2023 exceptional surveillance of dementia: assessment, management and support for people living with dementia and their carers (NICE guideline NG97)

Surveillance proposal

We will not update the guideline on dementia (NICE guideline NG97).

Reason for the exceptional review

NICE were contacted by the Department of Health and Social Care to consider producing NICE guideline recommendations on mild cognitive impairment in the early prodromal phases of dementia. NICE already has a clinical guideline on dementia (NICE guideline NG97), which covers the diagnosis and management of dementia, but the scope currently excludes people with mild cognitive impairment except where they are already suspected of, or have a confirmed diagnosis of dementia. NICE also has a guideline on dementia, disability and frailty in later life – mid-life approaches to delay or prevent onset (NICE guideline NG16), which covers a range of strategies to promote a healthy lifestyle that reduce risk of dementia, disability and frailty, but does not cover adults with any type of dementia or pre-existing cognitive impairments. As such, NICE decided that an exceptional review of the dementia guideline (NICE guideline NG97) would be appropriate to consider if the guideline scope should be expanded to include mild cognitive impairment in the early prodromal phase of dementia.

Methods

The exceptional surveillance process consisted of:

- Considering the evidence used to develop the guideline in 2018.
- Feedback from topic experts.
- Feedback from the NICE clinical adviser.
- Examining related NICE guidance and quality standards.

- Examining the NICE event tracker for relevant ongoing and published events.
- A search for ongoing research.
- Assessing new information, topic expert feedback, and clinical adviser feedback against current recommendations to determine whether or not to update sections of the guideline, or the whole guideline.

For further details about the process and the possible update decisions that are available, see ensuring that published guidelines are current and accurate in developing NICE guidelines: the manual.

Information considered when developing the guideline

The NICE guideline on dementia (NICE guideline NG97) currently excludes mild cognitive impairment in the scope. However, the scope does include people with mild cognitive impairment if they are suspected of, or have a confirmed diagnosis of dementia. The guideline itself did not have any specific review questions around mild cognitive impairment.

Information considered in previous surveillance of this guideline

There has not been previous surveillance for this guideline.

Topic expert feedback

Five topic experts were contacted by NICE and asked if there is a need for NICE guideline recommendations on MCI related to early prodromal dementia. All 5 topic experts considered that there was a need for NICE guideline recommendations on MCI. However, the experts also highlighted that MCI is a complex and heterogeneous syndrome and that not all MCI is related to dementia.

The experts were asked to submit evidence in relation to MCI. A total of 13 studies were highlighted for consideration by NICE in relation to MCI. The studies are discussed below attempting to order by overviews/reviews, then

diagnosis, biomarkers, progression to dementia, interventions and finally a review of clinical guidelines.

One study presented a clinical review of MCI and reminded that this is an important area as the number of older adults increases and suggests that aerobic exercise, mental activity and cardiovascular risk factors are important interventions (Langa 2014). These interventions are currently covered by recommendations in dementia, disability and frailty in later life – mid-life approaches to delay or prevent onset (NICE guideline NG16).

Another study provided an overview of MCI and stated that most MCI does not convert to Alzheimer's but provided some suggestions on neural mechanisms that may help distinguish MCI that will not progress, from MCI that will progress onto Alzheimer's (Gainotti 2014).

Bassetti 2022 described the European academy of neurology brain health strategy: one brain, one life, one approach. Another study described the Scottish Brain Health Service Model (Ritchie 2021). Both studies cover a broad range of neurological conditions and are not specific to MCI

One study looked at diagnosing MCI and suggested that MCI diagnoses need to incorporate more comprehensive neuropsychological methods to help identify specific cognitive phenotypes, biomarker associations, and prediction of progression. (Bondi 2014).

Another study aimed to investigate neuropsychological and brain metabolism features of patients with MCI and REM sleep behaviour disorder compared with matched MCI Alzheimer's disease patients (Matiolli 2022). The study found differences in neuropsychological and brain metabolism profiles, which they thought may be helpful for both diagnosis and prognosis purposes in the future.

Breton 2018 undertook a meta-analysis of cognitive tests for the detection of MCI in the prodromal stage of dementia. The study found that multiple cognitive tests have comparable diagnostic accuracy but that the Memory Alteration Test is short and has the highest sensitivity. The MMSE had lowest

sensitivity and authors suggested this should not be used as a comparison in studies of new cognitive tests.

One study was a survey in France looking at clinicians who prescribed lumber puncture to measure Alzheimer's disease cerebrospinal fluid (CSF) biomarkers which showed clinical practice in French memory clinics between 2012 to 2014 (Cognat 2019).

Another longitudinal study looked at elevated plasma microRNA-206 levels to predict cognitive decline and progression to dementia from MCI and found promising results **(**Kenny 2019).

Belleville 2017 aimed to determine the extent to which cognitive measures can predict progression from MCI to Alzheimer's type dementia. The study found that predictive accuracy was highest when combining memory measures with a small set of other domains, or when relying on broad cognitive batteries.

One study undertook a review of machine learning methods for predicting progression from MCI to Alzheimer's disease (Grueso 2021). The authors concluded this has potential for the future.

One study looked at multidomain interventions to improve cognition in people with MCI (Salzman 2022). The study found improvements in global cognition, executive function, memory, and verbal fluency with short-term multidomain interventions (<1 year) compared with single interventions in older adults with MCI. However, the types of intervention and exposure varied making results difficult to interpret.

Chen 2021 was a review of clinical guidelines and consensus statements around MCI which concluded that an updated search for evidence on diagnosis and treatment of MCI is needed.

Overall, while some of the studies show some promising results, particularly around biomarkers, cognitive tests and machine learning, unfortunately the studies do not appear to be sufficient to develop robust evidence-based NICE

guideline recommendations on MCI at this time. Some of the evidence around brain health and prevention are currently covered by recommendations in dementia, disability and frailty in later life – mid-life approaches to delay or prevent onset (NICE guideline NG16). One expert also noted the lack of 'quality papers' on MCI.

Ongoing research

A search for ongoing research identified the following:

- Interceptor project: From MCI to dementia: NCT03834402
- TRC-PAD Program In-Clinic Trial-Ready Cohort**:** NCT04004767
- Clinical validation and commercialisation of the ReaCTIVE app: A proactive, interactive cognitive monitoring and intervention solution for people with early cognitive impairment.

These studies will be added to the NICE event tracker and assessed once results become available.

Internal NICE clinical adviser assessment

NICE has a Clinical Directorate that provides clinical advice and expertise across NICE and considers which topics add most value to the health and care system. Clinical advice was sought on this topic which noted the lack of robust evidence in the area to make evidence-based recommendations. As such, it was considered too early to develop a NICE guideline on MCI.

Other relevant NICE guidance

NICE has a quality standard on dementia (QS184), which covers preventing dementia, and assessment, management and health and social care support for people with dementia. NICE also has a guideline on dementia, disability and frailty in later life – mid-life approaches to delay or prevent onset (NICE guideline NG16), which covers mid-life approaches to delay or prevent the onset of dementia, disability and frailty in later life.

There are 2 NICE technology appraisals in development:

Donanemab for treating mild cognitive impairment or mild dementia caused by Alzheimer's disease ID6222 In development [GID-TA11221] Expected publication date: TBC.

Lecanemab for treating mild cognitive impairment or mild dementia caused by Alzheimer's disease [ID4043] In development [GID-TA11220] Expected publication date: TBC.

Equalities

An equalities and health inequalities assessment was completed during this surveillance review. See Appendix A for details.

Overall proposal

We will not update the guideline on dementia (NICE guideline NG97).