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Abstract Title: Cost-utility analysis of community occupational therapy in dementia (COTiD-UK) versus usual care: results from VALID, a multi-site randomized controlled trial in the UK

Background: There are currently around 850,000 people in the UK with dementia (Alzheimer's Society, 2017), two thirds of whom live in the community, of which half live alone (Knapp et al., 2007). The number of individuals with dementia is estimated to reach 1million by 2021 (Alzheimer's Society, 2012), because people live longer and the proportion of elderly people is increasing. The financial burden of dementia on the NHS, local authorities and families is now £23 billion per year, but it is estimated to grow (Alzheimer's Society, 2012). Approximately 670,000 family members and friends provide support and care to people with dementia, saving up to £8 billion per year. However, while the person with dementia loses their abilities, skills and become impaired, family carers and supporters often experience a feeling of increased burden and stress.
The guidelines for supporting people with dementia and their carers (NICE, 2006) recommends advice and skills training from an occupational therapist to help maintain independence.
A community-based occupational therapy intervention for people with mild to moderate dementia and their family carers – the Community Occupational Therapy in Dementia (COTiD)- was found clinically and cost effective in the Netherlands but not in Germany. The COTiD has been recently introduced in the UK through a multi-site Randomised Control Trial. Around 480 pairs (each comprising a person with mild to moderate dementia and a supporter) have been randomly allocated between COTiD-UK and treatment as usual (TAU). Participants were assessed at baseline, 12 and 26 weeks, and by telephone at 52 and 78 weeks after randomisation. The primary outcome measure was the Bristol Activities of Daily Living Scale (BADLS) at 26 weeks. Secondary outcome measures included quality of life, mood, NHS resource use and private resource use.

Objectives: Main aim of this work is to assess the costs, outcomes and the cost-utility of the COTiD-UK intervention compared to Treatment as usual (TAU), using the within-trial data from the VALID RCT.

Methodology: A cost-utility analysis of the COTi-UK intervention compared to TAU was performed using within trial costs and outcomes data. The analysis was performed adopting the UK National Health Service (NHS) & personal social services (PSS) perspective and, separately, a broader societal perspective. Costs were calculated in 2017 UK£, inflated where necessary. Costs include the cost of the COT-iD-UK training for occupational therapists, the cost of the COT-iD-UK intervention to person with dementia and supporters, the cost of NHS resource use (e.g. hospital admissions, inpatient and outpatients admission, A&E admissions, GP consultations, etc.), medications, adaptations and equipment costs, changes in accommodation, transport costs and productivity losses. The effectiveness of the intervention, captured using EQ5D-5L and DEMQOL questionnaires in both arms, were converted into QALYs, both for the person with dementia and the supporters. The analysis was performed adjusting for baseline values and study sites. Multiple imputation by chained equations was used to estimate missing values, accounting for age, gender, study site and treatment group.
Extensive sensitivity analysis has been performed to control for uncertainty in the parameter values used.

Expected Results: Costs and outcomes for COTiD-UK and TAU and the incremental cost effectiveness of COTiD-UK are reported for the person with dementia and supporters separately, and also as a combined measure (as a pair). The preliminary results of the analysis show that at 26 weeks there is some evidence that costs are significantly higher in the COTiD arm for person with dementia alone –(£584 per person)- and for the person with dementia and supporters combined (£590 per pair): this is mainly due to the cost of the COTiD-UK intervention. and to the higher costs associated to of the person with dementia.
There is some evidence that in the intervention arm QALYs are higher in the person with dementia (0.013 QALYs) and lower in supporter (-0.00004 QALYs), but the findings are not statistically significant.

The ICERs in both cases – person with dementia alone or pair- are relatively high, £45,308 per QALY, exceeding the recommended NICE threshold of £20,000 per QALY.