

# Medication changes and potentially inappropriate prescribing in older patients with significant polypharmacy: a secondary analysis of the SPPiRE trial

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## Abstract

### Background

Number of medicines and medicines appropriateness are often used as outcome measures to evaluate the effectiveness of de-prescribing interventions. The aim of this study was to evaluate changes in prescribing, potentially inappropriate prescriptions (PIP) and prescribing of low-value medicines during the SPPiRE trial.

### Methods

We retrospectively analysed trial prescription data from 51 general practices with 404 participants aged [?]65 years and prescribed [?]15 repeat medicines. Repeat medications at baseline and follow-up (~1 year later) were assigned Anatomical Therapeutic Classification (ATC) codes. Outcomes were the most commonly prescribed and potentially inappropriately prescribed drug groups, the most frequently discontinued or initiated drug groups and the number of changes per person between baseline and follow-up.

### Results

There were 7,051 medicines prescribed to 404 participants at baseline. There was a median of 17 medicines (IQR 15-19) at baseline and 16 (IQR 14-19) at follow-up. PIP represented 17.1% of prescriptions at baseline and 15.7% (n=6,777) at follow-up. There were reductions in the prescription of most drug groups with the largest reduction in antiplatelet prescriptions. Considering medication discontinuations, initiations and switches, there was a median of five medication changes per person (range 0-30, IQR 3-9) by follow-up. There were 95 low-value prescriptions at baseline reducing to 78 at follow-up.

### Conclusion

The number of medication changes per person was not reflected by summarising medication count at two time points, highlighting the complexity of prescribing for patients with polypharmacy. Frequent medication changes has potentially important implications for patients in terms of adherence and medication safety.

Key words: Multimorbidity, polypharmacy, cluster randomised controlled trial, deprescribing, potentially inappropriate prescribing

The SPPiRE trial was registered prospectively on the ISRCTN registry ([ISRCTN12752680](https://www.isrctn.com/ISRCTN12752680)).

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