Disparities in Diabetes and Hypertension Care for Individuals With Serious Mental Illness

Junqing Liu, PhD; Jonathan Brown, PhD; Suzanne Morton, MPH; D.E.B. Potter, MS; Lisa Patton, PhD; Milesh Patel, MS; Rita Lewis, MPH; and Sarah Hudson Scholle, DrPH

ABSTRACT

OBJECTIVES: People with serious mental illnesses (SMI), including schizophrenia, bipolar disorder, and major depression, experience early mortality, partly due to comorbid physical health conditions such as diabetes and hypertension. This study examined the quality of diabetes and hypertension care for Medicaid and Medicare enrollees with SMI.

STUDY DESIGN: We conducted a retrospective analysis of medical records and claims data from 3 health plans: a Medicaid plan for disabled adults, a Medicaid plan for low-income adults, and a Special Needs Plan for individuals dually enrolled in Medicaid and Medicare. The study population included 258 adults with SMI and diabetes and 241 adults with SMI and hypertension.

METHODS: Existing quality measures for diabetes and hypertension from the Healthcare Effectiveness Data and Information Set (HEDIS) were adapted and applied to the SMI population for the 2012 calendar year. The rates of diabetes care and hypertension control for people with SMI were compared with national averages for Medicaid and Medicare managed care plans to examine disparities in care.

RESULTS: Adults with SMI receive poor-quality care for diabetes and hypertension. Depending on the health plan, performance on the diabetes care and hypertension control HEDIS measures was 14 to 49 percentage points lower among the SMI population than the general Medicaid and Medicare populations.

CONCLUSIONS: Findings highlight disparities in care for individuals with SMI compared with the general Medicaid and Medicare populations. Health plans demonstrated substantial room for improvement on almost all diabetes and hypertension HEDIS measures for the SMI population.

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Individuals with a serious mental illness (SMI), including schizophrenia, bipolar disorder, and major depression, are at higher risk of chronic physical health conditions, such as diabetes and hypertension. This is partly due to poor diet, side effects of psychiatric medications, and lack of access to primary care.[1] Study results suggest that roughly 15% of individuals with schizophrenia and 18% with major depression have diabetes compared with 9% of the general population.[2-4] Nearly 40% of individuals with bipolar disorder and 48% of individuals with major depression experience hypertension compared with 30% of the general population.[2,5,6] These conditions contribute to early mortality rates among individuals with SMI.[7]

Hypertension and diabetes have often progressed by the time they are identified in individuals with SMI,[8] who are less likely to receive high-quality care for these diseases.[8,9] Data from clinical trials and national epidemiological studies suggest that at least 30% of individuals with schizophrenia or bipolar disorder receive poor medication treatment for diabetes and 62% receive poor medication treatment for hypertension.[8-10]

Policy makers, health plans, and providers are learning that improving care quality and outcomes for the SMI population will require addressing chronic, comorbid physical health conditions.[11-13] State Medicaid programs recognize that although only about 10% of Medicaid beneficiaries have SMI,[14] their complex conditions make their care costly. Current programs and delivery system reforms promoting integration of primary and behavioral healthcare are promising. Many health plans are testing strategies for integrating and coordinating care for this population, with special attention on physical health.[15-17]

However, there is limited published information on how well plans manage diabetes and hypertension care for individuals with SMI. As part of an effort to develop behavioral health quality measures for health plans, we pilot-tested measures focusing on diabetes and hypertension care for this population. This article presents measure performance for 2 Medicaid plans and a Medicaid and Medicare Dual-Eligible Special Needs Plan (Medicaid

& Medicare D-SNP) that serves individuals enrolled in Medicaid and Medicare. We examined disparities in diabetes and hypertension care for those with SMI relative to the general Medicaid managed care population. Study findings are intended to provide both insight into the quality of care for the SMI population and a baseline for measuring progress.

TAKEAWAY POINTS

Health plans demonstrated substantial room for improvement on almost all Healthcare Effectiveness Data and Information Set (HEDIS) diabetes and hypertension measures for individuals with serious mental illness (SMI).

- The SMI population contributes to disproportionately high healthcare costs.
- Disparities in care for the SMI population is mostly driven by the lack of utilization of ambulatory medical care.
- The diabetes and hypertension outcome measures developed for this study fill critical gaps in quality measurement for the SMI population.
- Health plans and state agencies can use the measures to evaluate physical and mental health integration efforts and to monitor and improve the quality of care for the SMI population.

METHODS

Study Sites

To examine variation in measure performance, we conducted outreach through health plan trade organizations and used a list of health plans maintained by the National Committee for Quality Assurance (NCQA) to recruit geographically diverse plans that serve different types of Medicaid populations. Three plans (1 each in the Northeast, Midwest, and West regions) participated: a Medicaid plan for disabled adults (Medicaid-Disabled Plan), a Medicaid plan for low-income adults (Medicaid-Adult Plan), and a Dual-Eligible Special Needs Plan (D-SNP) for individuals enrolled in Medicaid and Medicare (Medicaid & Medicare D-SNP). Plan enrollment ranged from 13,000 (Medicaid Adult, Medicaid & Medicare D-SNP plans) to 131,000 (Medicaid-Disabled Plan). All 3 plans were responsible for medical, pharmacy, and mental health benefits; had access to physical and behavioral health records; have been in business for at least 20 years, and offer lines of business other than the products in this study. Two of the 3 have NCQA accreditation.

Measures

We adapted 2012 Healthcare Effectiveness Data and Information Set (HEDIS) measures for diabetes and hypertension to apply to the SMI population (see **Table 1** for measure descriptions). We asked plans to report on member use of ambulatory care: the percentage of members with SMI who had an ambulatory physical healthcare visit in 2012.

Data Collection

Data were collected in 2013. Health plans followed standard procedures for gathering data to report HEDIS measures (all plans annually report diabetes and hypertension measures to NCQA). To identify a sample of members eligible for each measure, each plan used claims/encounter data from calendar year 2012 to identify members with SMI, diabetes (2011 claims were also used for diabetes), and hypertension. Plans also used claims data to report rates of ambulatory physical healthcare.

Sampling

Plan members were eligible if they: 1) were continuously enrolled from January 1 through December 31, 2012; 2) were 18 years or older during the same period; and 3) had at least 1 inpatient or 2 outpatient claims with a diagnosis of schizophrenia or bipolar disorder, or at least 1 inpatient claim with a diagnosis of major depression (previous studies included schizophrenia, bipolar, and major depression in the SMI population[18,19]; we required an inpatient stay for major depression to ensure that individuals included in the measure denominator had severe depression). Across plans, 884 members with SMI were identified (345 in Medicaid & Medicare D-SNP, 219 in Medicaid-Disabled, 320 in Medicaid-Adult). After identifying the entire SMI population, the plan assigned individuals into 2 denominator groups: 1) members who received at least 1 diabetes medication or had at least 1 claim for diabetes in 2011 or 2012 and 2) members diagnosed with hypertension in 2012.

The final sample included 258 members with SMI and diabetes (135 in Medicaid & Medicare D-SNP, 40 in Medicaid-Disabled, 83 in Medicaid-Adult) and 241 members with SMI and hypertension (91 in Medicaid & Medicare D-SNP, 104 in Medicaid-Disabled, 46 in Medicaid-Adult). Members could qualify for both groups (64 members qualified for both). For both groups, the final sample included a fairly even distribution of individuals with schizophrenia, bipolar disorder, and major depression.

Record Abstraction

Health plan staff manually reviewed members' medical and behavioral health records (when available) for the same period. Two plans had access to electronic health records or other electronic systems and the third plan accessed hard copies of medical records from which they extracted information to calculate measures. Manual abstraction confirmed the hypertension diagnosis (to confirm eligibility for the measure denominator, per HEDIS specifications) and determined if the member received services consistent with the numerator requirement. Because behavioral health records provided little additional information, study results were based on medical records.

To examine interrater reliability, plan staff performed double abstraction for a subset of records (69 patients with diabetes, 67 patients with hypertension); interrater reliability (kappa = 0.65-1) was substantial or almost perfect.[20] Plans provided de-identified data that did not require institutional review board approval.

TABLE 1. Measure Definition

Measure (NQF number)	Denominator	Numerator
Comprehensive Diabetes Care for People With Diabetes and SMI		
A1C testing (NQF #2603)	Members aged 18 to 75 years with a diagnosis or medication for diabetes and SMI	Members who had an A1C test performed
A1C control (<8%) (NQF #2608)		Members whose most recent A1C level was <8%
A1C poor control (>9%) (NQF #2607)		Members whose most recent A1C level was >9%
Eye exam (NQF #2609)		Members who received an eye screening for diabetic retinal disease
Medical attention to nephropathy (NQF #2604)		Members who received a nephropathy screening test or had evidence of nephropathy
Blood pressure control (<140/90 mm Hg) (NQF #2606)		Members whose most recent blood pressure notation in the medical record was <140/90 mm Hg
Controlling High Blood Pressure for People With Hypertension and SMI		
Controlling high blood pressure (NQF #2602)	All members aged 18-85 years with a diagnosis of hypertension and SMI	Members whose most recent blood pressure was <140/90 mm Hg

A1C indicates glycated hemoglobin; NQF, National Quality Forum; SMI, serious mental illness.

Analysis

We used plan data to calculate the percentage of members with SMI and diabetes and/or hypertension who received care consistent with measure specifications. To analyze potential disparities, we compared the SMI population's average rate with the general population's average HEDIS Medicaid rate in 2012 for the 3 plans using data in Quality Compass® 2013 with the permission of the NCQA. We also compared rates of diabetes care and hypertension control for members with SMI, with the HEDIS national averages for the same measures, which included roughly 180 Medicaid and 500 Medicare managed care plans.[21]

RESULTS

Diabetes Measure Performance

Average health plan performance among the SMI population ranged from 13.2% for eye exams to 48.0% for glycated hemoglobin (A1C) testing (**Table 2**). Variation was widest on medical attention for nephropathy (a 55-percentage-point difference across plans) and smallest for eye exams (a 15-percentage-point difference across plans).

The plan-average HEDIS Medicaid rates for the general population, compared with the SMI population's mean performance rates on the diabetes indicators, were 16 percentage points (A1C testing) to 45 percentage points (eye exam) lower. Compared with 2012 HEDIS national average Medicaid rates, mean performance rates on the diabetes indicators were 14 percentage points (A1C <8%) to 40 percentage points (eye exam) lower for the SMI population. When looking at 2012 HEDIS national average Medicare rates, the average rates across plans on the diabetes indicators were 19 percentage points (blood pressure control) to 49 percentage points (medical attention for diabetic nephropathy) lower for the SMI population.

Controlling Hypertension Measure Performance

About 40% of members with hypertension had their blood pressure controlled by the end of 2012 (ranging from 12.5%-57.7% across plans) (Table 2). The average rate was 17 percentage points lower than plans' HEDIS Medicaid rates for the general population. Compared with 2012 HEDIS national average Medicaid rates, performance on hypertension control was 15 percentage points lower among the SMI population. Compared with 2012 HEDIS national average Medicare rates, performance on hypertension control was 21 percentage points lower among the SMI population.

Lack of Ambulatory Care

Variation in the receipt of ambulatory care across plans contributed to poor measure performance. In the Medicaid & Medicare D-SNP and Medicaid-Disabled plans, members with at least 1 ambulatory visit in 2012 ranged from 88% to 99% for the diabetes and hypertension groups, respectively. In contrast, in the Medicaid-Adult plan (which had the worst performance on all measures), 19% of members with diabetes and 15% with hypertension had at least 1 ambulatory visit in 2012. The lower performance of this plan was driven in part by less utilization of ambulatory care and, therefore, fewer opportunities to monitor care.

DISCUSSION

Health plans play an important role in delivering care for the SMI population. Physical and behavioral healthcare providers often deliver care in fragmented systems, limiting their ability to ensure that individuals with SMI receive comprehensive care. In contrast, health plans are positioned to use data to monitor delivery of care across providers and to intervene for members who are not receiving adequate care. The results of this pilot study suggest that individuals with SMI enrolled in Medicaid and Medicare plans receive poor care

TABLE 2. Comprehensive Diabetes Care and Controlling High Blood Pressure for Individuals With SMI Among Select Medicaid Plans Versus Rates for the General Population 2012

	General Population			Members With SMI			
	Average HEDIS[a] Medicaid Managed Care Rate in 2012	Average HEDIS[a] Medicare Managed Care Rate in 2012	Average HEDIS Medicaid Rate for the 3 Testing Plans[b] in 2012	All 3 Plans	Medicaid & Medicare D-SNP Plan	Medicaid Disabled Plan	Medicaid Adult Plan
Diabetes care							
Denominator calculation							
Sample: members with SMI and diabetes in 2011 or 2012	N/A	N/A	N/A	n = 258	n = 135	n = 40	n = 83
Final denominator: above members' aged 18 to 75 years[c]	N/A	N/A	N/A	n = 250	n = 127	n = 40	n = 83
Measure performance							
A1C testing	83.0 %	91.2 %	87.2 %	48.0 %	65.4 %	60.0 %	15.7 %
A1C control (<8%)	46.5 %	63.6 %	51.3 %	32.4 %	48.8 %	35.0 %	6.0 %
A1C poor control (>9%)[d]	44.7 %	28.2 %	40.5 %	63.2 %	44.9 %	60.0 %	92.8 %
Eye exams	53.2 %	65.7 %	58.1 %	13.2 %	16.5 %	27.5 %	1.2 %
Medical attention for diabetic nephropathy	78.4 %	89.2 %	83.2 %	40.0 %	61.4 %	42.5 %	6.0 %
Blood pressure control <140/90 mm Hg	58.9 %	62.3 %	60.6 %	42.8 %	61.4 %	47.5 %	12.0 %
Hypertension control							
Denominator calculation							
Sample: members with SMI and hypertension diagnosis in claims any time in 2012	N/A	N/A	–	n = 241	n = 91	n = 104	n = 46
Final denominator[e]	N/A	N/A	–	n = 192	n = 78	n = 74	n = 40
Measure performance							
Blood pressure control <140/90 mm Hg	56.3 %	61.1 %	56.4 %	39.6 %	57.7 %	35.1 %	12.5 %

A1C indicates glycated hemoglobin; D-SNP, Dual-Special Needs Plan; HEDIS, Healthcare Effectiveness Data and Information Set; N/A, not applicable; SMI, serious mental illness.

[a]HEDIS: Healthcare Effectiveness Data and Information Set. National Committee for Quality Assurance (NCQA) 2013.

[b]The data source used was Quality Compass 2013. Quality Compass was used with permission from the National Committee for Quality Assurance (NCQA). Quality Compass 2013 included certain HEDIS data. Any data display, analysis, interpretation, or conclusion based on these data is solely that of the authors, and NCQA specifically disclaims responsibility for any such display, analysis, interpretation, or conclusion. HEDIS performance measures are not clinical guidelines and do not establish a standard of medical care, and are not tested for all potential applications. Quality Compass is a registered trademark of NCQA. HEDIS is a registered trademark of NCQA.

[c]Among the 258 individuals initially identified as having SMI and diabetes, 8 were omitted from the sample because the medical record review revealed that they did not meet age requirements.

[d]Lower rate indicates better performance.

[e]Across the 3 health plans, 46 members were excluded because they did not have a hypertension diagnosis in the medical record in the first 6 months of 2012. If a member had a hypertension diagnosis in the claims data but no confirmatory hypertension diagnosis in the medical record in the first 6 months of 2012, they did not meet the eligibility criteria for the denominator. Three additional members were excluded from the denominator due to pregnancy, resulting in a final denominator of 192 members across plans.

for diabetes and hypertension compared with the general Medicaid and Medicare managed care populations. We found wide variation in plan performance for the SMI population. With the exception of 1 measure (eye exam for diabetes), the Medicaid & Medicare D-SNP had the highest performance across measures.

Although it is difficult to draw broad conclusions from only 3 health plans, performance variations may reflect differences in plan capacity to manage care for this population. Medicaid & Medicare D-SNPs are designed to coordinate care for dual-eligible populations with complex health conditions. At least 1 other study found that dual-eligible enrollees were more likely to receive diabetes testing than Medicaid-only enrollees.[22] Performance differences could reflect that health plans serve different populations and operate in different state contexts, in terms of service systems and available community resources. Utilization of ambulatory care corresponded to measure performance, suggesting that getting

people into care is key to managing conditions. Health plans may identify individuals with SMI who are at risk for poor outcomes simply by monitoring the use of ambulatory physical healthcare.

Previous studies using claims data, clinical registries, and information collected at mental health clinics have found poor management of diabetes and hypertension among the SMI population.[10,22,23] This study's findings provide a snapshot of the quality of care for individuals with SMI who are enrolled in comprehensive health plans, using data collected from health records. This study also used common measures for diabetes and hypertension care for direct comparison with care quality for the general plan population. Although these plans were responsible for physical and behavioral health benefits, individuals with SMI had poor management of diabetes and hypertension. Given the side effects of psychiatric medications, providers should routinely monitor the comorbid medical conditions of SMI populations.

Limitations

This pilot study was limited to health plans, and the sample size for each plan was modest due to variation in the prevalence of members with SMI and diabetes or hypertension. As other plans use these or similar measures, it will be important to compare their performance with this study's findings and to examine sources of performance variations.

CONCLUSIONS

This study highlights disparities in care for diabetes and hypertension for individuals with SMI who are enrolled in Medicaid and Medicare managed care plans. Although health plans demonstrated variation in measure performance, the average on most indicators was much lower for the SMI population than for the general population. Measures developed for this study fill critical gaps in quality measurement for the SMI population. Following pilot testing, they were endorsed by the National Quality Forum and are now available for health plans, state agencies, and other organizations to monitor quality of care for the SMI population. They may also be useful for ongoing healthcare delivery system demonstrations and reforms toward improving care for this population. ■

Author Affiliations: National Committee for Quality Assurance (JL, SM, SHS, RL, MP), Washington, DC; Mathematica Policy Research, Inc (JB), Washington, DC; Office of the Assistant Secretary for Planning and Evaluation (DP), Washington, DC; Substance Abuse and Mental Health Services Administration (LP), Rockville, MD.

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Address Correspondence to: Junqing Liu, PhD, National Committee for Quality Assurance, 1100 13th St NW, Ste 10000, Washington, DC 20005. E-mail: liu@ncqa.org.

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