

Updated 2012 American Geriatrics Society (AGS) Beers Criteria

Introduction

There is general agreement in the medical community that the elderly are at higher risk of developing adverse complications due to medication use. Medication complications occur at a higher rate for this patient population for several reasons including: decreased rate of metabolism, drug-food and drug-drug interactions, improper medication administration, poly-pharmacy, poor medication compliance, financial considerations, etc. To ensure older adults are receiving optimal care, it is imperative that healthcare professionals possess an elevated level of awareness to inappropriate pharmacotherapy with a goal to prevent and mitigate complications.

The prevalence of potentially inappropriate medication use in the elderly (PIMs) has been examined by a number of studies since the early 1990's. The results of these studies have lead policymakers, researchers, and medical practitioners to try and address the issue of overutilization of PIMs in older adults. As a result, regulatory and quality improvement organizations such as the Centers for Medicare and Medicaid Services (CMS), National Committee on Quality Assurance (NCQA), and Pharmaceutical Quality Alliance (PQA) have integrated the use of PIMs as part of their quality improvement activities (i.e., Medicare Part D Star Ratings, HEDIS measures, etc.) with the intention of limiting their use in this high-risk population.

2012 Beers Criteria Update

The **Beers Criteria for Potentially Inappropriate Medication Use in Older Adults** has served as an important reference for health care professionals about the safety of prescribing medications for older adults for over 20 years. Commonly referred to as the "Beers Criteria," the criteria identifies a broad number of medications that, when used in the older population (i.e., 65 years or older), may represent risks that outweigh their potential benefits. These criteria have also promoted the use of safer alternatives or nonpharmacological alternatives, when available. Although not without limitations, the Beer's criteria has done more than any other tool in the past two decades to improve the awareness of, and clinical outcomes for, older adults with polypharmacy and for the most vulnerable older adults at risk of increased adverse drug events.

The late Mark H. Beers, MD, a geriatrician, first created the Beers Criteria in 1991, through consensus of a panel of experts by using the Delphi method. The criteria were originally published in the *Archives of Internal Medicine* in 1991 and were updated in 1997 and again in 2003. The list of PIMs was originally designed for patients in long-term care facilities, but has since expanded its application for use in all ambulatory and institutional settings for populations aged 65 and older. Recently, the American Geriatric Society (AGS) released its 2012 version of the **Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults** in an early online edition of the *Journal of the American Geriatrics Society* (www.americangeriatrics.org). The specific aim for the 2012 update was to modernize the previous Beers Criteria using a comprehensive, systematic review and grading of the evidence on drug-related problems and Adverse Drug Events (ADEs) in older adults. The 11-member multidisciplinary panel convened by the AGS in 2011 to update the criteria consisted of experts in geriatric medicine, nursing, and pharmacotherapy.

The *2012 AGS Beers Criteria* differ from previous editions in several ways. In addition to using a modified Delphi process for building consensus, the expert panel followed the evidence-based approach that AGS has used since it developed its first practice guideline on persistent pain in 1998. Following the recommendation of the Institute of Medicine (IOM), AGS added a public comment period that occurred in parallel to its standard invited external peer review process. In a significant departure from previous versions of the criteria, each recommendation is rated for quality of both the evidence supporting the panel's recommendations and the strength of their recommendations. It is important to note that because medically complex older adults are often excluded from clinical trials, there is a shortage of evidence focused on this specific population.

In another departure from the 2003 criteria, the *2012 AGS Beers Criteria* identify and group medications that may be inappropriate for older adults into three different categories instead of just two, as noted in previous versions of the criteria. The first category includes medications that are potentially inappropriate for older people because they either pose high risks of adverse effects or appear to have limited effectiveness in older patients, and because there are safer alternatives to these medications. The second category includes medications that are potentially inappropriate for older people who have certain diseases or disorders because these drugs may exacerbate the specified health problems. The

third category includes medications to be used with caution in older adults. Notable new additions to the first category includes megestrol, glyburide, and sliding-scale insulin; and the second category includes thiazolidinediones or glitazones with heart failure, acetylcholinesterase inhibitors with history of syncope, and selective serotonin reuptake inhibitors with patients who have a history of falls or fractures. The update also includes tables that summarize which medications have been moved, modified, added, and removed since the last update.

Lastly, whereas the release by the AGS of an updated version of the Beers Criteria is certainly welcome news in the medical community, it should be remembered that the criteria are just another tool in the geriatric pharmacotherapy toolbox and is not intended to serve as an absolute guide or a substitute for professional judgment in prescribing decisions for an individual patient. Evidence from both the recent Budnitz study, which addresses emergency hospitalizations for ADEs in older Americans, and the STOPP/START criteria (Screening Tool of Older Persons Potentially Inappropriate Prescriptions and Screening Tool to Alert Doctors to the Right Treatment) should be used in a complementary manner with the Beers Criteria to guide clinicians about safe prescribing for older adults. The START and STOPP studies provide healthcare professionals with guidance for recognizing which medications to initiate and discontinue in older adults. START identifies 22 situations allowable for use of medications in older adults. Alternately, STOPP identifies medications that should be avoided due to increased risk of drug-drug and drug-disease-state interactions.

References:

1. Fick, DM and Semla, TP. American Geriatrics Society Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. *J Am Geriatr Soc* 2012;10.1111/j;1532-5415.
2. Yeznach J. The Beers Criteria: Red Flags for Elders. *Pharmacy Times*. June 1, 2006. Internet: <http://www.pharmacytimes.com/publications/issue/2006/2006-06/2006-06-5624>.
3. Shah R, Gajjar B, and Desai S. Evaluation of the appropriateness of prescribing in geriatric patients using Beers criteria and Phadake's criteria and comparison thereof. *J Pharmacol Pharmacother*. 2011; 2(4):248-52.
4. Barry P, Gallagher P, Ryan C, and O'Mahony D. START (screening tool to alert doctors to the right treatment)-an evidence-based screening tool to detect prescribing omissions in elderly patients. *Age Ageing*. 2007; 36:632-638.
5. Gallagher P and O'Mahony D. STOPP (Screening Tool of Older Persons' Potentially inappropriate Prescriptions): application to acutely ill elderly patients and comparison with Beers' criteria. *Age Ageing*. 2008; 37:673-679.
6. PL Detail-Document, STARTing and STOPPING Medications in the Elderly. *Pharmacist's Letter/Prescriber's Letter*. September 2011.
7. Daniel S. Budnitz, M.D., M.P.H., Maribeth C. Lovegrove, M.P.H., Nadine Shehab, Pharm.D., M.P.H., and Chesley L. Richards, M.D., M.P.H. Emergency Hospitalizations for Adverse Drug Events in Older Americans. *N Engl J Med* 2011;365:2002-12.
8. Hilary Hamilton, MB, MRCPI; Paul Gallagher, Ph.D., MRCPI; Cristin Ryan, Ph.D., MPSI; Stephen Byrne, Ph.D., MPSI; Denis O'Mahony, M.D., FRCPI. Potentially Inappropriate Medications Defined by STOPP Criteria and the Risk of Adverse Drug Events in Older Hospitalized Patients. *Arch Intern Med*. 2011;171(11):1013-1019.