

Medication management in older people: the MEMORABLE realist synthesis

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Disclaimer: This report contains transcripts of interviews conducted in the course of the research and contains language that may offend some readers.

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Scientific summary

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Background

The number and proportion of older people in the UK population are rapidly increasing. Many older people live with more than one long-term health condition. Living with multimorbidity can significantly reduce an older person's quality of life. Older people also spend increasing amounts of their time engaging with a range of separate health and care services.

Older people are taking increasing numbers of medications to treat multimorbidity. Medication-related adverse events, across all age groups, have been estimated to be responsible for 5700 deaths and cost the UK £750M annually. The burdens and risks from medication use fall disproportionately on older people. There are also burdens and risks for informal carers, and health and care practitioners.

Overall, there are immediate, significant, growing and complex challenges from multimorbidity, polypharmacy and medication management for older people, informal carers, and health and care practitioners and services, making it an increasingly important personal, health and care issue.

Aim and objectives

The MEDication Management in Older people: Realist Approaches Based on Literature and Evaluation (MEMORABLE) study seeks to understand how medication management works and to propose interventions that would contribute to improvements.

Aim

To use realist synthesis including primary data collection to develop a framework for a novel multidisciplinary, multiagency intervention(s) to improve medication management in older people who are on complex medication regimens and resident in the community.

Objectives

The aim for MEMORABLE was underpinned by three linked objectives. The second and third objectives were closely related. Objective 2 focused on the key principles and underlying mechanisms, whereas objective 3 focused on developing an applied intervention:

1. to understand how and why any potentially relevant interventions to optimise medication management work (or do not work) for particular groups of older people in certain circumstances
2. to synthesise the findings from objective 1 into a realist programme theory of an intervention(s) to support older people who are living in the community to manage their medication
3. to use realist programme theory developed from objective 2 to inform the development of an intervention(s) to assist older people who are living in the community to manage their medication.

Methods

With a robust research structure involving a Project Group, Stakeholder Group and Research Team, with patient and public involvement, MEMORABLE aimed to establish a causal understanding of medication management using a realist approach: what works, for whom, why and in which circumstances.

The MEMORABLE study was informed by Realist And Meta-narrative Evidence Syntheses: Evolving Standards (RAMESES) guidelines and contained three work packages: work package 1 – realist synthesis of the literature (understanding contexts and mechanisms); work package 2 – realist evaluation of experiential narratives (exploring mechanisms); and work package 3 – developing a framework for intervention(s) and dissemination.

Work package 1 involved a systematic search and review of the literature, using realist approaches. A total of 1018 articles were identified. Abstracts were screened and 140 full-text articles were selected for review based on their descriptions of medication management. From these, 24 articles were finally reviewed because of their explanatory focus, based on key terms such as ‘concept’ or ‘framework’. This work package generated the evidence base that supported the understanding of medication management as a five-stage process, accommodating multiple perspectives, with reviewing/reconciling medications as a key stage within it.

Work package 2 involved 50 interviews in total: older people ($n = 13$), informal carers ($n = 16$) and health and care practitioners ($n = 21$). This package provided rich, causal accounts of the way medication management was experienced in people’s day-to-day lives.

Work package 3 involved the synthesis of evidence and experiential data from work packages 1 and 2 to explore medication management as a complex intervention, as an implementation process and through the experience of burden. Causal explanations of medication management and reviewing/reconciling medications were generated through context–mechanism–outcome configurations and applying normalisation process theory. Finally, subsets of context–mechanism–outcome configurations were used to explain reviewing/reconciling as a key stage and to generate two proposed interventions to improve medication management: risk identification and individualised information.

Results

Using the methods summarised above, MEMORABLE produced the following findings.

Medication management as good practice

As background, MEMORABLE scoped medication management, reviewing medications and reconciling medications as good practice, drawing on policy and guidelines. This scoping described tasks associated with good practice but lacked a causal explanation of how these tasks might work to have an impact. MEMORABLE went on to address this explanatory gap.

Medication management as a complex intervention

The MEMORABLE study set out medication management as a complex intervention that occurs as a five-stage process: Stage 1: identifying problem; Stage 2: getting diagnosis and/or medications; Stage 3: starting, changing or stopping medications; Stage 4: continuing to take medications; and Stage 5: reviewing/reconciling medications.

These five stages fall into two broad groups based on who is doing what within them:

- First, by the individual work done by older people when they are making decisions and acting on their own or with an informal carer (Stages 1, 3 and 4). In these stages, older people and informal carers, when they are involved, develop routines to effectively manage and feel in control of their medication on a day-to-day basis.
- Second, by the interpersonal work older people do with practitioners, with or without an informal carer (Stages 2 and 5). These stages are associated with shared decision-making. Importantly, the work done in these stages informs older people’s and informal carers’ decisions and actions at home.

All five stages are linked horizontally as a process, but have loops from one stage to another: two medication loops, one diagnostic loop and several disruption loops. An example of a medication loop is when an older person needs to make adjustments in Stage 3 following changes to their medication in a Stage 5 review, such as starting some new tablets while stopping others; a diagnostic loop arises from a review where new symptoms are noted and the older person is referred back to their GP (Stage 2). Older people experience disruption loops when there is a change or uncertainty that requires a decision or action (Stage 1).

Medication management as implementation

Informed by normalisation process theory, the medication management process was interpreted through the cycles of work conducted in each stage and across stages: sense-making, relationships, action and reflection/monitoring. This interpretation captures the vertical processes in each stage as well as contributing to understanding how work evolves over time, such as the way sense-making or relationships develop as medication is managed as older people's long-term conditions progress.

Medication management as burden

In response to themes emerging from the data, MEMORABLE conceptualised 'burden' as a potential mechanism of interest in medication management to inform further analysis, considering it in detail for Stage 5: reviewing/reconciling medications.

Stage 5: reviewing/reconciling medications and burden

Using this key interpersonal stage as an exemplar, five burdens were identified. These burdens were then linked to the appropriate normalisation process theory step in that stage of the medication management process to demonstrate where and how burden might be mitigated through different types of work carried out by those involved:

- The ambiguity burden about reviewing/reconciling medications within medication management. This involves sense-making by clarifying the purpose and content of medication reviews and reconciliations.
- The concealment burden due to a lack of information-giving. This prevents older people and informal carers from understanding, personalising and using what they want or need to know. This is also about sense-making and establishing meaning through information to increase personal efficacy, agency and control.
- The unfamiliarity burden arising from not seeing the same practitioner consistently. This is about establishing continuity and mutual trust in relationships as the foundations for interpersonal work.
- The fragmentation burden limits the way older people and informal carers are understood and their needs addressed as a whole when they are seen across a range of services. This is about the importance of inter- and intra-agency collaboration in strategic and operational networks.
- The exclusion burden when older people and informal carers are not recognised for their experience and expertise, nor fully or effectively engaged in decisions that affect their health and care. This is about action and enacting collaboration through shared decision-making.

Proposed interventions: risk identification, individualised information

Findings from MEMORABLE include two proposed interventions to improve medication management:

- Risk identification – a simple way of identifying older people and informal carers who are not coping, are at risk and need appropriate help and support through a more detailed follow-up, such as being fast-tracked to a medication review (Stage 5).
- Individualised information – a short, personalised record and reference point, in an accessible format, co-produced and shared by older people, informal carers and practitioners. Rather than focusing on generic advice about a single diagnosis or treatment, information needs to be individualised to enable older people and informal carers to manage the impact of their own multimorbidities and polypharmacy in their day-to-day lives.

Conclusions

Using this realist approach, MEMORABLE set out the way medication management was understood as being good practice, as a complex intervention, as implementation and as burden.

Within the medication management process, reviewing/reconciling medications was scoped as good practice. More in-depth analysis of this stage enabled dimensions of burden to be better understood, identifying five types: ambiguity, concealment, unfamiliarity, fragmentation and exclusion. This focus highlighted the way reviewing/reconciling medications might contribute to burden mitigation in the way that older people, informal carers and practitioners relate, make sense and carry out actions within this stage, and other linked stages.

Recommendations for future research from MEMORABLE include studies to develop and trial the proposed interventions of risk identification and individualised information; studies to extend the understanding of medication management as a complex intervention and as implementation, linked to burden mitigation; and a study to clarify the outcomes that older people, informal carers and practitioners want from medication management.

Study registration

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