mark **ONE** BOX that is the closest to your **USUAL** STATE.

**9 VISION (WITH GLASSES IF NEEDED)**

**10 HEARING (WITH HEARING AID IF NEEDED)**

**11 PAIN**

**12 UNINTENTIONAL WEIGHT-LOSS**

**13 AGGRESSION**

**14 BLADDER CONTROL**

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FIGURE A1. Pictorial Fit-Frail Scale—final prototype.

Note: Permission to use the copyrighted Pictorial Fit-Frail Scale can be obtained by visiting the website: [www.geriatricmedicineresearch.ca](http://www.geriatricmedicineresearch.ca)

[www.geriatricmedicineresearch.ca](http://www.geriatricmedicineresearch.ca)

Theou et al 2019 Canadian Geriatrics Journal (open access)



# Fit for Frailty

- All older adults should be assessed for frailty (earlier is better)
- Older adults with frailty do better at home – with the right support

British Geriatrics Society, 2014

# What can we do about Frailty: Is there a role for Community Paramedicine?

**Community  
Paramedicine**



# Frailty Considerations

- Screening versus assessment
- Local context (integration)
- Culture, language, literacy (Pictorial Fit-Frail Scale)
- Time
- Patient, Clinician, Caregiver Perspective
- Care planning & Goal Setting

# Paramedic Frailty Management Strategies

- Frailty & acuity (social vulnerability) are important and should be considered
- Knowing about frailty – enables care planning (goals of care)/ setting expectations (short, medium, long term)
- Manage the episode of care but also plan for the future



# Keys to Success

- Address the current symptoms
- Evaluate frailty - “frailty emergencies”
- Identify goals of care – usually back to baseline (2 weeks before illness or injury)
- Follow-up with usual care provider (family physician, LTC staff)
  - Clear recommendations

# Community Paramedic @ Clinic

**Intervention:** Weekly paramedic clinic in subsidized housing with summary risk profile & individualized care plan developed

## CP @ Clinic

- Reduction in calls
- Improved BP, QALY
- **90% lived alone**
- **>80% poor health literacy**



Agarwal et al. 2019 BMC Public Health, 19:684

Agarwal et al. BMC Geriatrics 2017, 17:8

Brydges et al. BMC Health Services Research 2016, 16:435

Agarwal et al. CMAJ May 28 2018, 190, E638



# Acute Care at Home

## Advanced Illness Management (AIM) Program

- 1602 individuals enrolled in AIM program
- 773 (48.3%) had at least 1 emergency response accounting for 1755 events/ 1237 transports to ED
- Relapse rate: 2%
- Treat in place: 78%
- Improved integration with primary care

Abrashkin et al. 2016 J Am Geriatr Soc 64:2572





# Discharge to Assess

- Care Transition Intervention coaches
- Hospital at home programs (e.g. Complex Care Hub – Calgary)



<https://sinaiem.org/safe-discharge-for-undifferentiated-abdominal-pain/>

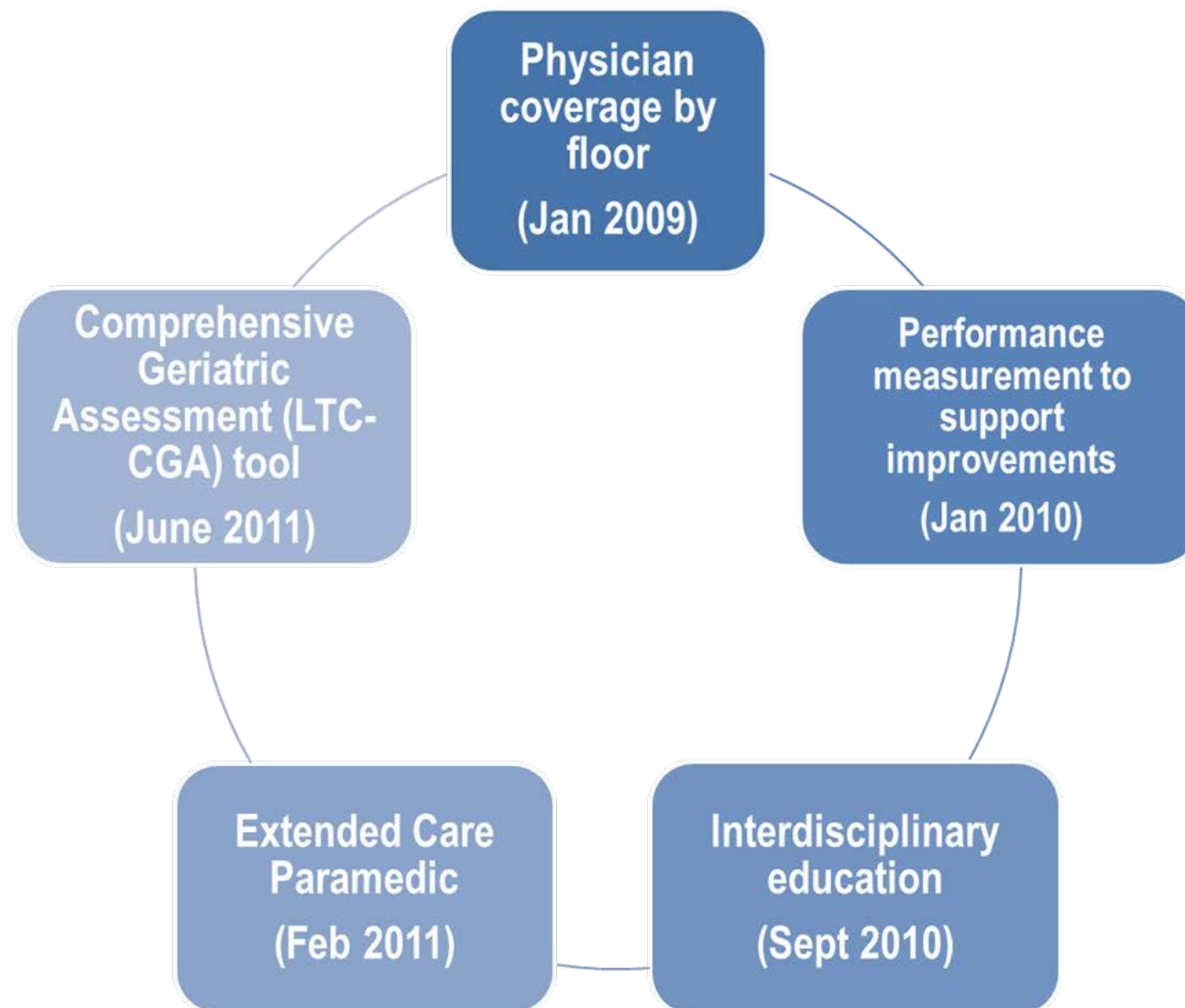


nshealth.ca

Lau et al. 2018 PEC Feb 12: 1-8



# Community Paramedic – Long Term Care



55% non-transport rate

- End-of-life care
- Integration



Care by Design – Long Term Care

Jensen et al. 2016 PEC 20(1): 111  
Jensen et al. 2013 CJEM 15(4):206  
Jensen et al. 2014 PEC 18(1): 86

# Summary

- Frailty describes differences in ageing
  - Common language
- Paramedic clinical assessments combined with in-home observations provide rich information (basis for frailty assessment)
- Community paramedic programs can be designed to address specific levels of frailty





# Emergency Health Services Nova Scotia

[Judah.goldstein@emci.ca](mailto:Judah.goldstein@emci.ca)