

What's New in the Patient Safety World

March 2022

MedSafer: Glass Half-Empty or Half-Full?

We've done many columns on PIM's (Potentially Inappropriate Medications) in the elderly and many on deprescribing. But does deprescribing actually translate into fewer adverse drug events (ADE's)? The MedSafer Study was a study on electronic decision support for deprescribing in hospitalized older adults intended to answer this question.

MedSafer was a cluster randomized clinical trial of older (≥ 65 years) hospitalized patients with an expected survival of more than 3 months who were admitted to 1 of 11 acute care hospitals in Canada ([McDonald 2022](#)). Participants were taking 5 or more medications per day at the time of admission. Reports of deprescribing opportunities generated by MedSafer software were based on patients' usual home medications and measures of prognosis and frailty.

Almost 6000 patients were enrolled. Deprescribing increased from 29.8% in control patients to 55.4% in intervention participants. There was no difference in adverse drug withdrawal events between groups. However, there was no significant difference in the primary outcome, ADE's within 30 days of discharge (5.0% in controls vs 4.9% in intervention participants). The incidence of postdischarge falls did decrease but not statistically significantly (odds ratio, 0.76). Sleep and quality of life remained stable before and after hospitalization.

One problem was that, despite cluster randomization, groups were not balanced (participants in the intervention arm were older and had more PIMS prescribed at baseline). But sensitivity analyses, including addressing those imbalances, did not alter study conclusions.

The researchers had used a historical rate of ADE's in the first 30 days following deprescribing to establish the power of the study. That rate, taken mostly from studies done more than 15 years ago, was 10 to 15%. But the rate of these ADE's in both arms of the current study was much lower (5% and 4.9%). The authors also note that widespread hospital pharmacist involvement in medication reconciliation has created opportunities to

mitigate more worrisome prescribing practices, such as errors of omission, which may lead to clearly identifiable ADE's.

The authors also note that, while the intervention identified numerous deprescribing opportunities, many were for low-risk nonbeneficial polypharmacy (eg, nonstatin cholesterol-lowering medications or stool softeners) and deprescribing these medications is less likely to impact 30-day ADE's. But that still has both patient and societal value (avoiding excess cost, waste, pill burden, etc.).

The authors had many suggestions for future studies on the impact of deprescribing on ADE's (eg. more prolonged duration, focus on more high-risk PIM's, etc.).

In sum, the study found that providing deprescribing decision support to the acute care medical teams did not impact 30-day ADE rates. But it did effectively stop many PIM's, and did so safely, with no evidence of increased harm. So, is the glass half empty, or half full?

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](#)”
- June 29, 2021 “[Barriers to Deprescribing](#)”
- September 2021 “[A Primer on Deprescribing](#)”
- February 22, 2022 “[Medication Reconciliation at ICU Exit](#)”

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](#)”
- June 29, 2021 “[Barriers to Deprescribing](#)”
- September 2021 “[A Primer on Deprescribing](#)”

References:

McDonald EG, Wu PE, Rashidi B, et al. The MedSafer Study—Electronic Decision Support for Deprescribing in Hospitalized Older Adults: A Cluster Randomized Clinical Trial. JAMA Intern Med 2022; Published online January 18, 2022
<https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2788297>



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