Table 8. Study Characteristics and Outcomes For Cognitive Impairment Screening (MCI/Dementia vs. Normal), Brief Instruments

| **Study,**  **Quality** | **Instrument (non-English Language)** | **Est. Time (Min)** | **N Screened,**  **N Analyzed** | **Selection Criteria** | **Age (y),**  **% Female,**  **Education (y)** | **% Dementia**  **% MCI** | **Diagnostic Criteria / Verification** | **Cut Point** | **Sens (95% CI or SE)** | **Spec (95% CI or SE)** | **PPV (95% CI)** | **NPV (95% CI)** | **AUC (95% CI or SE)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Vercambre, 2010104  Fair | Telephone interview for Cognitive Impairment (TICS) (French) | 7-9 | 120  120 | Born between 1925 and 1930  Women  National Education System | 78.8  100  NR | 8.3 (probable & possible)  15 | Mayo criteria  All | NR | NR | NR | NR | NR | 0.78 (NR) |
| Manly, 201175  Fair | TICS-modified (TICS-M) (English or Spanish) | 7-9 | 377  377 | ≥65 y  PC | 81.4  68.2  10.4 | 14.1  18.0 | Mayo criteria  All | ≤26 | 73 (64, 80\*\*) | 77 (71, 82\*\*) | 59 (51.5, 67.9\*\*) | 86 (80.4, 89.9\*\*) | 0.81 (NR) |
| Vercambre, 2010104  Fair | TICS-M (French) | 7-9 | 120  120 | Born between 1925 and 1930  Women  National Education System | 78.8  100  NR | 8.3 (probable & possible)  15 | Mayo criteria  All | 27  31  34 | 46 (28, 66\*\*)  71 (51, 87\*\*)  86 (67, 96\*\*) | 99 (94, 100\*\*)  83 (73, 90\*\*)  47 (36, 57\*\*) | 93 (66.1, 99.8\*\*)  56 (38.1, 72.1\*\*)  33 (22.3, 44.9\*\*) | 86 (77.7, 91.9\*\*)  90 (82.1, 95.8\*\*)  91 (79.6, 97.6\*\*) | 0.83 (NR) |
| Callahan, 200267  Fair | Mini-Mental State Examination (MMSE) | 7-10 | 2212  269 | ≥65 y  Black  Community | 74.4  59.4  12.1 | 4.3  26.4 | Mayo criteria  Subset | 23/24  24/25 | 53.3 (43.1, 64.4\*\*)  71.5 (61.0, 80.4\*\*) | 92.1 (88.1, 95.1\*\*)  89.5 (87.4, 100.0\*\*) | 70.9 (58.8, 81.3\*\*)  66.9 (56.7, 76.2\*\*) | 84.6 (79.9, 88.8\*\*)  89.5\*\* (85.0, 93.0\*\*) | 0.84 (NR) |
| Cruz-Orduna, 201171  Fair | MMSE (Spanish) | 7-10 | 160  160 | Cognition-related complaint  PC | 72.4  70  % None/  Incomplete: 44.4  % Primary: 44.4  % Superior: 5.6 | 9.4  46.9 | Below 10th percentile on at least one test  All | 23/24 | 76.67 (66.57, 84.94\*\*) | 70.0 (57.87, 80.38\*\*) | 76.67 (66.6, 84.9\*\*) | 70.00 (57.9, 80.4\*\*) | 0.82 (0.76, 0.88) |
| Cullen, 200576  Fair | MMSE | 7-10 | 1142  1115 | ≥65 y  PC | 74.8  68  9.9 | 3.9  4.8 | AGECAT, criteria NR  All | 23/24 | 72.2 (62.1, 80.8\*\*) | 89.4 (65.3, 98.6\*\*) | 39.3\*\* (32.1, 46.9\*\*) | 97.1\*\* (95.8, 98.1\*\*) | NR |
| Jeong, 200479  Good | MMSE (Korean) | 7-10 | 235  235 | ≥65 y  Community | 73.5  66.4  1 (median) | 19.6  23.0 | Subjective and objective cognitive impair-ment, details NR  All | 20/21 | 82 (73, 89) | 79 71, 86) | 74.6\*\* (65.4, 82.4\*\*) | 85.6\*\* (78.2, 91.2\*\*) | 0.89 (0.02) |
| Jorm, 199680  Fair | MMSE | 7-10 | 144  NR | POW/veteran | 72.9  0  NR | NR  NR | Mild memory impair-ment criteria NR  All | NR | NR | NR | NR | NR | 0.70 (0.05) |
| Lam, 200883  Fair | MMSE (Chinese) | 7-10 | 459  459 | Community | 71.2  54.5  4.8 | 9.6  35.3 | Mayo criteria  All | NR | NR | NR | NR | NR | 0.961 (NR) |
| Li, 200697  Fair | MMSE (Chinese or English) | 7-10 | 144  NR | 65-90 y  Community; neuroscience clinic | 72.7  50.7  4.7 | 13.2  25.7 | Mayo criteria and CDR=0.5  All | NR | NR | NR | NR | NR | 0.779 (0.040) |
| McDowell, 199784  Fair | MMSE (English or French) | 7-10 | 1600  1600 | ≥65 y  Community | 80.0  59  8.6 | 23  30 | CIND criteria NR  Subset | NR | NR | NR | NR | NR | 0.77 (0.012) |
| Scharre, 201087  Fair | MMSE | 7-10 | 254  63 | >59 y  Geriatric outpatient; community; independent and assisted living facilities; senior centers; memory clinic | 78  66.7  93.7% ≥HS | 33  33 | ≥1.5 SD below norm  Subset | ≤27 | 71 (55, 84\*\*) | 90 (70, 99\*\*) | 93.8\*\* (79.2, 99.2\*\*) | 61.3\*\* (42.2, 78.2\*\*) | 0.804 (NR) |
| Vercambre, 2010104  Fair | MMSE (French) | 7-10 | 120  120 | Born between 1925 and 1930  Women  National Education System | 78.8  100  NR | 8.3  15 | Mayo criteria  All | NR | NR | NR | NR | NR | 0.72 (NR) |
| Markwick, 201289  Good | MoCA | 10 | 107  107 | MMSE ≥24  NR | 76  54  76.6% >12 y | 7.5  18.7 | Petersen criteria  All | <26 | 85.7\* (67.3, 96.0\*) | 76.0\* (65.0, 84.9\*) | 55.8\* (39.9, 70.9\*) | 93.8\* (84.8, 98.3\*) | NR |
| Li, 200697  Fair | Immediate Recall (Logical Memory I) (Chinese or English) | <7‡ | 144  NR | 65-90 y  Community; neuroscience clinic | 72.7  50.7  4.7 | 13.2  25.7 | Mayo criteria and CDR=0.5  All | NR | NR | NR | NR | NR | 0.871 (0.032) |

\* Calculated from 2x2 table.

‡ Assumed.

║ Reported administration times varied, but the IQCODE can be self-administered in less than 20 minutes, so was included.

†† Confidence intervals could not be calculated.

\*\* Calculated using the sensitivity, specificity, and prevalence of cognitive impairment.

Abbreviations: AGECAT = Automated Geriatric Examination for Computer Assisted Taxonomy; AUC = area under the curve; CDR = clinical dementia rating; CI = confidence interval; CIND = cognitive impairment no dementia; Est = estimate; HS = high school; MMSE = Mini-Mental State Examination; N = number; norm = normal ; NPV = negative predictive value ; NR = not reported; POW = prisoner of war; PPV = positive predictive value; SD = standard deviation; SE = standard error; TICS-M = Telephone interview for Cognitive Impairment modified; y = year.