

## EDITORIAL

# Systematic reviews of case management: too complex to manage?

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Case management, also known as care management, has been proposed as an intervention to support people with dementia and their carers.[1] Guidelines have recommended the use of case management but are cautious about the evidence, judged as at least partially inconclusive.[2][3] There is also uncertainty about the most suitable components of case management interventions.[1] This is no surprise as case management is a prototypical example of a complex intervention. There is complexity in the intervention components as well as in the theoretical background of the intervention, the implementation context, and the targeted outcomes. As with many complex interventions, case management also targets more than one recipient: people with dementia and/or their carers. The challenges of synthesising the evidence for complex interventions have been acknowledged by Cochrane, with a recent series of articles forming the basis for an upcoming new chapter in the Cochrane Handbook for Systematic Reviews of Interventions.[4]

Therefore, a new Cochrane Review of case management approaches to home support for people with dementia certainly takes on a challenging endeavour.[5] In contrast to other recent reviews on case management,[6][7] the Cochrane authors include only (cluster) randomised controlled trials (RCTs). They conclude that there is some evidence for positive effects of case management for people with dementia and for their carers, but they remain cautious in view of the considerable heterogeneity between interventions, outcome measures, and measurement points across the 13 included RCTs.

The results of the Cochrane Review remain mostly inconclusive. A meta-analysis of nine studies shows no advantage of case management interventions on institutionalisation to care homes after 10 to 12 months, although a subgroup analysis of five studies of interventions explicitly aiming to avoid institutionalisation shows a positive effect. All other primary endpoints, including mortality at 12 months and patient and caregiver quality of life, show no clear advantages of case management interventions. So, what can be done with these results? The authors suggest that “further work should be undertaken to investigate what components of case management are associated with improvement in outcomes”. It would be pertinent to ask what form this further work should take. The authors ask for uniform study designs including consistency in outcome measures.[5]

The new Cochrane Review provides a useful description and comparison of the different studies and interventions. Comprehensive tables allow readers to compare the goals of case management interventions, components of case management and control interventions, methods of intervention implementation, tasks and components of case management, and outcome measures used. Interventions are also categorised into three different approaches to case management. Still, for many studies there is not enough information to clearly describe what has been done. Also, case management interventions were often implemented as a part of wider health system changes, making it more difficult to attribute observations to case management, let alone to distinct components of case management interventions.

Guidance on conducting systematic reviews of complex interventions often demands the inclusion of further studies to allow for in-depth descriptions of study components and the context and process of implementing the intervention.[8] This frequently requires the inclusion of mixed-method or qualitative studies that could help to disentangle the intervention components and their distinct roles. While this undoubtedly adds to Cochrane authors' already demanding workload, it seems essential if the most meaningful use is to be made of the data. Reporting is a problem, and information is often difficult or even impossible to acquire. Recent reporting guidelines may help authors look for important aspects concerning the intervention (TIDieR guideline)[9] or the whole process of complex intervention development and evaluation (CRDeCI guideline)[10]. For case management in dementia information beyond the included studies is available. A recent analysis included 11 quantitative and 12 qualitative studies on case management for dementia in primary care.[6] In a further analysis, 31 quantitative and 12 qualitative studies were included in a mixed-methods review on barriers to implementing case management in people with dementia.[11] The utility of the current Cochrane Review would be enhanced if an update were to include non-RCT evidence in order to disentangle the complex interventions and identify components most likely to contribute to beneficial effects.

The expected Cochrane Handbook chapter will provide guidance for authors on using appropriate methods to synthesize complex interventions. For example, Petticrew and colleagues have summarised various approaches including commonly used methods such as meta-regression, multivariate meta-analysis,

and network meta-analysis, as well as broader approaches such as hierarchical models and causal diagram-based analyses.[12]

Apart from the problems described above, the present review suffers from the fact that most studies are fairly small, with fewer than 100 participants per group in all but one study. The largest study, with about 4000 participants per group, therefore dominates the syntheses. It is a fairly old study with an intervention clearly tailored to the United States. Future studies should aim to recruit sufficient numbers of participants, although this might be a serious challenge.[13]

In conclusion, case management intuitively seems to offer a patient-centred organisation of care. Considering the challenges faced by people with dementia and their caregivers, there is undoubtedly a strong need for supportive interventions with proven efficacy (as well as cost-effectiveness). At present, the evidence remains largely inconclusive. Before planning further studies, the next step should be a more thorough analysis of the available evidence to seek conclusions about components that seem to be most successful for relevant outcomes. The awaited Cochrane Handbook chapter on complex interventions should guide the authors of the Cochrane Review to expand on this issue when the review is updated. For the time being, the review offers a valuable information source for practitioners and researchers on rigorously studied case management interventions.[5]

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### Declarations of interest

The authors have completed the Unified Competing Interest form at [www.icmje.org/coi\\_disclosure.pdf](http://www.icmje.org/coi_disclosure.pdf) (available upon request). SK and JM are editors with the Cochrane Dementia and Cognitive Impairment Group, which has editorial responsibility for the Cochrane Review discussed in the editorial. The authors declare no other interests.

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