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, 2010104Fair | Telephone interview for Cognitive Impairment (TICS) (French) | 7-9 | 120120 | Born between 1925 and 1930WomenNational Education System | 78.8100NR | 8.3 (probable & possible)15 | Mayo criteria All | NR | NR | NR | NR | NR | 0.78 (NR) |
| Manly, 201175Fair | TICS-modified (TICS-M) (English or Spanish) | 7-9 | 377377 | ≥65 yPC | 81.468.210.4 | 14.118.0 | Mayo criteria All | ≤26 | 73 (64, 80\*\*) | 77 (71, 82\*\*) | 59 (51.5, 67.9\*\*) | 86 (80.4, 89.9\*\*) | 0.81 (NR) |
| Vercambre, 2010104Fair | TICS-M (French) | 7-9 | 120120 | Born between 1925 and 1930WomenNational Education System | 78.8100NR | 8.3 (probable & possible)15 | Mayo criteria All | 273134 | 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, 200267Fair | Mini-Mental State Examination (MMSE) | 7-10 | 2212269 | ≥65 yBlackCommunity | 74.459.412.1 | 4.326.4 | Mayo criteriaSubset | 23/2424/25 | 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, 201171Fair | MMSE (Spanish) | 7-10 | 160160 | Cognition-related complaintPC | 72.470% None/Incomplete: 44.4% Primary: 44.4% Superior: 5.6 | 9.446.9 | Below 10th percentile on at least one testAll | 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, 200576Fair | MMSE | 7-10 | 11421115 | ≥65 yPC | 74.8689.9 | 3.94.8 | AGECAT, criteria NRAll | 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, 200479Good | MMSE (Korean) | 7-10 | 235235 | ≥65 yCommunity | 73.566.41 (median) | 19.623.0 | Subjective and objective cognitive impair-ment, details NRAll | 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, 199680Fair | MMSE | 7-10 | 144NR | POW/veteran | 72.90NR | NRNR | Mild memory impair-ment criteria NRAll | NR | NR | NR | NR | NR | 0.70 (0.05) |
| Lam, 200883Fair | MMSE (Chinese) | 7-10 | 459459 | Community | 71.254.54.8 | 9.635.3 | Mayo criteriaAll | NR | NR | NR | NR | NR | 0.961 (NR) |
| Li, 200697Fair | MMSE (Chinese or English) | 7-10 | 144NR | 65-90 yCommunity; neuroscience clinic | 72.750.74.7 | 13.225.7 | Mayo criteria and CDR=0.5All | NR | NR | NR | NR | NR | 0.779 (0.040) |
| McDowell, 199784Fair | MMSE (English or French) | 7-10 | 16001600 | ≥65 yCommunity | 80.0598.6 | 2330 | CIND criteria NRSubset | NR | NR | NR | NR | NR | 0.77 (0.012) |
| Scharre, 201087Fair | MMSE | 7-10 | 25463 | >59 yGeriatric outpatient; community; independent and assisted living facilities; senior centers; memory clinic | 7866.793.7% ≥HS | 3333 | ≥1.5 SD below normSubset | ≤27 | 71 (55, 84\*\*) | 90 (70, 99\*\*) | 93.8\*\* (79.2, 99.2\*\*) | 61.3\*\* (42.2, 78.2\*\*) | 0.804 (NR) |
| Vercambre, 2010104Fair | MMSE (French) | 7-10 | 120120 | Born between 1925 and 1930WomenNational Education System | 78.8100NR | 8.315 | Mayo criteria All | NR | NR | NR | NR | NR | 0.72 (NR) |
| Markwick, 201289Good | MoCA | 10 | 107107 | MMSE ≥24NR | 765476.6% >12 y | 7.518.7 | Petersen criteriaAll | <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‡ | 144NR | 65-90 yCommunity; neuroscience clinic | 72.750.74.7 | 13.225.7 | Mayo criteria and CDR=0.5All | 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.