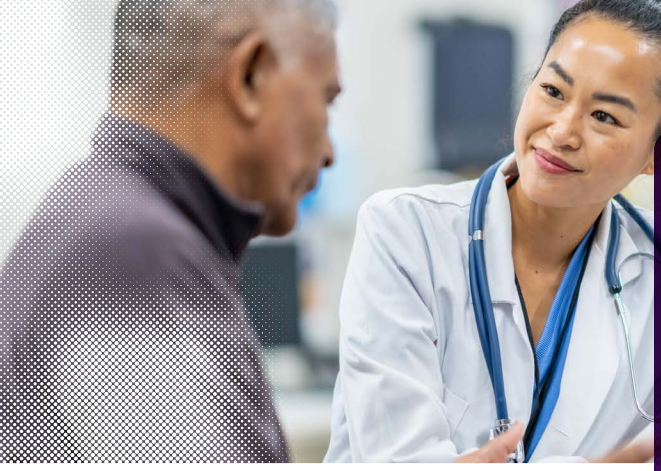

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Early Detection and Diagnosis of Dementia: A Practical Decision Guide for Specialist Clinicians

As the number of Americans living with dementia continues to grow, early and accurate detection is crucial for effective management and support. Specialist clinicians, including neurologists, geriatricians, and geriatric psychiatrists, often accept referrals from primary care providers, hospitalists and emergency room providers who may not be comfortable diagnosing and managing patients with dementia. Specialist clinicians, therefore, play a vital role in early detection of cognitive impairment and referral for specialized assessment and treatment.

The Alzheimer's Association expert workgroup has developed the Diagnostic Evaluation, Testing, Counseling and Disclosure of Suspected Alzheimer's Disease and Related Disorders (DETeCD-ADRD) guidance to aid clinicians in evaluating cognitive and behavioral symptoms suggested of Alzheimer's disease (AD) or Alzheimer's disease and related dementias (ADRD). This tool is designed to aid specialists in performing evidence-supported evaluations to characterize, diagnose and disclose a patient's cognitive functional status, cognitive-behavioral syndrome and likely underlying brain disease. Specialist clinicians should use this information to work with the patient and care partner to develop appropriate care and management strategies.

The **full guidance** is published in *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*. A **companion guidance for primary care physicians** is also available.

How to Use

This decision guide uses the DETeCD-ADRD guidance to empower clinicians in specialty settings to make informed diagnoses and care management decisions for prevention and brain health.

The Three-Step Diagnostic Formulation: The Goal of Evaluation

The DETeCD-ADRD evaluation process does not propose dementia and Alzheimer's Disease staging criteria, which continue to evolve. Rather, it provides a rigorous framework for clinicians to establish a three-step diagnostic formulation to guide patient care.

STEP 1: Cognitive Functional Status

☐ **Action: Initial Assessment & Evaluation.** Determine patient presentation for cognitive-functional status. What is the patient's overall level of cognitive impairment?

Several **validated tools** are available to test a patient's level of cognitive functioning. Patient status may be classified as:

- Cognitively unimpaired
- Subjective cognitive decline (reported by patient and/or care partner)
- Mild cognitive impairment
- Mild, moderate or severe dementia

☐ Assess patient's capacity to engage in goal-setting process and establish shared goals for evaluation with patient and care partner.

Consider referral to a dementia subspecialist for comprehensive neuropsychological testing if brief cognitive tests are insufficient, the clinical picture is complex or there are significant confounding factors.

STEP 2: Cognitive-Behavioral Syndrome

Cognitive-behavioral symptoms may include deficits or changes to memory, language, visuospatial abilities and executive function. Less typical but important symptoms may include changes to mood, motor skills and sensory problems, including hallucinations.

- [ ] **Action: Gather Clinical Information.** Assess patient's medical and psychological status by taking thorough histories and clinical and cognitive tests.

  - [ ] Take a detailed medical history and history of present illness from patient and care partner or reliable informant. Note changes in:
    - Cognitive functioning
    - Activities of daily living
    - Mood and neuropsychiatric symptoms
    - Sensory and motor function

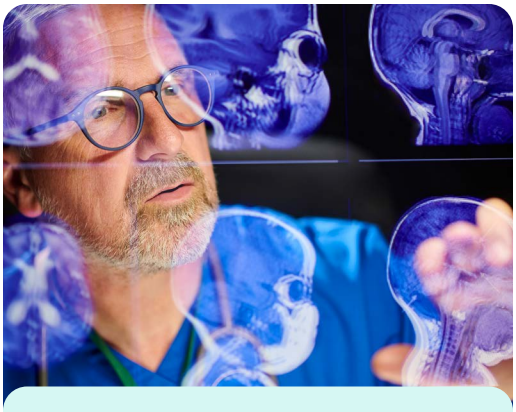
  - [ ] Evaluate individual risk factors including:
    - Medical conditions (vascular risk, sleep apnea)
    - Age (≥65)
    - Lifestyle factors
    - Family history

Consider referral to a dementia subspecialist if patient presents with early-onset cognitive decline (<65 years old), rapid progression or other atypical features, such as attentional impairments, prominent language or social-behavioral abnormalities or cerebral-based sensory or motor dysfunction.

  - [ ] Conduct mental status exams, including cognitive assessment with a validated brief cognitive test (e.g., one of the forms of the Confusion Assessment Method (CAM) to test specific aspects of mental status, or similar instrument) and dementia-focused neurologic exam. Refer to the DETeCD-ADRD **guidance on validated clinical assessment instruments** for more information.

Consider referral for comprehensive neuropsychological testing if brief cognitive tests are insufficient, the clinical picture is complex or there are significant confounding factors.

If patient has no cognitive impairment, recommend brain-healthy behaviors and prevention.



Promoting Brain Health

Clinicians can impact dementia risk by addressing modifiable risk factors in older adults. These include smoking cessation, depression treatment, physical activity promotion, social engagement strategies, and management of hearing loss, hypertension, obesity, and diabetes. Primary care clinicians should routinely assess these factors and counsel patients on brain-healthy behaviors.

STEP 3: Etiological Diagnosis

- [ ] **Action: Diagnostic Testing and Formulation.** Obtain laboratory tests and structural brain imaging for provisional diagnosis and prognosis.
  - [ ] Order Tier 1 laboratory tests (Blood "cognitive lab panel"):
    - Thyroid-stimulating hormone [TSH]
    - Vitamin B12
    - Homocysteine
    - Complete blood count [CBC] with differential
    - Complete metabolic panel
    - Erythrocyte sedimentation rate [ESR]
    - C-reactive protein [CRP]
  - [ ] Refer for structural brain imaging:
    - Magnetic resonance imaging [MRI] without contrast preferred
    - If unavailable or contraindicated, obtain non-contrast head computed tomography [CT] scan
  - [ ] If diagnostic uncertainty remains after completion of Tier 1 and structural imaging, order:
    - Tier 2-4 lab tests
    - Cerebrospinal fluid (CSF) biomarker testing
    - Other imaging, including amyloid or tau PET
    - For those within appropriate use for anti-amyloid therapies, consider apolipoprotein E (APOE) genotyping
- [ ] **Action: Lead Disclosure and Care Planning Conversations.** Ensuring the patient and care partner understand the diagnosis, implications for future needs, treatments, care planning and resources are crucial for shared decision-making and goal setting that meets their individual needs.
  - [ ] Honestly and compassionately inform patient and care partner of provisional diagnosis. Discuss diagnosis, prognosis and initial treatment options, potential safety concerns and available medical, psychosocial and community support resources.
  - [ ] Work with patient and care partner to develop an initial care plan that incorporates the patient's and family's goals and preferences.
  - [ ] Identify available online and community resources for medical, psychosocial and other community support (e.g., financial, household, transportation and respite care). Helpful resources can be found **here**.
- [ ] **Action: Submit for Referral/Further Evaluation (Optional).** Refer patients for further evaluation and/or management if additional testing, consideration for therapy or biomarker testing, or complex case management is necessary, or if exams and tests are inconclusive.

Cognitive Deficit Presentation

Initial, prominent cognitive deficits fall into several categories. Deficits in more than one domain should be present, along with worsening cognition by report or observation, which are important factors in diagnosis.

Amnestic:

Impairment in learning and recall of recently learned information.

Non-amnestic:

- [ ] Language presentation: Deficits in word finding.
- [ ] Visuospatial presentation: Spatial cognition including inability to recognize objects, impaired facial recognition, inability to perceive and interpret multiple objects simultaneously and loss of word comprehension (alexia).
- [ ] Executive dysfunction: Impaired reasoning, judgment and problem solving.

Conclusion

The DETeCD-ADRD guidance empowers specialty physicians to improve early detection of AD/ADRD. Dementia diagnosis and treatment is an evolving field, and this guidance will be updated as new evidence emerges.

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For additional information and professional resources, visit **alz.org/ALZPro**.

About the Workgroup & Methodology

The Alzheimer's Association convened the Diagnostic Evaluation, Testing, Counseling, and Disclosure Clinical Practice Guideline (DETeCD-ADRD CPG) Workgroup to develop guidance to help primary care clinicians and other providers to systematically evaluate, diagnose, and disclose information to patients with suspected AD or ADRD and their care partners. The workgroup involved 10 voting members representing primary care, specialty and subspecialty care, long-term and palliative care, health economics and bioethics.

About the Alzheimer's Association

The Alzheimer's Association is a worldwide voluntary health organization dedicated to Alzheimer's care, support and research. Our mission is to lead the way to end Alzheimer's and all other dementia — by accelerating global research, driving risk reduction and early detection, and maximizing quality care and support. Our vision is a world without Alzheimer's and all other dementia®. Visit alz.org or call 800.272.3900.

Table 1: Differential Diagnoses

Cognitive-Behavioral Syndrome & Major Clinical Features	Differential Diagnosis
Progressive amnesic syndrome (single or multi-domain) Difficulty learning/remembering new information; may be accompanied by other symptoms	1. **Usually** AD 2. **Often** AD with co-pathologies 3. **Sometimes** hippocampal sclerosis argyrophilic grain disease, pure VCID, pure LBD, TDP43 proteinopathy/LATE, PART 4. **Rarely** FTLD
Progressive aphasic syndrome or progressive aphasic multi-domain syndrome Speech/language impairment (word-finding, impaired comprehension, reading, writing)	1. **Usually** AD, less commonly FTLD 2. Semantic variant: **Usually** FTLD-TDP43, **rarely** FTLD-tau or AD Non-fluent variant: **Usually** FTLD-tau, **sometimes** FTLD-TDP43 **rarely** AD
Progressive visuospatial dysfunction Visual/spatial perception and cognition dysfunction, often with limb apraxia, alexia, agraphia, acalculia	1. **Usually** AD 2. **Sometimes** FTLD-CBD or AD + LBD 3. **Rarely** LBD 4. **Very rarely** FTLD-TDP43
Progressive dysexecutive and/or behavioral syndrome Changes to executive function with or without apathy or changes to personality, social or emotional behavior	1. **Frequently** FTLD (tau or TDP43) 2. **Frequently** AD or AD + VCID 3. **Sometimes** FTLD-PSP, FTLD-CBD or VCID 4. **Rarely** LBD
Progressive cognitive-behavior-Parkinsonism syndrome (e.g., dementia with Lewey bodies syndrome or PDD syndrome) Fluctuating levels of cognitive impairment, recurrent visual hallucinations, spontaneous motor features, history of REM sleep behavior disorder	1. **Often** LBD 2. **Often** LBD with AD 3. **Sometimes** LBD with FTLD or VCID 4. **Rarely** FTLD-CBD or FTLD-PSP
Progressive cortical cognitive-somatosensorimotor syndrome (e.g., corticobasal syndrome) Cortical sensorimotor (e.g., limb apraxia) and cognitive difficulties, esp. executive dysfunction	1. **Often** CBD 2. **Sometimes** AD, FTLD-PSP, FTLD-Pick's or FTLD-TDP43 3. **Rarely** LBD
PSP syndrome (e.g., PSP Richardson's syndrome) Postural instability, supranuclear gaze palsy with varying degrees of cognitive, behavioral or other movement disorders	1. **Usually** FTLD-PSP 2. **Sometimes** FTLD-CBD 3. **Rarely** LBD

* *Abbreviations: AD-Alzheimer's disease, CBD-corticobasal degeneration, FTLD-frontotemporal lobar degeneration, LATE-limbic-predominant age-related TDP43 encephalopathy, LBD-Lewy body disease, PART-primary age-related tauopathy, PDD-Parkinson's disease dementia, PPA-primary progressive aphasia, PSP-progressive supranuclear palsy, TDP43-TAR DNA-binding protein 43, VCID-vascular contributions to cognitive impairment and dementia*