

Seniors Should Avoid These Meds—1 in 5 Are Prescribed Them Anyway

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Abstract: More than one in five older patients are prescribed medications from a list of prescriptions to avoid.

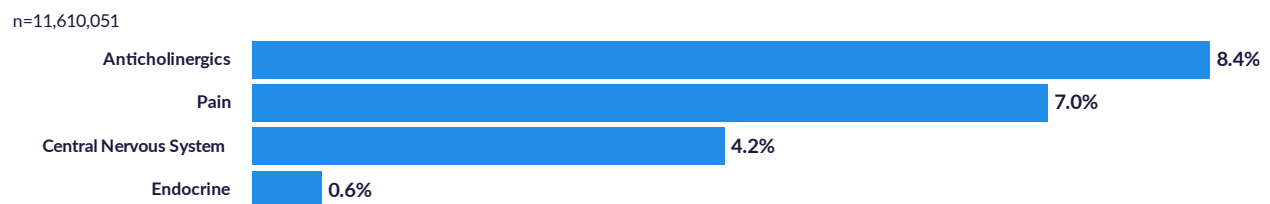
Polypharmacy, often defined as the use of five or more medications, is prevalent in adults ages 65 and older, with 40% taking 5-9 medications and 18% taking 10 or more.¹ While drug-drug interactions and side effects are possible in all age groups, they are more prevalent in patients over 65, especially for certain medications. The American Geriatric Society publishes the Beers Criteria for Potentially Inappropriate Medication Use in Older Adults, which lists medications that should not be prescribed for patients 65 and older in most circumstances due to likely adverse events, like confusion.¹

We wondered how many patients 65 and older continue to receive medications that the Beers Criteria suggest clinicians avoid prescribing. We limited our analysis to outpatient medications that are recommended to always avoid in patients 65 and older and excluded medications with conditional recommendations, such as diphenhydramine. We found that, of the 11.6 million patients 65 or older, about 2.4 million, or more than one in five, were prescribed medications from at least one of seven Beers Criteria categories between 2018 and 2020.

In order of prevalence, the following medication classes were most often prescribed to the elderly, despite being on the Beers list as "recommended to avoid":

1. Anticholinergics, such as promethazine, meclizine, and hydroxyzine
2. Pain medications, such as cyclobenzaprine, methocarbamol, and ketorolac
3. Central nervous system (CNS) medications, such as zolpidem, amitriptyline, and paroxetine
4. Endocrine medications, such as chlorpropamide and megestrol

Figure 1: Percentage of Patients 65 Years and Older with Inappropriate Beers List Criteria Prescriptions



"Percentage of Patients 65 Years and Older with Inappropriate Beers List Criteria Prescriptions," 2021. Epic Health Research Network (EHRN.org)

Figure 1. Beers Criteria categories with the highest percentage of patients 65 and older who have been prescribed medication despite recommendations to avoid these medications in these patients.

These findings suggest an opportunity to increase adherence to Beers Criteria recommendations, thereby decreasing polypharmacy and reducing the prescribing of medications that have an increased likelihood of interactions and side effects in the elderly.

These data come from Cosmos, a HIPAA-Limited Data Set of more than 119 million patients from 141 Epic organizations including 832 hospitals and 13,421 clinics, serving patients in all 50 states.

This study was completed by two teams, each comprised of a clinician and research scientists who worked independently. The two teams came to similar conclusions.

References

1. 2019 American Geriatrics Society Beers Criteria® Update Expert Panel. *American Geriatrics Society 2019 Updated AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults*. J Am Geriatr Soc, 67: 674-694. <https://doi.org/10.1111/jgs.15767>

Data Definitions

Term	Definition
Patient Population	Patients 65 or older with outpatient encounters in 2018, 2019, or 2020. Patients were excluded from the data set if they entered hospice care before or during the study period.
Cardiovascular	Cardiovascular: • Disopyramide,3541 • Nifedipine (immediate-release only),7417
Anticholinergics (Subcategory: Med, RxNorm)	Antihistamines: • Brompheniramine,1767 • Carbinoxamine,20220 • Chlorpheniramine,2400 • Clemastine,2578 • Cyproheptadine,3013 • Dexbrompheniramine,22696 • Dexchlorpheniramine,22697 • Dimenhydrinate,3444 • Doxylamine,3642 • Hydroxyzine,5553 • Meclizine,6676 • Promethazine,8745 • Triprolidine,10849 Antiparkinsonian agents: • Benztropine (oral),1424 • Trihexyphenidyl,10811 Antispasmodics: • Atropine (excludes ophthalmic),1223 • Belladonna alkaloids,1359 • Clidinium-chlordiazepoxide,611854 • Dicyclomine Homatropine (excludes ophthalmic),3361 • Hyoscyamine,153970 • Propantheline,8761 • Scopolamine,9601

Endocrine	Desiccated Thyroid: Thyroid,10572 Antidiabetic: • Chlorpropamide,2404 • Glyburide (also known as glibenclamide),4815 • Megestrol,6703;
GI	GI: Mineral oil, given orally,6972
Pain Meds	Analgesics: • Meperidine,6754 • Ketorolac, includes parenteral,35827 • Indomethacin, 5781 Muscle Relaxant: • Carisoprodol,2101 • Chlorzoxazone,2410 • Cyclobenzaprine,21949 • Metaxalone,59078 • Methocarbamol,6845 • Orphenadrine,7715
Beers Category	The above definitions are the selected categories and their contents.
Prescribed medications	Includes only outpatient medications. Medications that were administered by the health care team in a hospital or clinic setting were not included.