Deprescribing medication for frail elderly patients in nursing homes: A survey of Vancouver family physicians

Responses to questions about deprescribing indicate that physicians know they need to reduce the risks caused by polypharmacy, but that most do not use a systematic approach when discontinuing medications.

ABSTRACT

**Background:** Despite concerns about the risk of adverse drug events among elderly patients in residential care, polypharmacy is common in nursing homes. Although deprescribing is receiving increasing attention in the medical and the popular press, little research has been done to determine the best practices for discontinuing medications in order to improve quality of life.

**Methods:** A descriptive quantitative survey was designed to identify common challenges to discontinuing medications and to explore current deprescribing practices. Family physicians caring for 10 or more frail elderly patients in nursing homes in Vancouver, British Columbia, were invited to participate. Participants were asked to report on their practices when discontinuing medications and any challenges they faced when deprescribing.

**Results:** Of the 49 family physicians invited to participate, 30 responded (61.0%). Three-quarters of respondents (74.5%) denied feeling reluctant to discontinue medications. Challenges to deprescribing identified by respondents included concerns about the medication having been prescribed by another practitioner, organizational factors, and the possibility of causing an adverse event. Many respondents (66.5%) reported that they did not feel pressured to follow chronic disease management guidelines when caring for their frail elderly patients. Less than half of respondents (48.0%) reported that they used a consistent approach to reduce polypharmacy.

**Conclusions:** Despite the prevalence of polypharmacy in nursing homes in Vancouver, we did not find that family physicians were reluctant to discontinue medications in their patients. Most, however, lack a systematic approach for doing so and face challenges when deprescribing. Barriers should be targeted and further research into polypharmacy reduction practices should be undertaken to facilitate optimal prescribing for frail elderly patients.

**Background**

Polypharmacy is a well-known risk factor for increased morbidity and mortality, especially among elderly people, who are more likely to have comorbid conditions and thus be prescribed multiple medications. Older age is also a risk factor for adverse drug events, due in part to the exponential increase in potential drug interactions with a greater number of medications, but also because of age-related physiological changes that vary between individuals and can affect drug-handling by the body. These factors contribute to the large interindividual variability of medication effects in older patients.

Elderly people living in residential care facilities are at particularly high risk for polypharmacy, since

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they are often frail and suffer from multiple illnesses. They are frequently prescribed preventive medications in accordance with best practice guidelines for individual chronic diseases. These guidelines are usually based on studies involving younger subjects, meaning that the safety and efficacy of the recommendations are not established for older patients with polymorbidity, polypharmacy, and frailty. Evidence supporting the use of preventive medications for chronic conditions in the elderly is lacking, but many of these medications are still prescribed, contributing to the increase in polypharmacy among the elderly.

In BC, patients in residential care are prescribed an average of 9 medications (range 1 to 42) (personal communication by e-mail with C. Voggenreiter, Ministry of Health, March 2013). Several explanations for this high number have been suggested in the literature. Some physicians believe there is appropriate evidence for prescribing the medications. Other physicians are reluctant to change orders for medications started by specialists or feel they lack the education and experience to taper off or stop medications. Still other physicians voice concerns that patients will feel the physician is “giving up on them” or “leading them to quicker deaths.” Few studies have explored these challenges to reducing polypharmacy. A recent Cochrane review on the subject reported “a need to explore and understand poor prescribing practice in order to know how to improve it and enhance patient safety.”

“Deprescribing” is a relatively new term that is receiving increasing attention in both the medical and the popular press. A descriptive quantitative study was designed to identify common challenges to deprescribing and to explore current deprescribing practices of FPs. Eligible participants were defined as family physicians currently practising in Vancouver, BC, and providing care for 10 or more patients living in nursing homes. Physicians were excluded from the study if they were not currently providing care in nursing homes or were not the primary care providers (e.g., locum physicians).

Survey responses were collected from November 2012 to January 2013, then combined and analyzed for frequency of specific responses.
As far as the authors are aware, this is the first study of its kind in Canada.

Results

Of the 49 eligible FPs invited to participate, 30 completed the survey for a response rate of 61.0%. One-third of respondents (32.1%) were female. The average number of years in practice reported by participants was 20.4 (range 1 to 37 years), with an average number of years in residential care of 17.5 (range 1 to 37 years). Location of family practice residency training was diverse, but the majority of respondents trained in Canada.

Three-quarters of survey respondents (74.5%) reported they are not reluctant to deprescribe medications. This is consistent with the findings of previous studies addressing polypharmacy, which have shown that FPs believe it is important to minimize medications and they do not feel reluctant to do so. However, local data from the Ministry of Health indicate FPs are overprescribing, despite their good intentions, for several possible reasons.

The challenges to deprescribing identified by Vancouver FPs are summarized in Table 1. Reluctance to deprescribe was reported when the FP was not the original prescriber of the medication. FPs also reported that their reluctance to act was increased by organizational challenges to discussing deprescribing (e.g., time constraints) and concerns about the possible consequences.

Two-thirds of respondents (66.5%) reported they do not feel pressured to follow chronic disease management guidelines in frail elderly patients, while others (24.3%) were unsure. Only 48.0% of Vancouver FPs reported a consistent approach to deprescribing.

The times when FPs consider discontinuing medications are shown in Table 2. Most (73.3%) consider deprescribing upon taking over care of a patient, and many (70.0%) consider it when a patient is admitted to a nursing home.

Conclusions

The study results highlight some of the challenges faced by FPs deprescribing medication for frail elderly patients in nursing homes.

Original prescriber concerns

Prescription by a specialist or other practitioner is a factor identified in this survey that inhibits many FPs from deprescribing medications and has been noted previously in other areas of the world. Since most survey respondents denied concerns about damaging relationships with specialists, this reluctance may be due to lack of confidence in their own depre-

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Table 1. Factors reported to influence deprescribing attitudes and practices of Vancouver FPs surveyed.

<table>
<thead>
<tr>
<th>Factor</th>
<th>n/N (%)</th>
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<tbody>
<tr>
<td>Medication originally prescribed by another practitioner</td>
<td></td>
</tr>
<tr>
<td>Specialist</td>
<td>17/29 (58.6)</td>
</tr>
<tr>
<td>During an acute hospital admission</td>
<td>8/29 (28.0)</td>
</tr>
<tr>
<td>Previous family doctor</td>
<td>7/29 (24.1)</td>
</tr>
<tr>
<td>Nurse practitioner</td>
<td>2/29 (6.9)</td>
</tr>
<tr>
<td>Naturopath</td>
<td>1/29 (3.5)</td>
</tr>
<tr>
<td>FP unable to discuss deprescribing</td>
<td></td>
</tr>
<tr>
<td>Family unavailability</td>
<td>25/28 (89.3)</td>
</tr>
<tr>
<td>Time constraints</td>
<td>24/29 (82.8)</td>
</tr>
<tr>
<td>Patient cognition/dementia</td>
<td>22/27 (81.5)</td>
</tr>
<tr>
<td>More urgent issues</td>
<td>15/26 (57.7)</td>
</tr>
<tr>
<td>End-of-life issues</td>
<td>11/25 (44.0)</td>
</tr>
<tr>
<td>FP concerned about possible consequences of deprescribing</td>
<td></td>
</tr>
<tr>
<td>Causing an adverse event (e.g., stroke, MI)</td>
<td>17/24 (70.8)</td>
</tr>
<tr>
<td>Worsening symptoms</td>
<td>16/25 (64.0)</td>
</tr>
<tr>
<td>Damaging relationship with patient or family</td>
<td>9/25 (36.0)</td>
</tr>
<tr>
<td>Shortening life</td>
<td>5/25 (20.0)</td>
</tr>
<tr>
<td>Damaging relationship with specialist</td>
<td>5/25 (20.0)</td>
</tr>
<tr>
<td>Damaging relationship with residential care staff</td>
<td>4/25 (16.0)</td>
</tr>
</tbody>
</table>

Table 2. When Vancouver FPs consider deprescribing medications.

<table>
<thead>
<tr>
<th>Time Point</th>
<th>n/N (%)</th>
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<tbody>
<tr>
<td>Upon taking over as most responsible physician</td>
<td>22/30 (73.3)</td>
</tr>
<tr>
<td>Upon patient’s admission to residential care facility</td>
<td>21/30 (70.0)</td>
</tr>
<tr>
<td>Every 6 months</td>
<td>19/30 (63.3)</td>
</tr>
<tr>
<td>Yearly</td>
<td>12/30 (40.0)</td>
</tr>
<tr>
<td>Sporadically</td>
<td>9/30 (30.0)</td>
</tr>
</tbody>
</table>
scribing knowledge and experience or being unclear about the indication for the specific medication chosen by the specialist. Furthermore, there is little published evidence for effective deprescribing practices to guide FPs in discontinuing medications. Future research may help develop guidelines to increase the confidence needed for this practice to be more widespread.

**Organizational challenges**

Organizational challenges to discussing medication needs, such as time constraints and family unavailability, interfere with many FPs’ ability to deprescribe. Most physicians in Vancouver are paid on a fee-for-service basis. Although new fee codes have been introduced recently to compensate physicians for more time-consuming patients and processes, these codes cannot address the time constraints FPs face when trying to meet the needs of their many other patients in their busy practices, or the challenge of family unavailability. Thus the issue goes far deeper than this financial aspect. A multidisciplinary team approach to deprescribing, where the work is shared by various members of the health care team, will likely be needed to address this issue.

The organization of primary care in nursing homes in Vancouver may also hinder deprescribing. Many physicians in this setting are contracted independently and they decide the number of patients they will care for and the way they wish to arrange their on-call, with little discussion with the facility and rest of the care team. Many of these physicians do not attend annual patient care conferences, a prime time for medication review and deprescribing. The nursing home staff must therefore work with the schedules and practices of several different FPs, which is not conducive to a carefully monitored medication discontinuation system that requires regular follow-up and communication between physicians and care staff.

Interestingly, there is a subset of Vancouver residential care beds (approximately 700) that operate under a different contractual agreement with FPs. This arrangement provides FPs with some hourly pay and requires their attendance at the facility once a week on the same day, attendance at an annual care conference, and specific on-call responsibilities. It may be valuable in future research to see if the consistency and predictability of physician availability provided by such an arrangement has resulted in a reduction of polypharmacy for residents.

**Care concerns**

Survey respondents also identified concerns regarding causing an adverse event and shortening life. The familiar saying, “If it ain’t broke, don’t fix it!” fits the situation well. The fear of making any change in a relatively stable patient that could cause destabilization, negative symptoms, or, even worse, death, is understandable. However, adequate supervision and a suitably lengthy discontinuation period are important when deprescribing and lack of either can hinder the process. The adequacy of staff hours in nursing homes has been questioned and appears to be well below the level recommended by experts. The insufficient supervision and reporting of symptoms by already overextended nursing staff may inhibit deprescribing. The process of discontinuing a medication is also time consuming; the physician must critically review a patient’s medications, meet with the patient’s family, explain and dispel misconceptions about deprescribing, and slowly taper and discontinue medications while following the effects of these changes over several weeks or months. It is much easier

Some early studies suggest that discontinuing medications may in fact decrease the risk of adverse events and decrease morbidity and mortality in some cases.16,19
to continue a medication that does not seem to be causing any negative effects on a patient.

An unexpected finding of our survey was that most of the respondents do not feel pressured to apply chronic disease guidelines to frail elderly patients. Previous studies have found it to a new patient and when a patient is admitted to residential care, they do not do so consistently, nor do they regularly reassess patients’ medication lists, which may be contributing to the perpetuation of polypharmacy. It is likely that without a sustained and systematic method to deprescribing accounting for approximately 2081 patients, a good proportion of the frail elderly patients in nursing homes in Vancouver.

**Summary**

FPs caring for frail elderly patients in residential care in Vancouver are not reluctant to deprescribe, but they face challenges that interfere with their ability to do so. Our study identified some of the most common challenges, while reaffirming that most FPs lack a systematic approach to discontinuing medications in this patient population. Efforts focused on identifying effective approaches to deprescribing are needed to facilitate optimal prescribing and polypharmacy reduction among frail elderly patients. Further research in this area is also needed to clarify the effects of deprescribing on patients and how to deprescribe safely and effectively.

While we wait for new evidence to guide deprescribing, physicians wishing to start such a process may be interested in a recent case series by Dr Barbara Farrell and colleagues, which outlines typical polyparmacy situations and provides evidence-based approaches to reducing potentially harmful medication burdens.

As the population of Canada continues to age and life expectancies continue to increase, the population of frail elderly will rise dramatically, and it will be increasingly important to identify ways to reduce polypharmacy by deprescribing safely.

**Family practitioners in this study are aware of the benefits of deprescribing, yet half of them said they do not use a systematic approach or evidence-based method when discontinuing medications.**

that physicians are reluctant to discontinue medications recommended in chronic disease guidelines. It is possible that the survey respondents have received further training in optimal prescribing in the frail elderly, or that they understand the limitations of these guidelines in this population. Regardless, it is promising to learn that this is not a challenge to deprescribing for the FPs surveyed. These FPs may, therefore, be more open to deprescribing medications that are intended to be preventive but are often not beneficial and could be detrimental to frail elderly patients.

**Lack of a systematic approach**

FPs in this study are aware of the benefits of deprescribing, yet half of them said they do not use a systematic approach or evidence-based method when discontinuing medications. While most reported that they consider deprescribing during the initial visit to a new patient and when a patient is admitted to residential care, they do not do so consistently, nor do they regularly reassess patients’ medication lists, which may be contributing to the perpetuation of polypharmacy. It is likely that without a sustained and systematic method to deprescribing medications, and probably a multidisciplinary team approach to reducing medication use, deprescribing will continue to be overlooked or deferred for the reasons discussed above.

**Study limitations**

Limitations of this study include a small sample size and lack of participant-specific prescribing practice data. This survey relied on FPs’ self-reported practices, so their stated beliefs and reported practices may not accurately reflect their actual deprescribing practices. While the response rate was higher than expected (61.0%), the target population was not sufficiently large to permit higher order statistical analysis. Furthermore, we did not have the statistical power to complete subgroup analysis on the data collected. Nevertheless, the 30 physicians who responded were each responsible for an average of 69.4 residential care patients, accounting for approximately 2081 patients, a good proportion of the frail elderly patients in nursing homes in Vancouver.

**Competing interests**

None declared.

**References**


2. Frazier SC. Health outcomes and poly-
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