

ESSENCE SUMMARY 8

# Interventions beyond medicine for dementia: economic evidence

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# BACKGROUND

Dementia can affect all aspects of an individual's life, as well as the life of friends and family around them. There is support beyond medicine available

from the NHS and the local council to help the individual and their family.

## KEY POINTS

- A series of interventions 'beyond medicine' are available for people living with dementia. The effectiveness in relation to cognition, independence, wellbeing and other outcomes varies across these interventions.
- The National Institute for Health and Care Excellence (NICE) developed economic models to simulate the cost-effectiveness for an average person receiving each intervention of interest, compared with usual care. The effectiveness measure was (health-related) quality-adjusted life years (QALYs).
- Individual cognitive stimulation therapy is the only cost-effective intervention for dementia. However, group cognitive stimulation therapy and group reminiscence therapy are interventions to consider for people living with mild-to-moderate dementia. Additionally, cognitive rehabilitation or occupational therapy are interventions to consider for supporting functional ability in people living with mild-to-moderate dementia.
- For other interventions the NICE committee agreed that people should be offered access to a range of activities that should be tailored to their individual preferences.

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## CONTEXT

Currently dementia in England costs over £24 billion. Of particular concern, dementia's social care costs are three times larger than its healthcare costs. In fact, unpaid care comprised the largest proportion (42%) of dementia costs in England. Furthermore, two-thirds of social care costs are funded by people living with dementia or their families (1). As the prevalence of dementia is projected to increase to over 1 million people in 2022, there could be significant challenges to health and social care systems, as well as to individuals and families.

In addition to concerns about costs, concerns about some treatments for dementia have recently emerged. For example, limited effectiveness and (in some cases) unpleasant side-effects of medication for dementia have led to a desire for broader, alternative approaches to dementia care (2). As such, there has been growing interest in interventions beyond medicine for people living

with dementia, people with mild cognitive impairment and their carers.

Some evidence has demonstrated the effectiveness and cost-effectiveness of such interventions. However, NICE has argued that further economic modelling is needed to better inform resource allocation decisions for interventions beyond medicine for dementia (3). Specifically, NICE showed economic evidence for interventions that support cognitive functioning, functional ability and wellbeing in people living with dementia. However, the outcome indicator generally used by NICE in its analyses of interventions (based on quality-adjusted life years) may not capture the most pertinent changes in social care outcomes.

This case summary presents evidence from NICE (2018) on interventions for dementia beyond medicine, based on economic modelling (3).

## INDIVIDUAL COGNITIVE STIMULATION THERAPY

Individual cognitive stimulation therapy was the only intervention found to be cost-effective by NICE. The effectiveness measure was (health-

related) quality-adjusted life years. The evidence is presented in detail as part of ESSENCE Summary 6.

## COGNITIVE REHABILITATION

### WHAT IS THE INTERVENTION?

Cognitive rehabilitation involves identifying functional goals relevant to the person living with dementia. It also involves working with them, their family members or carers.

The intervention emphasizes improving or maintaining functioning in everyday life. It builds on the person's strengths and finds ways to compensate for impairments while supporting independence. Although it does not aim to improve cognition, it addresses the disability resulting from the impact of cognitive impairment on everyday functioning and activity.

### IS THE INTERVENTION EFFECTIVE?

Moderate quality evidence found that in comparison to people living with mild-to-moderate dementia offered usual care, people offered cognitive rehabilitation showed a clinically meaningful improvement in daily activities.

### WHAT DO PEOPLE SAY ABOUT THE INTERVENTION?

See Brian's story and what he has to say after participation in the University of Exeter's Goal-oriented Cognitive Rehabilitation in Early-stage Alzheimer's and Related Dementias trial (4): A year

after his last contact with his therapist (as an individual enrolled in the trial), Brian was still using the techniques. “I do a lot of shopping on my own now, and that’s really important to me,” said the grandfather-of-six. “It means I get out of the house and talk to different people I meet in the shops and in the street. It’s a real confidence boost. The trial helped me find strategies that made a real improvement to my life, and I’m sure it could help others too.”

### **IS THE INTERVENTION COST-EFFECTIVE?**

NICE does not consider cognitive rehabilitation cost-effective compared to its acceptable cost for an additional quality-adjusted life year of £20,000-

£30,000. Cost per (health-related) QALY gained from cognitive rehabilitation was above the threshold at £66,863 (see incremental cost-effectiveness ratio).

### **HOW IS THE INTERVENTION IMPLEMENTED?**

Although not found cost-effective, NICE guidelines (2018) recommend cognitive rehabilitation to support functional ability in people living with mild-to-moderate dementia (3). In England there is increasing availability of cognitive rehabilitation therapy from NHS and local councils to help maintain independence of people with early-stage dementia (21).

## **COGNITIVE TRAINING**

### **WHAT IS THE INTERVENTION?**

Cognitive training is guided practice on a set of standard tasks designed to reflect particular cognitive functions. It ranges in difficulty levels to suit the individual’s level of ability. Additionally, it may be offered in individual or group sessions, with pencil and paper or computerised exercises. More specifications about cognitive training (and differences compared with cognitive rehabilitation) are presented elsewhere (3).

### **IS THE INTERVENTION EFFECTIVE?**

The available evidence was rated as ‘low to moderate’ and it showed that there were no clinically meaningful differences in a variety of outcomes for people living with mild-to-moderate dementia offered cognitive training compared to those offered usual care. These outcomes included cognition, activities of daily living,

behavioural and psychological symptoms and depressive symptoms. Additionally, there were no meaningful differences in quality of life or carer burden.

### **IS THE INTERVENTION COST-EFFECTIVE?**

Cognitive training was not cost-effective. The cost per additional QALY was £254,615.

### **HOW IS THE INTERVENTION IMPLEMENTED?**

There are commercial packages available and the Alzheimer’s Society (6) reports that people should be cautious if they find anyone claiming to prevent or delay cognitive decline. The evidence for this is currently lacking. More guidance on a brain training app used to treat memory condition is available from the NHS (7).

## **REMINISCENCE THERAPY**

### **WHAT IS THE INTERVENTION?**

Reminiscence therapy involves the discussion of past activities, events and experiences with another person or group of people. It usually

involves tangible prompts such as photographs, household and other familiar items from the past, music and archive sound recordings (8).

## IS THE INTERVENTION EFFECTIVE?

'Very low to moderate' quality evidence found clinically meaningful improvements in cognition and depressive symptoms in people living with dementia offered reminiscence therapy versus usual care (3). However, the effects on depressive symptoms did not persist at long-term follow-up. Low to moderate quality evidence could not detect clinically meaningful differences in activities of daily living, behavioural and psychological symptoms, quality of life, agitation or carer burden.

## WHAT DO PEOPLE SAY ABOUT THE INTERVENTION?

Family carers' experiences can vary. Some experience the intervention as entirely positive while others have mixed feelings (9).

# EXERCISE

## WHAT IS THE INTERVENTION?

Exercise is "planned, structured, and repetitive movement to improve or maintain one or more components of physical fitness" (11). It may include aerobic, strength, balance, memory, finger movement and recognition activities. Participants may use balls, elastic ribbons, or proprioceptive plates, provided by physiotherapist. Activities may be delivered as either one-to-one or group sessions consisting of strength and balance exercises. These may include walking, squats or trunk exercises.

## IS THE INTERVENTION EFFECTIVE?

Low to high quality evidence found clinically meaningful improvements in people living with dementia offered exercise interventions versus usual care on a variety of outcomes (3). These outcomes included cognition, activities of daily

## IS THE INTERVENTION COST-EFFECTIVE?

Reminiscence therapy in a group setting was always found to be more costly relative to control in the economic analyses.

## HOW IS THE INTERVENTION IMPLEMENTED?

NICE guidance (2018) states that reminiscence therapy should be considered for people living with mild-to-moderate dementia (3). In many areas, local councils are working with voluntary organisations, such as the Alzheimer's Society<sup>1</sup> and Age UK<sup>2</sup>, to offer a variety of activities (including reminiscence therapy) for people living with dementia at a local level. Age Exchange's Caring Together Service<sup>3</sup> offers different activities to older people, such as reminiscence and the arts. The Local Government Association (2018) provides guidance for council around dementia friendly communities (10).

living, global assessment and behavioural and psychological symptoms. However, these effects did not persist long-term.

## WHAT DO PEOPLE SAY ABOUT THE INTERVENTION?

Lindelöf et al (2017) reported the positive experience of older people with moderate to severe dementia when practising intense exercise in nursing homes (12).

## IS THE INTERVENTION COST-EFFECTIVE?

Exercise is not cost-effective (and effectiveness measure was (health related) QALYs). For one-to-one exercise, group exercise and group sessions with people living with severe dementia the costs for the additional life year gains were above the NICE threshold.

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<sup>1</sup> [www.alzheimers.org.uk](http://www.alzheimers.org.uk)

<sup>2</sup> [www.ageuk.org.uk](http://www.ageuk.org.uk)

<sup>3</sup> [www.age-exchange.org.uk/what-we-do/care-and-support](http://www.age-exchange.org.uk/what-we-do/care-and-support)

## HOW IS THE INTERVENTION IMPLEMENTED?

The Alzheimer's Society provides guidance on a range of organised exercise and physical activity

## MUSIC THERAPY

### WHAT IS THE INTERVENTION?

Music therapy may include listening to taped classical music or individually selected music in addition to singing along to music or playing musical instruments. The intervention can take place in individualised or small group sessions. Additional variables of music therapy include number of sessions (1 to around 60), length of sessions (10 mins to 90 mins) and the experimental period (10 mins to 4 months).

### IS THE INTERVENTION EFFECTIVE?

Outcomes of people living with mild-to-moderate dementia offered music therapy compared to usual care were assessed. Low to high quality evidence (3) found clinically meaningful post-intervention improvements in cognition and activities of daily living in people living with mild/moderate dementia offered music therapy versus usual care. Low to high quality evidence (3) found clinically meaningful long term follow-up improvements in agitation, quality of life and carer burden in people living with mild/moderate dementia offered music therapy versus usual care.

### WHAT DO PEOPLE SAY ABOUT THE INTERVENTION?

Osman et al (2014) explored the impact of Singing for the Brain™, an intervention based on group singing activities developed by the Alzheimer's

sessions promoted by local community or sports centres. They also provide additional resources on relevant organisations related to exercise and dementia (13).

Society for people living with dementia and their carers (14).

Find out what Kath thinks about music therapy here: [www.youtube.com/watch?v=SwT8J\\_fNUO4](http://www.youtube.com/watch?v=SwT8J_fNUO4). Chris talks about what music therapy means to him: <https://soundcloud.com/dementia-diaries/on-a-thursday-we-have-music-for-memory-which-is-my-favourite>.

To know more about what people say on music therapy please visit the Modelling the Outcome and Cost Impacts of Interventions for Dementia toolkit (15).

### IS THE INTERVENTION COST-EFFECTIVE?

Music therapy is not cost-effective (effectiveness was measured using (health-related) QALYs). Participatory group music therapy was associated with a cost of £26,944 per additional QALY, whereas one-to-one music therapy was associated with a cost of £52,970 per additional QALY.

### HOW IS THE INTERVENTION IMPLEMENTED?

The following organisations have information on availability of music therapy in the UK: British Association for Music Therapy (BAMT)<sup>1</sup>, Harmony Music Therapy Scotland<sup>2</sup>, Soundwell Music Therapy Trust<sup>3</sup> and Music Therapy Lambeth<sup>4</sup>.

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<sup>1</sup> [www.bamt.org/music-therapy/music-therapy-in-the-uk.html](http://www.bamt.org/music-therapy/music-therapy-in-the-uk.html)

<sup>2</sup> [www.harmonymusictherapyscotland.co.uk](http://www.harmonymusictherapyscotland.co.uk)

<sup>3</sup> [soundwell.org](http://soundwell.org)

<sup>4</sup> [www.musictherapylambeth.org.uk/?gclid=CILKldnuq8wCFQae2wodZgIHMQ](http://www.musictherapylambeth.org.uk/?gclid=CILKldnuq8wCFQae2wodZgIHMQ)

# OCCUPATIONAL THERAPY

## WHAT IS THE INTERVENTION?

Occupational support may include aids and adaptations, such as handrails, adapted cutlery and specialized chairs. Occupational therapists advise on whether or not a particular adaptation or piece of equipment may be helpful to meet someone's individual needs.

## IS THE INTERVENTION EFFECTIVE?

Changes in depressive symptoms were assessed in people living with dementia offered occupational therapy versus usual care. Low to high quality evidence found clinically meaningful improvements in both outcomes for those offered occupational therapy (3). However, the effect on quality of life did not persist long-term.

## WHAT DO PEOPLE SAY ABOUT THE INTERVENTION?

According to Birch et al (2008), carers whose family members received occupational therapy were generally satisfied with the intervention (17). While carers generally felt involved in occupational therapy, it took some carers longer to feel this involvement. There were limited examples

demonstrating that carers received their own support during the intervention and the assessment of the intervention.

## IS THE INTERVENTION COST-EFFECTIVE?

Occupational therapy is not cost-effective (effectiveness was measured using (health-related) QALYs). Occupational therapy was associated with an additional cost of £130,349 per additional QALY.

## HOW IS THE INTERVENTION IMPLEMENTED?

Although not cost-effective to improve QALYs, according to the NICE guidance (2017), occupational therapy can be considered for supporting functional ability in people living with mild to moderate dementia (18). The NHS (2017) provides guidance on how to get occupational therapy through the NHS or social services, pending on personal circumstances (18). Occupational therapists should be qualified and registered with the Health and Care Professions Council (19). It can be checked using their online register.

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## OTHER INFORMATION

The NHS Dementia guide (20) reports on a series of social care interventions for dementia including cognitive stimulation therapy, cognitive rehabilitation and reminiscence. It can also help individuals find information on dementia and local support services.

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