

PolyPrime: A randomised pilot study of a theory-based intervention to improve appropriate polypharmacy in older people in Primary Care

Led by Professor Carmel Hughes

Why did we conduct this research?

For older populations with multimorbidity, polypharmacy (use of multiple medications) is standard practice. The key challenge is ensuring appropriate polypharmacy is prescribed. PolyPrime is a theory-based intervention that has been developed to enhance appropriate polypharmacy in older people in primary care. This pilot study, funded under the CHITIN programme, aimed to assess the feasibility of the PolyPrime intervention in primary care in Northern Ireland (NI) and the Republic of Ireland (ROI).

What did we do?

This pilot cluster Randomised Controlled Trial (cRCT) aimed to recruit 12 General Practitioners (GPs) (six in NI and six in the ROI counties bordering NI) and 10 older patients receiving polypharmacy (≥ 4 medications) per practice ($n=120$). GP practices randomly allocated to the intervention arm watched an online video (demonstrating how GPs could improve appropriate polypharmacy during consultations with older patients) and scheduled medication reviews with patients on two occasions. GP practices allocated to the control arm continued to provide usual care to patients. The study assessed feasibility of recruitment, retention and collecting GP record (medication appropriateness, health service use) and self-report patient (quality of life, health service use) data. Pre-specified progression criteria based on recruitment and retention of GPs and patients, and completeness of outcome data were used to determine whether to proceed to a definitive cRCT or if further modifications were warranted. A process evaluation was also conducted to assess aspects of fidelity, acceptability and mechanism of action of the intervention.

What answer did we get?

All progression criteria were met (two 'Go' and three 'Amend' criteria). 12 GP practices were recruited (Go: ≥ 10 GP practices recruited to take part in ≤ 6 -months) and randomised into intervention or control arms. Baseline characteristics were collected from the 10 GP practices (5 in NI, 5 in the ROI border counties i.e. Cavan, Donegal, Louth and Sligo), which were retained after study recommencement after a pause period. Three practices subsequently withdrew from the study, stating pressures caused by the COVID-19 pandemic as the main reason (Amend: 6-9 GP practices retained for the required period). Sixty-eight patients¹ were recruited (Amend: 60-95 patients recruited within 5-months), with 24 patients in intervention practices receiving both an initial and follow-up medication review. Forty-seven (69.1%) patients were retained (i.e. had GP record data available for primary outcome analysis at 9-months) until the end of the study (Amend: 50-79% of patients retained for the required period). GP record data were available for 56, 49 and 47 (all 100%) patients at baseline, 6-months and 9-months, respectively. All self-report patient data were available for 66 (97%), 47 (92%) and 47 (96%) patients at baseline, 6-months and 9-months respectively (Go: $\geq 80\%$ of each patient self-report and GP-reported outcome measure is complete). The intervention was successfully delivered as intended, it was acceptable to GPs, practice staff and patients and potential mechanisms of action were identified.

¹ Adult participants ≥ 70 years old; receiving four or more regular medicines (i.e. prescribed for more than 3 months); not cognitively impaired; did not have a terminal illness; were resident in the community; in receipt of a valid General Medical Services (GMS) card in the ROI, or for NI patients; registered for National Health Service (NHS) primary care services; and registered with and/ or regularly attending the practice for a minimum of 12 months.

What should be done now?

Despite challenges faced due to the COVID-19 pandemic, this study has demonstrated that it was feasible to conduct a theory-based intervention aimed at improving appropriate polypharmacy in older people in primary care across two healthcare jurisdictions. The results support the future testing of the PolyPrime intervention in a definitive trial, however, uncertainties remain surrounding patient recruitment and retention. A future definitive cRCT may also need to further explore how the PolyPrime study could be adapted to take into consideration the recent changes in primary care including the mode of delivering medication reviews and the role that pharmacists, now based in general practice, play in their delivery.