Published in final edited form as:

J Am Med Dir Assoc. 2020 April ; 21(4): 557–559. doi:10.1016/j.jamda.2020.01.011.

Opioid Use Disorder Among Hospitalized Older Adults: Prevalence, Characteristics, and Discharge Status

Andrew R. Zullo, PharmD, PhD,

Center for Gerontology and Healthcare Research, Brown University, Providence, RI; Department of Health Services, Policy, and Practice, Brown University School of Public Health, Providence, RI; Department of Epidemiology, Brown University School of Public Health, Providence, RI; Center of Innovation in Long-Term Services and Supports, Providence Veterans Affairs Medical Center, Providence, RI

Patience Moyo, PhD,

Center for Gerontology and Healthcare Research, Brown University, Providence, RI; Department of Health Services, Policy, and Practice, Brown University School of Public Health, Providence, RI

Eric Jutkowitz, PhD,

Center for Gerontology and Healthcare Research, Brown University, Providence, RI; Department of Health Services, Policy, and Practice, Brown University School of Public Health, Providence, RI; Center of Innovation in Long-Term Services and Supports, Providence Veterans Affairs Medical Center, Providence, RI

Wenhan Zhang, MPH,

Department of Health Services, Policy, and Practice, Brown University School of Public Health, Providence, RI

Kali S. Thomas, PhD

Center for Gerontology and Healthcare Research, Brown University, Providence, RI; Department of Health Services, Policy, and Practice, Brown University School of Public Health, Providence, RI; Center of Innovation in Long-Term Services and Supports, Providence Veterans Affairs Medical Center, Providence, RI

Although policy, research, and media coverage predominantly focus on opioid addiction and overdoses in younger people, older adults are also susceptible to opioid-related morbidity and mortality.¹ Data suggest that all-cause opioid-related hospitalizations have increased by 34% as non—opioid-related hospitalizations have decreased by 17% among adults aged 65 years from 2010 to 2015.² Yet, the contribution of opioid use disorder (OUD) to this increase and characteristics of older adults with OUD are unknown.² Without understanding the characteristics of older adults with OUD, including their discharge settings after OUD hospitalization, it will be challenging to identify risk factors driving the increased opioid-related morbidity and mortality in older adults, and to develop interventions to mitigate these

This letter was presented at the Addiction Health Services Research conference in Park City, Utah in October 2019.

The authors declare no conflicts of interest.

harms in this population. We therefore examined the prevalence, characteristics, and discharge disposition of older Medicare beneficiaries with OUD hospitalizations.

Methods

We conducted a retrospective cohort study of acute inpatient hospitalizations using national 2016 Medicare Provider Analysis and Review claims linked to Medicare enrollment data and the Residential History File³ for 100% of Medicare beneficiaries residing in the United States. Age at hospitalization was used to identify beneficiaries aged ≥ 65 years. Using previously published ICD-10 codes for OUD,⁴ we identified the presence of OUD on inpatient claims after randomly sampling 1 hospitalization per person. For comparison, we examined characteristics among hospitalized patients without an OUD-related hospitalization. Characteristics, including the Combined Comorbidity Score,⁵ were identified using Medicare Provider Analysis and Review hospital claims during the OUD hospitalization. The Residential History File was used to identify discharge destination and skilled nursing facility (SNF) use.

Results

Of 7,243,208 older Medicare beneficiaries with 1 sampled acute inpatient hospitalization in 2016, 75,157 (1.0%) had OUD documented on a hospital claim (Table 1). Among the 75,157, there were 12,539 (16.7%) who had a primary OUD diagnosis and 62,618 (83.3%) who had a secondary diagnosis. Opioid overdose was documented in more than 1 in 5 OUD-related hospitalizations.

Compared with beneficiaries with a non—OUD-related hospitalization, the prevalence of an alcohol use disorder was 3 times higher and a psychosis diagnosis almost 2.4 times higher for those with an OUD-related hospitalization. Patients with an OUD-related hospitalization were over twice as likely to have a liver disease diagnosis, and were more likely to be dually eligible for Medicare and Medicaid and to use an intensive care unit. Older adults with OUD-related hospitalization were also more likely to be female, have longer hospital lengths of stay, have higher Combined Comorbidity Scores, and be readmitted to the hospital within 30 days. More than one-quarter (26.4%) of OUD-related hospitalizations were discharged to a SNF for post-acute care vs 22% of non—OUD-related hospitalizations.

Discussion

Attention has been focused on opioid misuse, OUD, and overdoses in younger and middle-aged individuals, but our findings demonstrate that many older adults also often have OUD. Older adults hospitalized with OUD vs those without have greater medical complexity, as evidenced by their higher prevalence of comorbidities and behavioral health disorders. Although acute inpatient hospitalizations present hospital clinicians with the challenge of balancing management of OUD with other medical concerns, they also represent an opportunity to initiate or optimize OUD treatment, including with medications, for older adults. One study of adults aged 18 to 64 years found that a small minority of patients with an opioid-related hospitalization are offered medication to treat OUD within 30 days of

discharge.⁶ The higher frequency of discharge to SNFs among those with OUD-related hospitalizations is thus an important finding that raises questions about the role of SNFs in continuity of OUD care.

Long-term and post-acute care settings have been largely overlooked in the national discourse on and in response to the opioid crisis, even though careful management after hospital discharge and successful transfer to a postdischarge OUD medication prescriber are essential to avoid continued opioid misuse and sequelae like premature death.⁷ There is limited understanding of SNFs' capacity to meet the specific post-acute care needs of patients with OUD. SNFs may face several barriers when attempting to provide high-quality OUD care, including a lack of providers trained to prescribe buprenorphine and stigma toward individuals with OUD among SNF staff.⁸ Given the higher rates of behavioral health disorders like schizophrenia/psychosis and alcohol use disorder among older adults with OUD, many facilities may be concerned about having sufficient resources to properly manage the care of these individuals.

Conclusions and Implications

Our findings have 2 important implications. First, more research is necessary on the characteristics of older adults hospitalized with OUD and the settings in which they receive post-acute care. Second, research is necessary to understand whether hospitals and SNFs are equipped to manage OUD among older adults, especially given the SUPPORT Act of 2018 and its provisions focused on improving screening for OUD and expanding coverage for OUD treatment in Medicare.⁹

Acknowledgments

The funders had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

A.R.Z. was supported by a grant from the National Institute on Aging (R21AG061632), a Department of Veterans Affairs Office of Academic Affiliations Advanced Fellowship in Health Services Research and Development, a Brown University Office of the Vice President for Research Seed Award, and an Advance-CTR Pilot Project Program Award (U54GM115677). K.S.T. was supported by a Career Development Award from the U.S. Department of Veterans Affairs (CDA 14-422) and a National Institute on Aging award (5P01AG027296). E.J. was supported by grants from the National Institute on Aging (1R21AG059623-01), Brown University Big Data Collaborative Seed, and an Interagency Personnel Agreement with the Center of Innovation in Long Term Services and Supports in the Providence VA Medical Center.

References

1. Moyo P Opioid use disorder and its treatment among older adults: An invited commentary. *Am J Geriatr Psychiatry* 2019;27:346–348. [PubMed: 30770186]
2. Weiss AJ, Heslin KC, Barrett ML, et al. Opioid-Related Inpatient Stays and Emergency Department Visits Among Patients Aged 65 Years and Older, 2010 and 2015: Statistical Brief 244 Healthcare Cost and Utilization Project Statistical Briefs 244. Rockville (MD): Agency for Healthcare Research and Quality (US); 2018.
3. Intrator O, Hiris J, Berg K, et al. The residential history file: Studying nursing home residents' long-term care histories. *Health Serv Res* 2011;46:120–137. [PubMed: 21029090]

4. Cole ES, DiDomenico E, Cochran G, et al. The role of primary care in improving access to medication-assisted treatment for rural Medicaid enrollees with opioid use disorder. *J Gen Intern Med* 2019;34:936–943. [PubMed: 30887440]
5. Gagne JJ, Glynn RJ, Avorn J, et al. A combined comorbidity score predicted mortality in elderly patients better than existing scores. *J Clin Epidemiol* 2011; 64:749–759. [PubMed: 21208778]
6. Naeger S, Ali MM, Mutter R, et al. Prescriptions filled following an opioid-related hospitalization. *Psychiatr Serv* 2016;67:1262–1264. [PubMed: 27247179]
7. Substance Abuse and Mental Health Services Administration. Chapter 3F: Medical management of patients taking OUD medications in hospital settings, Medications for Opioid Use Disorder: For Healthcare and Addiction Professionals, Policymakers, Patients, and Families. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2018.
8. Wakeman SE, Rich JD. Barriers to post-acute care for patients on opioid agonist therapy: An example of systematic stigmatization of addiction. *J Gen Intern Med* 2017;32:17–19. [PubMed: 27393486]
9. Davis CS. The SUPPORT for Patients and Communities Act—What will it mean for the opioid-overdose crisis? *N Eng J Med* 2019;380:3–5.

Table 1

Characteristics of Older Medicare Beneficiaries With OUD-Related or Non—OUD-Related Hospitalization in 2016

	OUD-Related Hospitalization* (n = 75,157)	Non—OUD-Related Hospitalization* (n = 7,168,051)
Age, y		
65-69	29,299 (39.0)	1,544,632 (21.6)
70-74	18,659 (24.8)	1,457,834 (20.3)
75	27,199 (36.2)	4,165,585 (58.2)
Female sex	44,880 (59.7)	3,966,192 (55.3)
Race (RTI imputed)		
White	61,262 (81.5)	5,711,690 (79.7)
Black	7831 (10.4)	704,894 (9.8)
Hispanic	4080 (5.4)	466,059 (6.5)
Other	1984 (2.6)	285,408 (4.0)
Dually eligible for Medicare and Medicaid [†]	25,203 (33.5)	1,364,482 (19.0)
Enrolled in Medicare Advantage [†]	23,279 (31.0)	2,175,515 (30.4)
Place of discharge [‡]		
Died in hospital	2298 (3.1)	288,575 (4.0)
Skilled nursing facility	19,777 (26.4)	1,571,812 (22.0)
Community	47,741 (63.7)	4,909,159 (68.7)
Readmitted within 3 d	5341 (7.1)	398,505 (5.6)
Length of hospitalization, d, mean (SD)	5.6 (6.2)	4.6 (5.1)
Any ICU use during hospitalization	27,069 (36.0)	2,096,076 (29.2)
Combined Comorbidity Score (derived from OUD hospitalization), mean (SD)	3.3 (2.7)	2.6 (2.7)
Opioid overdose	16,324 (21.7)	N/A
Cancer/tumor	8628 (11.5)	976,587 (13.6)
Dementia	8749 (11.6)	1,040,960 (14.5)
Renal failure	17,681 (23.5)	1,660,270 (23.2)
Alcohol use disorder	6184 (8.2)	190,056 (2.7)
Diabetes	12,792 (17.0)	989,956 (13.8)
Liver disease	5682 (7.6)	228,782 (3.2)
Psychosis	24,874 (33.1)	985,964 (13.8)
30-d rehospitalization	22,123 (29.4)	1,846,570 (25.8)
30-d mortality	4507 (6.0)	448,261 (6.3)

ICU, intensive care unit; OUD, opioid use disorder; RTI, Research Triangle Institute; SD, standard deviation.

Unless otherwise noted, values are n (%).

* Among beneficiaries with at least 1 OUD-related hospitalization during 2016, we randomly selected 1 OUD-related hospitalization per older Medicare beneficiary (out of 94,303 OUD-related hospitalizations); among beneficiaries without an OUD hospitalization, we randomly selected 1 non—OUD-related hospitalization (out of 11,528,801 non—OUD-related hospitalizations).

[†] During the month of hospitalization.

[‡]Place of discharge identified using the Residential History File.³

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript