

What’s New in the Patient Safety World

April 2021

Alarming Use of Fall-Prone Medications in 65+ Patients

Medications are a prime factor contributing to falls, particularly in the elderly. Categories include antidepressants, anticonvulsants, antipsychotics, antihypertensives, opioids, sedative/hypnotics, benzodiazepines, and others, including some nonprescription medications.

A recent study showed an alarming increase in the prevalence of prescriptions for such medications in the 65 and older population ([Shaver 2021](#)). Their analysis used data on adults aged 65 years and older from the National Vital Statistics System (NVSS) and the medical expenditure panel survey (MEPS) for years 1999–2017. The study assessed prescription of medications considered fall risk increasing drugs (FRID’s), defined according to the CDC’s Stopping Elderly Accidents, Deaths, and Injuries-Rx ([STEADI-Rx](#)) fall checklist.

The number of persons who received at least one prescription for a FRID increased from 57% in 1999 to 94% in 2017. Antihypertensives were far and away the most commonly prescribed drug category. But, the trend remained significant even after excluding antihypertensive drugs. The use of antidepressants increased dramatically in this population during this timeframe, from 7% to 16%, even as there was a slight decrease in tricyclic antidepressants (TCA’s) from 4% in 1999 to 2% in 2017. The percentage of the population receiving an opioid reached a high in 2015 of 21% but began declining to a 2017 level of 16%. Prescribing of multiple FRID classes has increased as well.

Falls increased significantly across all demographics (sex, race, age category). Importantly, age-adjusted mortality due to falls increased from 29.40 per 100,000 in 1999 to 63.27 per 100,000 in 2017.

Notably, use of FRID’s was considerably higher among females. The authors stress this is relevant because female gender is an independent risk factor for falls and fractures. They note that this highlights the importance of additional patient risk factors for falls when considering making medication interventions.

Though antihypertensives were by far the most frequently prescribed category, there is likely considerable variation of fall risk between individual antihypertensives. For example, those more likely to cause orthostatic hypotension are probably more likely to increase the fall risk. But, the trends in the current analysis remained significant even after excluding antihypertensive drugs.

Perhaps the most striking finding was the increase in second-generation antidepressants such as selective-serotonin reuptake inhibitors (SSRI's), serotonin-norepinephrine reuptake inhibitors (SNRI's), and various agents with novel mechanisms (ex. mirtazapine, trazodone, nefazodone, bupropion). Keep in mind that, though these drugs are in the "antidepressant" category, they are often prescribed for conditions other than depression, particularly certain types of pain.

The study highlights the importance of assessing individual fall risk factors in addition to the fall related risk of medications when prescribing, particularly in seniors. It would be a good idea to re-examine these risks when doing the recommended annual "brown bag" medication review. Undoubtedly, such review can lead to multiple opportunities for "deprescribing" (see our many columns potentially inappropriate medications in the elderly and on deprescribing listed below).

By the way, CDC's Stopping Elderly Accidents, Deaths, and Injuries-Rx ([STEADI-Rx](#)) Guide for Community Pharmacists is an excellent resource and set of tools, not just for pharmacists but for anyone dealing with medications and the older patient.

Some of our prior columns related to falls:

- April 16, 2007 ["Falls With Injury"](#)
- July 17, 2007 ["Falls in Patients on Coumadin or Heparin or Other Anticoagulants"](#)
- January 1, 2008 ["Fall Prevention"](#)
- October 7, 2008 ["Lessons from Falls....from Rehab Medicine"](#)
- November 18, 2008 ["Ticket to Ride: Checklist, Form, or Decision Scorecard?"](#)
- August 4, 2009 ["Faulty Fall Risk Assessments?"](#)
- September 22, 2009 ["Psychotropic Drugs and Falls in the SNF"](#)
- December 22, 2009 ["Falls on Toileting Activities"](#)
- January 2010 ["Falls in the Radiology Suite"](#)
- June 2010 ["Seeing Clearly a Common Sense Intervention"](#)
- May 29, 2012 ["Falls, Fractures, and Fatalities"](#)
- June 5, 2012 ["Minor Head Trauma in the Anticoagulated Patient"](#).
- January 15, 2013 ["Falls on Inpatient Psychiatry"](#)
- March 2013 ["Sedative/Hypnotics and Falls"](#)
- December 3, 2013 ["Reducing Harm from Falls on Inpatient Psychiatry"](#)
- June 2014 ["New Glasses and Fall Risk"](#)

- July 8, 2014 [“Update: Minor Head Trauma in the Anticoagulated Patient”](#)
- August 2014 [“Cataract Surgery and Falls”](#)
- November 4, 2014 [“Progress on Fall Prevention”](#)
- March 2015 [“Another Paradox: Falls Due to Walking Aids”](#)
- June 9, 2015 [“Add This to Your Fall Risk Assessment”](#)
- July 28, 2015 [“Not All Falls Are the Same”](#)
- October 2015 [“Patient Perception of Fall Risk”](#)
- October 27, 2015 [“Sentinel Event Alert on Falls and View from Across the Pond”](#)
- February 16, 2016 [“Fall Prevention Failing?”](#)
- March 14, 2017 [“More on Falls on Inpatient Psychiatry”](#)
- July 2017 [“Mobility vs. Falls”](#)
- February 2018 [“Global Sensory Impairment and Patient Safety”](#)
- February 20, 2018 [“Delirium and Falls”](#)
- March 2019 [“Newborn Falls”](#)
- July 2019 [“Increasing Mortality After Falls in Elderly”](#)
- January 14, 2020 [“More on Newborn Falls”](#)
- June 16, 2020 [“Tracking Technologies”](#)
- October 2020 [“Pre-op Testing Before Cataract Surgery Leads to What?”](#)

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](#)”

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](#)”

References:

Shaver AL, Clark CM, Hejna M, et al. Trends in fall-related mortality and fall risk increasing drugs among older individuals in the United States, 1999–2017.

Pharmacoepidemiol Drug Saf. 2021; 1- 8

<https://onlinelibrary.wiley.com/doi/10.1002/pds.5201>

CDC (Centers for Disease Control and Prevention). STEADI-Rx.

<https://www.cdc.gov/steady/steady-rx.html>



Healthcare Consulting

www.patientsafetyolutions.com

<http://www.patientsafetysolutions.com/>

[Home](#)

[Tip of the Week Archive](#)

[What's New in the Patient Safety World Archive](#)