State and Demographic Variation in Use of Depot Antipsychotics by Medicaid Beneficiaries With Schizophrenia

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Objective: **This study examined state and demographic variation in use of depot antipsychotics among Medicaid beneficiaries with schizophrenia.** ***Method:*** **Medicaid claims data (2007) from 21 states and the District of Columbia were analyzed for 102,884 beneficiaries age 18 to 64 with schizophrenia. Rates of receipt of depot antipsychotics were determined for all beneficiaries and for African Americans, Caucasians, and beneficiaries from "all other races."** ***Results:*** **Across study states, a mean of 10% of beneficiaries with schizophrenia received depot antipsychotics. Rates ranged from 1.9% in the District of Columbia to 20.9% in Alabama. In 12 states, African Americans were disproportionately likely to receive these medications compared with beneficiaries of other races.** ***Conclusions:*** **Use of depot antipsychotics varied across state Medicaid programs. African Americans received a disproportionate share in many states. Further research is needed to understand the sources of such variation. These findings underscore the need to monitor the use of depot antipsychotics. (*Psychiatric Services* 65:121–124, 2014; doi: 10.1176/appi.ps.201300001)**

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The use of depot or injection antipsychotics among individuals with schizophrenia remains controversial. Some have suggested that depot antipsychotics are underprescribed given evidence that their use is associated with better medication adherence, lower risk of overdose, and fewer side effects, compared with oral antipsychotics (1). Others have raised ethical concerns about their use (2). One such concern is the potential overprescribing of these medications for individuals who are perceived as noncompliant with treatment, particularly those who are from racial or ethnic minority groups. This concern is based, in part, on evidence that African Americans are more likely than Caucasians to receive depot antipsychotics (3,4).

Despite increased attention to depot antipsychotics, no large-scale study has described the extent to which Medicaid beneficiaries with schizophrenia receive these medications and whether there are demographic differences in their use. Such information will help Medicaid policy makers, providers, and advocates identify variation in treatment practices. This brief descriptive study, which was part of a larger project that examined the delivery of evidence-based practices for individuals with serious mental illnesses (5), used Medicaid claims data from 21 states and the District of Columbia to answer two questions: What proportion of Medicaid beneficiaries with schizophrenia receives depot antipsychotics? Does the receipt of depot antipsychotics differ by race or other demographic characteristics?

Methods

The study used Medicaid Analytic Extract (MAX) data from 2007. MAX data include Medicaid-funded medical and pharmacy claims for every state and the District of Columbia. MAX is created from the eligibility and claims files that states submit to the Centers for Medicare and Medicaid Services. Variables in MAX are standardized to create comparable measures of service use across states. Fee-for-service data undergo an extensive quality review. However, at the time of this study, complete and reliable data on encounters provided by health maintenance organizations or behavioral health organizations were not available for all states.

This analysis included states with reliable fee-for-service or managed care encounter claims in 2007. The authors examined the completeness of MAX data for every state, described in detail elsewhere (5). Eighteen states with incomplete managed care data were excluded; five states were excluded

Table 1

Receipt of depot antipsychotics among 102,884 Medicaid beneficiaries with schizophrenia in 21 states and the District of Columbia, by racial-ethnic group

State	N with schizophrenia	N receiving depot antipsychotics	% receiving depot antipsychotics among all beneficiaries with schizophrenia[a]				Racial distribution of beneficiaries receiving depot antipsychotics[b]					
							African American		Caucasian		Other[c]	
			All	All African Americans	All Caucasians	All "other" race[c]	%	Percentage point difference[d]	%	Percentage point difference[d]	%	Percentage point difference[d]
DC	1,703	32	1.9	1.8	nr	2.3	nr	nr	nr	nr	nr	nr
CA	38,316	2,587	6.8	5.8	6.8	7.2	19.0	–3.1	39.6	.2	41.4	2.9
ND	229	16	7.0	nr	6.8	nr	nr	nr	nr	nr	nr	nr
IL	12,771	942	7.4	7.4	7.6	6.9	52.8	−.1	37.6	.9	9.7	−.7
OK	2,730	238	8.7	10.8	8.0	8.4	29.4	5.7	60.1	–5.3	10.5	−.4
WY	149	13	8.7	nr	6.1	nr	nr	nr	nr	nr	nr	nr
AK	286	26	9.1	nr	8.9	nr	nr	nr	nr	nr	nr	nr
MS	3,606	348	9.7	10.3	7.7	9.5	74.4	4.4	16.4	–4.3	9.2	−.2
CT	2,792	285	10.2	13.9	8.3	9.7	37.2	9.9	36.5	–8.6	26.3	–1.4
WV	1,960	203	10.4	15.8	9.9	nr	11.3	3.9	88.7	–3.8	.0	−.1
SD	317	35	11.0	nr	11.0	11.1	nr	nr	nr	nr	nr	nr
GA	6,602	735	11.1	11.6	10.4	10.4	65.7	2.4	24.5	–1.7	9.8	−.7
NV	811	91	11.2	11.6	11.0	11.6	nr	nr	nr	nr	nr	nr
IA	1,481	167	11.3	10.4	10.8	14.8	8.4	−.7	74.9	–3.2	16.8	14.0
MO	4,918	588	12.0	15.5	9.8	9.0	50.2	11.5	47.6	–10.8	2.2	−.7
MD	4,437	542	12.2	14.3	9.1	8.3	71.6	10.4	24.0	–8.3	4.4	–2.1
NH	400	50	12.5	nr	12.4	nr	nr	nr	nr	nr	nr	nr
ID	874	123	14.1	nr	13.9	nr	2.4	.8	94.3	−.9	3.3	.1
NC	6,131	914	14.9	17.4	11.3	11.7	68.4	9.7	26.6	–8.3	5.0	–1.4
IN	3,429	530	15.5	19.8	13.5	17.3	37.4	8.2	59.1	–8.5	3.6	.4
LA	4,622	717	15.5	16.6	12.0	18.3	69.9	4.6	20.5	–6.0	9.6	1.4
AL	4,320	902	20.9	24.7	13.2	22.1	71.8	11.0	19.8	–11.6	8.3	−.5

[a] Denominator is all beneficiaries with schizophrenia in each racial group for each state. Data are not reported (nr) for states with fewer than 100 beneficiaries with schizophrenia in a given racial group.

[b] Denominator is beneficiaries with schizophrenia who received depot antipsychotics in each state. Data are not reported (nr) for states with fewer than 100 beneficiaries receiving depot antipsychotics in a given racial group.

[c] "Other" includes Hispanic, American Indian and Native American, and unknown. The number of beneficiaries in these groups was too small to analyze separately.

[d] Percentage point difference from the racial distribution of the Medicaid population with schizophrenia

because it was not possible to determine whether beneficiaries were enrolled in managed care, waiver programs, or private insurance; five states with missing medication data were excluded; and one state was missing mental health claims.

The study population included adults age 18 to 64 years who had a primary diagnosis of schizophrenia on at least one inpatient claim or two outpatient claims on different dates (6), who qualified for full Medicaid benefits because of disability for at least ten months in 2007, and who had no other health insurance, including Medicare. The analytic file included 102,884 beneficiaries meeting these criteria in 21 states and the District of Columbia.

Descriptive statistics were used to examine the receipt of depot antipsychotics (haloperidol decanoate [50 mg], fluphenazine decanoate, and risperidone Consta). Both National Drug Codes on pharmacy claims and J-codes on medical claims were used to identify depot antipsychotics, because Medicaid agencies may reimburse these medications through either the pharmacy program or the physician benefit. Given that this study was intended to describe patterns in the use of depot antipsychotics across states and beneficiary groups, we did not conduct tests of statistical significance.

Results

Across the 21 states and the District of Columbia, a mean of 10% of beneficiaries with schizophrenia had at least one claim for a depot antipsychotic. Proportions ranged from 1.9% of beneficiaries in the District of Columbia to nearly 20.9% in Alabama (Table 1).

The racial distribution of depot antipsychotic recipients among the entire population of beneficiaries with schizophrenia was examined. In most states, a larger proportion of African Americans received depot antipsychotics. For example, in Alabama, African Americans were nearly twice as likely as Caucasians to receive depot antipsychotics (24.7% compared with 13.2%). This pattern of findings was similar across most states in the study, with the exception of California, Illinois, Iowa, and the six states in which the sample size was insufficient (sample size of <100 in any racial group).

In seven states, most recipients of depot antipsychotics were African American (Table 1). For example, 72% of beneficiaries who received depot antipsychotics in Alabama were African American. This pattern of findings was similar for Georgia, Illinois, Louisiana, Maryland, Mississippi, and North Carolina. Although these findings are driven in part by the fact that most Medicaid beneficiaries with schizophrenia in these states are African American, the underlying racial distribution of the population may not fully explain the pattern. In every state except California, Illinois, and Iowa, depot antipsychotic recipients were disproportionately African American, compared with the racial distribution of the Medicaid population with schizophrenia in each state.

Even in states where fewer than half of the beneficiaries who received depot antipsychotics were African American, African Americans were overrepresented among depot antipsychotic recipients (Table 1). For example, in Indiana, 37.4% of those who received depot antipsychotics were African American, which is 8.2 percentage points higher than what would be expected based on the racial distribution of the population with schizophrenia in that state. That is, if the racial distribution of depot antipsychotic recipients reflected the racial distribution of all beneficiaries with schizophrenia in Indiana, only 29.2% of depot antipsychotic users would be African American.

In most states, younger beneficiaries were slightly more likely to receive depot antipsychotics (roughly 12% of those ages 18–24 or 25–30 received depot antipsychotics, compared with 9%–10% for all other age groups). No differences were found by gender.

Discussion

Relatively few Medicaid beneficiaries with schizophrenia received depot antipsychotics, but wide variation across states was found. Several possible explanations for this variation were not examined in this study because of data limitations. First, although all state Medicaid programs included in this study provided depot antipsychotics, variation by state in reimbursement arrangements or medication utilization controls may have influenced receipt of these medications. Second, because other studies have found that depot antipsychotics are often provided during or immediately after hospitalization (7,8), variation in receipt of these medications may reflect underlying hospitalization rates in the states. Finally, there may be state or regional differences in providers' attitudes toward depot antipsychotics (9).

Other studies have found that African Americans are more likely than Caucasians to receive depot antipsychotics in hospitals (10), emergency rooms (11), and outpatient settings (12–15), and this study identified racial differences at the state level. Although the proportion of depot antipsychotic recipients who were African American was particularly high in some southern states, the disproportionate use of these medications among African Americans was present across states with both high and low levels of depot antipsychotic use and across states where African Americans made up both a high and low proportion of the Medicaid population with schizophrenia. Another explanation for the findings—one that could not be directly examined in this study—could be that depot antipsychotics were targeted to individuals with poorer antipsychotic adherence, a majority of whom could be African American. As reported elsewhere, in all but two states in this study, African Americans were more likely than Caucasians to have gaps in their antipsychotic refills (5). Nonetheless, the disproportionate use of these medications among the African-American population merits further investigation. It is possible that race serves as a proxy for some unmeasured characteristics, such as access to treatment, poverty, or other cultural or social factors. In addition, unique features of states, including rural geography or high poverty, may influence use of these medications, particularly in the southern states included in this study.

This study contributes information about the use of depot antipsychotics among a large and geographically diverse population of Medicaid beneficiaries. The findings should be interpreted in the context of several limitations. Not all states were included in the study because of data limitations described above. We could not measure receipt of depot antipsychotics not covered by Medicaid. Because of restrictions on the use of the data, this exploratory study could not examine sources of state or racial variation in use of these medications. Rather, this report is intended to identify opportunities for further inquiry and provide a foundation for future research.

Conclusions

The use of depot antipsychotics was found to differ across states. In many states, the racial distribution of those who received depot antipsychotics did not reflect the racial distribution of the state Medicaid population with schizophrenia. In several states, African Americans were the predominant recipients of depot antipsychotics. The findings underscore the need for Medicaid programs to monitor the use of depot antipsychotics and for further research to understand the sources of variation in use of these medications.

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