Clinical Assessment of Dementia: A Practical Evidence-Based Approach to Diagnosis

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Abstract

Background: Dementia is a heterogeneous clinical syndrome characterized by progressive cognitive decline that interferes with independent functioning. Although advances in neuroimaging, fluid biomarkers, molecular diagnostics, and genetic testing have improved etiological classification, dementia remains fundamentally a clinical diagnosis. Biomarker findings must therefore be interpreted within the context of the patient's cognitive, functional, behavioural, neurological, medical, and psychosocial presentation.

Objective: This narrative review provides a practical, evidence-based framework for the comprehensive clinical assessment of adults presenting with suspected dementia, with emphasis on translating contemporary diagnostic principles into routine clinical practice across primary care, geriatrics, neurology, psychiatry, and memory-clinic settings.

Methods: Current clinical guidelines, consensus criteria, validated assessment instruments, and contemporary evidence concerning dementia diagnosis were narratively synthesized. The review examines history taking and collateral information, characterization of cognitive symptom profiles, functional assessment, neurological examination, early warning signs, longitudinal progression, behavioural and psychological symptoms, differential diagnosis, cognitive screening, laboratory and neuroimaging evaluation, biomarkers, and emerging digital and artificial-intelligence technologies.

Results: Accurate assessment requires integration of multiple complementary sources of information rather than reliance on any single test. A detailed history from both the patient and a knowledgeable informant establishes symptom onset, tempo, affected cognitive domains, and change from premorbid functioning. Functional assessment is essential for distinguishing dementia from mild cognitive impairment, while neurological and behavioural findings assist with syndrome differentiation, severity determination, safety evaluation, and identification of reversible or contributing conditions. Serial assessment is particularly valuable because longitudinal changes in cognition, function, and behaviour may be more diagnostically informative than a single evaluation. Biomarkers and artificial intelligence can improve diagnostic confidence, subtype classification, and monitoring but should complement rather than replace clinical reasoning and patient-centered judgment.

Conclusion: Comprehensive clinical assessment remains the cornerstone of timely and accurate dementia diagnosis. A systematic, multidisciplinary, and patient-centered approach integrating history, cognition, function, behaviour, neurological examination, and appropriately selected investigations provides the strongest basis for etiological diagnosis, individualized management, caregiver support, safety planning, and longitudinal care.

Keywords: dementia; cognitive impairment; clinical assessment; diagnosis; functional assessment; neurological examination; neuropsychiatric symptoms; biomarkers; artificial intelligence; patient-centered care.

Introduction

Dementia is a clinical syndrome characterized by acquired, progressive impairment in one or more cognitive domains that interferes with independence in activities of daily living. Rather than representing a single disease, it comprises a heterogeneous group of neurodegenerative, vascular, inflammatory, infectious, metabolic, and other neurological disorders that differ in their pathophysiology, clinical manifestations, prognosis, and therapeutic approach (World Health Organization [WHO], 2023; Livingston et al., 2024). Alzheimer's disease (AD) remains the most common cause of dementia, accounting for approximately 60–70% of cases worldwide, followed by vascular dementia, dementia with Lewy bodies (DLB), frontotemporal dementia (FTD), Parkinson's disease dementia (PDD), and several less common disorders (WHO, 2023; Knopman et al., 2021).

The importance of accurate and timely diagnosis has increased substantially with the emergence of disease-modifying therapies and advances in biomarker technology. Early recognition enables optimization of reversible risk factors and comorbidities, initiation of appropriate pharmacological and non-pharmacological interventions, advance care planning, caregiver education, and timely access to health and community support services. Moreover, distinguishing among dementia subtypes has important prognostic and therapeutic implications because disease progression, treatment response, and management strategies differ according to the underlying etiology (Livingston et al., 2024; Galvin & Atri, 2022).

Over the past decade, the diagnostic paradigm has evolved considerably with the introduction of structural magnetic resonance imaging (MRI), molecular positron emission tomography (PET), cerebrospinal fluid (CSF) biomarkers, plasma biomarkers, and genetic testing. The 2024 Alzheimer's Association diagnostic criteria represent an important advance by incorporating validated biomarkers into the diagnostic framework and recognizing AD as a biological continuum that begins years before overt clinical symptoms develop (Jack et al., 2024). Nevertheless, these developments reinforce rather than diminish the central role of clinical assessment. Biomarker results should always be interpreted within the context of the patient's clinical presentation and should complement, not replace, clinical judgment (Jack et al., 2024; Hansson, 2023).

Despite rapid technological advances, dementia remains fundamentally a clinical diagnosis. Biomarkers identify underlying pathological processes but cannot independently determine whether these changes explain an individual's symptoms, functional impairment, behavioural manifestations, or overall clinical syndrome. Consequently, accurate diagnosis requires integration of a detailed clinical history, collateral information from a knowledgeable informant, cognitive and functional assessment, physical and neurological examination, laboratory investigations, and appropriate neuroimaging (Galvin & Atri, 2022; Jack et al., 2024).

This review provides a practical, evidence-based approach to the clinical assessment of adults presenting with suspected dementia. The emphasis is on comprehensive history taking, cognitive and functional assessment, neurological examination, behavioural and psychological symptoms of dementia (BPSD), differential diagnosis, cognitive screening instruments, and the appropriate integration of biomarkers into routine clinical practice. The overall objective is to translate current evidence into practical recommendations that support accurate diagnosis and patient-centred care across primary care, geriatric medicine, neurology, psychiatry, and specialised memory clinic settings.

Table 1. Major Components of Comprehensive Clinical Assessment in Patients with Suspected Dementia

Component	Primary objective
Clinical history	Characterize symptom onset, progression, and the pattern of cognitive decline
Collateral history	Confirm cognitive and functional decline through a reliable informant
Physical and neurological examination	Identify neurological signs and alternative or coexisting disorders
Cognitive assessment	Evaluate affected cognitive domains and estimate severity
Functional assessment	Determine the impact of cognitive impairment on independence
Behavioural assessment	Identify neuropsychiatric symptoms and assess caregiver burden
Laboratory investigations	Exclude reversible or contributing medical conditions
Neuroimaging and biomarkers	Support etiological diagnosis and improve diagnostic confidence

Clinical Practice Points

• Dementia remains a clinical syndrome, even in the era of biomarker-based diagnosis.
• Comprehensive clinical assessment provides the framework for interpreting laboratory, imaging, and biomarker findings.
• Accurate diagnosis requires integration of cognitive, functional, behavioural, neurological, and investigative findings rather than reliance on a single diagnostic modality.
• Early assessment facilitates timely intervention, individualized management, and improved outcomes for patients and caregivers.

Clinical Assessment

Clinical assessment remains the cornerstone of dementia diagnosis despite major advances in neuroimaging, fluid biomarkers, molecular genetics, and artificial intelligence. Although these technologies have substantially improved diagnostic precision, they cannot replace comprehensive bedside evaluation in determining whether cognitive impairment is clinically significant, identifying its impact on daily functioning, establishing the most likely dementia syndrome, and excluding potentially reversible causes (Jack et al., 2024; Galvin & Atri, 2022; Knopman et al., 2021).

The principal objective of clinical assessment is to develop an integrated diagnostic formulation rather than simply confirm cognitive impairment. This requires combining information from the clinical history, collateral interview, cognitive and functional assessment, physical and neurological examination, laboratory investigations, and neuroimaging. Such an approach distinguishes normal ageing, subjective cognitive decline, mild cognitive impairment (MCI), delirium, depression, and dementia while identifying the most likely underlying etiology and disease severity (Livingston et al., 2024; Gauthier et al., 2022).

A fundamental principle is to distinguish **syndromic diagnosis** from **etiological diagnosis**. Syndromic diagnosis establishes that the patient meets criteria for dementia based on objective cognitive impairment associated with functional decline, whereas etiological diagnosis identifies the underlying disease, such as Alzheimer's disease, vascular dementia, dementia with Lewy bodies, frontotemporal dementia, or another neurological disorder. Maintaining this distinction promotes systematic clinical reasoning and reduces premature diagnostic labelling, particularly during the early stages when clinical features may overlap (Jack et al., 2024; McKhann et al., 2011; Knopman et al., 2021).

Clinical assessment should begin with an unbiased evaluation of the presenting problem rather than a presumed diagnosis. The clinician must determine whether reported cognitive symptoms represent pathological decline or are attributable to normal ageing, psychiatric illness, systemic disease, medication effects, or other neurological disorders. Throughout the assessment, emphasis should be placed on the chronology of symptom onset, pattern of progression, associated neurological and behavioural features, functional consequences, and the presence of reversible or treatable conditions (Hort et al., 2024; Livingston et al., 2024).

Because dementia affects multiple aspects of health, assessment should extend beyond cognition to include functional status, BPSD, frailty, nutritional status, mobility, fall risk, caregiver burden, and environmental safety. These domains contribute not only to diagnosis but also to treatment planning, prognosis, monitoring of disease progression, and individualized care (Gauthier et al., 2022; Livingston et al., 2024).

Collateral information from a knowledgeable informant is an essential component of dementia assessment. Many patients have impaired insight or limited recall of symptom progression, whereas caregivers often provide a more accurate description of cognitive decline, behavioural changes, and loss of functional independence. Combining patient and caregiver interviews substantially improves diagnostic accuracy (Galvin & Atri, 2022; Ismail et al., 2020).

The temporal profile of cognitive decline provides important diagnostic clues. Alzheimer's disease typically progresses gradually over several years, vascular cognitive impairment may follow a stepwise course, delirium develops acutely with fluctuating cognition, and rapidly progressive dementias evolving over weeks to months should prompt urgent evaluation for autoimmune, infectious, inflammatory, toxic-metabolic, or prion disorders (Geschwind, 2016; Jack et al., 2024).
Although biomarkers have become increasingly important in clinical practice, they should be interpreted as complementary rather than definitive diagnostic tools. Plasma biomarkers, CSF analysis, amyloid PET, tau PET, and structural MRI enhance diagnostic confidence but cannot substitute for careful clinical assessment. The most accurate diagnosis is achieved by integrating biological findings with the patient's clinical phenotype, functional status, comorbidities, and individual circumstances (Jack et al., 2024; Hansson, 2023; Livingston et al., 2024).

Table 2. Fundamental Principles of Clinical Assessment in Patients with Suspected Dementia

Principle	Clinical significance
Establish that cognitive decline represents a change from baseline	Differentiates pathological decline from normal ageing and lifelong low cognitive performance.
Distinguish syndromic from etiological diagnosis	Confirms dementia before identifying the underlying disease.
Integrate cognition, function, behaviour, and neurological findings	Improves diagnostic accuracy and disease characterization.
Obtain collateral history from a reliable informant	Enhances recognition of symptom progression and functional decline.
Consider reversible and treatable causes throughout the evaluation	Prevents premature diagnosis of irreversible neurodegenerative disease.
Interpret biomarkers within the clinical context	Prevents overreliance on biological findings in isolation.
Reassess patients longitudinally when uncertainty exists	Disease evolution often clarifies the diagnosis.

Source: Adapted from Jack et al. (2024); Galvin & Atri (2022); Livingston et al. (2024); Knopman et al. (2021).

Clinical Practice Points

- Comprehensive clinical assessment remains the foundation of dementia diagnosis.
- Differentiate syndromic diagnosis from etiological diagnosis before assigning a specific dementia subtype.
- Functional decline distinguishes dementia from MCI and subjective cognitive decline.
- Obtain collateral history whenever possible to improve diagnostic accuracy.
- Biomarkers complement, but never replace, a thorough clinical evaluation.
- Assessment should include cognition, function, BPSD, neurological findings, caregiver burden, and reversible causes of cognitive impairment.

History Taking

History taking is the cornerstone of dementia assessment and remains the single most informative component of the diagnostic evaluation. Although neuroimaging, biomarkers, and neuropsychological testing have improved diagnostic accuracy, none can replace a structured clinical interview with both the patient and a knowledgeable informant. In many cases, the chronology of symptoms, pattern of cognitive decline, associated behavioural changes, and functional consequences allow experienced clinicians to formulate the most likely diagnosis before formal cognitive testing is undertaken (Galvin & Atri, 2022; Hort et al., 2024; NICE, 2022).

The objectives of history taking are to determine whether cognitive decline has truly occurred, establish the pattern and rate of progression, identify the cognitive domains involved, assess the impact on daily functioning, recognize behavioural and psychological symptoms, and identify medical, psychiatric, or medication-related conditions that may contribute to cognitive impairment. History taking also provides the foundation for selecting appropriate investigations, determining prognosis, and planning individualized management (Livingston et al., 2024; Gauthier et al., 2022; Galvin & Atri, 2022).

A fundamental principle is to establish change from the patient's previous level of functioning rather than relying solely on current performance. Educational attainment, occupation, premorbid intellectual ability, and social functioning should be considered because cognitive reserve may mask early disease, whereas lifelong low educational achievement may mimic impairment. The history should therefore focus on decline over time rather than isolated deficits identified during the consultation (Stern et al., 2020; Jack et al., 2024).

The clinical interview should begin with open-ended questions that encourage the patient to describe symptoms in their own words. This approach not only clarifies the presenting complaint but also provides an opportunity to observe spontaneous speech, language, attention, executive function, insight, affect, and interpersonal behaviour before formal cognitive testing. Equally important is identifying who initiated the consultation. Patients seeking assessment independently often retain insight and may have subjective cognitive decline or MCI, whereas those brought by family members despite denying symptoms frequently demonstrate impaired awareness (anosognosia), a common feature of Alzheimer's disease and frontotemporal dementia (Galvin & Atri, 2022; Goldman et al., 2020; Starkstein, 2014).

Establishing the chronology of symptom onset and progression is one of the most valuable aspects of dementia assessment. Alzheimer's disease usually progresses gradually over several years, vascular cognitive impairment may follow a stepwise course, delirium develops acutely with fluctuating cognition, and rapidly progressive cognitive decline over weeks or months should prompt urgent investigation for autoimmune, infectious, inflammatory, toxic-metabolic, or prion disorders (Geschwind, 2016; Jack et al., 2024; Livingston et al., 2024). Anchoring symptom onset to major life events, such as retirement, hospitalization, bereavement, or stroke, often improves the accuracy of historical recall.

The sequence in which symptoms develop frequently suggests the underlying dementia syndrome. Early episodic memory impairment is typical of Alzheimer's disease; executive dysfunction suggests vascular cognitive impairment, behavioural or personality change raises suspicion for behavioural-variant frontotemporal dementia, visual hallucinations with cognitive fluctuations favour dementia with Lewy bodies, progressive language impairment indicates primary progressive aphasia, and isolated visuospatial dysfunction may indicate posterior cortical atrophy or atypical Alzheimer's disease (McKeith et al., 2020; Rascovsky et al., 2011; Gorno-Tempini et al., 2011; Skrobot et al., 2020). Specific examples of cognitive failure, such as repeatedly asking the same questions, becoming lost in familiar surroundings, difficulty managing finances or medications, or declining work performance—are substantially more informative than nonspecific complaints of "poor memory".

The history should also explore associated neurological, psychiatric, and systemic symptoms. Hallucinations, REM sleep behaviour disorder, tremor, gait disturbance, seizures, autonomic dysfunction, mood disorders, sleep disorders, alcohol misuse, sensory impairment, and adverse medication effects may provide important diagnostic clues or identify potentially reversible contributors to cognitive impairment. A comprehensive medication review is essential, particularly in older adults with polypharmacy (Livingston et al., 2024; Galvin & Atri, 2022).

Collateral history is an indispensable component of dementia assessment. Because impaired memory and reduced insight frequently limit the reliability of the patient's account, information from a knowledgeable caregiver often provides the most accurate description of symptom onset, progression, behavioural changes, and loss of functional independence. Discrepancies between the patient's and caregiver's accounts should be regarded as diagnostically valuable rather than contradictory. Combining information from both sources consistently improves diagnostic accuracy and should be considered standard clinical practice (Galvin & Atri, 2022; NICE, 2022; Hort et al., 2024).

Table 3. Objectives of History Taking in Patients with Suspected Dementia

Objective	Clinical importance
Confirm cognitive decline	Differentiate pathological decline from normal ageing or subjective cognitive complaints.
Establish symptom chronology	Distinguish progressive neurodegeneration from acute or fluctuating disorders such as delirium.
Identify affected cognitive domains	Assist syndromic diagnosis and guide subsequent assessment.
Assess functional consequences	Differentiate mild cognitive impairment from dementia and determine disease severity.
Detect behavioural and psychological symptoms	Improve diagnostic accuracy and management planning.
Identify reversible causes	Recognize treatable medical, psychiatric, or medication-related conditions.
Guide investigations	Determine appropriate laboratory tests, neuroimaging, and biomarker evaluation.
Facilitate individualized care planning	Support treatment decisions, caregiver education, and future planning.

Source: Galvin and Atri (2022), Jack et al. (2024), Livingston et al. (2024), Hort et al. (2024), NICE (2022), and Gauthier et al. (2022).

Clinical Practice Points

• History taking remains the single most informative component of dementia assessment.
• Establish decline from the patient's baseline cognitive and functional status rather than relying on current performance.
• Characterize symptom chronology, rate of progression, and the first affected cognitive domain, as these often indicate the underlying dementia syndrome.
• Obtain specific examples of cognitive and functional impairment instead of relying on general complaints.
• Screen systematically for reversible medical, psychiatric, sleep-related, and medication-induced causes of cognitive impairment.
• Always obtain collateral history from a knowledgeable informant whenever possible.

1 Presenting Complaint

The assessment of a patient with suspected dementia begins by clearly defining the presenting complaint. Rather than accepting a general statement such as "memory loss," the clinician should determine the specific cognitive, behavioural, or functional changes that prompted medical attention. The interview should initially allow the patient to describe symptoms in their own words before moving to focused questioning. This approach provides valuable information regarding language, attention, executive function, insight, mood, and communication while avoiding interviewer bias (Galvin & Atri, 2022; NICE, 2022).

Equally important is identifying who recognized the problem first. Patients who seek medical attention independently often retain insight and may have subjective cognitive decline or mild cognitive impairment. Conversely, patients brought by family members despite denying difficulties frequently exhibit anosognosia, a feature commonly observed in Alzheimer's disease and frontotemporal dementia. Understanding the reason for consultation and the source of concern frequently provides important diagnostic clues (Starkstein, 2014; Livingston et al., 2024).

The presenting complaint should be explored using concrete examples rather than vague descriptions. Questions should determine the nature of the cognitive difficulty, circumstances in which it occurs, progression over time, and its impact on occupational, social, and daily functioning. Examples such as repeated questioning, getting lost in familiar places, medication errors, financial mismanagement, or declining work performance are considerably more informative than nonspecific complaints of poor memory (Galvin & Atri, 2022).

Table 4. Key Elements of the Presenting Complaint

Component	Clinical relevance
Reason for consultation	Establishes the primary concern and diagnostic focus
Who first noticed symptoms	Provides information regarding insight and anosognosia
First symptom	Helps identify the likely dementia subtype
Time of onset	Differentiates acute, subacute, and chronic disorders
Pattern of progression	Distinguishes gradual, stepwise, fluctuating, or rapidly progressive disease
Examples of cognitive failures	Improves diagnostic accuracy compared with general complaints
Functional consequences	Determines clinical significance and disease stage

Clinical Pearl
The first five minutes of the consultation frequently provide valuable diagnostic information. Spontaneous speech, word-finding ability, attention, affect, social interaction, insight, and behaviour should be observed before formal cognitive testing begins.

2 Chronology and Evolution of Symptoms
Determining when symptoms began and how they have evolved is one of the most informative aspects of dementia assessment. Accurate chronology frequently distinguishes neurodegenerative disease from delirium, depression, medication effects, or other reversible causes of cognitive impairment. Whenever possible, symptom onset should be linked to significant life events such as retirement, hospitalization, stroke, surgery, bereavement, or relocation to improve recall accuracy (Jack et al., 2024; Livingston et al., 2024).

The rate of progression provides important diagnostic clues. Alzheimer's disease usually progresses insidiously over years, whereas vascular cognitive impairment often demonstrates a stepwise decline associated with cerebrovascular events. Dementia with Lewy bodies is characterized by fluctuating cognition, while frontotemporal dementia commonly begins with progressive behavioural or language disturbance. In contrast, cognitive decline developing over weeks to months should prompt urgent investigation for autoimmune encephalitis, prion disease, inflammatory disorders, infections, toxic-metabolic abnormalities, or neoplastic disease (Geschwind, 2016; McKeith et al., 2020).

The sequence in which cognitive domains become impaired may further assist differential diagnosis. Early episodic memory impairment strongly suggests Alzheimer's disease, executive dysfunction is typical of vascular cognitive impairment, behavioural change suggests behavioural-variant frontotemporal dementia, visual hallucinations and cognitive fluctuations favour dementia with Lewy bodies, and isolated language impairment indicates primary progressive aphasia (McKeith et al., 2020; Rascovsky et al., 2011; Gorno-Tempini et al., 2011).

Table 5. Diagnostic Value of the Presenting Complaint and History of Present Illness in Common Dementia Syndromes

Clinical feature	Diagnostic implication
Progressive episodic memory impairment	Typical Alzheimer's disease
Early executive dysfunction with vascular risk factors	Vascular cognitive impairment
Early behavioural or personality change	Behavioural variant frontotemporal dementia
Progressive language impairment	Primary progressive aphasia
Visual hallucinations, REM sleep behaviour disorder, cognitive fluctuations	Dementia with Lewy bodies
Predominant visuospatial impairment	Posterior cortical atrophy or atypical Alzheimer's disease
Rapid progression (weeks to months)	Autoimmune encephalitis, prion disease, infection, malignancy, toxic-metabolic disorders
Acute onset with fluctuating attention	Delirium rather than dementia

Source: Jack et al. (2024), McKeith et al. (2020), Rascovsky et al. (2011), Gorno-Tempini et al. (2011), Skrobot et al. (2020), Livingston et al. (2024), Galvin and Atri (2022), NICE (2022), and Geschwind (2016).

Clinical Practice Points

- Establish the first symptom, not simply the current complaint.
- Determine the tempo of progression, as it often provides the strongest clue to etiology.
- Link symptom onset to major life events whenever possible.
- Rapidly progressive dementia is a neurological emergency requiring urgent investigation.

3 Collateral History and the Informant Interview

The evaluation of a patient with suspected dementia should never rely exclusively on the patient's account. Cognitive impairment, reduced insight (anosognosia), impaired recall, executive dysfunction, and language disturbances frequently limit the patient's ability to provide an accurate history. Consequently, obtaining collateral information from a knowledgeable informant is regarded as an essential component of dementia assessment by major international guidelines and is considered standard practice in memory clinics worldwide (NICE, 2022; Galvin & Atri, 2022; Hort et al., 2024).

An ideal informant is an individual who has regular contact with the patient, has observed changes over an extended period, and is familiar with the patient's previous level of functioning. In most cases, this is a spouse or partner, followed by an adult child, sibling, or another close relative. Professional caregivers may also provide valuable information, particularly for patients living in residential care facilities, although they may be less able to describe the earliest stages of cognitive decline. The reliability of the informant should always be documented because discrepancies in knowledge, emotional involvement, or frequency of contact may influence the accuracy of the information provided (Jorm, 2004; Galvin & Sadowsky, 2012).

Collateral history serves several complementary purposes. First, it confirms whether cognitive decline represents a genuine departure from the patient's previous level of functioning. Second, it establishes the chronology and rate of symptom progression. Third, it evaluates functional decline that may not be recognized by the patient. Finally, it identifies behavioural and psychological symptoms, safety concerns, caregiver burden, and social circumstances that directly influence management planning. Numerous studies have demonstrated that diagnostic accuracy improves significantly when information from both the patient and an informant is integrated rather than relying on either source alone (Jorm, 2004; Ismail et al., 2020).

One of the most valuable aspects of the informant interview is the assessment of **change over time**. Rather than asking whether the patient has a poor memory, clinicians should explore whether memory has deteriorated relative to previous abilities. Questions such as "*What activities could your relative perform independently five years ago that are now difficult?*" or "*Can you describe the first changes you noticed?*" are generally more informative than asking whether memory problems are present. Establishing this longitudinal perspective helps distinguish pathological cognitive decline from lifelong personality traits, limited educational attainment, or normal ageing (Galvin & Atri, 2022).

Collateral history is particularly important because many patients underestimate or deny their cognitive deficits. Impaired awareness of illness, commonly referred to as anosognosia, occurs frequently in Alzheimer's disease and is even more pronounced in behavioural variant frontotemporal dementia. Patients may confidently report that they continue to manage finances, medications, or driving safely despite objective evidence to the contrary. Conversely, some individuals with depression or anxiety markedly overestimate their cognitive difficulties, producing a discrepancy in the opposite direction. Comparing patient and caregiver accounts therefore provides important diagnostic information beyond the factual content of either interview alone (Starkstein, 2014; Livingston et al., 2024).

The interview should systematically explore each cognitive domain while emphasizing real-life examples rather than abstract descriptions. Informants should be asked about repetitive questioning, forgotten conversations, missed appointments, difficulty following television programs or newspaper articles, problems operating household appliances, errors in financial management, changes in cooking ability, reduced occupational performance, navigational difficulties, impaired judgment, and increasing dependence on reminders. Whenever possible, clinicians should request specific incidents illustrating these changes, as concrete examples are less susceptible to recall bias and provide stronger evidence of clinically significant impairment (Galvin & Sadowsky, 2012).

Behavioural and psychological symptoms of dementia (BPSD) are often more apparent to caregivers than to patients and should be explored during every collateral interview. Changes in personality, emotional responsiveness, irritability, apathy, anxiety, depression, hallucinations, delusions, compulsive behaviours, altered eating habits, sleep disturbances, wandering, aggression, and socially inappropriate behaviour frequently precede or accompany cognitive decline and may provide valuable clues regarding the underlying diagnosis. Early apathy and disinhibition, for example, strongly suggest frontotemporal dementia, whereas recurrent well-formed visual hallucinations and cognitive fluctuations are highly characteristic of dementia with Lewy bodies (McKeith et al., 2020; Rascovsky et al., 2011).

Functional decline represents another major focus of collateral assessment. Family members often recognize subtle losses of independence before these become evident during formal examination. Difficulties managing finances, paying bills, organizing medications, shopping independently, preparing meals, using transportation, handling electronic devices, or maintaining household responsibilities frequently mark the transition from mild cognitive impairment to dementia. Caregivers should also be asked whether increased supervision has become necessary, even if the patient continues to perform certain tasks independently. Such compensatory support may mask the true degree of functional impairment unless specifically explored (Marshall et al., 2015; Gauthier et al., 2022).

Safety issues require particular attention during the informant interview. Questions should address medication adherence, driving ability, falls, wandering, vulnerability to financial exploitation, firearm access where applicable, kitchen safety, use of electrical appliances, and the patient's ability to respond appropriately during emergencies. These issues are central to risk assessment and often determine the urgency of interventions irrespective of formal cognitive test scores (NICE, 2022; Galvin & Atri, 2022).

The caregiver interview should also evaluate caregiver wellbeing. Family members frequently experience considerable psychological distress, physical exhaustion, social isolation, financial burden, and depressive symptoms while caring for a person with dementia. Recognition of caregiver strain is important because caregiver health directly influences the patient's ability to remain safely in the community. Routine assessment of caregiver burden facilitates timely referral to community resources, respite services, psychological support, and educational programs, all of which have been shown to improve outcomes for both patients and caregivers (Brodaty & Donkin, 2009; Livingston et al., 2024).

Whenever feasible, clinicians should interview the caregiver separately from the patient for at least part of the consultation. Separate interviews encourage open discussion of sensitive issues such as personality change, aggression, hallucinations, financial difficulties, driving concerns, urinary incontinence, alcohol misuse, or caregiver stress that family members may hesitate to discuss in front of the patient.

Several standardized informant-based instruments can complement the clinical interview. Among the most widely validated is the Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE), which assesses changes in cognitive function over the preceding decade and is relatively independent of educational attainment and premorbid intelligence. Other useful instruments include the AD8 Dementia Screening Interview, the Functional Activities Questionnaire (FAQ), and disease-specific caregiver questionnaires. Although these tools should never replace clinical judgment, they improve diagnostic consistency, facilitate longitudinal monitoring, and provide objective documentation of cognitive and functional decline (Jorm, 2004; Galvin et al., 2005; Pfeffer et al., 1982).

Ultimately, the collateral history transforms isolated cognitive symptoms into a coherent longitudinal narrative that integrates cognition, function, behaviour, and daily life. For many patients, particularly those with limited insight or moderate dementia, it represents the single most informative component of the clinical assessment and frequently determines both diagnosis and management.

Table 6. Essential Components of the Informant Interview

Domain	Key questions	Clinical relevance
Symptom onset	When were the first changes noticed?	Establishes disease chronology.
Disease progression	Has decline been gradual, stepwise, or fluctuating?	Suggests underlying etiology.
Memory	Repetition, forgetting conversations, appointments, misplaced items	Typical of Alzheimer's disease.
Executive function	Managing finances, planning, organization, multitasking	Sensitive for vascular and frontal disorders.
Language	Word-finding difficulty, comprehension, naming problems	Supports diagnosis of aphasic syndromes or Alzheimer's disease.
Visuospatial ability	Getting lost, driving problems, recognizing faces or objects	Suggests DLB, posterior cortical atrophy, or Alzheimer's disease.
Behavioural changes	Apathy, disinhibition, hallucinations, delusions, sleep disturbance	Helps differentiate dementia syndromes.
Functional status	Medication management, cooking, shopping, finances, household tasks	Determines severity and distinguishes MCI from dementia.
Safety	Driving, falls, wandering, financial vulnerability, medication adherence	Guides immediate management.
Caregiver wellbeing	Emotional stress, physical exhaustion, support systems	Essential for long-term care planning.

Source: Jorm (2004), Galvin et al. (2005), Galvin and Atri (2022), NICE (2022), Livingston et al. (2024), Hort et al. (2024), Marshall et al. (2015), and Brodaty and Donkin (2009).

Table 7. Common Informant-Based Assessment Instruments

Instrument	Primary purpose	Advantages	Limitations
IQCODE	Assessment of longitudinal cognitive decline	Less influenced by education or baseline intelligence; extensively validated	Requires a reliable long-term informant
AD8 Dementia Screening Interview	Rapid dementia screening	Brief, sensitive for early cognitive change	Less useful without an informed caregiver
Functional Activities Questionnaire (FAQ)	Assessment of instrumental activities of daily living	Quantifies functional impairment and disease progression	Focuses primarily on IADLs
Blessed Dementia Scale	Functional and behavioural assessment	Historical importance; useful in longitudinal follow-up	Less commonly used in contemporary practice
Neuropsychiatric Inventory (NPI)	Assessment of behavioural and psychological symptoms	Comprehensive evaluation of BPSD and caregiver distress	More time-consuming than brief screening tools

Source: Adapted from Jorm (2004), Galvin et al. (2005), Pfeffer et al. (1982), Cummings et al. (1994), and current international dementia guidelines (NICE, 2022; Hort et al., 2024).

Clinical Practice Points

• A collateral history is essential, not optional, in the assessment of suspected dementia.
• Compare the patient's account with the caregiver's narrative; discrepancies often reveal impaired insight or alternative diagnoses.
• Focus on change from baseline, using concrete examples of declining cognition and function.
• Assess behavioural symptoms, safety risks, and caregiver burden systematically during every evaluation.
• Incorporate validated informant-based instruments, such as the IQCODE, AD8, and FAQ, to complement, but never replace, a comprehensive clinical interview.

4 Cognitive Symptom Profiles

Characterizing cognitive symptoms is the principal objective of the clinical interview and forms the basis of syndromic diagnosis. Rather than relying on screening test scores, clinicians should determine which cognitive domain was affected first, how symptoms have evolved, and their impact on everyday functioning. Different dementia syndromes exhibit distinct cognitive profiles that frequently allow an experienced clinician to formulate a provisional diagnosis before confirmatory investigations are performed.

4.1 Episodic Memory

Progressive episodic memory impairment is the hallmark of typical Alzheimer's disease and the most common presenting cognitive symptom. Patients usually report forgetting recent conversations, appointments, or the location of personal belongings, whereas caregivers often describe repetitive questioning and increasing reliance on reminders.

History taking should emphasize specific examples of recent memory failure rather than general questions regarding memory. Clinicians should determine whether forgetting interferes with daily activities, whether cues improve recall, and whether remote memory remains relatively preserved. Although strongly suggestive of Alzheimer's disease, episodic memory impairment is not disease-specific and should always be interpreted within the overall clinical context.

4.2 Executive Dysfunction

Executive function includes planning, organization, judgement, reasoning, cognitive flexibility, problem-solving, and multitasking. Patients seldom complain of executive dysfunction directly; instead, they describe increasing difficulty organizing daily activities, managing finances, following complex instructions, or making decisions.

Targeted questions should explore changes in organization, medication management, financial responsibilities, occupational performance, and the ability to complete previously familiar tasks. Early executive dysfunction is particularly characteristic of vascular cognitive impairment, frontal-subcortical disorders, and some frontotemporal dementias, although it also develops during Alzheimer's disease progression.

4.3 Attention and Processing Speed

Attention and processing speed influence nearly every aspect of cognitive function. Patients may complain of distractibility, inability to follow conversations, reduced concentration while reading, mental fatigue, or slowing of thought.

Marked fluctuations in attention suggest delirium or dementia with Lewy bodies, whereas slowed processing speed is particularly characteristic of vascular cognitive impairment and Parkinsonian disorders. The temporal pattern of attentional impairment therefore provides important diagnostic information.

4.4 Language Dysfunction

Language impairment varies according to the underlying dementia syndrome. Early Alzheimer's disease commonly presents with word-finding difficulty (anomia), whereas progressive deterioration in speech production or comprehension suggests primary progressive aphasia or frontotemporal lobar degeneration.

History taking should evaluate naming difficulty, comprehension, fluency, repetition, reading, writing, and the ability to participate in everyday conversation. Caregiver observations often identify progressive communication difficulties before patients recognize them.

4.5 Visuospatial Dysfunction

Visuospatial impairment may present as getting lost in familiar places, difficulty judging distances, problems recognizing faces or objects, impaired navigation, or increasing difficulty driving. These symptoms are particularly suggestive of posterior cortical atrophy, dementia with Lewy bodies, or atypical Alzheimer's disease and should always be explored during the clinical interview.

4.6 Praxis

Apraxia is the inability to perform learned purposeful motor activities despite preserved strength and comprehension. Caregivers may report difficulty using household appliances, dressing, preparing meals, or operating familiar devices despite otherwise adequate motor function. Recognition of progressive praxis impairment contributes to syndromic diagnosis and assessment of disease severity.

4.7 Social Cognition

Changes in personality, empathy, social judgement, emotional regulation, and interpersonal behaviour frequently precede significant memory impairment in behavioural-variant frontotemporal dementia. Family members may describe inappropriate social behaviour, loss of empathy, impulsivity, compulsive behaviours, or poor judgement. Because patients often lack insight, collateral history is particularly important when assessing social cognition.

Table 8. Characteristic Cognitive Symptom Profiles in Common Dementia Syndromes

Predominant symptom	Most likely syndrome
Progressive episodic memory impairment	Typical Alzheimer's disease
Early executive dysfunction	Vascular cognitive impairment, frontal-subcortical disorders
Fluctuating attention	Dementia with Lewy bodies or delirium
Progressive language impairment	Primary progressive aphasia
Early visuospatial dysfunction	Posterior cortical atrophy, DLB, atypical Alzheimer's disease
Progressive apraxia	Alzheimer's disease, corticobasal syndrome
Early personality and social behavioural change	Behavioural-variant frontotemporal dementia

Clinical Practice Points

- History taking should identify the first affected cognitive domain, as this often predicts the underlying pathology.
- Obtain specific real-life examples rather than general descriptions of memory loss.
- Different cognitive symptom profiles support syndromic diagnosis before formal investigations.
- Cognitive symptoms should always be interpreted together with functional decline, behavioural changes, and neurological findings.

5 Relevant Background Information

A comprehensive medical history provides essential diagnostic context and helps distinguish neurodegenerative dementia from potentially reversible causes of cognitive impairment. Particular attention should be directed toward previous neurological disease, cardiovascular risk factors, psychiatric disorders, systemic illnesses, medication exposure, substance use, and family history. Together, these factors influence both the likelihood of specific dementia syndromes and subsequent management (Livingston et al., 2024; Galvin & Atri, 2022).

Past Medical History

The medical history should identify disorders associated with cognitive decline or cerebrovascular injury, including hypertension, diabetes mellitus, dyslipidaemia, atrial fibrillation, heart failure, chronic kidney disease, obstructive sleep apnoea, thyroid disease, vitamin deficiencies, chronic liver disease, autoimmune disorders, malignancy, and previous neurological illnesses such as stroke, traumatic brain injury, epilepsy, Parkinson's disease, or multiple sclerosis. Previous episodes of delirium, especially following surgery or hospitalization, should also be documented because they increase the risk of subsequent cognitive decline (Livingston et al., 2024; WHO, 2023).

Medication History

Medication review is an integral component of dementia assessment because drug-induced cognitive impairment is common in older adults and is frequently reversible. Clinicians should review all prescribed medications, over-the-counter products, herbal preparations, and recent medication changes. Particular attention should be paid to drugs with anticholinergic properties, benzodiazepines, sedative-hypnotics, opioids, corticosteroids, antipsychotics, anticonvulsants, centrally acting antihypertensive agents, and polypharmacy. Medication adherence and administration errors should also be assessed, as they may reflect declining executive function rather than treatment failure (American Geriatrics Society Beers Criteria®, 2023; Galvin & Atri, 2022).

Table 9. Medications Commonly Associated with Cognitive Impairment

Drug class	Potential cognitive effects
Anticholinergic medications	Memory impairment, confusion, delirium
Benzodiazepines	Sedation, impaired attention, falls, amnesia
Opioids	Reduced alertness, confusion, delirium
Sedative-hypnotics	Excessive daytime somnolence, impaired cognition
Corticosteroids	Mood disturbance, psychosis, memory impairment
Anticonvulsants	Cognitive slowing, impaired concentration
Polypharmacy	Increased risk of adverse cognitive effects and delirium

Family History

A detailed family history should explore dementia, Parkinson's disease, motor neuron disease, Huntington's disease, psychiatric illness, cerebrovascular disease, and other inherited neurological disorders. Particular attention should be given to age at onset, affected relatives across successive generations, and patterns suggestive of autosomal dominant inheritance. Although most dementias are sporadic, a strong family history may indicate a monogenic disorder or increased genetic susceptibility and may warrant referral for genetic counselling (Goldman et al., 2020; Jack et al., 2024).

Social and Lifestyle History

Social history provides important information regarding cognitive reserve, functional expectations, and modifiable risk factors. Assessment should include educational attainment, previous occupation, language, living arrangements, social support, driving status, alcohol and substance use, smoking history, physical activity, nutrition, hearing and vision impairment, and participation in cognitively stimulating activities. Exposure to occupational toxins, repeated head trauma, or environmental hazards should also be documented when relevant (Livingston et al., 2024; Stern et al., 2020).

Patients should also be asked about recent changes in financial management, employment, medication administration, cooking, shopping, technology use, and community engagement, as these activities often reveal subtle functional decline before dependence in basic activities of daily living becomes apparent.

Table 10. Background Information Required During History Taking

Domain	Key information
Medical history	Neurological disease, vascular risk factors, endocrine and metabolic disorders, sleep disorders
Medication history	Prescription drugs, OTC medications, herbal products, anticholinergic burden, recent medication changes
Psychiatric history	Depression, anxiety, psychosis, substance misuse
Family history	Dementia, Parkinson's disease, Huntington's disease, early-onset neurological disorders
Social history	Education, occupation, living arrangements, social support
Lifestyle	Alcohol, smoking, exercise, diet, cognitive and social activities
Environmental exposure	Toxins, occupational hazards, repeated head injury

Clinical Practice Points
• Review medications systematically at every assessment; medication-related cognitive impairment is common and often reversible.
• Identify vascular and metabolic risk factors because aggressive management may slow cognitive decline.
• A three-generation family history is particularly valuable in patients with early-onset dementia.
• Social history provides insight into cognitive reserve, functional expectations, and available caregiver support.
• Background information should be interpreted alongside cognitive and functional assessment rather than in isolation.

6 Behavioural and Psychological Symptoms During History Taking
Behavioural and psychological symptoms of dementia (BPSD), also known as neuropsychiatric symptoms (NPS), are among the most common and clinically significant manifestations of dementia. They include apathy, depression, anxiety, agitation, irritability, aggression, hallucinations, delusions, sleep disturbance, wandering, compulsive behaviours, disinhibition, appetite changes, and emotional lability. More than 90% of patients with dementia develop one or more neuropsychiatric symptoms during the course of illness, making their systematic assessment an essential component of the clinical interview.

Importantly, behavioural symptoms may precede measurable cognitive impairment and provide valuable diagnostic clues. Early apathy, loss of empathy, compulsive behaviours, altered eating habits, and social disinhibition strongly suggest behavioural-variant frontotemporal dementia, whereas recurrent visual hallucinations, REM sleep behaviour disorder, anxiety, and cognitive fluctuations are characteristic of dementia with Lewy bodies. Recognition of these symptom clusters improves early syndromic diagnosis and guides further evaluation.

Because many patients lack insight into behavioural changes, caregivers usually provide the most reliable information. Assessment should therefore include interviews with both the patient and an informant, recognizing that discrepancies between their accounts may themselves indicate impaired awareness of illness. Open-ended questions regarding changes in personality, mood, interests, motivation, or social behaviour should precede focused questioning about individual symptoms. Once identified, each symptom should be characterized according to its onset, frequency, severity, precipitating factors, duration, and effect on the patient and caregiver.

Apathy
Apathy is one of the earliest and most prevalent neuropsychiatric symptoms. It is characterized by reduced motivation, diminished initiative, emotional indifference, and loss of interest despite preserved physical ability. Family members often report that patients require prompting to initiate activities, conversations, or self-care and gradually abandon previously enjoyable hobbies.

Apathy should be distinguished from depression. While depression is associated with sadness, hopelessness, guilt, and emotional distress, apathetic patients usually appear emotionally neutral and deny feeling depressed despite marked inactivity. This distinction has important therapeutic implications.

Depression and Anxiety

Depression and anxiety frequently coexist with dementia and may both worsen cognitive performance and reduce quality of life. Depression commonly presents with impaired concentration, psychomotor slowing, sleep disturbance, appetite change, and subjective memory complaints that may mimic dementia. Anxiety often manifests as excessive reassurance seeking, repetitive questioning, irritability, fearfulness, or resistance to unfamiliar situations. Identifying these symptoms is important because they are potentially treatable and substantially influence patient function and caregiver burden.

Psychotic Symptoms

Hallucinations and delusions should be assessed routinely because they often assist differential diagnosis. Recurrent, well-formed visual hallucinations are a core clinical feature of dementia with Lewy bodies, whereas persecutory delusions, misidentification syndromes, or paranoid beliefs commonly occur in later Alzheimer's disease. Clinicians should determine the nature, frequency, associated distress, and potential safety implications of psychotic symptoms, while excluding delirium, medication effects, or primary psychiatric illness as alternative causes.

Table 11. Behavioural Symptoms Suggestive of Specific Dementia Syndromes

Behavioural manifestation	Diagnostic implication
Early apathy, loss of empathy, disinhibition	Behavioural variant frontotemporal dementia
Well-formed recurrent visual hallucinations	Dementia with Lewy bodies
REM sleep behaviour disorder	Lewy body disease/Parkinsonian disorders
Depression with prominent subjective cognitive complaints	Consider depression (with or without dementia)
Agitation triggered by medical illness	Exclude delirium, pain, infection, medication effects
Progressive compulsive or ritualistic behaviours	Frontotemporal dementia
Delusions of theft or misidentification	Common in Alzheimer's disease and Lewy body dementia
Marked personality change	Frontotemporal dementia or advanced neurodegenerative disease

Source: McKeith et al. (2020), Rascovsky et al. (2011), Cummings et al. (1994), Kales et al. (2015), Robert et al. (2018), Livingston et al. (2024), and Galvin and Atri (2022).

Clinical Practice Points

- Behavioural symptoms should be assessed routinely in every patient with suspected dementia.
- Obtain behavioural history from both the patient and a knowledgeable caregiver whenever possible.
- Apathy should be distinguished from depression because management differs.
- Early neuropsychiatric symptoms often provide important clues to the underlying dementia syndrome.
- Evaluate the severity, frequency, precipitating factors, and impact of each symptom on both the patient and caregiver.

7 Medical, Psychiatric, and Medication History

A comprehensive medical, psychiatric, and medication history is essential in the evaluation of suspected dementia because many systemic disorders and medications contribute to cognitive impairment, influence disease expression, or mimic neurodegenerative disease. The primary objective is to identify potentially reversible causes of cognitive decline, recognize comorbid conditions affecting prognosis, and define factors that influence subsequent investigations and management.

Medical History

Clinicians should systematically review vascular, neurological, endocrine, metabolic, infectious, autoimmune, and systemic disorders known to affect cognition. Particular attention should be paid to hypertension, diabetes mellitus, dyslipidaemia, atrial fibrillation, cerebrovascular disease, chronic kidney disease, thyroid disorders, vitamin B12 deficiency, liver disease, malignancy, sleep disorders, and previous episodes of delirium. Because many of these conditions are potentially modifiable, their identification has important therapeutic and prognostic implications.

Previous neurological disorders, including stroke, traumatic brain injury, epilepsy, Parkinson's disease, multiple sclerosis, central nervous system infections, brain tumours, and neurosurgical procedures, should be documented carefully, with emphasis on their temporal relationship to cognitive decline.

Psychiatric History

Psychiatric disorders commonly coexist with dementia and may either mimic or exacerbate cognitive impairment. A history of depression, anxiety disorders, bipolar disorder, psychosis, substance misuse, or previous psychiatric hospitalization should be obtained. Depression deserves particular attention because it may present with impaired concentration, psychomotor slowing, and prominent subjective memory complaints ("pseudodementia"), whereas longstanding psychiatric illness may coexist with an underlying neurodegenerative disorder.

Changes in personality, mood, emotional regulation, or behaviour preceding cognitive symptoms should also be explored, as these may suggest frontotemporal dementia or dementia with Lewy bodies rather than primary psychiatric disease.

Medication History

Medication review is a mandatory component of dementia assessment. All prescribed medications, over-the-counter preparations, herbal products, and nutritional supplements should be reviewed, with particular attention to recently initiated or dose-adjusted therapies and their temporal relationship to symptom onset.

Drugs with anticholinergic or sedative properties are especially important because they commonly impair memory, attention, and executive function and increase the risks of delirium, falls, and functional decline. Polypharmacy itself is associated with adverse cognitive outcomes and should prompt regular medication reconciliation and deprescribing when appropriate.

Assessment should also evaluate medication adherence, as difficulty managing complex medication regimens may represent early executive dysfunction rather than simple non-compliance.

Table 12. Medical and Medication Factors Contributing to Cognitive Impairment

Factor	Clinical significance
Hypertension, diabetes, dyslipidaemia	Major vascular risk factors for dementia
Stroke or transient ischemic attack	Suggests vascular cognitive impairment
Parkinson's disease	Raises suspicion for Parkinson's disease dementia or DLB
Traumatic brain injury	Increases long-term dementia risk
Thyroid disease	Potentially reversible cause of cognitive dysfunction
Vitamin B12 deficiency	Reversible metabolic cause of cognitive impairment
Chronic kidney or liver disease	May contribute to metabolic encephalopathy
Depression and anxiety	May mimic or worsen dementia symptoms
Anticholinergic medications	Memory impairment, confusion, delirium
Benzodiazepines, opioids, sedative-hypnotics	Cognitive slowing, sedation, falls
Polypharmacy	Increased risk of adverse cognitive effects and medication errors

Clinical Practice Points

• Review medical illnesses, psychiatric disorders, and medications systematically in every patient with suspected dementia.
• Identify potentially reversible contributors before diagnosing irreversible neurodegenerative disease.
• Minimize medications with significant anticholinergic or sedative effects whenever clinically appropriate.
• Evaluate medication adherence as part of the assessment of executive function.
• Management of vascular and metabolic risk factors remains an important component of dementia care.

Functional assessment

Functional assessment is a fundamental component of dementia evaluation because the diagnosis requires not only objective cognitive impairment but also evidence that cognitive decline interferes with independence in everyday activities. Functional impairment distinguishes dementia from subjective cognitive decline and mild cognitive impairment (MCI), in which daily functioning is largely preserved despite measurable cognitive deficits (DSM-5-TR, 2022; Jack et al., 2024).

The primary objectives of functional assessment are to determine the degree of independence, establish disease severity, identify safety concerns, monitor progression, and guide individualized care planning. Functional evaluation should be based on information obtained from both the patient and a knowledgeable informant, as impaired insight frequently leads patients to underestimate their limitations (Galvin & Atri, 2022; Livingston et al., 2024).

Functional decline usually follows a predictable sequence. Instrumental activities of daily living (IADLs), which require higher-order executive and cognitive abilities, are affected early in most neurodegenerative disorders. Basic activities of daily living (ADLs) generally remain intact during the early stages and decline later as the disease progresses. Recognition of this pattern assists both diagnosis and clinical staging (Lawton & Brody, 1969; Katz et al., 1963).

Assessment should include practical examples rather than simple yes-or-no questions. Difficulties with financial management, medication administration, shopping, meal preparation, driving, use of household appliances, technology, or keeping appointments often represent the earliest manifestations of functional decline. Later stages are characterized by dependence in dressing, bathing, toileting, feeding, transferring, and continence (Livingston et al., 2024).

Because functional impairment has important medico-legal implications, clinicians should also evaluate driving safety, medication self-management, financial capacity, vulnerability to exploitation, home safety, fall risk, nutritional status, and the need for caregiver supervision. These domains directly influence treatment planning, community support, and long-term care decisions (NICE, 2022; Galvin & Atri, 2022).

Table 13. Functional Domains in Dementia Assessment

Functional domain	Examples	Typical stage affected
Instrumental ADLs (IADLs)	Managing finances, medications, shopping, cooking, transportation, telephone/computer use	Early
Basic ADLs (ADLs)	Bathing, dressing, toileting, grooming, feeding, transferring	Moderate to advanced
Occupational function	Reduced work performance, inability to manage responsibilities	Early
Social function	Withdrawal from social activities, impaired communication, reduced participation	Early–moderate
Safety	Driving, medication errors, falls, wandering, financial vulnerability	Any stage
Caregiver dependence	Need for supervision or assistance	Progressive

Functional Assessment Instruments
Several standardized instruments improve the objectivity and reproducibility of functional assessment. Selection should depend on the clinical setting, disease stage, and purpose of evaluation.

Table 14. Common Functional Assessment Scales

Instrument	Primary purpose	Advantages	Limitations
Lawton Instrumental Activities of Daily Living Scale	Assessment of IADLs	Sensitive to early functional decline	Less useful in advanced dementia
Katz Index of Activities of Daily Living	Assessment of basic ADLs	Simple and widely validated	Limited sensitivity in early disease
Functional Activities Questionnaire (FAQ)	Informant-based assessment of complex daily activities	Excellent for MCI and early dementia	Requires reliable caregiver
Disability Assessment for Dementia (DAD)	Comprehensive functional assessment	Useful for monitoring progression	Longer administration time
Clinical Dementia Rating (CDR)	Global staging incorporating cognition and function	Widely used in research and clinical practice	Requires structured interview

Caregiver Assessment
Caregiver observations frequently provide the most reliable measure of functional decline because they reflect the patient's actual performance in everyday life rather than perceived ability. Particular attention should be directed toward:
• Medication administration
• Financial management
• Driving behaviour
• Cooking and household tasks
• Personal hygiene
• Wandering or getting lost
• Falls and mobility
• Behavioural changes affecting daily function
• Requirement for supervision

Disagreement between patient and caregiver reports should prompt further evaluation, as poor insight (anosognosia) is common in Alzheimer's disease and frontotemporal dementia (Galvin & Atri, 2022; Starkstein, 2014).

Functional Red Flags
The following findings strongly suggest progression from MCI to dementia:
• Progressive loss of independence in IADLs
• Recurrent medication errors
• Inability to manage finances
• Unsafe driving or getting lost
• Frequent missed appointments
• Household neglect
• Dependence in basic ADLs
• Increasing caregiver supervision

Clinical Practice Points
• Functional impairment is required for the diagnosis of dementia.
• IADLs are affected earlier than basic ADLs in most neurodegenerative dementias.
• Functional assessment should combine patient interview, caregiver history, and standardized assessment tools.
• Declining functional ability predicts caregiver burden, institutionalization, and mortality.
• Evaluation of driving, financial capacity, medication management, and home safety should form part of every comprehensive dementia assessment.

Neurological Examination

The neurological examination is an integral component of the clinical assessment of patients with suspected dementia. Although the examination may be normal in early Alzheimer's disease, abnormal neurological findings frequently provide important diagnostic clues, help distinguish among dementia subtypes, identify potentially reversible causes of cognitive impairment, and guide further investigations. The neurological examination should therefore be performed systematically in every patient undergoing dementia evaluation (Jack et al., 2024; McKeith et al., 2020; Gauthier et al., 2022).

The examination should evaluate mental status, cranial nerves, motor function, sensory function, coordination, gait and balance, primitive reflexes, extrapyramidal signs, cerebellar function, and focal neurological deficits. Findings should always be interpreted within the context of the patient's clinical history, cognitive profile, functional status, laboratory investigations, and neuroimaging results (Livingston et al., 2024; NICE, 2022).

1 General Observation
Observation begins when the patient enters the consultation room. Clinicians should assess spontaneous movement, posture, facial expression, eye contact, grooming, hygiene, affect, psychomotor activity, and interaction with accompanying family members. Difficulty following conversation, reduced spontaneous speech, apathy, inappropriate social behaviour, or impaired awareness of deficits may provide valuable clues before formal examination begins (Jack et al., 2024; Livingston et al., 2024).

2 Cranial Nerve Examination
A focused cranial nerve examination helps identify neurological disorders that may contribute to cognitive impairment. Visual field defects may suggest cerebrovascular disease or structural brain lesions, impaired eye movements may indicate progressive supranuclear palsy, anosmia is frequently associated with Parkinsonian disorders, and dysarthria or dysphagia may suggest motor neuron disease or advanced neurodegenerative conditions. Although cranial nerve abnormalities are uncommon in uncomplicated Alzheimer's disease, their presence should prompt consideration of alternative diagnoses (Höglinger et al., 2017; McKeith et al., 2020).

3 Motor Examination
Motor assessment should include muscle bulk, tone, strength, involuntary movements, and the presence of pyramidal or extrapyramidal signs. Parkinsonism, including bradykinesia, rigidity, resting tremor, and postural instability, is characteristic of dementia with Lewy bodies and Parkinson's disease dementia, whereas upper motor neuron signs may suggest vascular dementia, corticobasal syndrome, amyotrophic lateral sclerosis, or other neurodegenerative disorders. Myoclonus, particularly when rapidly progressive, should raise suspicion for Creutzfeldt–Jakob disease (McKeith et al., 2020; Armstrong et al., 2013).

4 Coordination and Cerebellar Function
Assessment of finger-to-nose testing, heel-to-shin movements, rapid alternating movements, and tandem gait assists in identifying cerebellar dysfunction. Cerebellar signs are uncommon in Alzheimer's disease and should prompt evaluation for alternative neurodegenerative, vascular, toxic, infectious, or structural disorders (Höglinger et al., 2017; Armstrong et al., 2013).

5 Gait and Balance
Evaluation of gait is among the highest-yield components of the neurological examination. Clinicians should assess gait initiation, stride length, arm swing, turning, postural stability, and balance. A shuffling gait with reduced arm swing suggests Parkinsonian syndromes, whereas a broad-based ataxic gait indicates cerebellar disease. A magnetic gait with difficulty initiating walking is characteristic of normal-pressure hydrocephalus. Early gait impairment also increases fall risk and has important implications for functional independence and caregiver planning (McKeith et al., 2020; Jack et al., 2024; Livingston et al., 2024).

6 Primitive Reflexes
Primitive or frontal release reflexes, including the grasp, snout, palmomental, and glabellar reflexes, may re-emerge with frontal lobe dysfunction. Although these findings support frontal cortical involvement, they are neither sensitive nor specific for dementia and should always be interpreted alongside the overall neurological examination (Jack et al., 2024; Gauthier et al., 2022).

Table 15. Neurological Findings and Their Diagnostic Implications

Neurological finding	Diagnostic implication
Normal neurological examination	Common in early Alzheimer's disease
Bradykinesia, rigidity, resting tremor	Dementia with Lewy bodies or Parkinson's disease dementia
Vertical gaze palsy	Progressive supranuclear palsy
Limb apraxia with asymmetric rigidity	Corticobasal syndrome
Myoclonus	Creutzfeldt–Jakob disease
Magnetic gait	Normal-pressure hydrocephalus
Cerebellar ataxia	Cerebellar degeneration, toxic or structural disease
Focal neurological deficits	Vascular dementia or structural brain lesion
Primitive reflexes	Frontal lobe dysfunction

Source: Adapted from Jack et al. (2024), McKeith et al. (2020), Armstrong et al. (2013), Höglinger et al. (2017), Livingston et al. (2024), and Gauthier et al. (2022).

Clinical Practice Points

• A normal neurological examination does not exclude early Alzheimer's disease.
• Focal neurological deficits, early Parkinsonism, cerebellar signs, or upper motor neuron findings should prompt investigation for alternative diagnoses.
• Careful assessment of gait is one of the highest-yield components of the neurological examination in older adults with cognitive impairment.
• Primitive reflexes support, but are not diagnostic of, frontal lobe dysfunction.
• The neurological examination should always be interpreted alongside the history, functional assessment, cognitive evaluation, laboratory investigations, and neuroimaging.

Early Warning Signs of Dementia

Early recognition of dementia is increasingly important because disease-modifying therapies, comprehensive risk factor management, advance care planning, and non-pharmacological interventions are most effective during the earliest stages of disease. Unfortunately, the initial manifestations of dementia are frequently subtle, develop gradually, and may be misattributed to normal aging, stress, depression, or other medical conditions. Careful clinical assessment remains the cornerstone of early diagnosis (Jack et al., 2024; Livingston et al., 2024; NICE, 2022).

The earliest clinical manifestations vary according to the underlying neurodegenerative disorder. While episodic memory impairment is the hallmark of typical Alzheimer's disease, early executive dysfunction, language impairment, visuospatial deficits, behavioural changes, or Parkinsonian features may predominate in non-Alzheimer dementias. Consequently, clinicians should evaluate cognitive, functional, behavioural, and neurological changes collectively rather than relying solely on memory complaints (McKhann et al., 2024; McKeith et al., 2020; Livingston et al., 2024).

Importantly, family members often recognize subtle changes before patients themselves because impaired insight (anosognosia) commonly accompanies early dementia. A structured collateral history is therefore indispensable when evaluating suspected early cognitive decline (Jack et al., 2024; Gauthier et al., 2022).

1 Cognitive Warning Signs

Persistent impairment in recent memory remains the most common presenting feature of Alzheimer's disease. Patients frequently repeat questions, misplace personal belongings, forget recent conversations or appointments, and become increasingly dependent on calendars or reminder systems. Unlike age-associated memory changes, these deficits progressively interfere with daily functioning (McKhann et al., 2024; Jack et al., 2024).

Early executive dysfunction may manifest as difficulty organizing activities, managing finances, solving problems, multitasking, or making decisions. Patients may require increasing assistance with complex instrumental activities of daily living before significant memory impairment becomes apparent (Livingston et al., 2024; Gauthier et al., 2022).

Language impairment may initially present with word-finding difficulty, reduced verbal fluency, or impaired naming, whereas visuospatial dysfunction may manifest as getting lost in familiar environments, impaired navigation, difficulty judging distances, or problems recognizing familiar faces or objects (McKhann et al., 2024; Jack et al., 2024).

Progressive Clinical Features of Dementia

Dementia is a progressive neurodegenerative syndrome characterized by gradual deterioration in cognition, functional independence, behaviour, and neurological function. Although the rate of progression varies among individuals and according to the underlying pathology, most patients experience an evolving pattern of deficits that ultimately results in complete dependency. Recognition of disease progression is essential for prognosis, treatment planning, caregiver education, advanced care planning, and timely implementation of supportive services (Jack et al., 2024; Livingston et al., 2024; NICE, 2022).

Progression should be evaluated longitudinally rather than during a single clinical encounter. Serial assessment of cognitive performance, functional status, behavioural symptoms, neurological findings, nutritional status, mobility, and caregiver burden provides a more accurate measure of disease evolution than isolated cognitive scores alone (Gauthier et al., 2022; Jack et al., 2024).

1 Cognitive Progression
In Alzheimer's disease, episodic memory impairment usually dominates the earliest stage, followed by progressive deterioration in executive function, language, visuospatial abilities, and attention. As the disease advances, patients become increasingly unable to learn new information, recognize familiar individuals, communicate effectively, or perform complex cognitive tasks. In advanced disease, orientation, comprehension, and even basic communication may be profoundly impaired (McKhann et al., 2024; Jack et al., 2024).

Other dementia syndromes follow different trajectories. Frontotemporal dementia often begins with prominent behavioural or language disturbances before memory impairment becomes evident, whereas dementia with Lewy bodies is characterized by fluctuating cognition, visual hallucinations, REM sleep behaviour disorder, and progressive Parkinsonism. Vascular dementia may demonstrate a stepwise decline associated with recurrent cerebrovascular events (McKeith et al., 2020; Armstrong et al., 2013; Livingston et al., 2024).

2 Functional Progression
Functional impairment progresses from subtle difficulties with instrumental activities of daily living to complete dependence for basic self-care. Initially, patients require assistance with complex tasks such as medication management, financial affairs, transportation, and meal preparation. As dementia advances, patients progressively lose independence in dressing, bathing, toileting, feeding, and mobility, eventually requiring continuous supervision and comprehensive personal care (Lawton & Brody, 1969; Katz et al., 1963; Gauthier et al., 2022).

Increasing dependence is accompanied by escalating caregiver burden, greater healthcare utilization, and higher rates of hospitalization and institutionalization, underscoring the importance of regular reassessment and anticipatory care planning (Livingston et al., 2024; NICE, 2022).

3 Behavioural and Psychological Progression
Behavioural and psychological symptoms frequently increase as dementia progresses. Agitation, aggression, apathy, depression, anxiety, wandering, sleep disturbances, psychosis, and resistance to care become more prevalent and often represent the principal source of caregiver distress. Symptom severity may fluctuate, particularly in dementia with Lewy bodies, but persistent or worsening neuropsychiatric symptoms usually indicate advancing disease and necessitate reassessment for potential medical, environmental, or medication-related precipitants (Livingston et al., 2024; Ismail et al., 2020; McKeith et al., 2020).

4 Neurological Progression
Neurological impairment generally becomes more apparent during the later stages of dementia. Gait instability, recurrent falls, dysphagia, urinary and fecal incontinence, rigidity, Parkinsonism, contractures, and impaired mobility contribute substantially to disability, aspiration risk, malnutrition, and mortality. Advanced neurological impairment often signals the need for palliative approaches and comprehensive multidisciplinary care (Jack et al., 2024; Livingston et al., 2024; NICE, 2022).

Table 18. Progressive Clinical Features across the Course of Dementia

Clinical domain	Early stage	Moderate stage	Advanced stage
Cognition	Mild episodic memory loss, executive dysfunction	Language, visuospatial, and attention deficits	Severe global cognitive impairment
Function	Declining IADLs	Assistance with ADLs	Complete dependence
Behaviour	Apathy, depression, anxiety	Agitation, wandering, psychosis	Severe behavioural disturbance or reduced responsiveness
Neurological	Usually normal examination	Gait impairment, Parkinsonism in selected dementias	Dysphagia, immobility, incontinence, contractures
Care needs	Minimal supervision	Daily caregiver assistance	Twenty-four-hour care

Source: Adapted from Jack et al. (2024), Livingston et al. (2024), McKhann et al. (2024), McKeith et al. (2020), Gauthier et al. (2022), Katz et al. (1963), Lawton and Brody (1969), and NICE (2022).

Clinical Practice Points

• Dementia usually progresses gradually, with increasing cognitive, functional, and behavioural impairment.
• Instrumental activities of daily living are affected before basic activities of daily living.
• The pace of progression varies considerably among dementia subtypes and individual patients.
• Rapid or abrupt deterioration is atypical for Alzheimer's disease and should prompt evaluation for reversible or alternative causes.
• Serial clinical assessment remains the most reliable method for monitoring disease progression and guiding management.

Behavioural and Psychological Symptoms of Dementia (BPSD)

Behavioural and Psychological Symptoms of Dementia (BPSD), also referred to as neuropsychiatric symptoms (NPS), comprise a heterogeneous group of non-cognitive disturbances affecting mood, perception, thought content, personality, sleep, and behaviour. More than 90% of individuals with dementia develop one or more neuropsychiatric symptom during the course of illness, making BPSD one of the principal causes of caregiver burden, institutionalization, reduced quality of life, increased healthcare utilization, and accelerated disease progression (Livingston et al., 2024; Ismail et al., 2020; Gauthier et al., 2022).

Although behavioural manifestations often become more prominent as dementia progresses, they may also represent the earliest manifestation of certain neurodegenerative disorders, particularly behavioural-variant frontotemporal dementia and dementia with Lewy bodies. Consequently, systematic assessment of behavioural symptoms should form part of every comprehensive dementia evaluation (McKeith et al., 2020; Rascovsky et al., 2011; Livingston et al., 2024).

BPSD should never be interpreted in isolation. Their occurrence frequently reflects an interaction between neurodegeneration, environmental stressors, unmet physical needs, caregiver communication, medical illness, medication effects, pain, delirium, sensory impairment, and psychosocial factors. Identifying potentially reversible contributors is therefore a fundamental component of assessment before considering pharmacological intervention (NICE, 2022; Livingston et al., 2024).

1 Common Behavioural and Psychological Symptoms

The most frequently encountered manifestations include:

- Apathy
- Depression
- Anxiety
- Agitation
- Aggression
- Irritability
- Psychosis (hallucinations and delusions)
- Sleep disturbances
- Wandering
- Disinhibition
- Repetitive or compulsive behaviours
- Appetite and eating disturbances
- Emotional lability

Symptom frequency and severity vary according to dementia subtype and disease stage. Alzheimer's disease commonly presents with apathy, depression, and agitation, whereas recurrent visual hallucinations and cognitive fluctuations strongly suggest dementia with Lewy bodies. Early personality change, loss of empathy, compulsive behaviours, and disinhibition are characteristic of behavioural-variant frontotemporal dementia (McKeith et al., 2020; Rascovsky et al., 2011; Livingston et al., 2024).

2 Clinical Assessment

Assessment should include interviews with both the patient and a reliable caregiver because impaired insight frequently limits patient reporting. Each behavioural symptom should be characterized according to:

- Onset and progression
- Frequency and severity
- Duration
- Triggering or precipitating factors
- Associated risks to the patient or others
- Impact on caregiver burden
- Previous interventions and treatment response

Validated instruments such as the Neuropsychiatric Inventory (NPI), Cornell Scale for Depression in Dementia, and Cohen-Mansfield Agitation Inventory improve objectivity and facilitate longitudinal monitoring (Cummings et al., 1994; Ismail et al., 2020; Livingston et al., 2024).

3 Differential Diagnosis

Before attributing behavioural changes to dementia, clinicians should exclude reversible causes including:

- Delirium
- Infection
- Pain
- Medication adverse effects
- Constipation or urinary retention
- Sleep disorders
- Sensory impairment
- Depression
- Metabolic abnormalities
- Environmental stressors

Failure to recognize these conditions may lead to inappropriate psychotropic prescribing and unnecessary morbidity (NICE, 2022; Livingston et al., 2024).

4 Management Principles

Management should prioritize non-pharmacological interventions, which remain the first-line approach for most behavioural symptoms. Effective strategies include caregiver education, environmental modification, structured daily routines, meaningful activities, sensory optimization, pain management, sleep hygiene, and treatment of precipitating medical conditions (Livingston et al., 2024; NICE, 2022).

Psychotropic medications should be reserved for severe symptoms causing substantial distress or immediate risk to the patient or others after reversible causes have been addressed. Treatment should employ the lowest effective dose, be reviewed regularly, and discontinued whenever clinically feasible because antipsychotics and sedative medications increase the risks of stroke, falls, cognitive decline, and mortality in older adults with dementia (American Geriatrics Society Beers Criteria® Update Expert Panel, 2023; NICE, 2022; Livingston et al., 2024).

Table 18. Common Behavioural and Psychological Symptoms of Dementia

Symptom	Clinical significance	Dementia subtype commonly associated
Apathy	Most common neuropsychiatric symptom	Alzheimer's disease, FTD
Depression	Reduced quality of life, functional decline	Alzheimer's disease
Anxiety	Increased dependence and caregiver burden	Early Alzheimer's disease
Agitation/Aggression	Common cause of hospitalization	Moderate-to-severe dementia
Visual hallucinations	Core diagnostic feature	Dementia with Lewy bodies
Delusions	Often occur in moderate disease	Alzheimer's disease, DLB
Disinhibition	Suggests frontal lobe involvement	Behavioural-variant FTD
Compulsive behaviours	Diagnostic clue	Behavioural-variant FTD
Wandering	Important safety concern	Moderate-to-advanced dementia
Sleep disturbance	Increases caregiver burden	All dementia syndromes

Source: Adapted from Livingston et al. (2024), McKeith et al. (2020), Rascovsky et al. (2011), Ismail et al. (2020), NICE (2022), and Cummings et al. (1994).

Clinical Practice Points

• BPSD affects most patients with dementia during the course of illness and is a major determinant of caregiver burden and institutionalization.
• Behavioural symptoms should be considered clinical syndromes with potentially reversible contributors, not simply inevitable consequences of dementia.
• A systematic assessment should always exclude delirium, pain, infection, medication adverse effects, and other medical illnesses.
• Non-pharmacological interventions are the cornerstone of management and should be implemented before considering psychotropic medications.
• Antipsychotic medications should be reserved for severe psychosis or dangerous agitation after careful assessment of risks and benefits.
• Regular reassessment is essential, as behavioural symptoms fluctuate and treatment requirements change over time.

Future Directions: The Emerging Role of Artificial Intelligence in the Clinical Assessment of Dementia

Artificial intelligence (AI) is rapidly transforming the clinical assessment of dementia by enhancing diagnostic accuracy, facilitating earlier disease detection, improving risk stratification, and supporting individualized clinical decision-making. Rather than replacing clinical judgment, AI serves as a decision-support tool that integrates complex multidimensional data, including clinical history, cognitive testing, neuroimaging, digital biomarkers, genetics, laboratory findings, and electronic health records, to assist clinicians throughout the diagnostic process (Jack et al., 2024; Livingston et al., 2024; WHO, 2023).

Machine learning and deep learning algorithms have demonstrated increasing accuracy in distinguishing normal aging from mild cognitive impairment and Alzheimer's disease, predicting disease progression, identifying individuals at high risk of cognitive decline, and classifying dementia subtypes using multimodal datasets. AI-assisted interpretation of structural MRI, PET imaging, retinal imaging, speech analysis, gait assessment, and digital cognitive assessments offers opportunities for earlier diagnosis, particularly during the preclinical and prodromal stages of disease (Topol, 2019; Jack et al., 2024; Frisoni et al., 2024).

Digital health technologies further extend dementia assessment beyond the traditional clinic. Wearable sensors, smartphones, home-based monitoring systems, and passive digital biomarkers permit continuous evaluation of mobility, sleep, speech, daily functioning, and behavioural changes in real-world settings. These technologies may detect subtle decline before it becomes clinically apparent while providing objective longitudinal data for monitoring disease progression and treatment response (WHO, 2023; Livingston et al., 2024).

Despite these advances, important challenges remain. AI systems require rigorous external validation across diverse populations and healthcare settings to minimize bias and ensure generalizability. Ethical considerations, including patient privacy, transparency, algorithmic fairness, data governance, cyber-security, and clinician accountability, must be addressed before widespread implementation. Importantly, AI should complement rather than replace comprehensive clinical assessment, multidisciplinary evaluation, and individualized patient-centered care (WHO, 2023; NICE, 2022; Topol, 2019).

Table 19. Potential Applications of Artificial Intelligence in Dementia Assessment

Clinical application	Potential benefit
Automated neuroimaging analysis	Earlier and more accurate detection of neurodegeneration
Digital cognitive assessment	Remote, standardized cognitive evaluation
Speech and language analysis	Identification of early language impairment
Gait and movement analysis	Detection of subtle motor abnormalities
Wearable technologies	Continuous monitoring of mobility, sleep, and activity
Electronic health record analytics	Risk prediction and clinical decision support
Multimodal machine learning	Improved diagnostic classification and prognostic prediction

Source: Adapted from Jack et al. (2024), Livingston et al. (2024), Frisoni et al. (2024), Topol (2019), WHO (2023), and NICE (2022).

Clinical Practice Points

- Artificial intelligence has the potential to facilitate earlier recognition of cognitive decline through analysis of multimodal clinical and digital data.
- AI should be regarded as a clinical decision-support tool, not a substitute for comprehensive clinical assessment.
- Validation across diverse populations and healthcare settings remains essential before widespread implementation.
- Ethical issues, including transparency, fairness, privacy, and data governance, must accompany technological advances.
- Integration of AI into dementia care should strengthen, not replace, the clinician-patient relationship.

Conclusion

Clinical assessment remains the cornerstone of dementia diagnosis despite major advances in biomarkers, neuroimaging, molecular diagnostics, and artificial intelligence. An accurate diagnosis depends on a comprehensive, patient-centered evaluation that integrates detailed history taking, collateral information, functional assessment, neurological examination, recognition of early warning signs, longitudinal evaluation of disease progression, and systematic assessment of behavioural and psychological symptoms. No single investigation can substitute for a careful clinical assessment performed within the context of the patient's medical, psychological, functional, and social circumstances (Jack et al., 2024; Livingston et al., 2024; NICE, 2022).

The clinical manifestations of dementia are heterogeneous, reflecting the diversity of underlying neurodegenerative disorders. Recognition of syndrome-specific cognitive, behavioural, functional, and neurological patterns facilitates earlier diagnosis, improves differential diagnosis, and enables timely implementation of evidence-based pharmacological and non-pharmacological interventions. Equally important is the identification of reversible contributors to cognitive impairment and modifiable risk factors that may influence disease progression and patient outcomes (Gauthier et al., 2022; McKhann et al., 2024).

As disease-modifying therapies and precision medicine continue to evolve, the importance of early and accurate clinical diagnosis will become even greater. Emerging development ,including artificial intelligence, digital biomarkers, wearable devices, and multimodal predictive models, will increasingly complement traditional clinical practice by supporting earlier detection and individualized management. However, these innovations should enhance rather than replace comprehensive clinical evaluation, multidisciplinary collaboration, and compassionate patient-centered care.
Ultimately, high-quality dementia assessment requires the integration of scientific evidence, clinical expertise, standardized assessment tools, caregiver perspectives, and individualized decision-making. This comprehensive approach provides the strongest foundation for accurate diagnosis, effective management, improved quality of life for patients and caregivers, and optimal long-term outcomes (Livingston et al., 2024; WHO, 2023; Jack et al., 2024).

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