

BRIEF COMMUNICATION

Active deprescribing attitudes and practices in a large regional tertiary health service: a mixed methods study

Michael Robinson,^{1,2} Venkat Vangaveti,^{1,2} Alexandra Edelman^{2,3†} and Andrew J. Mallett^{1,2,4†}

¹Townsville Institute of Health Research and Innovation, Townsville University Hospital, and ²College of Medicine and Dentistry, James Cook University, Townsville, ⁴Institute for Molecular Bioscience, The University of Queensland, Brisbane, Queensland, and ³Menzies School of Health Research, Alice Springs, Northern Territory, Australia

Key words

older adults, deprescribing, mixed methods study, attitudes, practices.

Correspondence

Andrew J. Mallett, Townsville Institute of Health Research and Innovation, Townsville University Hospital, Angus Smith Drive, Townsville, Qld., Australia.

Email: andrew.mallett@health.qld.gov.au

Received 17 May 2024; accepted
4 August 2024.

Abstract

In this pilot study, we explored current attitudes and deprescribing practices of clinicians in a large regional health service through a mixed methods approach. Respondents included doctors, pharmacists and nurse practitioners, who outlined three themes including professional and organisational contexts, disconnect between goals and practices and factors influencing deprescribing.

Polypharmacy is defined as the concurrent use of five or more medications, and can be a combination of prescribed, over-the-counter, complementary and traditional medications.¹ Polypharmacy rates in Australia are increasing,² with 20.9% taking five or more medications, and 3.3% taking 10 or more.³ Polypharmacy presents many risks, including adverse drug reactions and interactions, increased morbidity and mortality, functional impairment, geriatric syndromes (e.g. confusion and frailty) and reduced adherence to treatment regimens.^{1,4} In Australia, medication-related problems result in 650 000 emergency department presentations, with 250 000 subsequent hospital admissions. This accounts for approximately 2.5% of hospital admissions, costing ~AU\$1.4 billion, and with half of resultant harm being preventable.⁵ Deprescribing has been demonstrated to be safe and effective.⁶ Although the majority of clinicians recognise the importance of deprescribing, less engage with this process.⁷

This pilot study aimed to explore the current attitudes and deprescribing practices of clinicians working with patients aged older than 65 years in a large regional health service in Northern Queensland (Townsville Hospital and Health Service (THHS)). This study used a mixed methods design, utilising a survey to explore the current deprescribing practices and attitudes (Supplementary 2), followed by ~20-min interviews to identify and investigate issues and gain additional insights (Supplementary 3). Quantitative data were statistically analysed using SPSS 28 software and presented in tabular form with descriptive results reported. Qualitative data were analysed using NVivo software with Braun and Clarke's six-phase framework for thematic analysis, as it is a well-established inductive method for exploratory research.⁸ Interpretation of both quantitative and qualitative data was undertaken concurrently and reported against the themes. Ethical approval was gained through both THHS and James Cook University Human Research Ethics Committees (HRECs) (approval reference HREC/2022/QTHS/86228).

A total of 17 clinicians (four medical doctors, eight clinical pharmacists and five nurse practitioners) participated in the online survey, with three subsequent interviews (one member of each profession purposively selected). The survey participant demographics and their engagement in deprescribing are outlined in Table S1.

†These authors are co-senior authors.

Funding: A. J. Mallett is supported by a Queensland Health Advancing Clinical Research Fellowship.

Conflict of interest: None.

There was a wide range of clinical experience and primary areas of practice noted. The majority of survey respondents (64.7%) reported that they believed their patients were open or very open to deprescribing, with an average of 30–49% of patients being believed to be suitable for deprescribing. We report findings against three inductive themes.

Theme 1 – The professional and organisational contexts for deprescribing: This varied across professions and workplace settings (see Table 1). In an interview, the nurse practitioner noted that deprescribing was encouraged and discussed regularly, particularly in an outpatient setting. The doctor considered it routine practice, but reported unfamiliarity with the term ‘deprescribing’. Conversely, the

Table 1 Enablers and barriers for deprescribing

| | Occupation N (%) / median response Likert scale | | |
|--|---|----------------------|--------------------|
| | Doctor | Clinical pharmacist | Nurse practitioner |
| Indications/triggers for deprescribing | | | |
| Triggers/indications† | | | |
| Routine review | 2 (50%) | 6 (75%) | 3 (60%) |
| Recognised polypharmacy | 2 (50%) | 5 (62.5%) | 2 (40%) |
| Adverse drug reaction | 1 (25%) | 3 (37.5%) | 3 (60%) |
| Ineffective medications | 3 (75%) | 5 (62.5%) | 2 (40%) |
| Falls | 3 (75%) | 6 (75%) | 1 (20%) |
| Terminal diagnosis | 1 (25%) | 4 (50%) | 2 (40%) |
| Dementia | 2 (50%) | 2 (25%) | 0 |
| Deprescribing in inpatients and outpatients | | | |
| Inpatients | | | |
| Valuable | Strongly agree | Strongly agree | Agree |
| Easy | Neutral | Neutral-agree | Neutral |
| Common | Disagree | Neutral | Disagree |
| Necessary | Agree | Strongly agree-agree | Agree |
| Part of my role | Agree | Strongly agree | Neutral |
| Outpatients | | | |
| Valuable | Strongly agree-agree | Strongly agree-agree | Agree |
| Easy | Disagree | Disagree | Neutral |
| Common | Disagree | Disagree | Neutral |
| Necessary | Agree | Agree | Agree |
| Part of my role | Strongly agree-agree | Neutral-disagree | Strongly agree |
| Perceived benefits and risks of deprescribing | | | |
| Perceived benefits† | | | |
| Improved adherence to regimens | 4 (100%) | 7 (87.5%) | 3 (60%) |
| Reduction of adverse drug events | 4 (100%) | 7 (87.5%) | 4 (80%) |
| Reduction in drug–drug reactions | 4 (100%) | 5 (62.5%) | 5 (100%) |
| Reduction in drug–disease reactions | 3 (75%) | 6 (75%) | 3 (60%) |
| Reduction in financial cost | 4 (100%) | 6 (75%) | 5 (100%) |
| Improved patient satisfaction with treatment plans | 2 (50%) | 7 (87.5%) | 5 (100%) |
| Perceived risks† | | | |
| Adverse withdrawal effects | 2 (50%) | 4 (50%) | 2 (40%) |
| Rebound syndromes | 1 (25%) | 4 (50%) | 1 (20%) |
| Changes to pharmacokinetic or pharmacodynamic states | 0 | 2 (25%) | 2 (40%) |
| Relapse of medical conditions/symptoms | 1 (25%) | 8 (100%) | 5 (100%) |
| Unmasking drug interactions | 0 | 2 (25%) | 0 |
| Barriers to deprescribing | | | |
| Barriers† | | | |
| Patient's resistance | 1 (25%) | 4 (50%) | 3 (60%) |
| Lack of guidelines | 0 | 3 (37.5%) | 3 (60%) |
| Lack of treatment alternatives | 1 (25%) | 1 (12.5%) | 1 (20%) |
| Uncoordinated treatment approach | 0 | 4 (50%) | 0 |
| Difficulties in determining treatment goals | 2 (50%) | 3 (37.5%) | 5 (100%) |

†Multiple responses possible.

clinical pharmacist in a rural hospital setting reported deprescribing as more 'opportunistic'.

Looking at indications for deprescribing (Table 1), the nurse practitioner reported this was discussed at professional conferences, and the clinical pharmacist described the availability of education around deprescribing, such as modules, courses and articles. The doctor reflected that both undergraduate and post-graduate training involved education in deprescribing.

Survey respondents reported that certain elements of organisational context can be a barrier to deprescribing, particularly having an uncoordinated treatment approach (Table 1). Some organisational factors, such as a lack of available guidelines and poor communication between hospitals and general practitioners (GPs), were barriers to deprescribing.

Theme 2 – Disconnect between deprescribing goals and practice: All respondents agreed that deprescribing is valuable and necessary, but not common. The vast majority of survey respondents engaged in deprescribing; however, only 35% of survey respondents engaged in regular deprescribing despite the perceived benefits as outlined in Table 1.

The variable practice was also reflected by interviewees. As discussed in Theme 1, deprescribing was described by the clinical pharmacist as being opportunistic, while the doctor's attitudes towards deprescribing ranged from proactive, to reluctant if deprescribing was perceived to challenge GP-initiated treatment plans. All survey respondents agreed that deprescribing is valuable and necessary, yet only 35% reported engaging in deprescribing on a regular basis.

Nonetheless, strong support for deprescribing was reported by the doctor as it was considered part of the job. The clinical pharmacist described patients who had the opportunity to engage in a medical history and medication review with a pharmacist as 'lucky', suggesting that such interactions should occur more often. The nurse practitioner similarly expressed that more could be done to enable deprescribing.

Perception of risk may contribute to the disconnect between goals and practice. Perceived risks included adverse effects such as withdrawal symptoms, rebound syndrome and recurrence/relapse of medical conditions (Table 1). The nurse practitioner suggested that some clinicians do view deprescribing as a risky process. However, a disconnect was evident amongst survey respondents as it was reported that 'with appropriate patient counselling and informed decisions (the risks of deprescribing) can be managed', and that there are no risks to deprescribing if it was 'done as it should (be)'. There were conflicting views from interviewees around the change in deprescribing practices throughout an

individual's career, with the nurse practitioner and clinical pharmacist reporting that with more experience, they are, respectively, more mindful and confident with deprescribing. However, the doctor reflected that their approach had not changed as they have 'always done it'.

Theme 3 – Factors influencing enactment of deprescribing practices: One major enabling factor was patients' willingness to engage in deprescribing. Key considerations from a patient's perspective (as reported by the health professional study participants) included a preference for taking fewer medications, reducing costs or side effects and simplifying therapeutic regimens. It was also acknowledged that some patients may be 'happy' to be guided by health professionals. Inter-disciplinary communication and collaboration were also reported as enabling factors.

Attitudes towards deprescribing were reported to vary from 'pretty passionate' to 'no ... that's the GP's issue'. The most common barriers cited in the survey were resistance from patients, difficulties in determining treatment goals and lack of available guidelines for deprescribing (Table 1). The nurse practitioner reported delays in communication with the GP being a barrier, and the clinical pharmacist stated that junior doctors tend not to make decisions regarding medications without consulting their senior doctors. In the interview with the doctor, the lack of a clear and concise medication history being available was reported as a barrier.

When comparing private and public settings, it was noted in an interview with the doctor that, in general, doctors would likely engage in deprescribing to a similar degree in both settings. However, both the nurse practitioner and clinical pharmacist reported that community pharmacies can be more business-oriented and transactional in their model of care, which was noted can be a barrier to engaging in deprescribing.

Strategies suggested in interviews to help facilitate deprescribing included establishing clear inter-disciplinary communication, including referrals to GPs with suggestions on simplification of medications, and mechanisms for clinical review of medications at inpatient settings. The nurse practitioner suggested that outpatient clinics can provide a setting for a more proactive approach, as inpatient admissions could potentially also involve more re-prescribing. Clinical pharmacists were reported to have strategies to help facilitate deprescribing, such as performing medication histories and reviews, discharge medication profiles, patient education and discussion, and roles such as 'GP pharmacists'. Other suggestions from both interviewees and survey respondents included using key events, such as admissions, starting new treatments and discharges, more

systematically as prompts for considering/discussing deprescribing with patients.

Discussion

Our pilot study findings are congruent with recent literature suggesting that despite the majority of doctors recognising the issues of polypharmacy,^{7,9} few engage with deprescribing regularly.⁹ Recent evidence also indicates that the majority of patients would like to reduce the number of prescribed medications,¹⁰ which is consistent with the viewpoint of our survey respondents.

The barriers to deprescribing described in this study are congruent with the literature, which discusses poor inter-provider communication, a lack of time, lack of available guidelines, patient resistance, difficulty in determining treatment goals, reluctance to deprescribe medications started by other practitioners, multiple providers and diffusion of responsibility.^{7,9,11–17} We also report clear communication and collaboration between healthcare providers, especially pharmacists and GPs, as an enabling factor for deprescribing.^{7,9,11,14,15} Other enabling factors for deprescribing described in our study included adequate time for medication reviews and follow-up, increased resources⁷ and the role of pharmacists.^{7,11,15,16}

Implementation science has been proposed as a way to explore the dichotomy of the recognised importance of deprescribing yet limited practice.^{18,19} Recent literature suggests that the issue may lie with the implementation of currently available tools, rather than a lack of appropriate tools/approaches.¹⁹ Implementation science can potentially help bridge the gaps in translating recommendations into effective practice.¹⁸

References

- 1 World Health Organization. *Medication Safety in Polypharmacy*. Geneva: World Health Organization; 2019.
- 2 Page AT, Falster MO, Litchfield M, Pearson SA, Etherton-Beer C, Pearson S-A *et al*. Polypharmacy among older Australians, 2006–2017: a population-based study. *Med J Aust* 2019; **211**: 71–5.
- 3 Wylie CE, Daniels B, Brett J, Pearson SA, Buckley NA. A national study on prescribed medicine use in Australia on a typical day. *Pharmacoepidemiol Drug Saf* 2020; **29**: 1046–53.
- 4 Rankin A, Cadogan CA, Patterson SM, Kerse N, Cardwell CR, Bradley MC *et al*. Interventions to improve the appropriate use of polypharmacy for older people. *Cochrane Database Syst Rev* 2018; **9**: CD008165.
- 5 Lim R, Semple S, Ellett L, Roughead L. Medicine Safety: Take Care. Canberra: Pharmaceutical Society of Australia; 2019. Available from URL: <https://www.psa.org.au/wp-content/uploads/2019/01/PSA-Medicine-Safety-Report.pdf>
- 6 McDonald EG, Wu PE, Rashidi B, Wilson MG, Bortolussi-Courval E, Atique A *et al*. The MedSafer study: electronic decision support for deprescribing in hospitalized older adults: a cluster randomized clinical trial. *JAMA Intern Med* 2022; **182**: 265–73.
- 7 Nadarajan K, Balakrishnan T, Yee ML, Soong JL. The attitudes and beliefs of doctors towards deprescribing medications. *Proc Singap Healthc* 2018; **27**: 41–8.
- 8 Proudfoot K. Inductive/deductive hybrid thematic analysis in mixed methods research. *J Mix Methods Res* 2022; **17**: 308–26.
- 9 Davila H, Rosen AK, Stolzmann K, Zhang L, Linsky AM. Factors influencing providers' willingness to deprescribe medications. *J Am Coll Clin Pharm* 2022; **5**: 15–25.
- 10 Weir KR, Ailabouni NJ, Schneider CR, Hilmer SN, Reeve E. Consumer attitudes towards deprescribing: a systematic review and meta-analysis. *J Gerontol A Biol Sci Med Sci* 2022; **77**: 1020–34.
- 11 Alrasheed MM, Alhawassi TM, Alanazi A, Aloudah N, Khurshid F, Alsultan M. Knowledge and willingness of physicians about deprescribing

- among older patients: a qualitative study. *Clin Interv Aging* 2018; **13**: 1401–8.
- 12 Djatche L, Lee S, Singer D, Hegarty SE, Lombardi M, Maio V. How confident are physicians in deprescribing for the elderly and what barriers prevent deprescribing? *J Clin Pharm Ther* 2018; **43**: 550–5.
 - 13 Rozsnyai Z, Jungo KT, Reeve E, Poortvliet RKE, Rodondi N, Gussekloo J *et al*. What do older adults with multimorbidity and polypharmacy think about deprescribing? The LESS study – a primary care-based survey. *BMC Geriatr* 2020; **20**: 435.
 - 14 D'Avanzo B, Agosti P, Reeve E, Pasina L, Sabbà C, Mannucci PM *et al*. Views of medical practitioners about deprescribing in older adults: findings from an Italian qualitative study. *Maturitas* 2020; **134**: 29–33.
 - 15 Huffmyer MJ, Keck JW, Harrington NG, Freeman PR, Westling M, Lukacena KM *et al*. Primary care clinician and community pharmacist perceptions of deprescribing. *J Am Geriatr Soc* 2021; **69**: 1686–9.
 - 16 Ailabouni NJ, Rebecca Weir K, Reeve E, Turner JT, Wilson Norton J, Gray SL. Barriers and enablers of older adults initiating a deprescribing conversation. *Patient Educ Couns* 2022; **105**: 615–24.
 - 17 Tangiisuran B, Rajendran V, Sha'aban A, Daud NAA, Nawi SNM. Physicians' perceived barriers and enablers for deprescribing among older patients at public primary care clinics: a qualitative study. *Int J Clin Pharmacol* 2022; **44**: 201–13.
 - 18 Ailabouni NJ, Reeve E, Helfrich CD, Hilmer SN, Wagenaar BH. Leveraging implementation science to increase the translation of deprescribing evidence into practice. *Res Social Adm Pharm* 2022; **18**: 2550–5.
 - 19 Baumgartner AD, Clark CM, LaValley SA, Monte SV, Wahler RG Jr, Singh R. Interventions to deprescribe potentially inappropriate medications in the elderly: lost in translation? *J Clin Pharm Ther* 2020; **45**: 453–61.
 - 20 Atkins L, Francis J, Islam R, O'Connor D, Patey A, Ivers N *et al*. A guide to using the theoretical domains framework of behaviour change to investigate implementation problems. *Implement Sci* 2017; **12**: 77.

Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's web-site:

Data S1. Supporting Information.