Access to Higher Education Unit

This unit forms part of an Access to HE Diploma. If delivering the graded version of this unit, please refer to the Provider Handbook for details on grading descriptors and the application of these across units within your programme.

Unit Title: Understanding Dementia: Causes, Diagnosis, and Care

Graded Unit Reference Number: GA33HEA19

Ungraded Unit Reference Number: UA33HEA19

Module: Biology

Level: Three (3)

Credit Value: Three (3)

Minimum Guided Learning Hours: 30

Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):
1. Understand the causes and prevalence of dementia	1.1 Define the term dementia and explain its key characteristics.
	1.2 Analyse the prevalence of dementia in the UK, including demographic and societal impacts.
	1.3 Explain the main risk factors and potential causes of dementia.
2. Understand the diagnosis of dementia	2.1 Describe the process of diagnosing dementia and distinguish between major types (e.g., Alzheimer's, vascular, Lewy body, frontotemporal, mixed).
	2.2 Explain the challenges and limitations associated with diagnosing dementia.
3. Understand treatment and care for individuals with dementia	3.1 Explain the principles of person-centred care planning for individuals with dementia.
	3.2 Evaluate a range of treatments and interventions used to support individuals living with dementia.

Indicative Content

Learners could cover the following: (The information below is provided for guidance only and is not mandatory)	
LO1	AC1.1 **Definition & scope:** Dementia as an umbrella term for a group of symptoms caused by brain disease/damage; progressive decline affecting memory, communication, reasoning, and mood/behaviour; not a normal part of ageing. **Neurobiology overview (plain language):** Neurons/nerve cells, electrochemical communication, and how damage disrupts networks; role of hippocampus (long-term memory/spatial awareness) and prefrontal lobe (working memory/attention), with early impact in Alzheimer's disease. **Memory changes:** Short-term/working memory impairment vs relative preservation of older long-term memories in early stages; practical manifestations (repeating tasks/questions, misplacing items, losing track of time/appointments); consequences for daily living. **Typical early features:** Disorientation (time/place), word-finding/communication difficulties, planning/decision-making problems, changes in mood/personality; contrast with typical age-related forgetfulness. AC1.2 **Current and projected prevalence:** ~944,000 people with dementia in the UK; projected to exceed 1 million by 2030 and ~1.6 million by 2050. **Lifetime risk and demographics:** Approx. one in three born in the UK may develop dementia; higher prevalence in women (longevity effect). **Geographical and ethnic patterns:** Regional variation in prevalence; considerations for Black, Asian and Minority Ethnic populations, greater prevalence in some groups, earlier age at diagnosis in some cases, and barriers to timely diagnosis/access. **Economic and societal impact:** Estimated annual UK cost ~£34.7bn (~£32,250 per person), pressure on long-term care/hospital services, productivity losses; impact on unpaid carers (emotional, physical, and financial stress). **Implications for services/policy:** Need for earlier diagnosis, culturally competent services, and provision for rising demand. AC1.3 **Non-modifiable factors:** Age (risk doubles every ~5 years after 65), sex (women at higher risk due to longevity), family history/genetic susceptibility. **Genetics detail (overview):** APOE-ε4 as a risk gene; rare deterministic variants in APP, PSEN1, PSEN2 causing familial/early-onset Alzheimer's. **Modifiable/lifestyle factors:** Smoking, harmful alcohol intake, sedentary behaviour, diet, low physical activity; links with cardiovascular risks (hypertension, hyperlipidaemia, obesity). **Medical comorbidities:** Diabetes, cardiovascular disease, vitamin B12 and vitamin D deficiency, depression (association and complexity of directionality). **Pathophysiological causes by major types:** Alzheimer's disease (amyloid plaques, tau tangles, neurotransmitter deficits); vascular dementia

	(cerebrovascular damage, stroke/vascular risk factors); dementia with Lewy bodies (protein deposits disrupting cell connectivity, Parkinsonian features); frontotemporal dementia (abnormal tau/TDP-43 accumulation; higher familial proportion); mixed dementia (combinations, often Alzheimer's + vascular).
LO2	AC2.1 **Primary care assessment:** History (patient + informant), activities of daily living, medication review, PMH; basic cognition screens; physical exam; blood/urine tests to exclude reversible causes (e.g., thyroid, B12). **Specialist referral & investigations:** Neurology/geriatrics/old-age psychiatry; neurological exam; cognitive & neuropsychological testing (memory, language, orientation, reasoning/judgement, attention); imaging: CT/MRI for structural changes; PET for activity patterns/amyloid/tau in appropriate cases; psychiatric assessment to evaluate depression or other mental health conditions. **Post-diagnosis support:** Communicating diagnosis/preferences, information on progression and treatments, care coordination, signposting to local support/advocacy, legal/financial guidance, driving/work considerations; scheduled reviews. **Distinguishing features (overview):** Alzheimer's: early episodic memory and orientation difficulties; Vascular: executive dysfunction/slowed thinking, stepwise decline; Lewy body: fluctuating cognition, visual hallucinations, REM-sleep issues, Parkinsonism; Frontotemporal: early behavioural/language change; Mixed: features of more than one pathology, often Alzheimer's + vascular. AC2.2 **Symptom overlap with ageing:** Normal age-related memory change and delirium may mimic early dementia; variability and subtle onset complicate early recognition. **Reversible/mimicking conditions:** Infections (e.g., UTI, pneumonia), dehydration, sleep apnoea, depression, blood-pressure disorders: can cause acute/subacute cognitive impairment and be mistaken for progressive dementia. **Personal/psychosocial barriers:** Stigma, denial, reluctance to disclose symptoms, fear of "Alzheimer's diagnosis," under-reporting in clinical encounters; the value of informant history. **Documentation & monitoring:** Importance of symptom diaries/baselining frequency and impact to aid primary-care decision-making and appropriate referral; preparation for emotionally challenging consultations.
LO3	AC3.1 **Purpose & scope of a dementia care plan:** Individualised plan built from holistic assessment (medical history, cognitive/functional abilities, risks, support networks); aims: maximise independence, safety, quality of life, and dignity. **Core person-centred elements:** Personal history/identity and preferences; physical health & comorbidity management (pain, continence, mobility, nutrition/hydration); cognition & behaviour profile; personality/communication style; environmental adaptation (safety, signage, lighting, falls reduction, assistive tech). **Care across stages:** Early: routines, reminders, social/physical activity; Mid: greater support with ADLs, managing behaviours (wandering, agitation, sleep disruption), consider transition to live-in care; Late: 24-hour care,

	continence/nutrition support, comfort measures, family support. **Care-planning process:** Open communication channels, collaborative goal-setting using **SMART** goals, tailoring interventions (e.g., cognitive stimulation, music therapy), carer support/respite, regular review and adaptation. **Advance care planning (ACP):** Preferences for future care, medical interventions, place of care/death, cultural/spiritual needs, will/funeral preferences, nominated decision-makers; not legally binding but guides practice. AC3.2 **Pharmacological (symptomatic) treatments:** Acetylcholinesterase inhibitors: donepezil, rivastigmine, galantamine (mainly mild–moderate Alzheimer's; also used in DLB); common short-lived side-effects (GI upset, cramps, insomnia). Memantine (moderate–severe Alzheimer's, Alzheimer's/vascular mix, DLB; alternative where AChE inhibitors not tolerated); common side-effects (headache, dizziness, constipation, drowsiness). **Managing associated symptoms/conditions:** Treatment for depression, insomnia, agitation, Parkinsonism, hallucinations; importance of identifying and managing cardiovascular comorbidity (esp. vascular dementia). **BPSD management:** Stepwise approach: non-pharmacological strategies first; short-term antipsychotics (e.g., haloperidol/risperidone) only where severe distress/risk and when benefits outweigh risks. **Non-pharmacological interventions:** Cognitive Stimulation Therapy (group activities), cognitive rehabilitation (goal-focused with OT/family), reminiscence and life-story work (using photos/objects/music), occupational therapy for ADLs and assistive technologies. **Evidence and limitations:** No current curative therapy; existing treatments offer symptomatic benefit and may support function/independence; value of early diagnosis to optimise access to support and interventions; need for holistic, multi-modal, person-centred plans. **Evaluation focus for learners (Level 3):** Compare indications/contraindications, benefits/risks, side-effect profiles, monitoring requirements, acceptability to the person and carers, equality and access considerations, and realistic outcomes over time (draw on case scenarios).