Preventable drug-related morbidity is responsible for a median of 3.7% [1] to 4.3% [2] of hospital admissions. In patients aged ≥70 years, the percentage of admissions is doubled (mean 7.6%) [2]. Regular medication reviews are believed to help avoid drug-related morbidity. Guidelines in England recommend that patients aged ≥65 years should receive a medication review annually or 6-monthly if they take four or more medications regularly [3]. There is, however, minimal evidence to date to support a reduction in morbidity or mortality with medication reviews [4]. Indeed, evidence for pharmacist-led medication reviews is conflicting [5]. Holland et al. described eight large studies of face-to-face, pharmacist-led medication review in older populations conducted in the western developed world. Although those studies that focus on medication-related outcomes (such as changes to medication or medication appropriateness) show some benefit, there is no evidence for improvements in mortality or quality of life [5]. Even data on health service utilisation are conflicting. One study showed a small decrease in hospital admissions [6], whereas another study showed a significant increase [7]. The remainder of studies showed no effect on hospital admissions [5]. Despite the paucity of evidence for patient benefit, spending on pharmacist-led medication reviews continues to increase. It is, therefore, important to continue to assess the impact of pharmacist-led medication reviews in different populations.

In this issue, Zermansky et al. [8] reported further research into pharmacist-led medication reviews in older people. In an earlier study, they showed that pharmacist-led medication reviews with patients on repeat medication reduced numbers of medications and costs of medications compared with usual care. In addition, they found a non-significant reduction in mortality (2.5 versus 4.5%, \( P = 0.56 \)) [9].

The study published in this issue [8] compares pharmacist-led clinical medication reviews with usual care in a high-risk population of care-home residents aged ≥65 years (mean age 85 years), taking one or more repeat medications. Zermansky et al. had an ambitious recruitment target of 1,600 patients to detect a difference in measures of cognitive and physical functioning in this population. This level of recruitment was unachievable in the given timescale. They did, however, attempt to randomise 661 patients from the 1,163 recruited from 65 care homes in Leeds, UK.

In common with previous studies, Zermansky et al. found that compared with usual care, a dedicated pharmacist increased the number of patients who received medication reviews and the number of changes that were made to medication. The study did not show a reduction in health service utilisation, but unlike the HOMER (HOme-based MEdication Review) study [7], there was no evidence of a significant increase in general practitioner consultations or hospitalisations. In addition, the fact that a pharmacist performs an annual or biannual medication review reduces the number of routine general practitioner consultations, which would otherwise be required to achieve the National Service Framework recommendation [3].

The potentially most important outcome from this study, however, is the statistically (and clinically) significant reduction in falls. Although noting that this was a secondary outcome measure, patients in the intervention group experienced a mean of 0.8 falls per patient compared with 1.3 in the control group. Notably, the number of falls per patient remained unchanged in the control group compared to baseline. There are, however, many reasons for caution with the outcomes of this study, including a greater number of patients falling at baseline in the intervention arm and the non-random recruitment of patients.

Previous studies including medication reviews in interventions to reduce falls in primary care have been unsuccessful [4]. Royal et al.’s systematic review of interventions to reduce medication-related adverse events and hospital admissions identified 13 studies that included medication reviews as part of complex interventions to reduce falls. Meta-analysis of nine randomised controlled studies did not find a significant reduction in falls [odds ratio (OR) 0.91; 95% confidence interval (CI) 0.68, 1.21].

Zermansky et al. suggested that the reduction in falls seen in their study is largely attributable to stopping CNS drugs that are known to increase the risk of falls by causing sedation, confusion and hypotension. In addition, they noted that recommending calcium and vitamin D supplementation in ~15% of patients may have


contributed to the reduction in falls (although the benefits of this intervention remain controversial). These medication changes represent important areas that could be targeted by any professional performing medication reviews.

Within this study, general practitioners implemented less than two-thirds of pharmacist recommendations. Zermansky et al. highlighted that implementation rates may be higher if pharmacists are allowed to implement medication changes themselves. With the onset of supplementary and independent prescribing, it is probable that this will be possible in the near future. This is not, however, without risk. It is possible that some of the pharmacist’s recommendations were deemed inappropriate by general practitioners—certainly, 7% of recommendations were rejected. Even if all the recommendations were considered to be appropriate, increasing the number of health care professionals responsible for a patient’s management increases the opportunity for inappropriate drug combinations because of communication failures [10]. In addition, in common with many studies of pharmacist interventions, the data reported represent the work of only one highly qualified pharmacist. This study does not take into account the inevitable variation in quality of performance seen in all professional groups [11]. This study, therefore, does not help clinicians and policy makers envisage how a pharmacist-led intervention will transfer into real-world practice.

Despite the above criticisms, Zermansky et al. reported an important study, which makes a valuable contribution to the evidence on pharmacist-led medication reviews and the potential benefits of such reviews.

RACHEL L. HOWARD1, ANTHONY J. AVERY2*
1Nottingham Primary Care Research Partnership, Bracktowe & Hucknall PCT, Hucknall Health Centre, Nottingham NG15 7JE, UK
2School of Community Health Sciences, University of Nottingham Medical School, Nottingham NG7 2UH, UK
*To whom correspondence should be addressed at:
Head of Division of Primary Care, School of Community Health Sciences, University of Nottingham Medical School, Nottingham NG7 2UH, UK

References