Treatment for Co-occurring Mental and Substance Use Disorders in Five State Medicaid Programs

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Objectives: This study described the locations and patterns of psychiatric and substance abuse treatment for Medicaid beneficiaries with co-occurring mental and substance use disorders in five states. Methods: Medicaid beneficiaries aged 21 to 65 with psychiatric or substance use disorders were identified with claims and encounter records. Groups were further divided into those with and those without a diagnosed substance use disorder. Adjusted odds of treatment in community-based settings, inpatient facilities, emergency departments, and hospital outpatient departments were calculated. Results: A total of 92,355 persons had a psychiatric disorder, 34,158 had a substance use disorder, and 14,256 had co-occurring psychiatric and substance use disorders. In all five states, beneficiaries with severe mental illness (schizophrenia, bipolar disorder, or major depression) and a substance use disorder had higher odds of inpatient, emergency department, and hospital-based outpatient psychiatric treatment, compared with those with severe mental illness alone. In four of five states, both severe and less severe mental illness and a co-occurring substance use disorder were associated with lower odds of community-based treatment compared with those with the respective mental illness alone. Compared with those with less severe mental illness alone, individuals with less severe psychiatric disorders and a co-occurring substance use disorder had higher odds of inpatient treatment in all states and of emergency department use in three of five states. Odds of inpatient and outpatient hospital use and emergency department use for substance abuse treatment were higher for persons with severe mental illness and a co-occurring substance use disorder in most states, compared with odds for those with a substance use disorder alone. Conclusions: Heavy inpatient and emergency department use by Medicaid beneficiaries with co-occurring substance use disorders is a consistent cross-state problem. Co-occurring disorders may decrease the likelihood of community-based treatment for those with less severe mental disorders and for those with severe mental illness, suggesting that policies focusing only on these settings may miss a significant proportion of people with these co-occurring disorders. (Psychiatric Services 58:942-948, 2007)

More than 50 million persons are insured through Medicaid, including many individuals with behavioral health disorders. Diagnosed psychiatric and substance use disorders are 50% to 100% more prevalent among Medicaid beneficiaries than in the general population (1). Schizophrenia, affective disorders, and posttraumatic stress disorder are among the ten most frequent primary reasons for Medicaid hospitalizations, occurring more often than in any other health insurance group (2). When primary and secondary diagnoses are considered, alcohol- and drug-related disorders rank fourth among Medicaid-funded hospital discharges (2). The percentage of Medicaid beneficiaries with co-occurring mental and substance use disorders is unknown, but it is likely higher than that found in other insured populations. Epidemiological evidence has conclusively demonstrated that substance abuse or dependence commonly coexists with other psychiatric disorders (3,4).

States have primary responsibility for public mental health and addiction treatment and rely heavily on Medicaid to pay for these services. The high cost of treating these co-occurring disorders in Medicaid populations is well documented (3, 6). One-half of all state and local spending for mental health treatment is funded by Medicaid (7), and Medicaid covers about one-third of state spending for specialty substance abuse treatment (8), underscoring the significant role that this state and federally financed entitlement plays.

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942
in behavioral health. Medicaid is not a single program but rather 50 different programs shaped by state-specific differences in coverage, service systems, use of managed care, availability of alternate funding, and population characteristics.

Medicaid is an acknowledged key component for improving treatment for persons with co-occurring disorders (9–11), but there has been relatively little discussion about how best to reshape state programs to address perceived shortcomings. For example, creating incentives for community-based providers to adopt evidence-based practices is a common recommendation; however, strategies focused on only one type of setting and treatment could be insufficient if large numbers of beneficiaries are treated elsewhere (12). A 2002 report to Congress on co-occurring disorders advocated a “no wrong door” approach that would provide screening and treatment wherever persons with co-occurring disorders encounter the health care system (9).

We take a small step toward understanding where integrated psychiatric and substance abuse services may need to be provided for Medicaid beneficiaries. Across five state Medicaid programs, we examined the cross-state similarities and differences in location of services to persons with mental and substance use disorders. These programs are located in different parts of the country, serve diverse subpopulations with divergent service systems, and vary in their use of managed care.

Unlike many studies of co-occurring disorders, our study examined where Medicaid-funded services were delivered rather than the specific treatments provided. We compared beneficiaries with co-occurring disorders and those with either a mental health or substance use diagnosis to see if they received treatment in community-based outpatient facilities or hospital-based outpatient facilities, emergency departments, or inpatient settings. Better understanding of the location of psychiatric or addiction treatment will aid efforts to identify and engage persons with co-occurring disorders where they appear in the health care system.

Methods

Data

We analyzed 1999 Medicaid analytic extract data (MAX files) obtained from the Centers for Medicare and Medicaid Services from Arkansas, Colorado, Indiana, New Jersey, and Washington. These states represent different geographic regions, and their Medicaid programs differ substantially in eligibility criteria, types of reimbursable benefits, and financing for mental health and substance abuse treatment. [A table showing information about Medicaid coverage and funding for public mental health and substance abuse treatment in each state is available as an online supplement at ps.psychiatryonline.org.]

The Medicaid analytic extracts contain individual demographic and eligibility information, as well as information on the use of claims-based inpatient care, outpatient care, long-term care, and prescription medication. Fee-for-service claims were combined with similar encounter-level data submitted by managed care providers to provide a complete record of services purchased by Medicaid.

The final data set (N=126,513) included all beneficiaries aged 21 to 64 years—excluding those with insurance coverage in addition to Medicaid—who were diagnosed as having a severe mental health disorder (schizophrenia, bipolar disorder, or major depression) (N=64,177), an “other” mental health disorder (N=28,178), or a substance use disorder (N=34,158) throughout 1999. Each person had one record, and the outcome variables were binary, indicating whether a beneficiary received treatment in the respective setting.

Diagnostic groups

Twelve-month diagnosed prevalence of mental disorders was based on ICD-9 principal diagnoses on claims (ICD-9 codes 295.x to 300.x and 302.x to 315.x). Beneficiaries with schizophrenia, bipolar disorder, or major depression were considered to have a severe mental illness. Others with psychiatric diagnoses were combined in a separate group. Broader case-finding methods were used to detect drug or alcohol use disorders to account for a greater tendency toward underdiagnosis and restrictions on treatment of primary substance use disorders (13–15). Individuals were considered to have a substance use disorder if they were diagnosed as having a principal or additional diagnosis of alcohol or drug abuse or dependence (including ICD-9 codes 291, 292, 303, 304, 305, and 648.3), if they were given prescriptions for medications commonly used to treat addiction, or if they were administered detoxification or rehabilitation procedures specifically for alcohol or drug disorder treatment.

Place of service

The Medicaid claims files include locations where services are delivered, the most common being physicians’ and other practitioners’ offices, patients’ homes, community mental health centers, hospital inpatient facilities, hospital outpatient departments, and emergency departments. These six major categories accounted for more than 95% of the behavioral health service claims in 1999, except in Arkansas, where a substantial proportion of behavioral health care claims were also recorded in partial-hospitalization settings. Individuals typically received behavioral health care in multiple settings.

We collapsed settings into four categories: community-based care, which included physicians’ and other practitioners’ offices, patients’ homes, and community mental health centers; hospital inpatient facilities; emergency departments; and hospital outpatient departments. Outpatient hospital services were analyzed apart from community-based care because outpatient hospital services are typically reimbursed at higher rates, possibly influencing their use, and care in such settings may be qualitatively different (16). Medicaid-funded partial hospitalization, residential treatment centers, and comprehensive outpatient rehabilitation facilities represent different types of treatment, and because they were absent or seldom used in most states, they were not included in the analysis. Sensitivity analyses showed that inclusion or exclusion of...
of these services had little impact on results.

We assumed that claims in the respective settings with a principal diagnosis of mental illness or substance use disorder reflected actual mental health or addiction services delivered in these settings. It is possible that some conditions were diagnosed but not treated or that conditions were treated without the appropriate diagnosis. Medicaid claims data do not permit a detailed examination of the type or quality of these treatments.

The proportion of claims with unknown or missing place of service was relatively small and below 1% in all states but New Jersey (8%).

**Analysis**

Using logistic regression, we calculated the odds of having a service claim in each of the four service locations separately for mental health care and for substance abuse treatment in each state. Models were adjusted for several confounding variables commonly believed to affect access to and utilization of health care. Common physical conditions that may increase the likelihood of hospitalization were included, such as hypertension, diabetes, chronic obstructive pulmonary disease, and asthma. We also adjusted for lapses in Medicaid coverage. Other studies have addressed this issue by including only beneficiaries with at least ten months of Medicaid eligibility (17). Because lapses in coverage of a month or more were relatively frequent, ranging from one in four persons in New Jersey (24.7%) to four in ten in Washington (39.6%), we included everyone with at least one month of eligibility in 1999 and adjusted for whether they had continuous 12-month coverage. Age, gender, and race or ethnicity and enrollment in fee-for-service plans, primary care physician plans, or other managed care plans were also included in the model. In our substance abuse treatment analyses, we classified mental illness as "severe" or "other."

Three types of models were developed to estimate the probability of receiving mental health treatment for all beneficiaries with a severe mental illness if they were given a diagnosis of a co-occurring substance use disorder, the probability of receiving mental health treatment among beneficiaries with a less severe mental disorder if they were diagnosed as having a co-occurring substance use disorder; and the probability of receiving substance use treatment among beneficiaries with a substance use disorder if they were diagnosed as having a co-occurring mental illness. Each analysis used four logistic regression models per state. Model fit was tested by using the standard likelihood ratio chi square tests. The robustness of the estimates was examined as they changed after stepwise addition of confounders. All estimates reported meet conventional goodness-of-fit standards, with the exception of one estimate identified in Table 3. We focused primarily on results that were significant at the p<.001 level to adjust for the greater risk of falsely rejecting the null hypothesis when conducting multiple comparisons.

The study was approved by the committees for the protection of human subjects at the University of Massachusetts Medical School and at Dartmouth Medical School.

**Results**

Three-fourths of the 14,256 Medicaid beneficiaries with co-occurring mental and substance use disorders were younger than 45 years (range, 71.7% to 77.0%). Three in five beneficiaries were female (range, 55.6% to 62.1%). From one in five beneficiaries in Indiana (20.8%) to three in five in New Jersey (62.1%) were members of a racial or ethnic minority group. See Table 1 for a more detailed presentation of race and ethnicity.

Individuals with co-occurring mental and substance use disorders appeared in the four treatment settings at different rates in the five states (Figure 1). Inpatient treatment rates for beneficiaries with these co-occurring disorders ranged from one in five

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<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>21-44</td>
<td>1,131</td>
<td>76.1</td>
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<td>356</td>
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<td>269</td>
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<tr>
<td>Male</td>
<td>601</td>
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<td>59.6</td>
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<td>60.0</td>
<td>543</td>
<td>57.1</td>
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<td>African American</td>
<td>508</td>
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<td>64</td>
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<td>592</td>
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<tr>
<td>Hispanic</td>
<td>30</td>
<td>2.0</td>
<td>200</td>
<td>21.0</td>
<td>51</td>
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<td>Other or missing data</td>
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<td>3.8</td>
<td>144</td>
<td>15.1</td>
<td>16</td>
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<tr>
<td>Eligibility</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Disabled</td>
<td>1,111</td>
<td>74.7</td>
<td>712</td>
<td>74.9</td>
<td>2,133</td>
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<td>Temporary Assistance for Needy Families</td>
<td>324</td>
<td>21.8</td>
<td>186</td>
<td>19.6</td>
<td>820</td>
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persons (20.6%) in Washington to almost one in two (46.4%) in New Jersey. Emergency department use ranged from one in seven persons (14.4%) in Arkansas to more than one in four (29.7%) in Washington. Treatment delivered in community settings predominated in four states but varied widely, from a low of one in four persons (24.0%) in Colorado to three in four (76.7%) in Indiana. Treatment in hospital-based outpatient venues was the norm for about one-fourth of beneficiaries (27.0%) in Washington and more than half (55.4%) in New Jersey.

In multivariate analyses, beneficiaries with co-occurring disorders were three to six times more likely than those with a mental health diagnosis alone to be hospitalized for psychiatric treatment during 1999 (Tables 2 and 3). Inpatient treatment odds ratios for persons with a less severe mental disorder and a substance use disorder were generally lower than those for persons with severe mental illness and a substance use disorder. In all five states individuals with severe mental illness and a substance use disorder were also significantly more likely than those with severe mental illness alone to receive mental health treatment in an emergency department or outpatient hospital setting. They were less likely to receive community treatment in four of the five states. Persons with a less severe psychiatric disorder and a substance use disorder had higher emergency department use in Colorado, Indiana, and Washington and higher outpatient hospital use in Indiana and Washington.

Among people with co-occurring disorders, odds of receiving any community-based mental health treatment were significantly lower for persons with either level of psychiatric disorder in all states except Arkansas. Overall, beneficiaries were less likely to receive substance abuse treatment than psychiatric treatment. Service patterns for substance abuse treatment were less consistent than those for psychiatric treatment. Beneficiaries with any psychiatric disorder and a co-occurring substance use disorder were more likely than others to be admitted to inpatient treatment for a substance use disorder in four of five states (p<.001). Among those with a diagnosis of substance use disorder, beneficiaries with severe mental illness and those with a less severe mental illness were more likely to receive treatment in the emergency department, compared with those with substance use disorder alone, but odds ratios did not reach the .001 level of significance in Arkansas and Washington (Table 4). Use of outpatient hospital treatment for substance abuse or dependence among individuals with severe mental illness and a co-occurring substance use disorder was more likely in three states and less likely in Arkansas. Community substance abuse treatment was less likely in three states at the p<.001 level and at the p<.01 level in another.

Table 2
Odds of mental health treatment among Medicaid beneficiaries with severe mental illness if diagnosed as having a co-occurring substance use disordera

<table>
<thead>
<tr>
<th>Setting</th>
<th>Arkansas (N=9,189)</th>
<th>Colorado (N=4,819)</th>
<th>Indiana (N=17,631)</th>
<th>New Jersey (N=17,531)</th>
<th>Washington (N=15,007)</th>
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<tr>
<td></td>
<td>OR  95% CI</td>
<td>OR  95% CI</td>
<td>OR  95% CI</td>
<td>OR  95% CI</td>
<td>OR  95% CI</td>
</tr>
<tr>
<td>Community based</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient facility</td>
<td>5.26** 4.35-6.09</td>
<td>5.84** 4.95-6.66</td>
<td>4.98** 4.39-5.54</td>
<td>5.12** 4.65-5.61</td>
<td>5.14** 4.51-5.85</td>
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<td>Emergency department</td>
<td>1.31** 1.09-1.57</td>
<td>2.69** 2.09-3.45</td>
<td>2.97** 2.57-3.74</td>
<td>2.85** 2.58-3.23</td>
<td>2.97** 2.65-3.25</td>
</tr>
<tr>
<td>Hospital-based outpatient</td>
<td>1.77** 1.56-2.02</td>
<td>1.31** 1.05-1.63</td>
<td>1.47** 1.32-1.62</td>
<td>1.26** 1.15-1.39</td>
<td>1.55** 1.40-1.71</td>
</tr>
</tbody>
</table>

a Comparison, beneficiaries with severe mental illness alone. All models control for ethnicity, age, gender, physical comorbidities, eligibility category (disability versus Temporary Assistance for Needy Families), fee for service (versus enrolled in managed care or primary care physician plans), and continuity of coverage (12 month continuous coverage versus lapses in coverage).

*p<.01
**p<.001
Table 3

Odds of mental health treatment among Medicaid beneficiaries with less severe mental disorders if diagnosed as having a co-occurring substance use disordera

<table>
<thead>
<tr>
<th>Setting</th>
<th>Arkansas (N=4,377)</th>
<th>Colorado (N=2,080)</th>
<th>Indiana (N=7,438)</th>
<th>New Jersey (N=7,379)</th>
<th>Washington (N=6,904)</th>
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<tbody>
<tr>
<td>Community based</td>
<td>0.82</td>
<td>.65–1.05</td>
<td>.35***</td>
<td>.51***</td>
<td>.68***</td>
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<tr>
<td>Inpatient facilityb</td>
<td>3.98***</td>
<td>2.11–7.51</td>
<td>6.21***</td>
<td>4.48***</td>
<td>3.89***</td>
</tr>
<tr>
<td>Emergency department</td>
<td>.61</td>
<td>.32–1.13</td>
<td>1.79**</td>
<td>1.91***</td>
<td>1.23</td>
</tr>
<tr>
<td>Hospital-based outpatient</td>
<td>1.12</td>
<td>.85–1.48</td>
<td>.99</td>
<td>1.30</td>
<td>.74***</td>
</tr>
</tbody>
</table>

a Comparison, beneficiaries with less severe mental illness alone. All models controlled for ethnicity, age, gender, physical comorbidities, eligibility category (disability versus Temporary Assistance for Needy Families), fee for service (versus enrolled in managed care or primary care physician plans), and continuity of coverage (12-month continuous coverage versus lapses in coverage).
b In Colorado, the validity of the odds ratio is questionable due to the small number of individuals (N=13) who received mental health treatment in inpatient settings.

Among people with severe mental illness and a substance use disorder, the odds of using community settings for substance abuse treatment were significantly lower in Indiana, New Jersey, and Washington at the p<.001 level and lower at the p<.05 level in Colorado. Odds of receiving community treatment for those with less severe mental disorders and a substance use disorder were significantly lower in Washington (p<.001).

Most beneficiaries in our sample were treated in multiple settings for substance abuse or mental illness. However, a substantial proportion in each state received treatment only in an inpatient or emergency department setting, ranging from about one-eighth (12.9%) in Indiana to one-third (33.3%) in Colorado.

Beneficiaries with at least one hospital-based outpatient visit were three times (New Jersey) to 12 times (Washington) more likely than beneficiaries with a community-based visit to have visited an emergency depart-

Table 4

Odds of substance abuse treatment among Medicaid beneficiaries if diagnosed as having a co-occurring psychiatric disordera

<table>
<thead>
<tr>
<th>Settingb</th>
<th>Arkansas (N=2,329)</th>
<th>Colorado (N=2,354)</th>
<th>Indiana (N=5,758)</th>
<th>New Jersey (N=11,746)</th>
<th>Washington (N=11,971)</th>
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<td>Community based SMI</td>
<td>0.95</td>
<td>.71–1.27</td>
<td>.66*</td>
<td>.74***</td>
<td>.37***</td>
</tr>
<tr>
<td>Community based Other</td>
<td>1.10</td>
<td>.74–1.63</td>
<td>.62</td>
<td>.74</td>
<td>.93</td>
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<td>Inpatient facility SMI</td>
<td>1.64*</td>
<td>1.17–2.23</td>
<td>5.51***</td>
<td>2.83***</td>
<td>2.01***</td>
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<td>Inpatient facility Other</td>
<td>1.39</td>
<td>.88–2.19</td>
<td>3.21***</td>
<td>2.45***</td>
<td>1.46***</td>
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<tr>
<td>Emergency department SMI</td>
<td>2.11*</td>
<td>1.05–4.27</td>
<td>1.76***</td>
<td>1.35**</td>
<td>1.50***</td>
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<tr>
<td>Emergency department Other</td>
<td>2.64*</td>
<td>1.12–6.21</td>
<td>2.44***</td>
<td>1.44**</td>
<td>1.45***</td>
</tr>
<tr>
<td>Hospital-based outpatient SMI</td>
<td>.72*</td>
<td>.50–.93</td>
<td>1.55***</td>
<td>.98</td>
<td>1.30***</td>
</tr>
<tr>
<td>Hospital-based outpatient Other</td>
<td>1.03</td>
<td>.73–1.44</td>
<td>1.97***</td>
<td>.86</td>
<td>1.22**</td>
</tr>
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</table>

a Comparison, beneficiaries with substance use disorder alone. All models control for ethnicity, age, gender, physical comorbidities, eligibility category (disability versus Temporary Assistance for Needy Families), fee for service (versus enrolled in managed care or primary care physician plans), and continuity of coverage (12-month continuous coverage versus lapses in coverage).
b SMI, severe mental illness (schizophrenia, bipolar disorder, or major depression); other, all other psychiatric diagnoses

*p<.05
**p<.01
***p<.001
ment during 1999. Hospital outpatient treatment was also associated with 40% higher odds (New Jersey) to 130% (Arkansas) higher odds of receiving inpatient treatment.

Treatment with a primary diagnosis of substance use disorder and a primary mental health diagnosis on separate occasions within the same setting during 1999 was relatively uncommon. Rates of combined treatment in hospital outpatient departments ranged from 2.3% in Washington to 13% in New Jersey. Washington had the highest rate of combined treatment in community settings (31.4%), almost three times that of the New Jersey, the next highest state (12.6%), and six times that of Arkansas, the lowest state (5.5%).

**Discussion**

Heavy inpatient and emergency department use were common among Medicaid beneficiaries with co-occurring mental and substance use disorders. One in five beneficiaries treated in these settings received no Medicaid-funded behavioral health treatment elsewhere.

Although community outpatient settings were the most common mental health treatment location in four of the five states studied, co-occurring disorders were generally associated with lower odds of engaging in community-based treatment. This pattern was clear for persons with severe and less severe mental disorders. The exception was Arkansas, where a co-occurring substance use disorder did not have a statistically significant impact on community mental health treatment and only inpatient service use was higher among persons with less severe psychiatric disorders. Reasons for this difference are not clear. Discussions with Arkansas practitioners and administrators suggest that reimbursement policies favoring community mental health centers may increase the likelihood of receiving community treatment. Differences were unrelated to use of partial hospital treatment.

Beneficiaries with co-occurring disorders were generally more likely to use hospital-based outpatient services than community-based treatment for substance abuse or psychiatric treatment. Implications of this finding are not clear, but the data suggest that treatment in the two settings is different, with hospital-based care more strongly associated with inpatient and emergency department use.

Study limitations include reliance on Medicaid claims instead of original data collection for information on diagnoses and service locations. Diagnoses assigned to claims may be less accurate than those typically used for research purposes. However, evidence suggests that persons with severe mental illnesses can be identified in Medicaid claims with reasonable accuracy (18). Differences in observed rates of treatment in community- and hospital-based settings could reflect the relative accuracy of diagnoses assigned in these settings. Nonetheless, differences in recognition of substance abuse or dependence are likely to affect treatment.

Substance use disorders were probably underidentified in our database, as in many similar studies. Individuals with co-occurring mental and substance use disorders in this study represent only cases that are known to Medicaid systems and not the underlying epidemiology of co-occurring disorders in Medicaid populations. Excluding persons with additional health insurance, such as Medicare, may have disproportionately diminished the number of persons identified with severe mental illness, many of whom qualify for Medicare because of a disability.

Current service patterns could be different from those observed in our 1999 data. Since that time the Substance Abuse and Mental Health Services Administration has worked with states to strengthen services for co-occurring psychiatric and substance use disorders.

Further study is needed to confirm and expand these findings. In particular, the role of hospital-based outpatient departments in the treatment of co-occurring mental and substance use disorders needs to be better understood. Primary care studies indicate that continuity of treatment is weaker and costs are higher in such settings (16), and our own data suggest that people treated in these settings have higher rates of inpatient treatment.

State-to-state differences appear to be complex. Higher per capita spending and relatively generous coverage for treatment of substance use disorders may account for Washington's higher rate of combined mental health and substance abuse treatment in community settings. Other differences, such as those observed in Arkansas, are not as easily explained.

A strength of the analysis is its ability to track individuals' Medicaid service use across a variety of settings and providers.

**Conclusions**

Our findings suggest that attempts to improve treatment for Medicaid beneficiaries with co-occurring mental and substance use disorders should be broad based, focusing on hospital inpatient, emergency department, and outpatient services, as well as on community-based providers. A "no wrong door" approach is clearly needed for Medicaid populations.

From a Medicaid program perspective, the data suggest several possibilities for intervention. Offering stronger financial incentives for community-based mental health providers to actively identify, engage, and treat beneficiaries with co-occurring disorders could increase use of treatment in these settings and potentially reduce use of inpatient and emergency care. Incentives might include allowing qualified mental health providers to bill for substance abuse treatment and qualified substance abuse providers to bill for psychiatric treatment, allowing higher reimbursement rates for treatment of co-occurring disorders, or allowing community providers to retain a portion of savings from reduced hospital and emergency department use. More favorable reimbursement may also increase the supply of providers over the long term. Stronger referral linkages between hospital and community treatment providers may also help to increase utilization of the latter. Community treatment providers co-located in hospital inpatient, hospital outpatient, and emergency department settings may be an effective way to facilitate this process. This goal
could be supported through the contracting process for managed care providers and by monitoring provider performance.

Finally, greater emphasis on developing and supporting time-limited treatment or brief motivational interventions appropriate for emergency departments may help to reduce repeated use of these expensive resources. This is particularly true for individuals with less severe psychiatric illness for whom evidence-based practices are still being developed (19,20). Service utilization data for this population has not been widely discussed in the scientific literature.

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References
