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Specialty Behavioral Health Service Use Among Chronically Ill Medicare Advantage Patients with Substance Use Problems

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Abstract

Objective—This study examines the use of substance abuse and mental health services among older adults with substance use disorders.

Methods—Participants were members of Humana Cares, a subsidiary of Humana, Inc., a care management program for chronically ill Medicare Advantage members, between 2008 and 2010. All adults aged 65 and older with a substance use disorder identified with ICD-9 codes were included. We compared utilization of substance abuse and mental health services among participants with no psychiatric comorbidity (n=585), with co-morbid depression (n=605), and with co-morbid severe and persistent mental illness (SPMI, n=95).

Results—Twenty-eight percent utilized substance abuse services and 36% utilized mental health services. After adjusting for covariates, comorbid depression (OR=4.27, 95% CI: 3.22–5.65) and SPMI (OR=10.75, 95% CI: 5.22–20.13) were independently associated with specialty service use (either substance abuse or mental health services).

Conclusion—Although few chronically ill older adults with substance use disorders in this Medicare Advantage program received any specialty substance abuse or mental health services, utilization was higher among those who had concurrent psychiatric disorders.

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Drs. Huang, Russo, Bauer, Chan, Suzuki, and Unützer have no potential conflicts of interest to disclose.

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Introduction

Substance use disorders (SUDs) and mental disorders commonly co-occur (1) and in older community dwelling adults, the presence of co-occurring disorders (SUD and mental disorders) has been found to be associated with increased risk for comorbid medical conditions (2). Despite the high burden of illness and healthcare costs experienced by those with SUDs, treatment rates remain low (3). However, some studies have suggested that those with SUDs and a comorbid mental health problem receive more substance abuse treatment (3, 4).

Many care management programs have arisen as part of Medicare Advantage programs in the United States (U.S.) to coordinate the care of high risk/high cost beneficiaries with multiple physical and behavioral health conditions (5). To date, few studies have examined the patterns of specialty behavioral health service use (substance treatment and/or mental health services) among chronically ill older adults with co-occurring disorders. The purpose of this study is to describe the rates of specialty treatment and their correlates among older Medicare Advantage members diagnosed with co-occurring disorders. Findings from this study may help identify ways of improving the quality of behavioral health care by care management programs for this patient population.

Methods

Study setting and participants

Humana Cares is an integrated care management program that provides telephonic and in-person support for chronically ill Medicare Advantage members. Humana Cares currently provides complex chronic care management for over 200,000 members in various Medicare Advantage plans nationally. The goal of the program is to initiate appropriate interventions and mitigate complications, including the need for preventable emergent care and unnecessary hospitalizations. The program includes 1,300 care managers who are registered nurses (RNs), advanced registered nurse practitioners (ARNPs), behavioral health specialists, and social workers.

Robust analytics are used to designate risk, which determines level of intervention and allows Humana Cares to channel members to the most appropriate level of care. These analytics are prospective and identify members with a high propensity for future claims and health events. The analytics model is comprised of underlying algorithms that point to *future* cost and utilization. The model looks at co-morbidity burden, including behavioral health diagnoses like psychoses and major depressive disorder, frailty score, poly-pharmacy and utilization specific to the chronic condition or the co-morbidities. The algorithms are weighted and it is this combination that generates a risk score and identifies members appropriate for complex care management.

The study sample includes Humana Cares members enrolled from 2008 to 2010 (n=1,209) who have an initial claim for a substance use diagnosis (ICD-9 codes: 291, 303, 304, 305.0, 305.2–9, 265.2, 357.5, 571.0–3, 425.5, 535.3, 790.3, E860.0–1) and who were enrolled in the program for at least 180 days. This inclusive list of substance diagnoses also captures surrogate diagnoses such as alcoholic liver disease (6). Three diagnostic groups were created: 1) SUD only (n=585); 2) SUD and depression (ICD-9 codes 296.2, 296.3, 296.90, 300.4, 309.28, and 311, n=605); 3) SUD and severe and persistent mental illness (SPMI) (ICD-9 codes 295.0–9, 296.0, 296.1, and 296.4–8, n=95). The following types of specialty care were created based on Current Procedure Terminology codes: 1) any substance treatment visit 2) any mental health visit 3) any substance abuse and/or mental health visit.

This study was approved by the institutional review board at the University of Washington (Seattle, WA) and by Humana Cares' privacy and legal departments.

Covariates

Member level factors include age, gender, hierarchical condition category (HCC) score, insurance type, and region of country. The HCC was introduced by the Center for Medicare and Medicaid Services as a risk adjustment method to adjust capitation payments to private Medicare plans. The HCC model takes into account demographic and diagnostic codes (based on ICD-9) to generate a summary risk score for patients (7, 8). HCC was used to adjust for medical complexity of patients in our analysis.

Statistical analyses

Data were analyzed using STATA version 11. Rates of specialty care use were calculated for each diagnostic group. Correlates of specialty service use were examined for the entire sample with substance use disorders using a multivariable logistic regression model.

Results

Table 1 shows the sociodemographic and clinic characteristics of the sample. Among the 1209 individuals in this study, 470 had a diagnosis of alcohol use disorder and 758 were diagnosed with 'other' substance use. Fifty-one percent of the sample was female with a mean age of 74.8 ± 7.2 and moderately medically complex ($HCC\ 2.6 \pm 1.8$). A total of 24% were dually eligible (on Medicare and Medicaid). Fifty percent of patients had a diagnosis of depression, 8% had a diagnosis of SPMI, 39% had an alcohol use disorder diagnosis, and 63% had a substance use disorder other than alcohol. Regions of the U.S. represented by this sample were Northeast (5%), Midwest (30%), South (66%), and West (10%).

Figure 1 shows the proportion of patients who received specialty behavioral health care according to the presence of comorbid depression or SPMI. Patients with comorbid depression were more likely to have a specialty visit than those with substance abuse alone, while those with comorbid SMI were more likely to have a specialty visit than those with comorbid depression as well as those with substance use disorders alone.

Table 2 shows the correlates of receiving behavioral health care. After adjusting for age, gender, medical complexity, dual eligibility status, and region, and duration in program, comorbid depression and SPMI were strongly and independently associated with the probability of receipt of at least one mental health visit (depression: odds ratio (OR)= 4.67, 95% confidence interval (CI): 3.47–6.27; SMI: OR=14.55, 95% CI: 7.08–29.93); at least one substance treatment visit (depression: OR=2.07, 95% CI: 1.54–2.77; SPMI: OR=2.73, 95% CI: 1.72–4.34); and receipt of either visit type (depression: OR=4.27, 95% CI: 3.22–5.65; SMI: OR=10.75, 95% CI: 5.22–22.13).

Discussion

Among Medicare patients with substance use disorders, only a minority utilized substance (28%) or mental health services (36%). However, these rates exceed those found in an epidemiologic study of adult patients with alcohol use disorders receiving alcohol treatment in the past year (12%) (9). Consistent with previous studies among community dwelling adults (3, 4), chronically ill Medicare members with co-occurring SUD and mental disorders are more likely to receive specialty care than those with SUD only. It has also been shown that those with mood disorders are more likely to receive minimally adequate treatment (in any treatment setting) than those with SUDs (10). For those with co-occurring depression, there was a 4-fold increase in mental health visits and greater than 2-fold increase for a

substance abuse visit. For those with co-occurring SPMI, there was a greater than 14-fold increase for a mental health visit and almost 3-fold increase for a substance visit.

Patients with co-occurring disorders are more willing to present to mental health settings than substance treatment settings. However, it is uncertain whether or not SUDs are adequately addressed during these mental health visits. A possible explanation for the increase in substance abuse visits when mental disorders are present is that the additional symptoms contribute to greater distress and perceived need for mental health treatment by the patient, prompting referrals to substance treatment (11).

Regardless of the treatment setting, addressing substance problems is important in this vulnerable population presenting with multiple medical and behavioral health problems. However, it may be especially important to treat substance use problems in primary care since these patients are often more likely to be treated in this setting for both substance use and substance use related medical problems. Given the heavy demands on primary care clinicians, a quick and simple strategy is needed to improve the identification of patients who may benefit from further assessment and intervention. A growing body of evidence supports the implementation of Screening Brief Intervention and Referral to Treatment (SBIRT) in primary care clinic. An advantage of SBIRT is that early treatment in the form of a brief intervention can be provided to patients with at-risk substance use, before the development of a more severe substance use disorder and their medical and psychiatric complications. A brief intervention may consist of a 5–10 minute conversation delivered by the PCP or an allied health professional. At the same time, patients who would benefit from pharmacotherapy or referral to specialty care can be readily identified.

Although integrated care models such as collaborative care have recently been developed to address comorbid depression and chronic medical illnesses in the older population (12, 13), there is a need to study the effective integration of substance use treatments for patients with comorbid disorders in primary care systems. Care managers in a collaborative care system have the potential to play an important role in the identification and treatment of those with SUDs. Care managers can provide brief interventions such as motivational interviewing (14, 15), help patients navigate the complex healthcare system, provide care coordination, and support treatment plans such as medication assisted management for SUDs (e.g. naltrexone for alcohol use disorder).

The major strengths of this study include the nationally representativeness of the sample as well as the large sample size. Our study also has several limitations. Because diagnoses were based on claims data, under-diagnosis of both substance use and mental disorders is likely. It is probable that service use for substance disorders is even lower among individuals whose disorders are undiagnosed. We were also unable to measure telephonic care manager and provider-related characteristics that may influence specialty referrals and uptake of services.

Conclusion

Only a minority of chronically ill older adults with substance use disorders in this Medicare Advantage population received specialty behavioral health services. The rates of specialty care were greater among those who had comorbid depression or serious mental illness. Under-treatment of substance disorders represents a major public health concern among medically complex elderly populations. Research is needed to develop service models that engage more patients in specialty-level care or provide support for primary care providers, who are most likely to serve such medically ill older adults, to address their patients' substance use and mental health problems alongside their medical care.

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Figure 1.

^ “Substance use disorder/depression” and “Substance use disorder/serious mental illness” groups are not mutually exclusive

Table 1

Characteristics of sample with substance use disorder diagnosis [% (n) or mean $\pm$ S.D.]

Sociodemographic characteristics	All Substance use disorder (n=1209)	Substance use disorder only (n=585)	Substance use disorder + depression (n=605) [^]	SUD + SPMI (n=95) [^]
age (sd)	74.8 $\pm$ 7.2	75.7 $\pm$ 7.4	74.0 $\pm$ 6.8	72.1 $\pm$ 6.4
Gender, female (%)	51.4 (621)	43.6 (255)	59.3 (359)	40.0 (38)
Hierarchical conditional categories (sd)	2.6 $\pm$ 1.8	2.4 $\pm$ 1.7	2.8 $\pm$ 1.9	2.53 $\pm$ 1.7
Dually eligible (%)	24.3 (294)	21.4 (125)	27.6 (167)	25.3 (24)
Region (%)				
Northeast	4.5 (54)	4.4 (26)	4.6 (28)	2.1 (2)
Midwest	29.8 (360)	27.7 (162)	31.2 (189)	35.8 (34)
South	55.9 (676)	57.1 (334)	55.0 (333)	55.8 (53)
West	9.8 (119)	10.8 (63)	9.1 (55)	6.3 (6)
Psychiatric and Substance Use Diagnoses				
Alcohol (%)	38.9 (470)	49.7 (291)	27.9 (169)	20.0 (19)
Other substance use (%)	62.7 (758)	51.1 (299)	73.9 (447)	81.1 (77)
Depression (%)	50.0 (605)	n/a	100 (605)	80 (76)
Severe and persistent mental illness	7.9 (95)	n/a	12.6 (76)	100 (95)

[^] “Substance use disorder/depression” and “Substance use disorder/severe and persistent mental illness” groups are not mutually exclusive

Table 2
Multiple logistic regression models for the correlates of having behavioral health visit^a

	1 Substance treatment visit	1 Specialty mental health visit	1 Substance treatment or specialty mental health visit
	OR (95% CI)	OR (95% CI)	OR (95% CI)
Age	0.99 (0.97–1.01)	0.99 (0.97–1.01)	1.00 (0.98–1.02)
Gender (female)	0.78 (0.59–1.04)	0.79 (0.59–1.05)	0.71 (0.53–0.94) ^b
Hierarchical conditional categories	0.95 (0.88–1.03)	0.99 (0.92–1.07)	1.00 (0.93–1.08)
Dual eligible	1.14 (0.83–1.56)	1.17 (0.85–1.63)	1.07 (0.78–1.47)
Region (reference=south)			
Northeast	0.89 (0.43–1.82)	1.29 (0.65–2.58)	1.55 (0.79–3.04)
Midwest	1.15 (0.85–1.55)	1.70 (1.25–2.32) ^c	1.55 (1.14–2.10) ^b
West	0.72 (0.44–1.18)	0.91 (0.55–1.49)	0.77 (0.48–1.24)
Depression	2.07 (1.54–2.77) ^c	4.67 (3.47–6.27) ^c	4.27 (3.22–5.65) ^c
SPMI	2.73 (1.72–4.34) ^c	14.55 (7.08–29.93) ^c	10.75 (5.22–22.13) ^c
Alcohol	1.43 (0.56–3.70)	0.96 (0.34–2.67)	0.83 (0.31–2.25)
Other substance use (%)	6.24 (2.34–16.63) ^c	3.52 (1.24–9.99) ^b	3.75 (1.36–10.36) ^b

OR=odds ratio; CI=confidence interval

^a Adjusted for time enrolled in the program

^b p<0.05

^c p<0.005