

# A feasibility study of a theory-based intervention to improve appropriate polypharmacy for older people in primary care

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## Introduction

Evidence to support the effectiveness of interventions to improve appropriate polypharmacy in older people is weak and previous intervention studies lack details of intervention development and preliminary evaluation (i.e. feasibility/pilot testing).<sup>1</sup> To address these issues, a general practitioner (GP) targeted intervention aimed at improving prescribing of appropriate polypharmacy for older people was developed using a systematic, theory-based approach, based on the UK Medical Research Council's complex intervention framework.<sup>2</sup>

The primary intervention component comprised a video demonstration of a GP prescribing appropriate polypharmacy during a consultation with an older patient (Figure 1). The video was delivered online and included feedback emphasising the positive consequences of performing the behaviour. A patient recall process was included as a complementary intervention component, whereby patients were invited to scheduled medication review consultations with GPs.



**Figure 1. Screenshots of video demonstration of GP prescribing appropriate polypharmacy (primary intervention component)**

This study aimed to test the feasibility of the intervention and study procedures (i.e. recruitment, data collection).

## Methods

A convenience sample of GPs was recruited from two general practices in Northern Ireland. GP participants were given access to the online video and sent written invitations to older patients receiving  $\geq 4$  medicines to attend a medication review consultation on a specified date. Primary feasibility study outcomes were the usability and acceptability of the intervention to GPs. Feedback was collected from GP and patient participants using structured questionnaires. Clinical data were also extracted from recruited patients' medical records (baseline and one month post-consultation). The feasibility of applying validated assessment tools (STOPP/START criteria, Medication Appropriateness Index, Medication Regimen Complexity Index) to these data was assessed. Data analysis was descriptive, providing an overview of participants' feedback and clinical assessment findings.

Ethical approval was granted by the Office of Research Ethics Committees Northern Ireland.

## Results

Four GPs and ten patients were recruited across two practices. The intervention was found to be both usable and acceptable to GPs. Some reservations were expressed by GPs as to whether the video demonstration truly reflected the resource and time pressures encountered in general practice.

*"...short but effective, realistic" GP1*

*"...[colleagues] may also feel that it doesn't reflect 'real life' with the usual time pressures we work under" GP2*

Patient feedback on the scheduled consultations was positive and patients welcomed the opportunity to have their medications reviewed.

*"I found the medication review very useful and most reassuring, as I have often wondered if all of the medication I was taking was really necessary." Patient 2*

Due to limitations with the data collection procedures and the short duration of the follow-up period, it was not feasible to detect any prescribing changes or to apply the assessment tools to the clinical data.

## Discussion

The feasibility study demonstrated that the intervention was usable and acceptable from the perspective of GP and patient participants. Despite the small scale nature of the study, important limitations were identified with the data collection procedures. More detailed clinical information will be required in future evaluations in order to apply validated assessment tools of prescribing appropriateness and medication regimen complexity. The study findings will help to further refine the intervention and study procedures which will be tested in a randomised pilot study that, in turn, will inform the design of a definitive trial to evaluate the intervention's effectiveness in improving prescribing practice.

## References

1. Patterson SM, Cadogan CA, Kerse N, Cardwell CR, Bradley MC, Ryan C, Hughes C. Interventions to improve the appropriate use of polypharmacy for older people. *Cochrane Database Syst Rev* 2014; Issue 10. Art. No.:CD008165.
2. Cadogan CA, Ryan C, Francis JJ, Gormley GJ, Passmore P, Kerse N, Hughes CM. Development of an intervention to improve appropriate polypharmacy in older people in primary care using a theory-based method. *BMC Health Serv Res*. 2016; 16: 661

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