Medication reviews in the community: results of a randomized, controlled effectiveness trial

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Aims
To examine the effectiveness of a multidisciplinary service model delivering medication review to patients at risk of medication misadventure in the community.

Methods
The study was carried out in three Australian states; Queensland, New South Wales and Western Australia, and conducted as a randomized, controlled effectiveness trial with the general practitioner (GP) as the unit of randomization. In total, 92 GPs, 53 pharmacists and 400 patients enrolled in the study. The multidisciplinary service model consisted of GP education, patient home visits, pharmacist medication reviews, primary healthcare team conferences, GP implementation of action plans in consultation with patients, and follow-up surgery visits for monitoring. Effectiveness was assessed using the four clinical value compass domains of (i) functional status, (ii) clinical outcomes, (iii) satisfaction and (iv) costs. The domains of functional status (assessed by the health-related quality of life measure SF-36 subscales) and clinical outcomes (as assessed by adverse drug events (ADEs), number of GP visits, hospital services and severity of illness) were measured at baseline and endpoint. Satisfaction was measured by success in implementation and by participant satisfaction at endpoint, and costs (as assessed using medication and healthcare service costs, less intervention costs) were measured preintervention and during the trial. In addition, process evaluation was conducted for intervention patients, in which problems and recommendations from the medication reviews were described.

Results
The model was successfully implemented with 92% of intervention GPs suggesting that the model had improved the care of participating patients, a view shared by 94% of pharmacists. In addition, positive trends in clinical outcomes (ADEs and severity of illness) and costs (an ongoing trend towards reduction in healthcare service costs) were evident, although the trial was limited to a 6-month intervention time. No differences between intervention and control groups were identified for the health-related quality of life domain. The cost–effectiveness ratio for the intervention based on cost savings, reduced adverse events and improved health outcomes was small. The most common problems identified in the medication reviews were potential adverse drug reactions, suboptimal monitoring and adherence/lack of concordance issues. In total, 54.4% of recommendations were enacted, and 23.9% were implemented precisely as recommended in the medication review. Follow-up evaluation showed that 70.9% of actions had a positive outcome, 15.7% no effect and 3.7% had a negative outcome.