Restoring function in community dwelling older adults: Balancing risk, frailty and medical complexity

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Disclosure

• Faculty: Jo-Anne Clarke

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  • Other: None

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    • There is no conflict of interest
Conceptualizing Functional Decline

Functional Older Person → Acute Illness + Possible Impairment

The Hazards of Hospitalization
- Hostile Environment
- Depersonalization
- Bedrest / Immobility
- Malnutrition / Dehydration
- Cognitive Dysfunction
- Medicines / Polypharmacy
- Procedures

Depressed Mood, Delirium, and Negative Expectations → Physical Impairment and Deconditioning

Dysfunctional Older Person

*Palmer et al., 1998 (Modified)*

Courtesy Dr. S. Sinha, with permission
1) Steep Downward Slant Trajectory

- Health
- Wellness
- Function
- Illness
- Death

Diagnosis

Heart Attack / Car Accident
Few of us will die in this manner

Time
2) Gradual Slant Trajectory

Health
Wellness

Function

Illness
Death

MS / ALS

Time

Diagnosis

Death

Courtesy, Dr. J McElhaney
3) Peaks and Valleys Trajectory

- Health
- Wellness
- Function
- Illness
- Death
- Chronic Heart and Lung Failure

Diagnosis → Death

Time

Courtesy, Dr. J McElhaney
4) Gradual Descending Plateaus Trajectory

Health
Wellness
Function
Illness
Death

Time

Diagnosis
Frailty and Dementia
Dwindling Over Time
Death

Courtesy, Dr. J McElhaney
Chronic disease burden
Rapoport et al, 1999; National Population Health Survey, Chronic Dis Canda 2004

Older persons accumulate chronic illness as they age

<table>
<thead>
<tr>
<th>Age</th>
<th>Number of chronic conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>40-59</td>
<td>44%</td>
</tr>
<tr>
<td>60-79</td>
<td>20%</td>
</tr>
<tr>
<td>80+</td>
<td>12%</td>
</tr>
</tbody>
</table>

Heckman, With Permission
Disability
Gilmour & Park, Suppl Health Reports, Stats Can 2005

- 2003 Canadian Community Health Survey
  28617 adults > 65, 17205 are women

<table>
<thead>
<tr>
<th>Age</th>
<th>Basic ADL</th>
<th>Instrumental ADL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>65-74</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>75-84</td>
<td>8%</td>
<td>9%</td>
</tr>
<tr>
<td>85+</td>
<td>20%</td>
<td>23%</td>
</tr>
</tbody>
</table>

Heckman, With Permission
Frailty
Impairments in multiple systems that lead to a decline in homeostatic reserve and resiliency

Comorbidity
Two or more medical conditions

Disability
Difficulty or dependency in daily living (ADL/IADL)
Frailty

• A medical syndrome with multiple causes and contributors that is characterized by diminished strength, endurance, and reduced physiologic function that increases an individual’s vulnerability for developing increased dependency and/or death\(^1\)

• Is a result of deficit accumulation

• Is a predictor of poor outcomes
  • Functional decline
  • Falls
  • Health service utilization
  • Caregiver fatigue and stress
  • Death
  • Institutionalization

Frailty and Functional Decline are geriatric syndromes.
### HRS Study - Association btw disease, geriatric syndromes, and disability

<table>
<thead>
<tr>
<th>Condition</th>
<th>RR of disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of geriatric conditions</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2.1</td>
</tr>
<tr>
<td>2</td>
<td>3.6</td>
</tr>
<tr>
<td>3+</td>
<td>6.6</td>
</tr>
<tr>
<td>Stroke</td>
<td>3.0</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1.3</td>
</tr>
<tr>
<td>Heart disease</td>
<td>1.2</td>
</tr>
<tr>
<td>Cancer</td>
<td>1.0</td>
</tr>
</tbody>
</table>
Geriatric syndromes

- As prevalent as chronic disease
  - In the HRS, 50% of people > 65 had 1 or more geriatric conditions

- Commonly co-occur with chronic disease
  - more than 25% of older adults with chronic disease have at least one geriatric syndrome

- Strongly associated with functional decline and disability
  - More likely than stroke to cause disability

- Top 3 predictors of “why cannot go home” from hospital (mobility, incontinence, cognitive impairment)

- Incontinence
- Pressure ulcers
- Falls
- Frailty
- Delirium
- Cognitive impairment
Frailty: Is a “changeable” state

- Frailty is dynamic, characterized by frequent transitions between frailty states over time
- 57.6% had at least one transition
- Transitions to states of greater frailty (up to 43.3%) was more common than states of lesser frailty (23.0%).

ADL Disability also “dynamic”

- Transitions were common
- The frail, when compared to the non-frail
  - were less likely to stay independent
    - (20% vs 47%, p< 0.001)
  - Had higher absolute numbers of transitions
  - Had higher rates of transition to more disability
  - Had longer durations of disability
  - Severe disability episodes resulting in recovery tended to be very short (ie. less than 1 month)

Hardy et al Am J Epidemiol 2005;161:575-84
Mobility Disability also “dynamic”

- Mobility disability → highly dynamic
- Rates of transition over 5yrs
  - 74.3 /1000 person mo. walking
  - 51.7/1000 person mo. climbing
- Transitions to states of greater disability correlated with age, frailty, sex (women)
- Most had at least one episode (intermittent disability)
  - lasted on average six months,
  - highest transition rate (to no disability)

Gill et al. JAGS 2006; 54:248-254
Disability can occur insidiously

Physically frail
Not physically frail

Disabled patients recover

80% recover

But it can be short lasting...

<table>
<thead>
<tr>
<th>Type of Disability</th>
<th>Recovery ≥ 2 mo</th>
<th>Recovery ≥ 6 mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any</td>
<td>79%</td>
<td>57%</td>
</tr>
<tr>
<td>Persistent</td>
<td>64%</td>
<td>40%</td>
</tr>
<tr>
<td>Chronic</td>
<td>57%</td>
<td>33%</td>
</tr>
</tbody>
</table>

Even with chronic disability (> 3 months) > 60% recovered

Hardy et al JAMA 2004
Hospitalizations and illnesses leading to restricted activity are important sources of disability

Factors associated to development of disability

<table>
<thead>
<tr>
<th>Factor</th>
<th>Hazard Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPD</td>
<td>1.09</td>
</tr>
<tr>
<td>Depression</td>
<td>1.32</td>
</tr>
<tr>
<td>Cognitive impairment</td>
<td>1.23</td>
</tr>
<tr>
<td>CHF</td>
<td>1.66</td>
</tr>
<tr>
<td>Stroke</td>
<td>1.66</td>
</tr>
<tr>
<td>Frailty</td>
<td>2.09</td>
</tr>
<tr>
<td><strong>New Intervening event</strong></td>
<td></td>
</tr>
<tr>
<td>Hospitalization</td>
<td>59.8</td>
</tr>
<tr>
<td>Restricted activity</td>
<td><strong>5.11</strong></td>
</tr>
</tbody>
</table>

- Most common reason for disability post hospitalization was cardiac, but:
  - Injurious falls most POTENT, conferring the highest risk of disability
  - 79.4% of admissions for a fall-related injury led to any disability,
  - 45.2% to persistent disability,
  - 58.8% to disability with nursing home admission.

Gill T et al JAMA 2004, JAMA 2010
# Risk factors for functional decline community dwelling

(Stuck 1999 soc sci med.)

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Syndrome</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive impairment</td>
<td></td>
<td>Modify reversible factors</td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td>Asses and treat</td>
</tr>
<tr>
<td>High Disease burden</td>
<td></td>
<td>Co-manage</td>
</tr>
<tr>
<td>High and low BMI</td>
<td></td>
<td>Healthy diet, exercise</td>
</tr>
<tr>
<td>LE functional limitation</td>
<td></td>
<td>Exercise and physio</td>
</tr>
<tr>
<td>Low frequency of social contacts</td>
<td>FUNCTIONAL DECLINE</td>
<td>Social engagement</td>
</tr>
<tr>
<td>Low level of physical activity</td>
<td></td>
<td>Exercise and physio</td>
</tr>
<tr>
<td>Polypharmacy</td>
<td></td>
<td>Medication review</td>
</tr>
<tr>
<td>Poor self perceived health</td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>Smoking</td>
<td></td>
<td>Smoking cessation</td>
</tr>
<tr>
<td>Vision impairment</td>
<td></td>
<td>Assess and treat</td>
</tr>
</tbody>
</table>
Risk factors for functional decline community dwelling (Stuck 1999 soc sci med.)

- Multidimensional and highly variable
- Need interdisciplinary assessment
- Comprehensive geriatric assessment
- Identify risk factors for functional decline, and intervene to modify aspect threatening independence, and support where we can’t modify

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low level of physical activity</td>
<td>Exercise and physio</td>
</tr>
<tr>
<td>Polypharmacy</td>
<td>Medication review</td>
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<tr>
<td>Smoking</td>
<td>Smoking cessation</td>
</tr>
<tr>
<td>Vision impairment</td>
<td>Assess and treat</td>
</tr>
</tbody>
</table>
Interventions work to reduce functional decline in frail older adults

- Exercise – works in the frail\textsuperscript{1-2}, even in LTC 3, in the cognitively impaired\textsuperscript{4-5} and in those with geriatric syndromes\textsuperscript{6} to reduce functional decline and falls
- Home OT with exercise improves function and reduced mortality\textsuperscript{7}
- Medication Review improves function, reduces falls and mortality\textsuperscript{8-9}
- Comprehensive Geriatric Assessment
  - Leads to better prescribing, better function, improved cognition, less institutionalization, less hospitalization, lower mortality\textsuperscript{10-14}

1. Gill NEJM 2002;347:1068-74
7. Gitlin et al. JAGS 2009;57:476
10. Stuck, Lancet 1993
11. NZHTA Report 2004,
13. Beswick Lancet 2008,
**Comprehensive assessment**

An individualized approach to risk factor modification

- Medication Review
- Optimize Communication (vision, hearing)
- Dehydration/Orthostatic BP
- Mood
- Cognition
- Function
- Balance
- Gait Aids, Environmental modification
- Formal and informal supports

Interdisciplinary

With timely access and open communication with home care/community support services
A multidimensional, interdisciplinary process that determines a frail older person’s medical, psychological, functional and environmental capacity, and creates an overall plan for treatment and follow-up.²
Identify impairments / syndromes
Cognition / Delirium
  Mood
  Pain
Nutrition
Medication review
Mobility / Falls
Sleep
Incontinence
Caregiver Burden

Identify health conditions
Cardio / Resp disease
MSK conditions
Mood / cognitive disorders
Neurological conditions
Vision / Hearing
Bowel / Bladder
Metabolic disorders

Identify resources
Social supports
Financial
Environmental
Personality traits

Characterize disabilities and threats to independence

CGA
Data gathering
Clinical assessment

Evaluation of New Disability or Decline in Function

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### What is modifiable or requires support?

1. **Goal setting, priorities, prognostication**
   - Re-evaluate need for ongoing test/procedures/treatments
     - Medication changes
     - Surgical options
     - Nutritional strategies
     - Devices
     - Exercise / Rehabilitation
     - Counselling

2. **Improve health and capacity for self care**
3. **Reduce task demand**
   - Supports / Environment
     - Environmental modification
     - Devices
     - Human resources
   - Caregiver support

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Evaluation of New Disability or Decline in Function

A multidimensional, interdisciplinary process that determines a frail older person’s medical, psychological, functional and environmental capacity, and creates an overall plan for treatment and follow-up.²

Integrated care and chronic disease management

| Collaboration with primary care | Family & support education | Ongoing re-evaluation of treatment plan | Risk optimization | Advanced care planning |

Anticipatory guidance

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inpatient

- Ellis G et al. Comprehensive Geriatric Assessment for older adults admitted to hospital: meta analysis of randomized controlled trial. BMJ 2011;343
Ambulatory

- Challis et al. The value of specialist clinical assessment of older people prior to entry to care homes. Age Agein 2004; 33:25-34
Outpatient CGA Based Care
AGe-FIT Study

• Community dwelling pts ≥ 75 who had received inpatient care 3 x or more in the last year and ≥ 3 medical diagnosis
• Randomized CGA based care at ambulatory unit (n=208) vs usual care (n=174), followed for 24 months, municipal setting
• RN, geriatrician, manager, OT, PT, dietician, admin assistant, access to psychologist, dental, pharmacist.
• CGA was standardized, then an individually tailored program and follow up. Home visit, telephone calls, as needed.
• All reassessed at 1 yr by RN clinician, and subsequent follow up tailored.
• If hospitalized, team members visited, facilitated care and assisted with discharge

Number of hospitalizations did not differ between groups

Number of inpatients days during 24 month period was smaller in the intervention group (11.1 vs 15.2, p=0.035).

Cost of health care did not differ

- Intervention group had higher ambulatory costs, which were offset by reduced inpatient days

Trend towards fewer days in nursing home (29 vs 36 days) and lower nursing home admittance (12.5% vs 18.9%, NS p= 0.065)

Intervention group used 25% more hours of home help services (NS)

Sense of security of care was higher in the intervention group (p <0.001)
Participants in the intervention group lived an average of 30.9 days longer.

Kaplan Meier mortality curves from the time of study inclusion. Intention to treat. HR 1.51, 95% CI 0.99-2.31, p = 0.057*

*per protocol analysis (exl. 11 who never participated). Mortality was lower in the intervention group: HR 1.60 (1.04-2.49, p = 0.035)
Oupatient CGS Based Care - GeMS study

• Finnish persons aged 75–98 years were randomized to CGA with multifactorial intervention (n=404) or usual care (n=377).
• Community dwelling and assisted living facilities.
• The intervention included individualized referrals, recommendations, physical activity counselling and supervised resistance training, follow up = 2 years.
• Measurements: Perceived limitation in walking 400m was gathered annually during the intervention and at the one-year post-intervention follow-up.

<table>
<thead>
<tr>
<th>Aspect of intervention</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>By physician specializing in geriatric</td>
<td></td>
</tr>
<tr>
<td>Optimizing medication</td>
<td>277</td>
</tr>
<tr>
<td>Optimizing medical treatment</td>
<td>120</td>
</tr>
<tr>
<td>New diagnoses and referral to specialized care</td>
<td>109</td>
</tr>
<tr>
<td>By trained physiotherapist</td>
<td></td>
</tr>
<tr>
<td>Physical activity counselling</td>
<td>356</td>
</tr>
<tr>
<td>Supervised strength and balance training at gym</td>
<td>182</td>
</tr>
<tr>
<td>By trained nurse</td>
<td></td>
</tr>
<tr>
<td>Health counselling</td>
<td>120</td>
</tr>
<tr>
<td>Arranging services as a case manager</td>
<td>77</td>
</tr>
<tr>
<td>By nutritionist</td>
<td></td>
</tr>
<tr>
<td>Nutrition counselling</td>
<td>84</td>
</tr>
<tr>
<td>By dentist</td>
<td></td>
</tr>
<tr>
<td>Clinical examination of oral health</td>
<td>354</td>
</tr>
<tr>
<td>By ophthalmologist</td>
<td></td>
</tr>
<tr>
<td>Clinical and microscopic examination of eyes and referrals to operations</td>
<td>304</td>
</tr>
<tr>
<td>or specialized care if needed</td>
<td></td>
</tr>
</tbody>
</table>
Proportion of participants reporting mobility limitation in the IG and CG at baseline, during study, and at follow up.

77% without mobility limitation in IG maintained vs 69% CG (p<0.001)
Proportion who had or developed mobility limitation during the study were 13% in IG vs 25% in the CG (p < 0.001)
NNT to prevent or recover mobility limitation was 12.
Effect of the intervention on mobility was greater among persons with MSK pain, the frail or pre-frail.

![Graph showing mobility limitation odds ratio and 95% confidence intervals for whole sample, with pain, and without pain.](image)
Effect of the intervention on mobility was greater among persons with MSK pain, the frail or pre-frail.

Outpatient CGS Based Care
FiT study

• RCT with 241 frail community-dwelling older people in Sydney,

• Participants were classified as frail using the Cardiovascular Health Study definition, did not have severe cognitive impairment (MMSE as low as 18) and were recently discharged from an aged care and rehabilitation service.

• Intervention was complex—begins with a Comprehensive Geriatric evaluation followed by a 12 month multifactorial, interdisciplinary intervention targeting identified frailty components

• The intervention was individualized, both in relation to the problem’s cause and to the goals of participants and family members

2. Fairhall et al BMC Medicine 2012,10:120
Interventions

• Based on Targeting Frailty components
  • If weight loss -> dietician, home delivered meals
  • If BMI < 18.5kg/m2 -> nutritional supplementation
  • Exhaustion, high GDS -> psychiatrist or psychologist
  • Socially isolated -> options for social engagement, volunteer phone calls

• Up to 10 homebased, 45- to 60- minute physiotherapy sessions over 12 months. Front-end loaded, with five sessions in the first three months.
  • Weight Bearing for Better Balance, tailored to pts individual impairments, prescribed 3-4x/week, reviewed regularly
  • 2 physiotherapy sessions targeted the pts mobility goal
  • OT / community exercise as indicated

• Case management and care coordination by physiotherapist, and regular case conferences with PT, geriatrician, rehab physicians, RN, dietician to coordinate intervention

• Additional interventions based on CGA (pain, chronic disease, incontinence)

2. Fairhall et al BMC Medicine 2012,10:120
Outcomes

• Primary outcomes\(^1\): Frailty and mobility
  • Frailty – CHS criteria (3 or more of slow gait speed, weak grip strength, exhaustion, low energy expenditure, and weight loss)
  • Mobility – SPPB
    • Ability to stand feet side by side, tandem and semi-tandem
    • Time to walk 4 meters
    • Time to rise from chair and return to seated position 5 times

• Secondary Outcomes\(^1\): Hospitalizations, NH, disability, QOL

• Mobility related disability\(^2\)
  • Participation restriction
    • Goal attainments scaling to measure achievement of mobility related participation goals – set in the home or community
    • The Life Space Assessment to quantify mobility (distance, frequency and degree of independence)
  • Activity limitation
    • Walking speed using 4 m walk test
    • Self report measures

2. Fairhall et al BMC Medicine 2012,10:120
<table>
<thead>
<tr>
<th>Level of attainment</th>
<th>Goal of an 82 year old woman who met four frailty criteria</th>
<th>Goal of a 74 year old man who met three frailty criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much better than expected</td>
<td>Able to collect mail from mailbox independently and able to walk three blocks to the post office.</td>
<td>Able to travel to the shopping centre independently on public transport.</td>
</tr>
<tr>
<td>Somewhat better than expected</td>
<td>Able to collect mail from the mailbox independently, on fine days and on rainy days.</td>
<td>Able to travel to the shopping centre on public transport in the presence of one other person.*</td>
</tr>
<tr>
<td>Program goal (expected performance at end of intervention)</td>
<td>Able to collect mail from the mailbox independently, on fine days.*</td>
<td>Able to travel to the shopping centre on bus provided by aged care facility. No assistance required.</td>
</tr>
<tr>
<td>Somewhat less than expected (no change in baseline performance)</td>
<td>Able to collect mail from the mailbox with assistance, on fine days.†</td>
<td>Able to travel to the shopping centre on bus provided by aged care facility with physical assistance of one person.†</td>
</tr>
<tr>
<td>Much less than expected</td>
<td>Unable to collect mail from the mailbox.</td>
<td>Requires private transport and assistance to travel to shopping centre.</td>
</tr>
</tbody>
</table>

*12 month score  
†baseline score

Figure 1 Example of Goal Attainment Scale for two study participants.
What did the intervention look like

- Women 68%, age 83.3 years, mean frailty score 3.4
- Well matched at baseline, control group had slightly better Mobility score (SPPB) and lower extremity score
- Adherence was 0% for 16 (13%), Median adherence overall was 26 to 50%
- Average of 10 face to face sessions with a physio, incl. 8 sessions to teach the WEBB program
- Average of 4 telephone calls to each participant (and 4 to other parties)
- WEBB program was delivered to 93% of intervention group
- Dietician assessment and intervention 50%
- Medical specialist (geriatrician or rehabilitation physician) 24%
  Psychologist or psychiatrist 3%
CGA based - multidisciplinary intervention reduces frailty, improves mobility - FiT Trial

At 12 months:

• Frailty was lower in the intervention group:
  • Absolute difference: 14.7% (95% CI 2.4 to 2.07%) p = 0.02
  • NNT = 6.8
• Mobility remained stable in the intervention group, declined in control group
  • SPPB score increased in IG by 0.52 (SD 2.47) and declined in CG by 0.98 (SD 2.3)
  • Similar results for mobility as assessed by LE strength
• No differences in secondary outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Intervention</th>
<th>Control</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>12 (10%)</td>
<td>10 (8.26%)</td>
<td>0.64</td>
</tr>
<tr>
<td>Hospitalization</td>
<td>74</td>
<td>67</td>
<td>0.32</td>
</tr>
<tr>
<td>NH admission</td>
<td>16</td>
<td>21</td>
<td>0.27</td>
</tr>
</tbody>
</table>

Stronger adherence was significantly associated with improved outcomes
No change seen at 3 months

Cameron et al BMC Medicine 2013;11:65
CGA based - multidisciplinary intervention reduced Mobility related disability – FiT Trial

• Had better scores on the Goal Attainment Scale
  • OR 2.1; 95% CI 1.3 to 3.3, P = 0.004)

• Had Better scores on the Life Space Assessment (4.68 points, 95% CI 1.4 to 9.9, P = 0.005).

• Walked 0.05 m/s faster over 4 m (95% CI 0.0004 to 0.1, P = 0.048),

• Scored higher on the Activity Measure for Post Acute Care (P < 0.001).
Heterogeneity is the new normal

- This population is by definition complex, and heterogeneous
- One approach will not fit all older adults
- Cannot use a “simple tool”, “simple model”
- No guideline exists for the management of “complexity”
  - BGS Best Practice Guideline recommends CGA as the gold standard for managing frailty
- Approach with most likelihood of success tends to be multi-dimensional / multi-disciplinary/ multi-organizational in approach
- Mantra of geriatrics “it depends”
  - Dementia
  - -- is it a predictor of poor outcome for rehab?
  - Apathy

Predicting restorative potential is complicated

- Patterns of Functional Decline at the end of life is highly variable
  - Frail patients 8x more likely than elders who have sudden death to be ADL dependent at end of life; organ failure patients 3x more likely

- Determining expected trajectory is challenging
  - easier to predict if acute or subacute change

- Approach should be determined by the comprehensive clinical assessment
  - What components have led or are contributing to the functional decline, and what is reversible/modifiable.
  - Need to ask the question “why”

1. Lunney JAMA 2003;2387
2. Gill et al NEJM 2010;362:1173-80
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.

Where dementia is present, the degree of frailty usually corresponds to the degree of dementia:

- Mild dementia – includes forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

- 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.

- Severe dementia – they cannot do personal care without help.


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High Yield aspects of CGA

• Those targeting persons at highest risk
• Those providing a higher intensity intervention
• Those with longer follow up periods
• Individualized interventions (rather than standardized protocols)
• Multicomponent / Interdisciplinary intervention – Individualized Plan
• Integration with primary and palliative care, goals of care being at the forefront
System issues

- Frail, complex older adults have different needs
  - Multiple chronic diseases, daily symptoms, vulnerable to small stressors
  - Require difference services from different practitioners in home, hospital, outpatient, community, telemedicine

- Functional Disability is the most influential determinant of cost, utilization, complexity
  - Mobility related disability, in particular, is the result of multiple impairments

- Complex problems require complex responses\(^1\)
  - Episodic visits, short visits, do not allow for early identification and prevention of functional decline

- Multiple visits, assessments, result

- Require coordination of care, chronic disease management, and integration of functional status and prognosis in to care planning
  - Reduced acute care use, better patient outcomes, lower costs\(^2-3\)

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2. Eklund K. 2009.. Health and Social Care in the Community 17:447-458
An Effective Assess and Restore Strategy Will...

• Appreciate the complexity and heterogeneity of this population

• Understand that functional decline is a geriatric syndrome, which is a complicated clinical problem requiring specialty care

• Emphasize the need for timely and effective geriatric assessment that includes a multidisciplinary approach, specialized services, and intervention

• Minimize ‘red tape” and “multiple assessments” as barriers to timely and effective intervention

• Creates capacity in the system to support a “pre-hab”, “re-hab” and “post-hab” approach
The Mystery of the 90-Something Track Star, and What She Can Teach Us About Living Longer, Happier Lives

WHAT MAKES OLGA RUN?

BRUCE GRIERSON
Mieko Nagaoka, 100 yr woman first centenarian to complete 1500 m freestyle swim, 20 years after she took up the sport
Beautiful young people are accidents of nature, but beautiful old people are works of art.

- Eleanor Roosevelt (maybe)