### **Original Research**

## Benzodiazepine and Sedative-hypnotic Use Among Older Seriously Ill Veterans: Choosing Wisely?

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#### ABSTRACT

**Purpose:** The 2014 American Geriatrics Society's Choosing Wisely list cautions against the use of any benzodiazepines or other sedative-hypnotics (BSHs) as initial treatments for agitation, insomnia, or delirium in older adults. Because these symptoms are prevalent among hospitalized patients, seriously ill older adults are at risk of receiving these potentially inappropriate medications. The objectives of this study were to understand the extent to which potentially inappropriate BSHs are being used in hospitalized, seriously ill, older veterans and to understand what clinical and sociodemographic characteristics are associated with potentially inappropriate BSH use.

Methods: We reviewed medical records of 222 veterans aged  $\geq 65$  years who were hospitalized in an acute care facility in the New York–New Jersey metropolitan region in fiscal years 2009 and 2010. Veterans had diagnoses of advanced cancer, chronic obstructive pulmonary disease, congestive heart failure, and/or HIV/AIDS and received inpatient palliative care. Associations among potentially inappropriate BSH use (BSHs for indications other than alcohol withdrawal and current generalized anxiety disorder or one-time use before a medical procedure) and clinical and sociodemographic characteristics were examined with multivariable logistic regression.

Findings: One-fifth of the sample was prescribed a potentially inappropriate BSH during the index

hospitalization during the study period (n = 47). The most commonly prescribed potentially inappropriate medications were zolpidem (n = 26 [11.7%]) and lorazepam (n = 19 [8.9%]). Hispanic ethnicity was significantly associated with prescription of potentially inappropriate BSHs among the entire sample (adjusted odds ratio [AOR] = 3.79; 95% CI, 1.32-10.88) and among patients who survived until discharge (n =164; AOR = 5.28; 95% CI, 1.64–17.07). Among patients who survived until discharge, black patients were less likely to be prescribed potentially inappropriate BSHs than white patients (AOR = 0.35; 95% CI, 0.13-0.997), and patients who had past-year BSH prescriptions were more likely to be prescribed a potentially inappropriate BSH than patients without past-year BSH use.

**Implications:** The potentially inappropriate BSHs documented in our sample included short- and intermediate-acting benzodiazepines, medications that were not identified as potentially inappropriate for older adults until after these data were collected. Few long-acting benzodiazepines were recorded, suggesting that the older veterans in our sample were receiving medications according to the guidelines in place at the time of hospitalization. Clinicians may be able to reduce prescriptions of newly identified inappropriate BSHs by being aware of medications patients received before hospitalization and by being cognizant of racial/ethnic disparities in symptom management.



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Future studies should explore reasons for disparities in BSH prescriptions. (*Clin Ther.* 2014;36:1547–1554) Published by Elsevier HS Journals, Inc.

Key words: Benzodiazepine, inappropriate, sedative-hypnotic, veterans.

#### INTRODUCTION

The American Geriatrics Society's Choosing Wisely list cautions against the use of benzodiazepines and other sedative-hypnotics (BSHs) as the initial choice of treatment for agitation, insomnia, or delirium in adults aged >65 years.<sup>1</sup> Choosing Wisely is a national initiative in which medical specialty groups advocate for reducing the use of selected potentially inappropriate health care treatments or procedures. Concerns over adverse effects from and dependence on long-acting benzodiazepines in older adults have been raised for several years, and concerns about adverse effects from short-acting BSHs have increased in recent years.<sup>2</sup> Although benzodiazepines reduce symptoms of serious agitation,<sup>3</sup> BSHs are associated with cognitive impairment, ataxia, syncope and higher risk of falls, incidence of delirium, and increased risk of hospital readmission in older adults.4-7 Medications within these classes have been included in the Beers Criteria of potentially inappropriate medications for use in older adults since 1991.8

Among older adults, hospitalized, seriously ill patients are at especially high risk of receiving these potentially inappropriate medications. Agitation and insomnia occur frequently in older, hospitalized patients,<sup>9,10</sup> and BSHs are among the treatments available for these symptoms. Although there may be appropriate palliative indications for BSHs at the very end of life,<sup>4,11</sup> including dyspnea relief<sup>12</sup> and potentiation of low opioid doses,<sup>13</sup> it is important to ensure that patients' symptoms are not exacerbated by potentially inappropriate medications. BSHs can lead to oversedation and increased risk of delirium, which can interfere with assessment of other symptoms, establishment of goals of care, and inhospital recovery.<sup>14-16</sup> BSHs may exacerbate physical symptoms in seriously ill older adults, including worsening respiratory distress in patients with chronic obstructive pulmonary disease.<sup>6</sup> In addition, the risk of respiratory depression increases when BSHs and step 3 opioids interact.<sup>17</sup>

The extent to which potentially inappropriate BSHs are used in seriously ill older adults in the United

States is unknown. Most studies focus on these medications in less severely ill individuals<sup>18</sup> or focus on imminently dying patients for whom BSHs may be appropriate.<sup>19</sup> Among patients of all ages seeking outpatient care at a Veterans Health Administration facility who filled at least one prescription for a psychotropic medication, older age was the greatest risk factor for having a prescription without an accompanying psychiatric diagnosis.<sup>20</sup> In fact, nearly two-thirds of patients 65 to 84 years old who filled a prescription for a psychotropic medication did not have a psychiatric diagnosis.

The objectives of this study were to understand the extent to which potentially inappropriate BSHs are being used in hospitalized, seriously ill, older veterans and to understand what clinical and sociodemographic characteristics are associated with potentially inappropriate BSH use. To achieve these objectives, we used data from a medical record review of 222 seriously ill veterans aged  $\geq 65$  years who were hospitalized in an acute care facility. We hypothesized that younger age (within the  $\geq 65$  group),<sup>20</sup> racial/ethnic minority group membership,<sup>18,21</sup> and a history of mental illness diagnoses would be associated with greater use of potentially inappropriate BSHs.

#### METHODS

#### Sample

We examined a subset of data collected for a study of mental health care needs among 287 seriously ill veterans who received inpatient palliative care in a Veterans Health Administration acute care facility in the New York-New Jersey metropolitan region (Veterans Integrated Service Network 3) in fiscal years 2009 and 2010.22 Records were abstracted for veterans who had diagnoses of advanced cancer, advanced congestive heart failure or chronic obstructive pulmonary disease, or advanced HIV/AIDS and who had an inpatient hospitalization for something other than chemotherapy or an acute psychiatric reason during the study period.<sup>23</sup> Hospitalizations were excluded from the analysis if the length of stay was <48 hours. The present analyses are restricted to the 222 veterans who were aged  $\geq 65$  years at the time of hospital admission and include data on the index hospitalization during the study period and records of mental health care received at the index hospital in the year before admission. This study was approved by the James J. Peters Veterans Affairs Download English Version:

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