

Effectiveness of pharmacist home visits for individuals at risk of medication-related problems: a systematic review and meta-analysis of randomised controlled trials.

What did we find?

- We found no evidence of any beneficial effect of pharmacist led medicine reviews carried out in the home for individuals at risk of medication-related problems, on hospital or care home admissions, or mortality rates.
- We found no consistent evidence that pharmacist led medicine reviews carried out in the home for individuals at risk of medication-related problems improved medication adherence or knowledge about medications, or impacted on quality of life.
- Future work in this area needs to use more consistent and robust measures of adherence and medication understanding.
- There is a need to explore what participants at risk of medication issues feel they need to improve their knowledge and understanding.



drug doses to full clinical medication reviews involving education and assessments about the ability to take medicines as prescribed. They usually take place at the pharmacy or at the GP surgery. Many elderly patients however are unable to attend their pharmacy or GP surgery for advice. It has been suggested that the home setting may be more helpful for the identification of medicine issues and may provide a more receptive environment in which to provide medication advice and education .

Why did we do this review?

For many older adults, the ability to remain independent in one's home depends on the ability to manage medication. Medication mismanagement and drug-related problems are a major cause of nursing home placement of frail older adults. Furthermore, research indicates that for older adults, more than half of hospital admissions for adverse drug reactions are preventable, with less than a third considered unavoidable.

In the UK, regular *medication reviews* are recommended for people >75 yrs old. Medication reviews can vary from brief opportunistic reviews of

The aim of this review was to assess whether pharmacist home visits, for the purpose of medication review, are effective in improving the health of individuals at risk of medication-related problems.

How did we do this review?

The research was a systematic review. This brings together all existing research on a particular question. To find studies that might help us to answer the question we searched the relevant academic literature. For this review, we were interested in randomised controlled trials as these provide the best evidence of effectiveness.

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We found 12 trials involving 3410 participants. The trials took place in the UK (4), Australia (4), the USA (3) and Denmark (1). Five of the trials involved populations with specific health conditions (such as heart failure or chronic kidney disease), four involved older adults recently discharged from hospital and three involved elderly populations on multiple medications living in the community. None of the trials were aimed solely at housebound individuals, but two reported them as being eligible for study inclusion.

The nature of the trials varied considerably in terms of the experience of the pharmacist, the number of home visits made and the purpose and content of the visit.

Despite the differences in the populations studied, and the frequency and purpose of the home visits, the findings of no beneficial effect were fairly consistent across the included studies.

Quality of the research and cautionary notes

While the evidence came from randomised controlled trials, improving medication adherence was often not the aim of the study, and most of the studies did not report on the effect of the study on drug-related issues.

What next?

There may be merit in focussing on home visits for the purposes of medication management in the more vulnerable: those >80 years, living alone, isolated or housebound or at the high end of polypharmacy. This is especially important since the number of adults >65 years prescribed 10 or more medications has tripled in recent years. For these populations, interventions that focus on helping the carer and/or paid carers in their understanding and appropriate use of medications need further research. This may be particularly important for ensuring older adults can re-



main in their home for longer, an outcome which was only reported by two studies in this review. Further research in this area is recommended.

Contact details and further information about the published paper:

The PenARC EST is part of Evidence Synthesis and Modelling for Health Improvement (ESMI), at the University of Exeter Medical School. Further information about this research is available on the University of Exeter Medical School website: <http://medicine.exeter.ac.uk/esmi/workstreams/>

The full version of the systematic review of these findings are published in the BMC Health Services Research. You can access the paper here: <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-019-4728-3>



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