Safer Prescribing and Care for the Elderly (SPACE): feasibility of audit and feedback plus patient activation via practice mail-out

What gap this fills

What is known: Avoidable adverse drug event hospitalisations in older people are common, costly and distressing. The most effective, cost-effective and practical approach to safer prescribing in everyday practice is not yet known.

What this research adds: The SPACE intervention, comprising audit and feedback plus patient activation, is feasible in general practice. Work is needed to test in a larger trial the effect of the SPACE intervention on the rates of high-risk prescribing in general practice.

Introduction

Avoidable adverse drug event (ADE) hospital admissions are common, costing health systems billions of dollars every year.\(^1\)\(^-\)\(^3\) Up to 10\% of hospital admissions in older people are medication related, of which more than half are considered preventable.\(^4\)\(^,\)\(^5\) Most drug-related admissions are caused by commonly prescribed drugs, notably non-steroidal anti-inflammatory drugs (NSAIDs), antiplatelet medications and anticoagulants, which together account for one third of ADE admissions.\(^1\)\(^,\)\(^5\)\(^,\)\(^6\) The greatest predictor of ADEs and high-risk prescribing is the number of medicines a person is taking.\(^7\) Polypharmacy, the taking of multiple medicines, is increasing as more people are living longer with more chronic conditions. Despite evidence to guide safe prescribing, high-risk prescribing in older people is common with one in five prescriptions potentially inappropriate.\(^8\)\(^-\)\(^10\) High-risk prescribing places patients at increased risk of ADEs. The individual circumstances of the patient may justify high-risk prescribing, but to minimise harm it is necessary to regularly review medicines for on-going appropriateness, start medicines that are indicated, and discontinue medicines where the risks outweigh the potential benefits.\(^11\) However, there are many barriers to regular review of medicines in practice.\(^12\)

In New Zealand, patients are registered with one general practice that is responsible for all on-going prescribing; nearly all practices use computer practice management systems capable of generating prescribing data, lists of patients, and patient letters; and all practices are organised into Primary Health Organisations (PHOs) that hold funding contracts and organise initiatives to improve patient care. Many PHOs employ clinical advisory pharmacists to support safer prescribing in practices. Most on-going prescribing, including of medicines initiated by a specialist, occurs in general practice. The variation in prescribing between practices and regions suggests prescribing could be improved.\(^13\)\(^,\)\(^14\)

The most effective, cost-effective, and practical approach to safer prescribing in everyday practice is not yet known.\(^15\)\(^,\)\(^16\) Translating research evidence into practice is difficult. Complex interventions as part of on-going quality improvement programmes show the most promise, in particular interventions combining audit and feedback, education, incentive to participation, and patient engagement.\(^15\)\(^,\)\(^17\)\(^-\)\(^19\) The
Australian Veterans’ MATES quality improvement programme (Medicines Advice and Therapeutics Education Service), which delivers four modules per year, has shown promising results in the Australian veterans population.\(^{18}\) The MATES programme is based on sound theoretical underpinnings, and uses prescribing audits, patient-based feedback and education to improve doctor prescribing, as well as activating at-risk patients via mail-out inviting patients to discuss their medicines when they next see their doctor. Patient activation is a novel addition that may be key to provoking change.\(^{20}\) The MATES programme provides a model that could be adapted for use in the New Zealand primary care setting. New Zealand’s current quality improvement processes, largely delivered through PHOs, could be used to support safer prescribing in general practice.

We developed the Safer Prescribing and Care for the Elderly (SPACE) intervention by adapting MATES to the New Zealand primary care context. The aim of this study was to test the feasibility of the SPACE intervention in one PHO in Auckland, involving two practices and seven GPs. For the feasibility study we chose the module high-risk prescribing of NSAIDs and antiplatelet medications. We chose this module because these medicines cause many ADE admissions and fatal ADEs,\(^{5}\) their high-risk prescribing is common,\(^{21,22}\) their prescribing can be improved,\(^{15,17,18}\) and patients with risk factors can be identified. Findings from this feasibility study will inform optimisation of the SPACE intervention before testing in a larger trial its effect on high-risk prescribing rates.

### Methods

The setting was two purposively sampled urban general practices, one group and one solo practice, in one Auckland PHO. Participants were the PHO clinical advisory pharmacist, all seven general practitioners (GPs), and patients identified as having high-risk prescribing who received the mail-out.

The SPACE intervention comprises a practice audit to identify patients with high-risk prescribing; an outreach visit by a PHO pharmacist to provide education and patient-specific feedback to doctors; a tick-box for doctors to indicate which patients are to receive the mail-out; and a mail-out from the practice to patients containing a medicines information brochure and a letter inviting patients to discuss their medicines when they next see their doctor.

Feasibility of the intervention was assessed using semi-structured interviews. Patient participants were recruited via letter of invitation that was included in the intervention mail-out. One researcher conducted all the interviews (RT). Interviews were guided by an interview schedule that included several open-ended questions with flexible prompts (see appendix 1). The interviews explored participants’ views on the acceptability and utility of the intervention. To minimise social desirability biases, participants were informed that they would not be judged or compared. Patients were also informed their answers would not affect their relationship with their doctor or their usual care. All interviews were audio-recorded with permission and transcribed verbatim. Transcripts were read and coded, and the codes grouped into emergent themes using the general inductive approach.\(^{23,24}\) A final list of themes and sub-themes was developed for the interviews.

Ethical approval for this interview study was obtained from the University of Auckland Human Participants Ethics Committee (Ref no. 017983).
Results

The practice audits identified 86 patients with high-risk prescribing for this module. The PHO pharmacist delivered one-on-one feedback and education to all seven doctors. Doctors selected 29 patients to receive the mail-out, of which 13 responded via email or mail to indicate willingness to interview. The main reason doctors chose not to send the mail-out was because the high-risk prescribing had already ceased (for example, the NSAIDs had been only a short course). Eleven patients were interviewed, the remaining two could not be contacted. The clinical advisory pharmacist and all seven doctors were interviewed. Interviews lasted between half and one hour, depending on how much information participants had to share. Participant characteristics are shown in table 1. In general, participants said the SPACE intervention was acceptable and useful. Participant quotes are given in tables 2 and 3.

Audit and feedback

PHO pharmacist

The pharmacist reported the SPACE intervention would appeal to PHOs because there was no extra cost for PHOs already employing pharmacists, and its focus (safer prescribing) aligned with the PHO goal. The pharmacist reported the SPACE intervention provided a structured format for pharmacists to do what they were employed by PHOs to do. The SPACE intervention provided a useful way to get a foot in the door with busy doctors, enabling pharmacists to develop relationships and influence prescribing behaviour. Pharmacists often had difficulty getting time to meet with the busy doctors. The pharmacist spent about 15 minutes on average giving feedback to each doctor. Feedback sessions could be made more efficient by culling from the list patients who had NSAIDs prescribed for only a short course.

Doctors

Doctors valued being prompted to review prescribing and said the feedback sessions were educational, but they were conscious of competing demands and time constraints. Some doctors liked going through the patient list with the pharmacist, while others preferred to go through the list themselves in their own time. They said they would add a comment in the patient record to remind themselves a patient had high-risk prescribing. They did not want an alert added to a patient in the practice management system. Doctors were concerned about time constraints and said that two modules of audit and feedback per year might be do-able, but that four modules would be too many.

Mail-out to patients with high-risk prescribing

Doctors

Doctors supported the practice mail-out to encourage patient engagement in medicines management, although some were concerned the mail-out might make patients anxious or harm the doctor-patient relationship. Doctors appreciated having control over which patients received the mail-out.

Patients

Most patients said the mail-out made them feel cared for and they were reassured to know someone was checking their medicines. No patient reported being upset or worried. Most patients said they trusted their doctor to know which medicines were best for them. Some would take the letter with them to their next appointment because the letter told them to, but some would not because they already had many
things to discuss in the brief time they had with their doctor and did not want to make
a separate appointment because of the cost. Some patients said the medicines
information brochure was confusing; they thought the brochure did not apply to them,
or did not know what medicines they were taking.

Prescribing module

The pharmacist and doctors reported the topic of high risk prescribing of NSAIDs
and anti-platelet medications was useful because these medicines are commonly
prescribed. They suggested future possible topics including serotonin syndrome,
inhalers, benzodiazepines, proton pump inhibitors and anticoagulant medication.

Discussion

Summary

The SPACE intervention was designed to promote medicines review and support
safer prescribing in everyday practice, in part by empowering patients to become
involved in their medicines management. The intervention comprises practice audit
and patient-specific feedback to doctors plus patient activation via practice mail-out
with a medicines information brochure and a letter inviting patients to discuss their
medicines when they next see their doctor. Findings from this study suggest the
SPACE intervention was feasible in general practices, but that time constraints are a
limiting factor. SPACE provides a structured format for PHO pharmacists to do what
the PHO employs them to do at no extra cost. Doctors valued the prescribing
feedback and education. While some doctors were worried the mail-out might make
patients anxious, most patients were reassured to receive the mail-out and to know
someone was checking their medicines. All participants were aware of the time
constraints that GPs were working under and the competing demands for GP
attention.

Comparison with existing literature

Findings from this study contribute to the growing body of literature on interventions
to promote safer prescribing in general practice. Our findings confirm
previous research investigating the acceptability and utility of audit and feedback,
and add to the less extensive body of research on patient activation.

Strengths and limitations

Findings enabled optimisation of the SPACE intervention for the planned cluster
randomised controlled trial testing its effect on high-risk prescribing rates. Strengths
of this study lie in having interviewed participants involved in different aspects of the
intervention, including all doctors from participating practices. A limitation is that we
worked with only one PHO, which had well-established pharmacist-led quality
improvement processes in practices. Also we interviewed only 11 of the 29 patients
who received the mail-out, introducing a risk of bias. Patients were a self-selected
group; it is possible some patients were distressed by the mail-out, or disinterested,
and for this reason did not come forward for interviewing. Despite providing
reassurance that there were no right or wrong answers and that participants would
not be judged or compared, it is possible participants provided responses seeking to
please.

Conclusion & recommendations

The most effective, cost-effective, and practical approach to safer prescribing in
everyday practice is not yet known. Findings from this project suggest that the
SPACE intervention, designed to promote medicines review and empower patients,
is feasible in general practice. The SPACE intervention provides a template that PHO pharmacists can use to improve care at no extra cost. The medicines information brochure needs modification to avoid confusing patients. Further work is needed to test in a larger trial the effect of the SPACE intervention on the rate of high-risk prescribing in everyday practice.

References


