

**Table S1. Characteristics of frailty instruments utilized in individual studies**

| Reference/ <i>Frailty instrument name</i>                 | Study name, setting, country                                    | Characteristics of population:<br>N, age (mean (SD); range),<br><br>% female   | Components   | Classification  | Comment |
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| <b>Subjective frailty instruments</b>                     |   |  |  |   |         |
| Strawbridge et al, 1998 [31]: <i>1994 Frailty Measure</i> | The Alameda County Study,<br><br>Prospective cohort,<br><br>USA | Community-dwelling population<br><br>N=574<br><br>74.0 years; 65+<br><br>57.0% | 4 domains:<br><br>Physical functioning: <ul style="list-style-type: none"> <li>• Sudden loss of balance</li> <li>• Weakness in arms</li> <li>• Weakness in legs</li> <li>• Dizziness when standing up quickly</li> </ul> Nutritive functioning: <ul style="list-style-type: none"> <li>• Loss of appetite</li> <li>• Unexplained weight loss</li> </ul> Cognitive functioning: <ul style="list-style-type: none"> <li>• Difficulty paying attention</li> <li>• Trouble finding the right word</li> <li>• Difficulty remembering things</li> <li>• Forgetting where put something</li> </ul> Sensory problems: <ul style="list-style-type: none"> <li>• Difficulty reading a newspaper</li> <li>• Difficulty in recognizing a friend across the street</li> <li>• Difficulty reading signs at night</li> <li>• Hearing over the phone</li> <li>• Hearing a normal conversation</li> <li>• Hearing a conversation in a noisy room</li> </ul> | Score for the 6 sensory items:<br><br>1: have no difficulty<br><br>2: have a little difficulty<br><br>3: have some difficulty<br><br>4: have a great deal of difficulty.<br><br>Scores on the other 10 items:<br><br>1: rarely or never had the problem in the last 12 months<br><br>2: sometimes had the problem<br><br>3: often had the problem<br><br>4: very often had the problem<br><br>Participant was |         |

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|  |  |  |  | considered to have a problem or difficulty for one domain when he/she had a score $\geq 3$ at least 1 of the items.<br><br>Frail if $\geq 2$ domains were considered to have a problem or difficulty. |  |
| Dayhoff et al, 1998 [30]   | Subsample of a larger study examining effects of two exercise interventions,<br><br>Cross-sectional analysis,<br><br>USA | Community-dwelling participants<br><br>N=84<br><br>Non-frail: 73.2 years (6.0)<br><br>Frail: 73.5 years (7.9)<br><br>Age range : 60 to 88 years<br><br>85.7% | <ul style="list-style-type: none"> <li>• Performance of ADLs/IADLs using the World Health Organisation Assessment of Functional Capacity (14 items, each scored from 1 to 5 (5=unable to perform))</li> <li>• Self-report of perceived health.</li> </ul>  | Score range:<br><br>14 (self-sufficiency) to 70 (total dependency)<br><br>Non-frail if score $\leq 20$ & excellent/good health.<br><br>Frail if score $\geq 21$ & fair/poor health                    | Frailty defined as disability.   |
| Rockwood et al, 1999 [32]:<br><br><i>CSHA rules based definition</i>                               | The Canadian Study of Health and Aging (CSHA),<br><br>Prospective cohort,<br><br>Canada                                  | Random sample of community residents<br><br>N=not reported<br><br>65+<br><br>%=not available   | <ul style="list-style-type: none"> <li>• 0: Those who walk without help, perform basic ADL, are continent of bowel and bladder, and are not cognitively impaired</li> <li>• 1: Bladder incontinence only</li> <li>• 2: One (two if incontinent) or more of needing assistance with mobility or ADL, has cognitive impairment with no dementia, or has bowel or bladder incontinence</li> <li>• 3: Two (or three if incontinent) or more of totally dependent for transfers or one or more ADL, incontinent of bowel and bladder, and diagnosis of dementia.</li> </ul> | --  | Frailty defined as disability or comorbidity.  |
| Steverink et al, 2001 [33]:<br><br><i>Groningen frailty indicator (GFI)</i><br><br>(manual search) | Cross-sectional study,<br><br>Netherlands  | Hospital inpatients, nursing home residents and community-dwelling elderly<br><br>N=275<br><br>78.0 years (7.0), range=64-                                   | 15 items scored 0 or 1:<br><br><ul style="list-style-type: none"> <li>• Mobility (4 items)</li> <li>• Comorbidity</li> <li>• Malnutrition</li> <li>• Cognition</li> <li>• Vision</li> </ul>  | Frail if score $\geq 5$ out of 15.  | Frailty defined as disability or comorbidity.<br><br>Need further explanation in the GFI |

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|   |   | 99<br>72.9%  | <ul style="list-style-type: none"> <li>Hearing</li> <li>Physical energy</li> <li>Loneliness (3 items)</li> <li>Depressed mood</li> <li>Anxiety feelings</li> </ul>   |   | construction.   |
| Mitnitski et al, 2002 [34]:<br><i>Frailty index (FI)</i>  | The Canadian Study of Health and Aging (CSHA),<br><br>Prospective cohort,<br><br>Canada | Random sample of community residents<br><br>N=2914<br><br>82.0 years (7.4); 65+<br><br>64.4%         | 20 "deficits" (symptoms, signs, impairments and disabilities)  | Impairment index: 0 to 1                                | No clear cut-off between frail vs non-frail.<br><br>No standardised number and type of deficits.<br><br>Frailty defined as disability or comorbidity. |
| Gerdhem et al, 2003 [35]:<br><i>Subjective Frailty Score</i>  | Cross-sectional analysis<br><br>Sweden  | Participants randomly selected from the city files of Malmo<br><br>N=993<br><br>75 years<br><br>100% | To make a general assessment of health and appearance within 15 sec from first sight, and transfer this into an arbitrary scale.   | Score ranging from 1 (low frailty) to 100 (very frail). | No clear cut-off between frail vs non-frail.  |
| Rockwood et al, 2005 [37]:<br><i>Canadian Study of Health and Aging Clinical Frailty Scale (CSHA-CFS)</i> | The Canadian Study of Health and Aging (CSHA),<br><br>Prospective cohort,<br><br>Canada | Random sample of community residents<br><br>N=2305   | 7-point:<br><br>1: Very fit<br><br>2: Well<br><br>3: Well, with treated comorbid disease<br><br>4: Apparently vulnerable<br><br>5: Mildly frail<br><br>6: Moderately frail<br><br>7: Severely frail (complete functional dependence on others) | Moderately frail: 6<br><br>Severely frail: 7            | Frailty defined as disability or comorbidity.<br><br>Needs a clinical interview.  |
| Cacciatore et al, 2005 [36]:  | Osservatorio Geriatrico Regione Campania,   | Random sample of subjects with/without chronic heart failure, community-dwelling                     | 7 core domains of functioning scored 0 (function is preserved) or 1 (function is lost):<br><br><ul style="list-style-type: none"> <li>BADL disability</li> </ul>   | Class 1: 0 or 1<br><br>Class 2: 2 or 3                  | Frailty defined as disability.  |

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| <p><i>Frailty Staging System</i></p> <p>Based from Lachs et al, 1990, USA [57]</p>  | <p>Prospective cohort,<br/>Italy</p>     | <p>or institutionalised elderly</p> <p>N=1332</p> <p>75.9 years (6.7)</p> <p>60%</p>  | <ul style="list-style-type: none"> <li>• Mobility (ability to do heavy housework, to walk up and down stairs to the second floor and to walk half a mile)</li> <li>• Cognitive function</li> <li>• Visual function</li> <li>• Hearing function</li> <li>• Urinary continence</li> <li>• Social support</li> </ul>  | <p>Class 3: <math>\geq 4</math></p>  |  |
| <p>Amici et al, 2008 [38]:<br/><i>Marigliano-Cacciafesta Polypathological Scale (MCPS)</i></p>  | <p>Cross-sectional design,<br/>Italy</p> | <p>N=180</p> <p>79.5 years; 70+</p> <p>63.9%</p>  | <ul style="list-style-type: none"> <li>• Neurological disorders (5 items)</li> <li>• Cardiopathy (4 items)</li> <li>• Respiratory disorders (5 items)</li> <li>• Renal disorders (4 items)</li> <li>• Locomotive apparatus disorders (5 items)</li> <li>• Sensory deprivation (5 items)</li> <li>• Metabolism and nutritional state (5 items)</li> <li>• Cognitive state and mood (5 items)</li> <li>• Peripheral vascular system ( 5 items)</li> <li>• Malignant cancerous disorders (5 items)</li> <li>• Gastroenteric disorders (5 items)</li> </ul>  | <p>Score range: 0 to 245.</p> <p>Polypathology:</p> <p>Slight: &lt;15</p> <p>Medium: 15-24</p> <p>Medium-severe: 25-49</p> <p>Severe: 50-74</p> <p>Very severe: 75+</p>  | <p>Missing information about population characteristics</p> <p>Rationale for weighting scores not explained.</p> <p>Frailty defined as comorbidity.</p> <p>Dose-response effect not shown.</p> |
| <p>Kanauchi et al, 2008 [39]:</p> <p>Based on Morris et al, 1984, USA [146]:</p> <p><i>Hebrew Rehabilitation Center for Aged (HRCA) Vulnerability Index</i> and Saliba et al, 2001, USA [58]: <i>Vulnerable Elders Survey-13 (VES-13)</i></p> | <p>Cross-sectional study,<br/>Japan</p>  | <p>Hospital inpatients with cardiometabolic risk factors</p> <p>N=101</p> <p>72.9 years (5.1); range 65-85</p> <p>43.6%</p> | <p><i>HRCA Vulnerability Index</i> (2 components):</p> <p>A component includes self-reported requirements for help in:</p> <ul style="list-style-type: none"> <li>• Preparing meals (score 0 or 1)</li> <li>• Taking out the garbage (score 0 or 1)</li> <li>• Doing ordinary work around the house (score 0 or 1)</li> <li>• Walking up and down stairs (score 0 or 1)</li> <li>• Needing to use a cane (score 0 or 1)</li> <li>• Needing to use a walker (score 0 or 1)</li> <li>• Identifying the current year (score 0 or 1)</li> </ul> <p>B component includes self-reported answers for:</p> <ul style="list-style-type: none"> <li>• Leaving their residence (score 0 or 1)</li> <li>• Needing help in dressing (score 0</li> </ul> | <p><i>HRCA Vulnerability Index</i>:::</p> <p>Vulnerable if A component score&gt;1 or A component score=1 and B component&gt;0</p> <p><i>VES-13</i> :</p> <p>Score range: 0 to 10</p> <p>Frail if score <math>\geq 3</math></p> <p>Participants were frail if they were considered as vulnerable according to the <i>HRCA Vulnerability Index</i> or frail according to the</p> | <p>Frailty defined as disability.</p>  |

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|  |  |   | <ul style="list-style-type: none"> <li>• or 1)</li> <li>• Having health impediments (score 0 or 1)</li> </ul> <p>VES-13 (13 items):</p> <ul style="list-style-type: none"> <li>• Age (score 0 to 3; 3 if ≥85)</li> <li>• Self-reported health (score 0 or 1)</li> <li>• Difficulties in physical activities (6 items) (score 0 to 2)</li> <li>• ADLs/IADLs (5 items) (score 0 or 4)</li> </ul>   | VES-13  |  |
| Gobbens et al, 2010 [40]:<br><i>Tilburg Frailty Indicator (TFI)</i>  | Cross-sectional design,<br><br>Netherlands | 2 random samples of community-dwelling participants<br><br>Sample 1: n=245, 80.3 years (3.9), 54.7%<br><br>Sample 2: n=234, 80.2 years (3.7), 59.0% | 15 items scored 0 or 1:<br><br>8 physical domains:<br><ul style="list-style-type: none"><li>• Feeling physically healthy</li><li>• Unexpected weight loss</li><li>• Difficulty in walking</li><li>• Difficulty in maintaining balance</li><li>• Hearing problems</li><li>• Vision problems</li><li>• Lack of strength in hands</li><li>• Physical tiredness</li></ul> 4 psychological domains:<br><ul style="list-style-type: none"><li>• Cognition</li><li>• Depressive symptoms</li><li>• Anxiety</li><li>• Coping</li></ul> 3 social domains:<br><ul style="list-style-type: none"><li>• Living alone</li><li>• Social relations</li><li>• Social support</li></ul> | Score range: 0 to 15 (15=highest score for frailty)   | No clear cut-off between frail vs non-frail. |
| <b>Objective frailty instruments</b>   |  |   |  |   |  |
| Brown et al, 2000 [41]:<br><i>Modified Physical Performance Test (PPT)</i><br><br>Based on Reuben & Siu, 1990, USA [59]: <i>PPT</i> and Guralnik et al, 1995, USA [61] | Cross-sectional analysis,<br><br>USA       | Community-dwelling elderly<br><br>N=107<br><br>83 years (4); 77+<br><br>%=not available   | 9 items scored 0 to 4:<br><ul style="list-style-type: none"><li>• Lift a 7-pound book to a shelf</li><li>• Put on and remove a jacket</li><li>• Pick up penny from floor</li><li>• Performance of a 360 degrees turn</li><li>• 50-foot walk test</li><li>• Climb one flight of stairs</li><li>• Climb up and down 4 flights of stairs</li></ul>  | Score range: 0-36<br><br>Not frail: 32-36<br><br>Mild frailty: 25-32<br><br>Moderate frailty: 17-24<br><br>Dependent: <17 |  |

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|   |   |  | <ul style="list-style-type: none"> <li>Stand up 5 times from a 16-inch chair</li> <li>Progressive Romberg test</li> </ul>  |   |  |
| Gill et al, 2002 [42]<br><br>Based on Gill et al, 1995, USA [60]  | Primary care practices,<br><br>Randomized controlled trial,<br><br>USA            | Community-dwelling elderly<br><br>N=188<br><br>Intervention group:<br><br>n=94, 82.8 years (5.0); 75+, 80%<br><br>Control group:<br><br>n=94, 83.5 years (5.2); 75+, 70%                             | <ul style="list-style-type: none"> <li>Rapid gait (walking back and forth over a 10-foot (3-m) course as quickly as possible)</li> <li>Single chair stand</li> </ul>   | Moderately frail if rapid gait > 10 s or could not stand from the chair.<br><br>Severely frail if meet both criteria. |  |
| Klein et al, 2003 [43]:<br><br><i>Frailty index</i>   | Beaver Dam Eye Study,<br><br>Prospective cohort,<br><br>USA                       | Sample from a private census of the population of Beaver Dam<br><br>43+ years  | <ul style="list-style-type: none"> <li>Timed 10-ft walk (score=1 if in the highest quartile, stratified by sex)</li> <li>Handgrip strength (score=1 if in the lowest quartile, stratified by sex)</li> <li>Peak expiratory flow rate (score=1 if in the lowest quartile, stratified by sex)</li> <li>Ability to stand from a sitting position without using arms in one try (score=1 if unable)</li> </ul> | Score range: 0 (better) to 4 (worse)  |  |
| Bandinelli, 2006 [44]:<br><br><i>Short Physical Performance Battery (SPPB)</i><br><br>Based on Guralnik et al, 1995, USA [61] | The FRAilty Screening and Intervention trial,<br><br>Italy                        | Community-dwelling elderly visiting their primary care physicians<br><br>N=251<br><br>Treatment group:<br><br>n=126, 76.4 years (3.6), 66%<br><br>Control group:<br><br>n=125, 76.4 years (3.4), 60% | 3 items scored 0 (unable to perform complete the test) to 4 (highest level of performance): <ul style="list-style-type: none"> <li>Walking speed over 4 metres</li> <li>5 timed repeated chair rises</li> <li>Standing balance</li> </ul>  | Score range: 0 to 12<br><br>Frail if ≤ 9  |  |
| Opasich et al, 2010 [45]  | Hospital based, study of effect of personalized versus usual physiotherapy, Italy | Patients after receiving a cardiac surgery procedure<br><br>N=224  | <ul style="list-style-type: none"> <li>Balance Performance Oriented Mobility Assessment (BPOMA): assessment of static and dynamic balance</li> <li>Get-Up-and-Go (GUG) test</li> </ul>   | Non-frail:<br><br>BPOMA > 19 and GUG ≤ 10s<br><br>Moderately frail:   |  |

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|   |   | <p>Intervention group:</p> <p>n=150, 74.6 years (3.6); 70+, 40%</p> <p>Control group:</p> <p>n=74, 75 years (3.9); 70+, 45%</p> |  | <p>BPOMA≤19 or GUG &gt;10s</p> <p>Severely frail: BPOMA≤19 and GUG &gt;10s</p>   |   |
| <b>Mixed (subjective and objective) frailty instruments</b> |   |   |  |  |   |
| Speechley & Tinetti, 1991 [46]                              | <p>Subsample of the Yale Health and Aging Project (YHAP) of the Established Populations for Epidemiologic Study of the Elderly (EPESE) program</p> <p>Prospective cohort, USA</p> | <p>Community dwelling elderly</p> <p>N=336</p> <p>75+ years</p>   | <p>Frail attributes (each item scored 0 or 1):</p> <ul style="list-style-type: none"> <li>• Age ≥80 years</li> <li>• Gait/balance abnormalities</li> <li>• Infrequent walking for exercise</li> <li>• Depressed</li> <li>• Taking sedatives</li> <li>• Decreased strength in shoulder</li> <li>• Decreased strength in knee</li> <li>• Lower extremity disability</li> <li>• Near vision loss</li> </ul> <p>Vigorous attributes (each item scored 0 or 1):</p> <ul style="list-style-type: none"> <li>• Age &lt;80 years</li> <li>• Cognitively intact</li> <li>• Frequent physical exercise other than walking</li> <li>• Good near vision</li> </ul> | <p>Score:</p> <p>0-9 frail attributes</p> <p>0-4 vigorous attributes</p> <p>Frail: ≤1 vigorous and ≥4 frail attributes.</p> <p>Vigorous: ≥3 vigorous and ≤2 frail attributes.</p> <p>Transitional: neither frail nor vigorous.</p> |   |
| Fried et al, 2001 [47]:<br><i>Phenotype of Frailty</i>      | <p>Cardiovascular Health Study (CHS),</p> <p>Prospective cohort, USA</p>  | <p>Community dwelling elderly from 4 US communities</p> <p>N=5317</p> <p>65+ years</p> <p>57.9%</p>                             | <p>5 items, each scored 0 or 1:</p> <ul style="list-style-type: none"> <li>• Unintentional weight loss</li> <li>• Self-reported exhaustion</li> <li>• Weakness (grip strength) (1 if in the lowest quintile)</li> <li>• Slow walking speed (1 if in the highest quintile)</li> <li>• Low physical activity (1 if in the lowest quintile)</li> </ul>  | <p>Score range: 0 to 5</p> <p>0: frail</p> <p>1-2: pre-frail</p> <p>≥3: frail</p>  |   |
| Binder et al, 2002 [48]:<br><i>Physical frailty</i>         | <p>Randomized controlled trial, USA</p>   | <p>Community-dwelling elderly</p> <p>N=444</p> <p>83 years (4); 78+</p>   | <ul style="list-style-type: none"> <li>• Modified Physical Performance Test score (see Brown et al, 2000) of 18-32</li> <li>• Peak oxygen consumption: 11-18 ml/kg</li> <li>• Self-reported difficulty or need for</li> </ul>  | <p>Mild to moderate frailty if ≥2</p>  | <p>Instrument contained disability component.</p> <p>Instrument used exclusively to select mild to moderate frailty</p> |

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|  |  | 65.8%   | assistance in 2 instrumental ADL or 1 basic ADL  |   | elderly in randomized controlled trials.  |
| Studenski et al, 2004 [49]:<br><br><i>Clinical Global Impression of Change in Physical Frailty (CGIC-PF)</i> | Qualitative and quantitative instrument development,<br><br>USA                          | N=not available<br><br>80.7 years (6.4)<br><br>80%  | <ul style="list-style-type: none"> <li>• Appearance (3 indicators)</li> <li>• Healthcare utilisation (3 indicators);</li> <li>• Medical complexity (3 indicators)</li> <li>• Strength (3 objective measures)</li> <li>• Balance (3 self-reported+objective measures)</li> <li>• Nutrition (3 objective measures)</li> <li>• Stamina (2 indicators)</li> <li>• Neuromotor (3 objective measures)</li> <li>• Mobility (4 objective measures)</li> <li>• Perceived health (1 indicator)</li> <li>• ADL (4 indicators)</li> <li>• Emotional status (2 indicators)</li> <li>• Social status (4 indicators)</li> </ul> | Change evaluated after 6 months of follow-up, scored from 1 (worse) to 7 (better).      | Needs a clinical interview.<br><br>No clear cut-off between frail vs non-frail.<br><br>Frailty defined as disability / comorbidity. |
| Puts et al, 2005 [51]:<br><br><i>Static/Dynamic frailty index</i>  | Longitudinal Aging Study Amsterdam (LASA),<br><br>Prospective cohort,<br><br>Netherlands | Random sample drawn from registers<br><br>N=1152<br><br>Range: 55-85 years<br><br>52.3 to 60.0%   | <ul style="list-style-type: none"> <li>• Body mass index</li> <li>• Peak expiratory flow</li> <li>• Cognition</li> <li>• Vision and hearing problems (self-reported)</li> <li>• Incontinence (self-reported)</li> <li>• Sense of mastery (Pearlin &amp; Schooler Mastery scale)</li> <li>• Depressive symptoms (CES-D)</li> <li>• Physical activity</li> </ul>   | Static frail if $\geq 3$ components.<br><br>Dynamic frail if decline or loss $\geq 3$ . | Inclusion of one item of disability.<br><br>Inspired from Fried et al's instrument.   |
| Carriere et al, 2005 [50]:<br><br><i>Score-Risk Correspondence for dependency</i>                            | Epidemiologie de l'Osteoporose (EPIDOS) study,<br><br>Prospective cohort,<br><br>France  | Random sample drawn from vote-registration or health-insurance membership rolls<br><br>N=545<br><br>Median age (interquartile range): 79 years (76-81); 75+<br><br>100% | <ul style="list-style-type: none"> <li>• Time (years) since baseline evaluation</li> <li>• Age (<math>\geq 74</math> years) X Time since baseline evaluation</li> <li>• Mobility</li> <li>• Gait speed <math>&lt; 0.78</math> m/s</li> <li>• Time (s) to complete 5 chair stands</li> <li>• Perceived health</li> <li>• Fear of falling</li> <li>• Time (s) to stand in tandem position</li> <li>• Body mass index</li> <li>• Grip strength</li> <li>• Physical activity</li> <li>• Education</li> </ul>   | Score: 25-169<br><br>Risk: 0.02-0.99  | No clear cut-off between frail vs non-frail.  |
| Rolfson et al, 2006 [52]:<br><br><i>Edmonton Frail Scale (EFS)</i>   | Hospital based,<br><br>Cross-sectional analysis,   | Sample of patients referred for a comprehensive geriatric assessment (CGA)  | <ul style="list-style-type: none"> <li>• Cognition (drawing a clock) (score 0 to 2)</li> <li>• General health status (2 questions each scored 0 to 2)</li> <li>• Functional independence (score 0</li> </ul>   | Score 0-17 (17=highest level of frailty)  | No clear cut-off between frail vs non-frail.<br><br>Frailty defined as  |



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| (manual research)  | Canada  | N=158<br>80.4 years (6.8); 65+<br>53%  | to 2)<br><ul style="list-style-type: none"> <li>• Social support (score 0 to 2)</li> <li>• Medication use (2 questions each scored 0 to 1)</li> <li>• Nutrition (score 0 to 1)</li> <li>• Mood (score 0 to 1)</li> <li>• Continence (score 0 to 1)</li> <li>• Functional performance (score 0 to 2)</li> </ul>   |   | disability.   |
| Ensrud et al, 2008 [53]:<br><i>Study of Osteoporotic Fractures (SOF) index</i> | Study of Osteoporotic Fractures,<br>Prospective cohort,<br>USA  | Community-dwelling elderly from population-based listings in 4 areas of USA<br>N=6701<br>76.7 years (4.8); 69+<br>100% | 3 items each scored 0 to 1:<br><ul style="list-style-type: none"> <li>• Unintentional weight loss (<math>\geq 5\%</math> in 2 years)</li> <li>• Inability to rise from a chair 5 times without using arms</li> <li>• Reduced energy level (Geriatric Depression Scale)</li> </ul>  | Robust: 0<br>Pre-frail: 1<br>Frail: $\geq 2$  | Inspired from Fried et al's instrument.   |
| Hyde et al, 2010 [55]:<br><i>FRAIL scale</i>                                   | Health in Men Study,<br>Prospective cohort,<br>Australia  | Random sample of community-dwelling elderly from the electoral roll<br>N=3616<br>76.9 years (3.6); 71+<br>0%           | 5 items each scored 0 to 1:<br><ul style="list-style-type: none"> <li>• Fatigue (SF-36)</li> <li>• Resistance - ability to climb a single flight of stairs (SF-36)</li> <li>• Ambulation - ability to walk one block (SF-36)</li> <li>• Illnesses - more than 5 (list of 14 diseases)</li> <li>• Loss of weight - more than 5% (between 4 to 5 years)</li> </ul> | Frail if $\geq 3$   | Frailty defined as comorbidity.<br><br>Inspired from Fried et al's and Mitnitski's instruments. |
| Freiheit et al, 2010 [54]:<br><i>Brief Frailty Index</i>                       | Substudy of the Calgary Cardiac and Cognition (3C) Study<br>Prospective cohort study, hospital-based,<br>Canada | Patients with coronary artery disease<br>337<br>70.8 years (5.9); 60+<br>27%   | 5 items each scored 0 to 1:<br><ul style="list-style-type: none"> <li>• Balance assessment</li> <li>• Body mass index</li> <li>• Trail-Making Test Part B</li> <li>• Geriatric Depression Scale</li> <li>• Living alone</li> </ul>   | Index score range: 0-5 (high score=high risk)<br><br>4 categories:<br>0; 1; 2; $\geq 3$ |   |
| Sundermann et al, 2011 [56]: <i>Comprehensive Assessment of Frailty (CAF)</i>  | Hospital-based,<br>Prospective study,<br>USA  | Patients undergoing cardiac surgery<br>N=400<br>80.1 years (4.0); 74+  | Modified Fried et al's phenotype of frailty criteria, each scored 0 or 1:<br><ul style="list-style-type: none"> <li>• BMI score</li> <li>• Exhaustion score</li> <li>• Physical activity score</li> <li>• Slowness score (walking 4 mm in</li> </ul>   | Score range: 1-35<br><br>Not frail: 1-10<br><br>Moderately frail: 11-25                 | Based on Fried et al's and Rockwood et al's instruments.  |

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|  |  | 51.5% | <p>usual gait speed)</p> <ul style="list-style-type: none"> <li>Weakness score (grip strength)</li> </ul> <p>Physical performance tests, each scored 0 to 4:</p> <ul style="list-style-type: none"> <li>Standing static Balance</li> <li>Chair rise</li> <li>Put on and remove a jacket</li> <li>Pick up a pen from floor</li> <li>Turn 360 degrees</li> </ul> <p>Laboratory tests, each scored 0 to 1:</p> <ul style="list-style-type: none"> <li>Serum albumin score</li> <li>Forced expiratory volume in 1 second</li> <li>Creatinine score</li> </ul> <p>Rockwood et al's CSHA-CFS scored 1 to 7</p> | Severely frail: 25+ |  |
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"Manual search" characterizes an article not referenced by Medline but found in the reference section of selected articles.

