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| **Supplementary Table S1.** Level 1 and 2 Screening Results |
| **Level 1 Screening Results** | **N = 1948****n (%)** |
| **Exercise Screen:** Self-reported Activity Level |  |
|  Daily | 285 (15) |
|  Occasional | 702 (7) |
|  Regular | 915 (48) |
| **Heart Failure Screen:** History of Heart Failure |
| Yes | 125 (6) |
| No | 1823 (94) |
| **Chronic Obstructive Pulmonary Disease Screen** |  |
|  **History of smokinga** |  |
| Yes | 632 (56) |
| No | 493 (44) |
|  **Regular cough** |  |
|  Yes | 115 (6) |
|  No | 1823 (94 |
|  **Regular phlegm** |  |
|  Yes | 113 (6) |
|  No | 1825 (94) |
|  **Short of breath from simple chores** |  |
|  Yes | 84 (4) |
|  No | 1854 (96) |
|  **Wheezing upon exertion or at night**  |  |
|  Yes | 63 (3) |
|  No | 1875 (97) |
|   **Colds persist longer than most people** |  |
|  Yes | 24 (1) |
|  No | 1854 (99) |
| **Fall Screeningb** |  |
|  **Self-reported: More than 2 falls in 6 months** |  |
| Yes | 65 (5) |
| No | 1134 (95) |
|  **Self-reported falls requiring medical attention** |  |
| Yes | 51 (4) |
| No | 1311 (96) |
| **Level 2 Characteristics** | **N = 195** |
| Age, yr (median Q1,Q3) | 83 |
| Gender, female, n (%) | 111 (58) |
| **Nutrition** |  |
| **Self-reported weight Loss ≥5lbs** |  |
|  Yes | 3 (4) |
|  No | 68 (96) |
| **Fracture Riskc** |  |
|  **Prescribed osteoporosis medications** |  |
|  Yes | 38 (20) |
|  No | 157 (81) |
|  **Completed BMD in previous 3 years** |  |
|  Yes | 34 (21) |
|  No | 131 (79) |
|  **Vitamin D Supplementation ≥ 800IU** |  |
|  Yes | 157 (81) |
|  No | 38 (20) |
|  **Self-reported fracture(s) in previous year** |  |
|  Yes | 10 (6) |
|  No | 158 (94) |
| **Urinary Incontinenced** |  |
| **Self-reported urinary incontinence** |  |
| Yes | 70 (36) |
| No | 123 (64) |
| **Depression** |  |
| **PHQ-2 scores ≥ 3e**  |  |
| Yes | 37 (19) |
| No | 154 (81) |
| **PHQ-9 scores ≥ 10f**  (if applicable) |  |
| Yes | 14 (21) |
| No | 53 (79) |
| **Anxiety** |  |
| **GAD2 scores ≥ 3g** |  |
| Yes | 30 (17) |
| No | 145 (83) |
| **GAD7 scores ≥ 10g** (if applicable) |  |
| Yes | 10 (9.3) |
| No | 98 (91) |
| **Social Isolation** |  |
| **LSNS-6 scores ≤ 12h** |  |
| Yes | 35 (19) |
| No | 152 (81) |
| **Caregiver Burden**  (if applicable) |  |
| **Zarit4 scores ≥ 8i** | 16 (11) |
| Yes | 136 (90) |
| No |  |
| **Zarit22 scores ≥40i**  (if applicable) |  |
| Yes | 9 (17) |
| No | 45 (83) |
| **Mini-Cogj Positive** (N = 133) |  |
| Yes | 34 (26) |
| No | 99 (74) |
| **Risk of Poor Outcomes** |  |
|  **AUA scores ≥ 5k** |  |
|  Yes | 17 (15) |
|  No | 97 (85) |

Q1 = 1st quartile; Q3 = 3rd quartile

Note: Percentages are based on the total number of completed screens for each screening tool/ question.

aIf yes, the remaining screening questions are asked2

bBased on clinical practice guidelines for fall prevention in older adults.3

cBased on clinical practice guidelines for fracture prevention.4

dBased on clinical practice guidelines for urinary incontinence.5;6

ePatient Health Questions-2 item version; positive screen = scores ≥3.12

fPatient Health Questionnaire-9 item version; positive screen = scores ≥1013

gGeneral Anxiety Disorder-2 item version; positive screen = scores ≥3; 9 item version, positive screen = scores ≥10.14

hLSNS: Lubben Social Network Scale; positive screen = scores <12.15

iZarit Caregiver Burden Score; 4-item version positive screen = ≥8, 22-item version positive screen = ≥17.16

jScreen for cognitive impairment; positive screen = score ≥3.

kAssessment Urgency Algorithm; positive screen = ≥5.11

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| Supplementary Table S2. Prevalence of low grip strength and diagnostic accuracy measures of screening criteria on validation sample |
| **Screening criteria** | **% of sample excluded** | **% low grip strength among included** | **% low grip strength among excluded** | **Sensitivity** | **Specificity** | **PPV** | **NPV** |
| 80+ | 47.8% | 24.4% | 11.1% | 70.9% | 51.5% | 24.4% | 88.9% |
| 85+ | 78.6% | 32.5% | 14.0% | 39.3% | 82.0% | 32.5% | 86.0% |
| 2+ falls in last six months | 94.9% | 33.9% | 17.3% | 9.2% | 96.0% | 33.9% | 82.7% |
| Less than regular exercise | 48.0% | 23.0% | 12.8% | 66.0% | 51.3% | 23.0% | 87.2% |
| Only daily living activities | 85.0% | 20.2% | 16.8% | 42.1% | 63.4% | 20.2% | 83.2% |
| 80+ or 2+ falls in last six months | 46.3% | 24.3% | 10.7% | 72.8% | 50.0% | 24.3% | 89.3% |
| 80+ or less than regular exercise | 25.7% | 21.6% | 7.9% | 88.8% | 28.7% | 21.6% | 92.1% |
| 2+ falls or less than regular exercise | 48.3% | 23.2% | 12.2% | 68.4% | 50.2% | 23.2% | 87.8% |
| 80+ or only daily living activities or 2+ falls | 41.4% | 23.7% | 10.0% | 77.0% | 45.4% | 23.7% | 90.0% |
| 85+ or less than regular exercise or 2+ falls | 39.1% | 23.2% | 10.1% | 78.0% | 43.1% | 23.2% | 89.9% |

PPV = Positive Predictive Value; NPV = Negative Predictive Value

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