

## Patient Safety Tip of the Week

### June 29, 2021 Barriers to Deprescribing

We’ve done lots of columns on both polypharmacy and potentially inappropriate medications in the elderly. Those two topics, of course, lead to discussions about deprescribing (see our prior columns on deprescribing listed below). Yet initiatives to promote deprescribing often fall short. We’ve always said that stopping a medication is much more difficult than starting one!

A recent study is illustrative. Campbell et al. ([Campbell 2021](#)) implemented a multicomponent behavioral intervention to reduce the use of high-risk anticholinergic medications in primary care older adults. A provider-focused component was computerized decision support alerting of the presence of a high-risk anticholinergic and offering dose- and indication-specific alternatives. The patient-focused component was a story-based video providing education and modeling an interaction with a healthcare provider resulting in a medication change. Alerts within the medical record triggered staff to play the video for a patient.

There were 552 older adults visits to primary care sites during the study period. Of the 276 staff alerts, 4.7% were confirmed to activate the patient-focused intervention. The intervention resulted in no significant differences in either the number of discontinued orders for anticholinergics or the proportion of the population using anticholinergics following the intervention. Of the 259 alerts directed toward providers in the Campbell study, 94% of alerts fired for existing medications and only 6% for new orders of the targeted anticholinergics. And, of these 259 provider-focused alerts, only three (1.2%) led to a medication change. This disappointing result occurred despite strong support from medical, nursing, and pharmacy leadership.

So, what are the barriers to successful deprescribing?

In our May 11, 2021 Patient Safety Tip of the Week [“How Are Alerts in Ambulatory CPOE Doing?”](#) we noted the disparity in effectiveness between **“prospective” alerts** and **“look-back” alerts**. Awdishu et al. ([Awdishu 2016](#)), looking at the impact of alerts on prescribing in patients with renal disease, also found that prospective alerts had a greater impact than look-back alerts (55.6% vs 10.3%).

Note that this is probably a form of **“continuation” bias**. That is the cognitive bias “to continue with the original plan in spite of changing conditions and growing evidence that you should reconsider”. In several of our columns we’ve described a past project where

we alerted physicians about their elderly patients taking amitriptyline, one of the medications on Beers List and other lists of potentially inappropriate medications in the elderly. The effect of the alert is that there was a subsequent reduction in new orders for amitriptyline but almost never did a physician discontinue amitriptyline in a patient already taking it. We often think “the patient is already on this medication and doing well on it”, without taking into consideration the aging of the patient and the effects of other medications or the effects on other clinical conditions.

In that May 11, 2021 Patient Safety Tip of the Week “[How Are Alerts in Ambulatory CPOE Doing?](#)” we also discussed a study which assessed the “**reminder performance**” (RP) and the “**number needed to remind**” (NNR) to assess clinical decision support for potentially inappropriate medications (PIM’s) from Beers criteria in primary care and geriatric clinics ([Alagiakrishnan 2019](#)). The reminder performance (RP) across both clinics was 17.3%, which corresponds to an NNR of 5.8. The reminder performance was 37.1% in geriatric clinics vs. 13.4% in primary care clinics. The NNR in the primary care clinic was 7.4 and NNR in the geriatric clinic was 2.7. The disparity between primary care and geriatrics should not surprise anyone, since geriatricians have long been trained in avoiding PIM’s in their patient population. Yet, the majority of older adults in the US are not cared for by geriatricians. Rather they are most often cared for by internists and family physicians or medical specialists performing as primary care physicians.

Alagiakrishnan et al. also developed a metric “**Number Needed to Deprescribe**” (NND) or the number of alert presentations specific to a medication and patient presented to a physician user before there was a deprescribing event. The reminder performance for deprescribing events was even lower at 1.2%. The number needed to deprescribe (NND) was 82 for the study population as a whole.

Campbell et al. speculated that characteristics of the primary care physicians in their study may have played a role. They speculated there may be a low rate of demand for deprescribing support in that clinical environment. They also felt that “until the practice of deprescribing is normalized in routine clinical care, or timing of alerts can be improved with contextual awareness, deprescribing alerts may continue to be unsuccessful.”

Campbell et al. also noted that their alerts were non-interruptive, i.e. they did not force the clinician to take an action, such as changing to a different medication or providing an explanation for lack of deprescribing. They speculated that different alert design, with some degree of interruption, might have been more successful.

They also wondered whether some methodological factors contributed (eg. small sample size, limited duration).

They speculate that human- or expert-intensive approaches to deprescribing anticholinergic medications or policy-based restrictions on high-risk medications may be needed.

Doherty et al. ([Doherty 2020](#)) did a systematic review of studies on deprescribing in primary care. They found that the **cultural and organizational barriers** included:

- a culture of diagnosing and prescribing
- evidence-based guidance focused on single diseases
- a lack of evidence-based guidance for the care of older people with multiple morbidities
- a lack of shared communication, decision-making systems, tools, and resources

They also noted **interpersonal and individual-level barriers**, including:

- professional etiquette
- fragmented care
- prescribers' and patients' uncertainties
- gaps in tailored support

But there were also **facilitators**:

- prudent prescribing
- greater availability and acceptability of non-pharmacological alternatives
- resources
- improved communication, collaboration, knowledge, and understanding
- patient-centered care
- shared decision-making

They concluded that a whole systems, patient-centered approach to safe deprescribing interventions is required, involving key decision-makers, healthcare professionals, patients, and carers.

Wallis et al. ([Wallis 2017](#)) did semi-structured interviews with select primary care physicians to get their views on the barriers and facilitators to deprescribing in everyday practice. Physicians described deprescribing as “swimming against the tide” of patient expectations, the medical culture of prescribing, and organizational constraints. They said “deprescribing came with inherent risks for both themselves and patients and conveyed a sense of vulnerability in practice. The only incentive to deprescribing they identified was the duty to do what was right for the patient.” Physicians often felt that patients expected there to be “a pill for every ill” and that this expectation was exacerbated by direct-to-consumer advertising of medicines (their study was in New Zealand, the only country other than the US that allows DTC advertising). Wallis et al. also found some physicians were concerned about uncertainty and fear. They feared repercussions should a patient suffer a potentially preventable adverse outcome following deprescribing and feared reputational damage. Lack of time for discussion on deprescribing was a barrier also noted by Wallis et al.

Problems with **coordination of care** are often a barrier. Particularly since many of these elderly patients have multiple comorbidities, they are often seeing multiple specialists. PCP's are often reluctant to discontinue or deprescribe a medication that one of those specialists had originally prescribed. Wallis et al. found that was especially noted by younger and less experienced primary care physicians.

Zechmann et al. ([Zechmann 2019](#)) interviewed patients in Switzerland to identify both barriers and enablers for deprescribing. Twenty-two (25.3%) of 87 patients receiving an offer to change drugs chose not to pursue at least one of their GPs' offers. They interviewed 19 of those 22 patients and found that "conservatism/inertia and fragmented medical care were the main barriers towards deprescribing." With regard to conservatism/inertia, 15/19 patients felt that all of their drugs were necessary or beneficial for their daily living and 9/19 mentioned the feeling of security entailed with their drugs. 6/19 patients felt deprescribing actually took away something which had been beneficial for them in the past. Fragmentation of medical care was also noted, feeling that too many physicians were involved in medication management. Interestingly, trust in their physician was not related to continue or stop a medication.

The type of medication may also be a factor. Zechmann et al. noted that patients were more likely to fear loss of drugs having "symptomatic rather than prognostic effects". Examples were drugs for acid-related disorders, analgesics or anti-inflammatory /antirheumatics.

Concerning enablers, Zechmann et al. note the literature suggests the provision of enough time dedicated to deprescribing, a step by step plan how to change drugs, and the option to restart the drug whenever necessary or required by the patient.

Ironically, hospitalization may be a facilitator for deprescribing. Edey and colleagues ([Edey 2019](#)) at a Canadian tertiary care hospital did pharmacist-led deprescribing rounds upon hospital discharge. Deprescribing rounds resulted in significantly more medications deprescribed compared to control (65% vs. 38%). The rates of readmission and emergency department visits were reduced in the arm receiving deprescribing rounds.

Reeve et al. ([Reeve 2015](#)) noted barriers at the medical practitioner, system, patient and carer levels. These include inadequate guidelines, incomplete medical histories, lack of time, avoidance of negative consequences, established beliefs in the benefits and harms of medication use and others. They specifically looked at optimizing prescribing for older people with dementia and noted additional complicating factors: diminished decision making capacity, difficulties with comprehension and communication, increasing involvement of carers and difficulties establishing goals of care.

The COVID-19 pandemic has created additional barriers to deprescribing. Elbeddini et al. ([Elbeddini 2021](#)) note barriers to deprescribing before the pandemic include patient and system related factors, such as resistance to change, patient's knowledge deficit about deprescribing, lack of alternatives for treatment of disease, uncoordinated delivery of health services, prescriber's attitudes and/or experience, limited availability of guidelines for deprescribing, and lack of evidence on preventative therapy. But the COVID-19 pandemic has prevented the sort of face-to-face interaction that might facilitate deprescribing. So much deprescribing has had to occur via telemedicine and that has several challenges in the elderly population: inability to use technology, lack of literacy, lack of assistance from others, greater propensity for withdrawal effects, and increased

risk of severe consequences, if hospitalized. Our November 2020 What's New in the Patient Safety World column "[Telemedicine Here to Stay But Use It Safely](#)" discussed challenges in telemedicine sessions due to patients having impaired hearing, neurological conditions impacting ability to communicate, and patient-related difficulties dealing with technology.

Some have included lack of **guidelines** as a barrier to deprescribing. In fact, there are guidelines and tools available for stopping several specific medications (see our November 27, 2018 Patient Safety Tip of the Week "[Focus on Deprescribing](#)").

Our own list of the biggest barriers to deprescribing:

- Time required to do it correctly
- The continuation bias
- Someone else prescribed it
- Lack of alternatives
- Drugs that alleviate symptoms rather than those that work under the radar

**Lack of time** is a significant barrier. No one can be reasonably expected to carry out deprescribing during a 15-minute clinic or office visit. The ideal venue for deprescribing is on the annual "brown bag" medication review or the annual Medicare wellness visit.

We described the **continuation bias** above.

As above, it is much easier to deprescribe medications that are working "under the radar" than those that were begun to treat **symptoms**. But often symptoms do not recur when you stop a medication that was begun for specific symptoms. For example, a patient may not have a recurrence of heartburn upon stopping a proton pump inhibitor after they had been on it for several months. And you can reassure the patient that the medication could be restarted should symptoms recur.

**Lack of alternatives** is often blamed for failure to deprescribe. But there may be alternatives, often non-pharmacological ones, for some medications. For example, we think there is almost never an indication for long-term use of sleep medications (actually, there are few indications for short-term use, either!). But good sleep hygiene practices can usually be implemented to alleviate insomnia, thus allowing deprescribing of sleep medications.

Deprescribing a **medication that another clinician originally prescribed** is difficult. It should require not only discussion with the patient but also with the clinician who prescribed it. Many clinicians won't take the time to do the latter discussion. And, sometimes, the clinician who originally prescribed the medication is no longer accessible (retirement, relocation, etc.).

But, ironically, it is often more difficult to stop a medication that you, yourself, prescribed! The fear is that the patient will think "If this drug is so bad, why did you prescribe it in the first place?" On the contrary, in our September 30, 2014 Patient Safety

Tip of the Week “[More on Deprescribing](#)” we pointed out there is one area in which the greatest opportunity exists to help in medication cessation – when you first prescribe a drug! When you prescribe a medication for a patient you should **have an exit strategy**. You should be asking yourself (and discussing with your patient) the following questions:

- What are we attempting to treat? (is the drug for symptom relief, disease control, prevention, etc.?)
- What other considerations must be considered? (eg. contraindications, allergies, renal function, drug-drug or drug-food interactions, affordability, adherence, etc.)
- What side effects do we need to look for?
- How will we know if it is effective? (eg. symptoms better, lab values improved, etc.)
- What will we do if it is not better in a specific time frame? (eg. increase the dose, add another drug, switch to another drug, etc.)
- How long do we need to continue the drug? (eg. for a specified time frame vs. indefinitely, etc.)
- How will we be reminded to reconsider continuation of the drug? (eg. computer-generated alert?)
- Are there circumstances that would change the need for a drug? (eg. would a condition that will limit lifespan obviate the need for the drug?)
- How will we know when we can stop the drug?
- If we decide to stop it, do we have to taper it?
- If we stop it, will other medications be affected? (i.e. do we need to change the dose of other medications)
- What will we look for when we stop the drug? How will we monitor? (eg. recurrence of symptoms, withdrawal signs, worsening lab tests, etc.)
- When we stop it, how and where will we document the reason for cessation (eg. ineffective, side effect, allergy, etc.)
- When we stop it, who else do we need to notify (eg. other physicians, community pharmacy, etc.)

How important are clinical decision support (CDS) tools in facilitating deprescribing? In addition to the Campbell ([Campbell 2021](#)), Awdishu ([Awdishu 2016](#)), and Alagiakrishnan ([Alagiakrishnan 2019](#)) studies noted above, Monteiro et al. ([Monteiro 2019](#)) did a systematic review on reducing potentially inappropriate prescriptions for older patients using computerized decision support tools. They found that most studies in the literature had both methodological problems and likely biases. While, overall, the studies consistently showed CDS tools reduced the mean number of prescriptions for PIM’s started and the total number of PIM prescriptions. However, in several cases statistical significance was not achieved for some of the assessed measures, such as for PIM discontinuation or for change in PIM’s. Does this mean you should not use CDS alerts? No. They clearly are effective in reducing new orders for PIM’s. You just need to be realistic and understand they may have limited or no impact on deprescribing PIM’s. You have to recognize all the barriers to deprescribing and alter your strategies accordingly.

### Some of our past columns on deprescribing:

- March 4, 2014 “[Evidence-Based Prescribing and Deprescribing in the Elderly](#)”
- September 30, 2014 “[More on Deprescribing](#)”
- May 2015 “[Hospitalization: Missed Opportunity to Deprescribe](#)”
- July 2015 “[Tools for Deprescribing](#)”
- April 4, 2017 “[Deprescribing in Long-Term Care](#)”
- October 31, 2017 “[Target Drugs for Deprescribing](#)”
- January 2018 “[What Happens After Delirium?](#)”
- June 2018 “[Deprescribing Benzodiazepine Receptor Agonists](#)”
- November 27, 2018 “[Focus on Deprescribing](#)”
- March 19, 2019 “[Updated Beers Criteria](#)”
- March 10, 2020 “[Medication Harm in the Elderly](#)”
- June 2020 “[The Antipsychotics in Dementia Conundrum](#)”
- May 11, 2021 “[How Are Alerts in Ambulatory CPOE Doing?](#)”

### Some of our past columns on Beers’ List and Inappropriate Prescribing in the Elderly:

- January 15, 2008 “[Managing Dangerous Medications in the Elderly](#)”
- June 2008 “[Potentially Inappropriate Medication Use in Elderly Hospitalized Patients](#)”
- October 19, 2010 “[Optimizing Medications in the Elderly](#)”
- September 22, 2009 “[Psychotropic Drugs and Falls in the SNF](#)”
- September 2010 “[Beers List and CPOE](#)”
- June 21, 2011 “[STOPP Using Beers’ List?](#)”
- December 2011 “[Beers’ Criteria Update in the Works](#)”
- May 7, 2013 “[Drug Errors in the Home](#)”
- November 12, 2013 “[More on Inappropriate Meds in the Elderly](#)”
- January 28, 2014 “[Is Polypharmacy Always Bad?](#)”
- March 4, 2014 “[Evidence-Based Prescribing and Deprescribing in the Elderly](#)”
- September 30, 2014 “[More on Deprescribing](#)”
- February 10, 2015 “[The Anticholinergic Burden and Dementia](#)”
- May 2015 “[Hospitalization: Missed Opportunity to Deprescribe](#)”
- July 2015 “[Tools for Deprescribing](#)”
- November 2015 “[Medications Most Likely to Harm the Elderly Are...](#)”
- August 2, 2016 “[Drugs in the Elderly: The Goldilocks Story](#)”
- October 31, 2017 “[Target Drugs for Deprescribing](#)”
- January 2018 “[What Happens After Delirium?](#)”
- May 2018 “[Antipsychotic Use in Nursing Homes: Progress or Not?](#)”
- June 2018 “[Deprescribing Benzodiazepine Receptor Agonists](#)”
- October 2018 “[STOPP/START/STRIP](#)”

- November 27, 2018 “[Focus on Deprescribing](#)”
- March 19, 2019 “[Updated Beers Criteria](#)”
- March 10, 2020 “[Medication Harm in the Elderly](#)”
- June 2020 “[The Antipsychotics in Dementia Conundrum](#)”
- February 2021 “[Under the Radar: Muscle Relaxant Use](#)”
- April 2021 “[Alarming Use of Fall-Prone Medications in 65+ Patients](#)”

## References:

Campbell, NL, Holden, RJ, Tang, Q, et al. Multicomponent behavioral intervention to reduce exposure to anticholinergics in primary care older adults. *J Am Geriatr Soc* 2021; 69: 1490-1499

<https://agsjournals.onlinelibrary.wiley.com/doi/10.1111/jgs.17121>

Alagiakrishnan K, Ballermann M, Rolfson D, et al. Utilization of computerized clinical decision support for potentially inappropriate medications. *Clin Interv Aging* 2019; 14: 753–762

<https://www.dovepress.com/utilization-of-computerized-clinical-decision-support-for-potentially-peer-reviewed-fulltext-article-CIA>

Awdishu L, Coates CR, Lyddane A, et al. The impact of real-time alerting on appropriate prescribing in kidney disease: a cluster randomized controlled trial. *J Am Med Inform Assoc* 2016; 23(3): 609-616

<https://academic.oup.com/jamia/article/23/3/609/2909002>

Doherty AJ, Boland P, Reed J, et al. Barriers and facilitators to deprescribing in primary care: a systematic review. *BJGP Open* 2020; 4 (3)

<https://bjgpopen.org/content/4/3/bjgpopen20X101096>

(Doherty 2020)

Wallis KA, Andrews A, Henderson M. Swimming Against the Tide: Primary Care Physicians’ Views on Deprescribing in Everyday Practice. *The Annals of Family Medicine* 2017, 15 (4) 341-346

<https://www.annfammed.org/content/15/4/341.full>

Zechmann S, Trueb, Valeri F, et al. Barriers and enablers for deprescribing among older, multimorbid patients with polypharmacy: an explorative study from Switzerland. *BMC Fam Pract* 2019; 20: 64

<https://bmcfampract.biomedcentral.com/articles/10.1186/s12875-019-0953-4>

Edey R, Edwards N, Von Sychowski J, et al. Impact of deprescribing rounds on discharge prescriptions: an interventional trial. *Int J Clin Pharm* 2019; 41(1): 159-166  
<https://link.springer.com/article/10.1007/s11096-018-0753-2>

Reeve E, Bell JS, Hilmer SN. Barriers to Optimising Prescribing and Deprescribing in Older Adults with Dementia: A Narrative Review. *Curr Clin Pharmacol* 2015; 10(3): 168-177  
<https://www.eurekaselect.com/134184/article>

Elbeddini A, Prabakaran T, Almasalkhi S, Tran C, Zhou Y. Barriers to conducting deprescribing in the elderly population amid the COVID-19 pandemic. *Res Social Adm Pharm* 2021; 17(1): 1942-1945  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7256521/>



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