ABSTRACT

Cognitive Assessment on the Care Pathway to Dementia Diagnosis

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Importance: Alzheimer's disease and related dementias (ADRD) is a costly disease. Despite the growing prevalence and economic burden of ADRD, an estimated 20-50% of persons with ADRD remain undiagnosed. A timely diagnosis can help millions of Americans with dementia plan for financial and caregiving needs, adopt lifestyle-based modifications to slow cognitive decline, and access disease modifying treatments that target early stages of the disease. Cognitive assessment can support early detection of cognitive impairment. However, limited evidence describes how a positive screen for cognitive impairment influences subsequent diagnostic evaluation and time to dementia diagnosis in routine clinical practice.

Objective: To characterize the care pathway following a positive screen for cognitive impairment.

Design, Setting, and Participants: Retrospective cohort study of 13,814 patients who had a cognitive assessment between January 1,2018, and December 31,2025. Patients were required to have at least one encounter in the 2 years before and 2 years after the index cognitive assessment. Electronic health records data from Truveta were analyzed. In addition to structured data, we extracted information about cognitive assessments and presence of care partners from clinician notes.

Exposure: Positive versus negative assessment result for cognitive impairment at index assessment.

Main Outcomes and Measures: Adjusted differences in referral rates to dementia specialists, brain imaging, and laboratory testing were compared between patients who screened positive and those who screened negative. A screen-negative comparison group was included to examine the incremental effect of a positive screen on clinical actions as referrals and follow-ups may occur independent of cognitive assessment. One-year follow-up outcomes included repeat cognitive assessment, dementia specialist visit, imaging completion, and lab testing. Among patients who screened positive, referral differences at index assessment were examined according to presence of a care partner at the index visit. Time to dementia diagnosis were analyzed using hazard ratios (HRs). All analyses adjusted for the patient characteristics (age, race, ethnicity, sex, marital status), chronic conditions (diabetes, hyperlipidemia, hypertension, acute myocardial infarction, stroke, atrial fibrillation), cognitive assessment type (MoCA, MMSE, SLUMS, Mini-Cog, Clock Drawing Test, other cognitive assessment), and qualitative test result indicator.

Results: At the index assessment, adjusted referral rates to dementia specialists were 5.22% (95% CI, 4.59-5.84) among patients who screened positive compared with 2.66% (95% CI, 2.31-3.02) among those who screened negative (adjusted difference, 2.56 percentage points [pp]). Adjusted referral rates for brain imaging were 4.65% (95% CI, 4.06%-5.24%) among screen-positive patients vs 2.96% (95% CI, 2.59%-3.32%) among screen-negative patients (adjusted difference, 1.69 pp). Within 1 year, repeat cognitive assessment occurred in 20.09% (95% CI, 18.97%-21.22%) of screen-positive patients vs 12.98% (95% CI, 12.25%-13.70%) of screen-negative patients (adjusted difference, 7.11 pp). Dementia specialist visits occurred in 23.78% (95% CI, 22.60%-24.95%) vs 22.01% (95% CI, 21.19%-22.94%), respectively (adjusted difference, 1.77 pp). Differences in imaging completion and lab test receipt were not statistically significant. Among patients who screened positive, accompaniment by a care partner at the index visit was associated with higher adjusted probabilities of referrals to dementia specialists (adjusted difference,4.11 pp) and brain imaging (adjusted difference, 5.07 pp). Among patients who screened positive, referral to dementia specialists (HR, 1.93; 95% CI, 1.70-2.19), referral for brain imaging (HR, 2.95; 95% CI, 2.57-3.38), and referral for laboratory testing (HR, 1.23; 95% CI, 1.14-1.33) were associated with shorter time to dementia diagnosis.

Conclusions and Relevance: Positive screen for cognitive impairment was associated with increased diagnostic action and shorter time to dementia diagnosis when referrals were made. However, overall referral and follow-up rates were low. The findings suggest that while screening positive for cognitive impairment led to a change in diagnostic actions, diagnostic pathways after an assessment may be influenced by other factors including visit context and system-level factors.

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