

Should Hospital Admission Be Used as an Opportunity for Deprescribing in Older Adults?

THE “PRO” SIDE

Polypharmacy, defined as the use of 5 or more medications, is becoming increasingly common in older adults, internationally. For example, in a Canadian survey of experiences with primary health care, 27% of older adults reported taking 5 or more medications on a regular basis.¹ Polypharmacy is associated with medication-related adverse effects such as frailty, disability, death, and falls.² Deprescribing—the process of withdrawing an inappropriate medication, under the supervision of a health care professional, with the goal of managing polypharmacy and improving outcomes—may be a solution to reduce the harm associated with using multiple medications.³ Evidence is accumulating to suggest that initiating deprescribing interventions within the hospital setting can be feasible, safe, and sustained after discharge. For patients with polypharmacy, admission to hospital can give clinicians an opportunity to reassess medications, identify the risks and harms of the current medication regimen, and initiate deprescribing of inappropriate medications, because the necessary resources, time, and specialist health care practitioners are often readily available in this setting. Hospitals also represent a somewhat “controlled” environment, where clinicians can closely monitor and reassess patients after implementing deprescribing interventions. To evaluate whether hospitalization should be used as an opportunity for deprescribing, the effectiveness of hospital-based deprescribing interventions must be analyzed.

A recent systematic review of randomized trials evaluating the impact of deprescribing interventions on older adults in hospital demonstrated that such interventions are safe, feasible, and generally effective in reducing potentially inappropriate medications.⁴ Since publication of this systematic review, many other studies have provided additional evidence to support the proposition that hospitalization offers an opportunity for deprescribing in older adults.

In a single-arm interventional study, hospitalized Canadian patients aged 65 years or older, who were long-term regular users of sedative medications, received a self-directed patient education pamphlet describing the risks of prolonged use of sedatives and outlining a stepwise tapering protocol.⁵ These hospitalized older adults were willing to discontinue their sedative medications, and of the 50 participants enrolled in the study, 32 (64%) had successful

deprescribing of their sedative medication in hospital, with no reported episodes of acute withdrawal. Importantly, the study found no change in self-reported sleep disturbances after the hospital stay (relative to preadmission occurrences), which indicates that the intervention was feasible and safe.

In another study, conducted in Australia, McKean and others⁶ investigated whether a structured approach to deprescribing was feasible and whether it reduced medication burden. A sample of 50 hospital inpatients aged 65 years or older underwent a deprescribing intervention, which included an education program targeted toward clinicians and implementation of a 5-step decision support tool for selecting eligible medications for discontinuation.⁷ The intervention resulted in a significant decrease in the median number of medications per patient at discharge. At follow-up, less than 5% of ceased medications were recommenced, and this occurred among less than 10% of the patients. There were no deaths or acute presentations to hospital attributable to ceasing the medications. These findings demonstrate that a multifactorial hospital intervention can lead to safe and successful deprescribing of inappropriate medications in older adults. Similarly, a study conducted in an Australian tertiary hospital evaluated the feasibility of a pharmacist-led, physician-supported deprescribing model, in which patients 65 years or older with polypharmacy were evaluated for deprescribing by team pharmacists.⁸ In that study, 60% of patients had successful deprescribing of inappropriate medications, which showed that this model of deprescribing in an acute hospital setting is feasible and that deprescribing is becoming an essential role for clinical pharmacists.⁹

A further example involved a prospective dual-arm interventional study conducted in a Canadian tertiary care hospital.¹⁰ The study aimed to reduce the number of medications prescribed at hospital discharge following pharmacist-led, patient-specific deprescribing rounds for inpatients. The deprescribing rounds resulted in significantly more medications being deprescribed relative to the control, with a significant reduction in rates of hospital readmission and presentations to the emergency department.

There is also some evidence to suggest that not initiating deprescribing interventions in hospital may be a missed opportunity to improve medication use in older adults. In the United Kingdom, a study to quantify and describe the nature of deprescribing in a teaching hospital found limited deprescribing activity, dominated by reactive behaviour from clinicians (such as a response to an adverse clinical trigger), as opposed to proactive efforts to deprescribe inappropriate medications.¹¹ Similarly, in a Canadian study,¹² the rates of use and discontinuation of docusate sodium and

other laxatives by internal medicine inpatients was documented; the investigators found that docusate was frequently and inappropriately prescribed to hospital inpatients, with approximately 80% of patients continuing docusate use at the time of discharge. These results demonstrate that deprescribing interventions are needed within hospital settings to reduce inappropriate use of medications.

Overall, the growing evidence from systematic reviews and interventional studies suggests that hospitalization may be a good opportunity to initiate deprescribing interventions for older adults. Often, deprescribing needs to be actively promoted to health care practitioners and patients, with the message that it should not be considered as an isolated task, but rather forms part of a comprehensive medication management review for older adults.¹³ The patient's or caregiver's goals and attitudes to their health and medications should always be considered before commencing any deprescribing interventions.

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Lisa Kouladjian O'Donnell, BMedSc(Hons), MPharm, PhD
Departments of Clinical Pharmacology and of Aged Care
Kolling Institute of Medical Research, Royal North Shore Hospital
St Leonards, New South Wales, Australia
Northern Clinical School, Faculty of Medicine and Health
The University of Sydney
Sydney, New South Wales, Australia

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THE "CON" SIDE

Two of every 3 Canadians over the age of 65 years take 5 or more prescription medications, often referred to as polypharmacy.¹ Polypharmacy can be appropriate and necessary, occurring as a result of multimorbidity combined with an extended lifespan. However, more than 30% of older Canadian adults are taking 1 or more potentially inappropriate medications (PIMs; defined as medications for which the risk outweighs the benefit).¹ Deprescribing is the process of reducing or discontinuing inappropriate medications, with the goal of reducing risk and negative outcomes in older adults.² Research focused on deprescribing is growing; however, the current literature is heterogeneous, involving different types of interventions, providers, and contexts, with variable efficacy.^{3,4}

Several points of opportunity for deprescribing have been described in the literature.⁵⁻⁷ Hospital admission, in particular, is thought to provide an ideal opportunity for deprescribing, because the patient's medication history is reviewed, clinicians are working in a collaborative environment, and patients and families are engaged in the process during the hospital stay.^{3,4,8} However, there are significant challenges to deprescribing in the hospital setting that limit this opportunity.⁵⁻⁷ First, hospital admission is often the result of an acute issue, making deprescribing of long-term medications less of a priority. Indeed, changes to regular medications during hospitalization could cause new symptoms or a change in condition, which could influence monitoring of recovery from the acute issue. A 2018 narrative review determined that more research was required regarding clinicians' safety concerns related to deprescribing, such as withdrawal events and re-emergence of a condition.⁹

The time needed for deprescribing of certain medications (e.g., need for tapering) and continuity of care in the context of short admissions are also of concern. Given the economic costs, as well as the known risks during a hospital stay (e.g., errors, infection, deconditioning), lengthening a hospital stay to allow for deprescribing is unlikely to be appropriate. One in-hospital study, published in 2018, showed that hospital admission is itself a risk factor for prescribing of a PIM.¹⁰

In addition, issues related to fragmentation of care are exacerbated in hospital. These issues include difficulties

accessing medical and/or medication history and the various specialties and clinicians involved in past and present care. Inability to access a patient's complete history limits the possibility of identifying whether a medication is inappropriate and therefore suitable for deprescribing. As well, reluctance to question what a colleague has prescribed may lead to hesitancy among clinicians to initiate the deprescribing process or review the need for a medication.^{7,11}

Guidelines, along with diagnoses, test results, and symptoms, are used by clinicians to guide decision-making; they also promote a prescribing culture and subsequent polypharmacy. Typically, guidelines provide information about when to initiate a medication, but often neglect to provide information about discontinuation.¹² Although deprescribing tools and guidelines are emerging, there is as yet no consistent process for or guide to this process. Lack of confidence among prescribers, combined with an absence of reliable decision support, may lead to continuation of medications, as this may be perceived as safer than discontinuation.^{11,13} As well, the effect of decision support tools requires more research. An in-hospital study of a decision support tool, published in 2019, showed a statistically significant decrease in PIMs with use of the tool; however, the effect on clinically significant outcomes was unclear.⁴ Overall, the impact of in-hospital deprescribing on clinically important outcomes is unknown, because studies have not been powered to evaluate outcomes such as readmission and mortality.³ In an already strained health care system, in-hospital activities that improve clinical outcomes should be prioritized.

Patients' preferences and goals of care also play a role in deprescribing. In a survey of older inpatients, 89% were hypothetically willing to stop 1 or more of their regular medications.⁸ However, attempts to deprescribe in clinical trials have not shown the same rate of success.^{14,15} In a cross-sectional study published in 2018, 39.7% of patients refused deprescribing in hospital, and none of the variables measured, including number of PIMs, predicted refusal.¹⁵ Overall, patient characteristics and factors leading to patients' refusal of deprescribing constitute an area for further exploration. Another in-hospital study, published in 2019, highlighted the importance of patient education and engagement in the deprescribing process.⁷ The ability to discuss and ascertain patient preferences to drive appropriate deprescribing may be diminished in hospital, because there is no previously established relationship between patients and their care providers. The patient's level of trust and the physician-patient relationship are likely to be hugely influential in the success of deprescribing.^{8,16} Additionally, for patients experiencing an acute event or an otherwise significant point in their health care journey, it is not clear whether preferences expressed while in hospital will fluctuate or match preferences after discharge.

Transitions of care are particularly concerning and can affect the success of deprescribing.^{17,18} Lack of follow-up and

absence of assumption of responsibility for patients in whom deprescribing has been initiated, especially those without a family doctor, are issues for prescribers.^{3,7} The literature shows that deprescribing efforts are often not sustained after hospital discharge, as approximately 25% of ceased medications are restarted within the following year.¹⁹ This often occurs even if the medication was discontinued because of an adverse effect or as part of a comprehensive assessment. Problems with transfer of information and the involvement of multiple health care providers are cited as possible causes for resumption of medications; however, the reasons for re-prescription of ceased medications require further research.^{19,20} Therefore, without appropriate communication channels following discharge, deprescribing during hospitalization may be futile and not a valuable use of time and resources.

Evidence exists of the barriers to deprescribing in hospital; for example, an evaluation of deprescribing in the hospital setting, published in 2018, showed that only 4% of patients had a medication deprescribed.²¹ It has also been shown that deprescribing in hospital tends to be reactive, not proactive.²¹ Because of these barriers, further research is required before hospitalization can be considered an "ideal" setting for deprescribing. Nonetheless, clinicians should make the most of every opportunity to increase patients' and clinicians' awareness of deprescribing. Education of patients and clinicians and initiation of discussions about deprescribing could certainly start in the hospital, as could identification of PIMs that should be reviewed by the primary care team. Communication and continuity during transitions of care are key, and discussions should be continued after discharge, with patients, families, and health care providers becoming informed and engaged in shared decision-making.

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Marci E Dearing, BSc(Pharm), PharmD, ACPR
 QEII Health Sciences Centre, Nova Scotia Health Authority
 Halifax, Nova Scotia

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