

Medicaid Emergency Psychiatric Demonstration:  
Response to 21st Century Cures Act Requirements

Report to Congress

U.S. Department of Health and Human Services

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## **ACRONYMS AND ABBREVIATIONS**

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Affordable Care Act	Patient Protection and Affordable Care Act of 2010 (P.L. 111-148), commonly known as Obamacare
CMS	Centers for Medicare & Medicaid Services
Cures Act	Section 12004 of the 21st Century Cures Act (H.R. 34, 114th Congress)
DRG	Diagnosis related group
DSH	Disproportionate share hospital
EMC	Emergency medical condition
IMD	Institution for mental diseases
MEPD	Medicaid Emergency Psychiatric Demonstration
N-MHSS	National Mental Health Services Survey
P.L.	Public law
SAMHSA	Substance Abuse and Mental Health Services Administration
VA	U.S. Department of Veterans Affairs

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## EXECUTIVE SUMMARY

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The 21st Century Cures Act (P.L. 114-255, Cures Act) requires the Secretary of Health and Human Services (HHS) to provide information pertaining to individual states that participated in the Medicaid Emergency Psychiatric Services Demonstration (MEPD) to address six topics related to the demonstration. This report provides the required information.

Since the enactment of the Medicaid statute in 1965, payment for services for beneficiaries ages 21 to 64 who are patients in institutions for mental diseases (IMDs) has been prohibited; this is known as the IMD exclusion. Section 1905(i) of the Social Security Act defines an IMD as a “hospital, nursing facility, or other institution of more than 16 beds, that is primarily engaged in providing diagnosis, treatment, or care of persons with mental diseases, including medical attention, nursing care, and related services.” In response to stakeholder concerns about the limited availability of publicly funded inpatient psychiatric beds and the fairness of the IMD exclusion, the Patient Protection and Affordable Care Act (P.L. 111-148, Affordable Care Act,) authorized and the Centers for Medicare & Medicaid Services (CMS) implemented the MEPD from July 1, 2012 to June 30, 2015. MEPD provided federal payments to participating states for inpatient care provided in private IMDs to stabilize psychiatric emergency medical conditions (EMCs) among Medicaid beneficiaries ages 21 to 64. MEPD tested the extent to which reimbursing IMDs improved access to and quality of inpatient psychiatric care for Medicaid beneficiaries with psychiatric EMCs and reduced use and overall costs of Medicaid-funded mental health services, including inpatient, outpatient, and emergency services. Eleven states (Alabama, California, Connecticut, Illinois, Maine, Maryland, Missouri, North Carolina, Rhode Island, Washington, and West Virginia) and the District of Columbia,<sup>1</sup> and 29 private IMDs participated.

The original MEPD evaluation found little to no evidence that MEPD affected access to or length of inpatient stays, emergency department use, or reductions in Medicaid costs for mental health services.<sup>2</sup>

Subsequent to the release of the MEPD final evaluation report in 2016, the desire for more information arose, both to fill gaps and reduce limitations of the previous analyses, as well as to inform discussions of larger policy issues pertaining to the IMD exclusion and access to inpatient behavioral healthcare. For example, in the original evaluation, Medicaid data were available for only the first 6 months of MEPD for most of the states, and some effects may not have manifested until later in the demonstration. Moreover, because disproportionate share hospital (DSH) payments cannot be analyzed at the patient level, the analysis of changes in Medicaid costs did not consider DSH payments. To provide policymakers with a greater understanding of the scope, context, and effects of MEPD, Section 12004 of the Cures Act mandated additional data from the participating states addressing the following six topics:

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<sup>1</sup> Hereafter, we refer to the 11 states and the District of Columbia as “the MEPD states” or “the 12 MEPD states.” References to a lesser number of states may include the District of Columbia.

<sup>2</sup> Blyler et al. “Medicaid Emergency Psychiatric Services Demonstration Evaluation: Final Report.” Submitted to the Centers for Medicare & Medicaid Services. Washington, DC: Mathematica Policy Research, August 18, 2016. Available at <https://innovation.cms.gov/Files/reports/mepd-finalrpt.pdf>.

1. Number of IMDs and IMD beds that participated in MEPD as a share of all IMDs and IMD beds in participating states;<sup>3</sup>
2. Effect of MEPD on Medicaid costs for both physical and mental health care;
3. Number of forensic psychiatric hospitals (and beds within them) and the number of forensic psychiatric beds in other hospitals in the state;
4. Extent to which MEPD reduced the amount of DSH payments to participating IMDs;
5. Average lengths of stays and payment rates for IMDs, general hospital psychiatric units, and hospital emergency departments during the MEPD period; and
6. Effect of MEPD on the use of hospital emergency departments for psychiatric EMCs.

Table ES.1 provides a summary of the findings for each Cures Act topic.

**Table ES.1. Core findings, by Cures Act topic**

1. MEPD share of IMD facilities and beds
Overall, facilities that participated in MEPD accounted for only 20 percent of all psychiatric IMDs in the 12 MEPD states. In five states, 50 percent of all IMDs participated in MEPD. In the other seven MEPD states, the share of psychiatric IMDs that participated was substantially lower—from 8 percent to 38 percent.
Overall, only 9 percent of all beds in psychiatric IMDs in the 12 MEPD states were available to individuals eligible to receive inpatient IMD services under MEPD. <sup>4</sup> In four states, at least 20 percent of all beds in psychiatric IMDs in the state were available to such individuals, with the highest percentage in a state being 35 percent. In five states, 7 percent or less of all beds in psychiatric IMDs in the state were available. <sup>5</sup>
Limited availability of beds for new patients is suggested by high inpatient bed utilization rates. On a given day, the majority of inpatient mental health beds are filled by involuntary admissions, which suggests inpatient mental health beds are less available for people voluntarily seeking inpatient services.
2. Reductions in spending due to MEPD
Consistent with prior findings, MEPD did not reduce Medicaid total and mental health spending. This analysis improves upon the original MEPD evaluation by including additional years of data and calculating total spending that includes physical health care spending in addition to mental health spending.
One state (California) showed a statistically significant decline in physical health spending associated with MEPD in the first 2 quarters (6 months) after a psychiatric EMC occurred. This result should be interpreted with caution because it was not replicated in the other four states analyzed, and the reasons for this effect is unclear; the change may be for reasons unrelated to MEPD.

<sup>3</sup> We limit the analysis of all IMDs in a state to those that serve the population targeted by MEPD (that is, psychiatric IMDs serving adults under age 65). Because MEPD did not include residential substance use disorder treatment facilities, we do not include them in the analyses, even though many of them qualify as IMDs.

<sup>4</sup> An individual was eligible to receive inpatient IMD services under MEPD if, at the time of the demonstration, they (1) were eligible for Medicaid, (2) were age 21 to 64, (3) resided in a geographic area covered by MEPD, (4) experienced a psychiatric EMC, (5) were deemed to be in need of inpatient care, and (6) met additional eligibility criteria imposed by the state (e.g., regarding dual Medicare-Medicaid enrollment, participation in a Medicaid managed care plan).

<sup>5</sup> Not all IMD beds were available to MEPD-eligible individuals because (1) MEPD covered care in private IMDs but not public IMDs, (2) some beds in participating IMDs were reserved for populations not included in MEPD, such as children, adolescents, older adults, or people with a primary diagnosis of substance use disorder, and (3) not all of the existing beds in participating IMDs were licensed or staffed, meaning they were not currently in use.

<b>3. Forensic hospitals and beds</b>
Dedicated forensic psychiatric hospitals are rare in the MEPD states. Seven participating states have forensic hospitals, with five of these having only one facility dedicated exclusively to forensic patients. The remaining five participating states do not have any forensic hospitals. Non-forensic state psychiatric hospitals serve over twice as many forensic patients as dedicated forensic hospitals.
On a given day, about a third of all inpatient psychiatric beds (forensic and non-forensic) in the MEPD states were occupied by forensic patients.
<b>4. DSH payments</b>
In 11 of the 12 MEPD states, there was no direct reduction in DSH payments to participating IMDs. <ul style="list-style-type: none"> <li>• For nine of the states, no direct savings were associated with MEPD because DSH payments were not made to participating IMDs in the year before MEPD began.</li> <li>• In the other two states, DSH payments to the sole participating IMD were generally stable from 2011 (the year before MEPD began) through 2014 (2 years into MEPD).</li> <li>• In the twelfth state (Missouri), combined reductions in DSH payments to two IMDs in the first two years of MEPD were not sustained in the third. (The three other participating IMDs did not receive DSH payments in the year before MEPD began.)</li> </ul>
<b>5.a. Length of stay</b>
The average length of IMD stays funded by MEPD was 8.6 days. However, the lengths vary widely. At least 75 percent of stays lasted fewer than 24 days, but the longest stay in each state ranges from 46 days to 147 days.
In five of six states examined, lengths of stays in general hospital psychiatric units are similar to or shorter than lengths of stays in IMDs.
The average length of psychiatric stays in emergency departments range from 7 hours to over 24 hours across MEPD states with available data.
<b>5.b. Payment rates</b>
MEPD per diem rates for IMDs paid out of demonstration funds ranged from \$371 per day to \$1,548 per day.
Medicaid payment rates for general hospital psychiatric units varied substantially, depending on state payment approaches and patient and hospital characteristics. Simple comparisons of payment rates for stays in IMDs and general hospital psychiatric units are not possible. Based on actual Medicaid expenditures per stay (which, in some cases, includes costs associated with the stay, such as certain professional services, that are not included in the hospital payment rate), general hospital psychiatric units are not consistently more expensive than IMDs that participated in MEPD: In some states, the average expenditure per stay in a general hospital psychiatric unit is higher than the average expenditure per stay in a participating IMD. In other states, general hospital stays are cheaper.
In MEPD states, payment rates for high-complexity emergency department visits range from \$108 to \$350. Actual average expenditures for psychiatric emergency department visits that do not result in inpatient stays generally exceed identified payment rates—expenditures for additional services associated with the visit that are not included in the emergency department payment rate, such as certain professional services, likely account for the differences.
When comparing payment rates across facility types, stakeholders should bear in mind that payment rates do not necessarily represent the full amount spent for services.
<b>6. Hospital emergency departments</b>
MEPD was not associated with reduction in hospital emergency department use for psychiatric EMCs: In two states, Medicaid beneficiaries living in areas where MEPD was implemented had a higher probability of a hospital emergency department visit when experiencing a psychiatric EMC during MEPD than were similar beneficiaries before MEPD began. In the remaining three states in the analyses, we found no difference in the probability of hospital emergency department use between the groups of interest.

Through these analyses, we confirm that:

- IMDs that participated in MEPD represent only a small share of all psychiatric IMDs and beds in psychiatric IMDs in participating states; and
- Forensic hospitals are rare in MEPD states. As a result, on any given day, forensic patients occupy a substantial portion of beds in non-forensic hospitals (particularly state hospitals). This finding, coupled with our finding of high bed utilization rates in non-forensic hospitals, supports stakeholder perceptions regarding limited availability of inpatient beds for patients experiencing psychiatric EMCs.

On the other hand, our findings that lengths of stay, payment rates, and expenditures per stay are not significantly greater for general hospital psychiatric units than for participating IMDs do not support stakeholder suggestions that federal reimbursement for stays in psychiatric IMDs might result in decreased Medicaid costs by diverting patients from more costly general hospital psychiatric units.

As was the case for the original MEPD evaluation, our Cures Act study found little evidence that MEPD is associated with reductions in Medicaid and Medicare costs (including, total costs, DSH payments, mental health care costs, and physical health care costs). Nor is it associated with reduced hospital emergency department use. Possible reasons for the lack of significant effects include the following:

- Before MEPD began, many of the MEPD states were using state-only funds to reimburse psychiatric IMDs for inpatient services provided to Medicaid beneficiaries ages 21 to 64. For such states, the MEPD intervention was primarily a shift in the payer. The payer may not be the most salient factor for changing the outcomes of interest.
- One of the most consistent findings in the original MEPD evaluation was that all parties that participated in qualitative interviews (state project directors; staff of IMDs, hospital emergency departments, and general hospitals that use scatter beds when specialized psychiatric beds are not available; and Medicaid beneficiaries who received inpatient care through MEPD) commented on the lack of community-based care to prevent psychiatric EMCs and provide aftercare services upon hospital discharge. Hospital emergency department staff, in particular, stated their perceptions that demand for their services had been increasing due to the dearth of community-based care. When such care is not available, beneficiaries might turn to more expensive inpatient and emergency services.
- Demand for inpatient and emergency services is increasing due to state Medicaid expansions under the Affordable Care Act and the national opioid epidemic. The high inpatient bed utilization rates that we found suggest that some inpatient facilities may not be able to absorb new demand generated by demonstrations and initiatives such as MEPD.

## **I. BACKGROUND AND PURPOSE**

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Section 12004 of the 21st Century Cures Act (P.L.114-255, Cures Act)<sup>6</sup>, enacted December 13, 2016, requires the Secretary of Health and Human Services (HHS) to provide information pertaining to individual states that participated in the Medicaid Emergency Psychiatric Services Demonstration (MEPD) to address six topics related to the demonstration. This report provides the required information.

### **A. The IMD exclusion**

Since the enactment of the Medicaid statute in 1965, payment for services for adult beneficiaries ages 21 to 64 who are patients in institutions for mental diseases (IMDs) has been prohibited; this is known as the IMD exclusion. Section 1905(i) of the Social Security Act defines an IMD as a “hospital, nursing facility, or other institution of more than 16 beds, that is primarily engaged in providing diagnosis, treatment, or care of persons with mental diseases, including medical attention, nursing care, and related services.” IMDs are most often publicly or privately owned psychiatric hospitals or residential treatment facilities of more than 16 beds where patients with "mental diseases" (which includes mental illness and/or substance use disorders) receive care. Psychiatric facilities and residential treatment facilities not considered to be IMDs, such as those with 16 or fewer beds and most general hospital psychiatric units, can receive Medicaid reimbursement for coverable Medicaid services furnished to Medicaid beneficiaries residing in them, regardless of the patient’s age. Two exceptions to the IMD exclusion are the inpatient psychiatric services for individuals under age 21 benefit<sup>7</sup> and the inpatient hospital services and nursing facility services for individuals 65 years of age or over in an IMD benefit.<sup>8</sup> Federal financial participation for IMD care is also available under certain circumstances in states that allow coverage under the Medicaid managed care regulations issued April 26, 2016;<sup>9</sup> through a demonstration project under section 1115(a) of the Social Security Act;<sup>10</sup> or through the Medicaid state plan option authorized by Section 5052 of the Substance Use-Disorder Preventions that Promote Opioid Recovery and Treatment (SUPPORT) for Patients and Community Act (P.L. 115-271) beginning October 1, 2019 through September 30, 2023.<sup>11</sup>

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<sup>6</sup> Available at <https://www.congress.gov/bill/114th-congress/house-bill/6/text>. Accessed January 28, 2019.

<sup>7</sup> Section 1905(a)(16) of the Social Security Act and 42 CFR 440.160.

<sup>8</sup> Section 1905(a)(14) of the Social Security Act and 42 CFR 440.140.

<sup>9</sup> Available at <https://www.medicaid.gov/medicaid/managed-care/guidance/final-rule/index.html>. Accessed September 17, 2019.

<sup>10</sup> Information about 1115(a) demonstration projects pertaining to serious mental illness/serious emotional disturbance and substance use disorder, including opioid use disorder, is available at <https://www.medicaid.gov/federal-policy-guidance/downloads/smd18011.pdf> and <https://www.medicaid.gov/federal-policy-guidance/downloads/smd17003.pdf>, respectively. Accessed September 17, 2019.

<sup>11</sup> Section 5052 of the SUPPORT for Patients and Communities Act establishes a new state plan option to provide payment for services furnished to Medicaid beneficiaries age 21 through 64 who have at least one substance use disorder diagnosis and reside in an eligible IMD for a period of up to 30 days in a 12-month period. Available at <https://www.congress.gov/bill/114th-congress/house-bill/6/text>. Accessed September 17, 2019.

With the introduction of effective antipsychotic medication in the 1950s, fewer psychiatric hospital beds were needed, and over the next six decades, publicly funded state IMDs closed and downsized significantly. In recent years, some stakeholders have argued that the downsizing has gone too far and that there are now too few inpatient psychiatric beds to meet the need. Moreover, the 1986 Emergency Medical Treatment and Labor Act (P.L. 99-272) requires hospitals that participate in Medicare to examine any person who comes to the emergency department to determine the presence of an emergency medical condition (EMC), regardless of his or her ability to pay. The hospital must provide treatment to stabilize the condition or arrange for an appropriate transfer to another facility. IMDs that participate in Medicare (which is most of them) and have a bed available must accept patients with psychiatric EMCs and provide treatment to stabilize the condition, regardless of the patient's ability to pay. Some states cover the costs of inpatient treatment for Medicaid beneficiaries in IMDs using state funds, but in other states, IMDs may have to provide uncompensated care to Medicaid beneficiaries with psychiatric EMCs.

## **B. Medicaid Emergency Psychiatric Services Demonstration**

In response to stakeholder concerns about the limited availability of publicly funded inpatient psychiatric beds and the fairness of the IMD exclusion, the Patient Protection and Affordable Care Act (P.L. 111-148, Affordable Care Act,) authorized MEPD.<sup>12</sup> The Centers for Medicare & Medicaid Services (CMS) implemented MEPD from July 1, 2012 to June 30, 2015. MEPD provided federal payments to participating states for inpatient care provided in private IMDs to stabilize psychiatric EMCs among Medicaid beneficiaries ages 21 to 64. For MEPD purposes, the Affordable Care Act defines psychiatric EMCs as being suicidal, homicidal, or dangerous to oneself or others. MEPD tested the extent to which reimbursing IMDs:

- Improved access to and quality of inpatient psychiatric care for Medicaid beneficiaries with psychiatric EMCs; and
- Reduced use and overall costs of Medicaid-funded mental health services, including inpatient, outpatient, and emergency services.

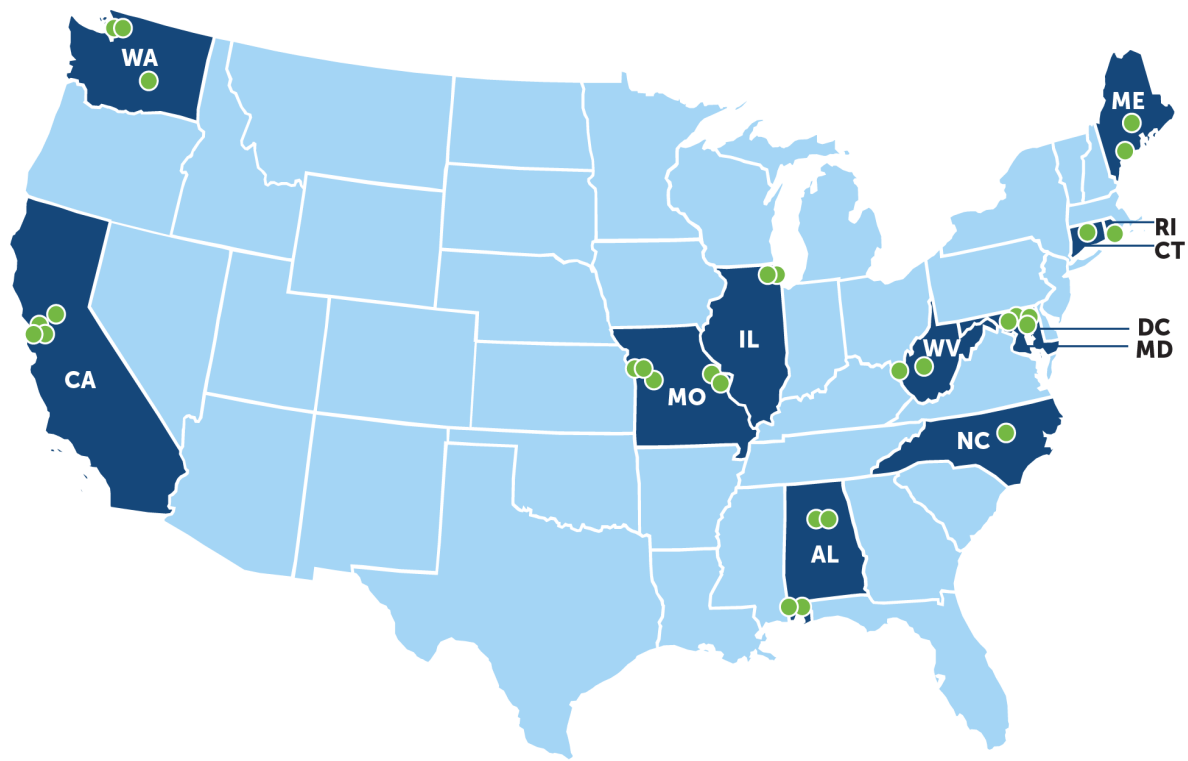
In August 2011, CMS solicited applications from states to participate in MEPD and in March 2012 selected 12 states<sup>13</sup> to participate. Across the 12 states, 29 private psychiatric IMDs participated (Figure I.1).

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<sup>12</sup> Section 2707 of the Affordable Care Act authorized MEPD and its evaluation.

<sup>13</sup> For the purposes of this report, we refer to the District of Columbia as a state.

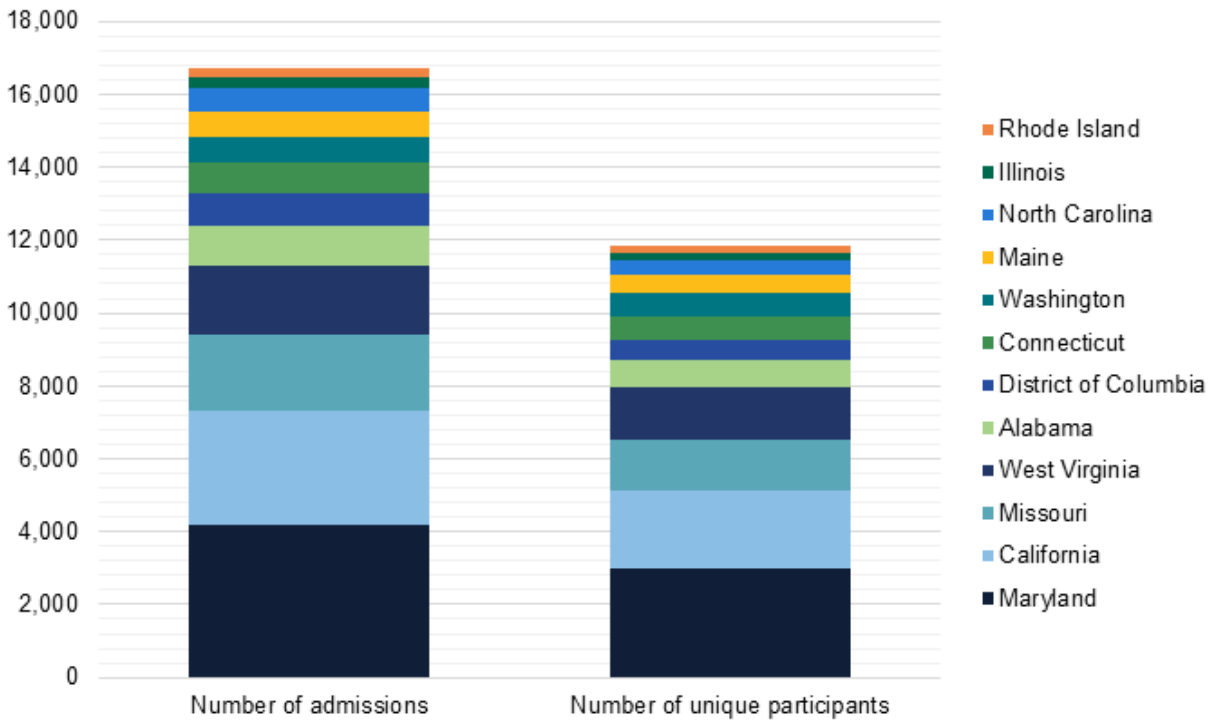


**Figure I.1. Distribution of states and IMDs participating in MEPD**

MEPD funded 16,731 IMD admissions of 11,850 unique beneficiaries across the 12 states (Figure I.2).<sup>14</sup>

<sup>14</sup> MEPD admissions occurred over a three year period, averaging 5,577 admissions per year. In comparison, in 2005—the latest date for which we could find annual data—188,649 people were admitted to public psychiatric hospitals across all age groups (Manderscheid et al., 2009). On a single day in 2014 (about the midpoint of MEPD), 101,351 patients were in 24-hour inpatient care across all public and private psychiatric hospitals, residential mental health treatment facilities, general hospital psychiatric units, and community-based alternatives; 73 percent were ages 18-64, which is about the age eligible for MEPD (SAMHSA, 2016).

**Figure I.2. Inpatient admissions to private psychiatric IMDs under MEPD, by state**



Source: Mathematica analysis of data submitted by participating states to CMS for payment and monitoring purposes during MEPD (July 2012 through June 2015).

Notes: Factors affecting differences in the number of admissions across states include, but are not limited to, the adult Medicaid beneficiary population of the state, the portion of the state covered by MEPD, the date on which IMDs in the state began to enroll participants and stopped enrolling participants, state-imposed eligibility criteria and caps on admissions, and the number of IMD beds available for demonstration participants.

### **C. The original MEPD evaluation**

We conducted an evaluation of MEPD to assess four areas specified in the Affordable Care Act:

- Access to inpatient mental health services under the Medicaid program, average lengths of inpatient stays, and hospital emergency department visits;
- Discharge planning by participating hospitals;
- The impact of MEPD on the costs of the full range of mental health services (including inpatient, emergency, and ambulatory care); and
- The percentage of consumers with Medicaid coverage who were admitted to inpatient facilities as a result of MEPD, compared to those admitted to these same facilities through other means.

This original evaluation found little to no evidence that MEPD affected:

- Inpatient admissions to IMDs or general hospital scatter beds,<sup>15</sup>
- Lengths of stays in participating IMDs or scatter beds,
- Visits to or psychiatric boarding in hospital emergency departments,
- Discharge planning by participating IMDs, or
- The Medicaid share of IMD admissions of adults with psychiatric EMCs.<sup>16</sup>

Federal costs for admissions to participating IMDs increased, as expected, and state costs for admissions to participating IMDs decreased. Medicaid costs for mental health services (including general hospital psychiatric unit, scatter bed, hospital emergency department, and ambulatory care) increased in some states and were unaffected by MEPD in others.

Several issues limited the generalizability of the original MEPD evaluation findings for future policy decision making. First, publicly funded psychiatric IMDs and residential substance use disorder treatment facilities are subject to the IMD exclusion but were excluded from MEPD and its evaluation. Thus, MEPD estimates are underestimates of all IMD inpatient admissions, costs, and, possibly, lengths of stay. Second, the original MEPD evaluation did not assess the amount of disproportionate share hospital (DSH) payments that IMDs received during the demonstration period and any potential change in such payments during or as a result of MEPD. Third, results of the original MEPD evaluation do not apply to beneficiaries seeking inpatient or emergency treatment for serious psychological distress who are not judged to be dangerous to themselves or others. Therefore, MEPD underestimates service use and costs for the broader population seeking emergency and inpatient care for psychiatric conditions.

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<sup>15</sup> To free up hospital emergency department beds, patients who require hospitalization but for whom specialized psychiatric beds are not available might be placed in general medical units scattered throughout the hospital. Such placements are referred to as “scatter beds” (Mark et al. 2009).

<sup>16</sup> Blyler et al., 2016.

**D. Cures Act MEPD evaluation: Additional information**

Subsequent to the release of the MEPD final evaluation report in 2016, the desire for more information arose, both to fill gaps and reduce limitations of the previous analyses, as well as to inform discussions of larger policy issues pertaining to the IMD exclusion and access to inpatient behavioral healthcare. For example, in the original evaluation, Medicaid data were available for only the first 6 months of MEPD for most of the states, and some effects may not have manifested until later in the demonstration. Moreover, because DSH payments cannot be analyzed at the patient level, the analysis of changes in Medicaid costs did not consider DSH payments. To provide policymakers with a greater understanding of the scope, context, and effects of MEPD, the Cures Act required information regarding the following six topics:

1. Number of IMDs (and beds within them) that received payment for inpatient services provided to Medicaid beneficiaries through MEPD compared to the total number of IMDs and beds in the state.<sup>17</sup>
2. Effect of MEPD on Medicaid costs for both physical and mental health care.
3. Number of forensic hospitals (and beds within them) and the number of forensic beds in other hospitals in the state.
4. Extent to which MEPD reduced the amount of DSH payments to participating IMDs.
5. Average lengths of stays and payment rates for IMDs, general hospital psychiatric units, and hospital emergency departments during the MEPD period.
6. The extent to which the use of hospital emergency departments during MEPD differed among:
  - Medicaid beneficiaries treated in IMDs under MEPD,
  - Individuals who met the eligibility requirements for MEPD but were not treated in an IMD, and
  - Adults with serious mental illness who did not meet MEPD eligibility criteria and were not treated in an IMD.

In the next eight chapters, we present the results of our investigations and our approach regarding each of the data requirements laid out in the Cures Act.<sup>18</sup>

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<sup>17</sup> We limit the analysis of all IMDs in a state to those that serve the population targeted by MEPD (that is, psychiatric IMDs serving adults under age 65). Because MEPD did not include residential substance use disorder treatment facilities, we do not include them in the analyses, even though many of them qualify as IMDs.

<sup>18</sup> Due to the complexity of the information presented in response to the fifth data requirement, we divided the material into three chapters.

## II. SHARE OF ALL IMDS AND IMD BEDS THAT PARTICIPATED IN MEPD

### Key Findings

- Overall, IMDs participating in MEPD account for 20 percent of all psychiatric IMDs and 9 percent of all psychiatric IMD beds in the participating states.
- The share of all psychiatric IMD beds available for MEPD participants ranged from 4 percent in California to 35 percent in Rhode Island.

### A. Background and purpose

Because only private IMDs treating psychiatric disorders were eligible to participate in MEPD, the original evaluation findings did not reflect the potential impacts of fully removing the IMD exclusion for all types of IMD inpatient admissions. To provide policymakers with a greater understanding of the scope of MEPD, the Cures Act required information about total number of IMDs and associated beds in each MEPD state and the share of those facilities and beds that participated in MEPD.<sup>19,20</sup>

The Cures Act requires information about the share of IMDs and IMD beds that participated in MEPD.

### B. Data and methods

Our analysis of IMD facilities and beds relies on two data sources:

1. **MEPD Evaluation Report.** We obtained information from our original MEPD evaluation final report on the number of IMDs that participated in MEPD in each state and on the number of beds for each IMD that were available to individuals eligible to receive inpatient IMD services under MEPD.<sup>21</sup> We collected these data through review of state demonstration proposals and communications with staff of participating IMDs at the beginning of the demonstration from Fall 2012 to Fall 2013.
2. **National Mental Health Services Survey (N-MHSS).** To estimate the total number of psychiatric IMDs and associated beds in each MEPD state, regardless of their participation in MEPD and availability to MEPD-eligible individuals, we analyzed publicly available data

<sup>19</sup> We provide the exact wording from the Cures Act in Appendix A.

<sup>20</sup> We limit the analysis of all IMDs in a state to those that serve the population targeted by MEPD (that is, psychiatric IMDs serving adults under age 65). Because MEPD did not include residential substance use disorder treatment facilities, we do not include them in the analyses, even though many of them qualify as IMDs.

<sup>21</sup> An individual was eligible to receive inpatient IMD services under MEPD if, at the time of the demonstration, they (1) were eligible for Medicaid, (2) were age 21 to 64, (3) resided in a geographic area covered by MEPD, (4) experienced a psychiatric EMC, (5) were deemed to be in need of inpatient care, and (6) met additional eligibility criteria imposed by the state (e.g., regarding dual Medicare-Medicaid enrollment, participation in a Medicaid managed care plan). Not all IMD beds were available to MEPD-eligible individuals because (1) MEPD covered care in private IMDs but not public IMDs, (2) some beds in participating IMDs were reserved for populations not included in MEPD, such as children, adolescents, older adults, or people with a primary diagnosis of substance use disorder, and (3) not all of the existing beds in participating IMDs were licensed or staffed, meaning they were not currently in use.

from the 2010 N-MHSS. In addition, we provided specifications to staff of the Substance Abuse and Mental Health Services Administration (SAMHSA) to analyze data from the 2016 N-MHSS.<sup>22</sup> N-MHSS is administered biennially by SAMHSA to all known public and private mental health treatment facilities in the United States.<sup>23</sup> The survey prompts each mental health treatment provider to report the number of available inpatient beds; the number of inpatient clients (inpatients); and the number of inpatients of each admission type (voluntary admissions, involuntary non-forensic admissions, and involuntary forensic admissions<sup>24</sup>). The survey includes IMDs and other mental health treatment provider types, including general hospital psychiatric units, psychiatric facilities operated by the U.S. Department of Veterans Affairs (VA), and other facilities with fewer than 17 inpatient beds (which do not meet the statutory definition of IMDs). The survey response rate typically exceeds 90 percent (SAMHSA 2017).

### C. IMD participation in MEPD, by state

Table II.1 shows the penetration of MEPD, with the number of psychiatric IMDs and associated beds in each MEPD state overall and the number participating in MEPD. In five states (Alabama, District of Columbia, Maine, Rhode Island, and West Virginia), 50 percent of all psychiatric IMDs participated in MEPD. In the remaining states, a substantially lower share of psychiatric IMDs participated—from 8 percent to 38 percent. IMDs that participated in MEPD account for only 20 percent of all psychiatric IMDs in the participating states.

IMDs participating in MEPD account for only 20 percent of all psychiatric IMDs and 9 percent of all beds in psychiatric IMDs in the participating states.

<sup>22</sup> We use data from the 2010 N-MHSS as the denominator for calculating the share of IMDs and IMD beds participating in MEPD because bed counts were not collected in the 2012 N-MHSS, and data from the 2014 and 2016 N-MHSS are not available by state due to privacy concerns (SAMHSA had made the 2010 data publicly available before states and facilities raised the privacy concerns that led to SAMHSA's changing their policy regarding dissemination of later rounds of data). We include aggregate data from the 2016 N-MHSS to provide the most current information obtainable at the time of this study on the availability of inpatient psychiatric services in the MEPD states.

<sup>23</sup> SAMHSA, 2017.

<sup>24</sup> The legal definitions of 'forensic' and 'involuntary' patients vary across jurisdictions. Typically, forensic patients are those whose mental health treatment is a result of a criminal offense. Involuntary patients are those who are legally mandated to undergo mental health treatment typically because they are an imminent threat to others or themselves.

**Table II.1. Number of IMDs participating in MEPD and IMD beds available to MEPD-eligible individuals as a share of all psychiatric IMDs and beds in psychiatric IMDs, by state**

State	IMDs			Beds		
	Number of IMDs that participated in MEPD <sup>a</sup>	Total number of psychiatric IMDs in the state <sup>d</sup>	Percent of all psychiatric IMDs in the state that participated in MEPD <sup>e</sup>	Number of IMD beds that were available to MEPD-eligible individuals <sup>a</sup>	Total number of beds in psychiatric IMDs in the state <sup>d,f</sup>	Percent of all beds in psychiatric IMDs in the state that were available to MEPD-eligible individuals <sup>g</sup>
<b>Total</b>	<b>27</b>	<b>135</b>	<b>20</b>	<b>1,692</b>	<b>19,020</b>	<b>9</b>
Alabama	4 <sup>b</sup>	8	50	171 <sup>b</sup>	857	20
California	4	52	8	269	7,005	4
Connecticut	1	4	25	33	564	6
District of Columbia	1	2	50	45	416	11
Illinois	2	20	10	238	2,331	10
Maine	2	4	50	84	324	26
Maryland	3	8	38	324	1,287	25
Missouri	3 <sup>c</sup>	14	21	118 <sup>c</sup>	1,787	7
North Carolina	1	9	11	108	1,489	7
Rhode Island	1	2	50	98	282	35
Washington	3	8	38	142	2,271	6
West Virginia	2	4	50	62	407	15

Source: We collected the number of IMDs and beds that participated in MEPD through review of state demonstration proposals and communications with staff of participating IMDs at the beginning of the demonstration from Fall 2012 to Fall 2013. The total numbers of psychiatric IMDs and beds in the state are based on 2010 N-MHSS.

Notes: MEPD included only private IMDs. However, public IMDs are also affected by the Medicaid IMD exclusion. Therefore, the columns for the total number of IMDs and IMD beds in each state include both private and public IMDs. The columns do not include general hospital psychiatric units, VA psychiatric facilities, or residential substance use disorder treatment facilities, which could also meet criteria to be considered IMDs. The fourth and seventh columns are shaded for emphasis.

<sup>a</sup>For each state, we calculated the number of IMDs that participated in MEPD and the number of IMD beds available to MEPD-eligible individuals by adding the numbers presented by IMD in Exhibit II.5 of the MEPD evaluation final report (Blyler et al. 2016).

<sup>b</sup>On December 20, 2012 (about five and a half months into the demonstration), we were informed that one IMD participating in MEPD in Alabama had shifted its adult population to another participating IMD and that the adult unit would not be reopened unless the receiving IMD reached capacity. The 24 beds initially available to MEPD-eligible individuals at the closed IMD unit are included in the calculations presented here.

<sup>c</sup>Two additional Missouri IMDs joined MEPD more than a year after the demonstration had begun. However, data about the number of beds available to MEPD-eligible individuals in these IMDs are not available. Therefore, the two additional IMDs are not included in the calculations presented here.

<sup>d</sup>We calculated the total number of psychiatric IMDs in each state and the total number of beds in psychiatric IMDs in the state by using publicly available 2010 N-MHSS data. For the N-MHSS analysis, we operationally define IMDs as psychiatric facilities other than general hospital psychiatric units or VA facilities with 17 or more inpatient beds that serve adults between age 18 and 64. Although the IMD exclusion applies only to those between age 21 and 64, N-MHSS response categories do not include this option, so we used the category 18 to 64 as a proxy. Hospitals operationally defined as psychiatric IMDs for this analysis may have also served people of other ages.

<sup>e</sup>We calculate the percentage of all IMDs in the state that participated in MEPD by dividing the column labeled “Number of IMDs that participated in MEPD” by the column labeled “Total number of psychiatric IMDs in the state.”

<sup>f</sup>Total number of beds in psychiatric IMDs in the state may include beds for children and adolescents, older adults, and other individuals not eligible for MEPD.

<sup>g</sup>We calculate the percentage of all IMD beds in the state that were available to MEPD-eligible individuals by dividing the column labeled “Number of IMD beds that were available to MEPD-eligible individuals” by the column labeled “Total number of beds in psychiatric IMDs in the state.”

Across the MEPD states, only 9 percent of beds in psychiatric IMDs were available to MEPD-eligible individuals. Alabama, Maine, Maryland, and Rhode Island had a higher percentage of beds available to MEPD-eligible individuals—ranging from 20 percent to 35 percent. California, Connecticut, Missouri,<sup>25</sup> North Carolina, and Washington had a lower percentage of beds, which ranged from 4 percent to 7 percent of all beds in psychiatric IMDs.

#### **D. Availability of psychiatric inpatient services in MEPD states**

In addition to public IMDs (defined as those funded by states, counties, or cities) and private IMDs (defined as private psychiatric hospitals with 17 or more beds), general hospital psychiatric units, Department of Veterans Affairs' (VA) psychiatric facilities, and psychiatric facilities with fewer than 17 inpatient beds also provide inpatient psychiatric services. Table II.2 provides a fuller picture of the availability of inpatient psychiatric facilities and beds across the MEPD states. Private psychiatric IMDs account for 17 percent of the facilities providing inpatient psychiatric services to adults age 18 to 64 across the MEPD states and 24 percent of inpatient psychiatric beds. The combination of private and public psychiatric IMDs account for 26 percent of the facilities providing inpatient psychiatric services to adults age 18 to 64 across the MEPD states and 61 percent of inpatient psychiatric beds. Over a third of inpatient psychiatric beds are in general hospital psychiatric units, which usually do not meet IMD criteria.

Psychiatric IMDs account for 26 percent of the facilities providing inpatient psychiatric services to adults age 18 to 64 but 61 percent of the inpatient psychiatric beds.

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<sup>25</sup> Beds in two additional Missouri IMDs that joined MEPD more than a year after it began were not included in this calculation because data about the number of beds available to MEPD participants in those IMDs were not available.



**Table II.2. Number of psychiatric facilities that provide inpatient care and number of inpatient mental health beds in such facilities, across MEPD states**

Type of facility	Facilities	Beds
<b>Total</b>	<b>469</b>	<b>26,869</b>
Private psychiatric IMDs serving people age 18–64	80	6,570
Public psychiatric IMDs serving people age 18–64	43	9,807
General hospital psychiatric units	284	9,402
VA mental health facilities	25	593
Other mental health facilities with fewer than 17 inpatient beds that serve people age 18–64	37	497

Source: SAMHSA analysis of N-MHSS 2016 data in accordance with Mathematica specifications.

Note: Totals include data from Alabama, California, Connecticut, District of Columbia, Illinois, Maine, Maryland, Missouri, North Carolina, Rhode Island, Washington, and West Virginia. Facilities indicating that they are a jail, prison, or detention center that provides treatment exclusively for incarcerated persons or juvenile detainees are excluded from the N-MHSS survey. Where we indicate facilities serving people age 18-64, the facility may also serve individuals under age 18 and over age 64.

Although a sizable number of facilities and beds are available for inpatient psychiatric care, not all inpatient beds are available to the age group (that is, adults age 21 to 64) that was targeted by MEPD and that is subject to the IMD exclusion. Table II.3 describes the mix of psychiatric inpatients served on a given day in different types of facilities—providing a better sense of the degree to which inpatient psychiatric beds were practically available to MEPD-eligible and other populations.<sup>26</sup>

On a given day, the majority of inpatient beds are filled by involuntary admissions, which suggests more limited availability for people voluntarily seeking inpatient services.

Overall, on a given day, three-quarters of inpatient psychiatric beds in facilities that served adults age 18 to 64 were filled by this age group. However, the frequency of bed turnover, which affects availability for new patients, is unknown. The majority of beds were filled by people who were admitted involuntarily, which suggests more limited availability for people who were voluntarily seeking inpatient services.

<sup>26</sup> N-MHSS data do not include information about the number of beds reserved for particular populations, but the percentage of patients in different age groups served on a given day may suggest that a certain percentage of beds are set aside for such groups. In addition, if a substantial portion of beds are occupied through involuntary admissions, such beds will not be available to participants voluntarily seeking inpatient care.

**Table II.3. Number and characteristics of psychiatric inpatients served on a given day in facilities serving individuals age 18–64 in MEPD states**

Type of facility	Total inpatients	Percentage of patients by age group			Percentage of patients by legal status <sup>a</sup>		
		Younger than 18	18–64	65 or older	Voluntary	Involuntary non-forensic	Involuntary forensic
<b>Total</b>	<b>24,906</b>	<b>9</b>	<b>75</b>	<b>16</b>	<b>41</b>	<b>32</b>	<b>27</b>
Private psychiatric IMDs serving people age 18–64	6,371	21	68	11	51	39	10
Public psychiatric IMDs serving people age 18–64	9,158	1	89	11	11	25	64
All general hospital psychiatric units	7,953	9	66	25	61	35	3
VA mental health facilities	964	0	62	38	83	15	2
Other mental health facilities with less than 17 inpatient beds that serve people age 18–64	460	10	75	14	32	60	8

Source: SAMHSA analysis of N-MHSS 2016 data in accordance with Mathematica specifications.

Note: Totals include data from Alabama, California, Connecticut, District of Columbia, Illinois, Maine, Maryland, Missouri, North Carolina, Rhode Island, Washington, and West Virginia. Facilities indicating that they are a jail, prison, or detention center that provides treatment exclusively for incarcerated persons or juvenile detainees are excluded from the N-MHSS survey. Where we indicate facilities serving people age 18-64, the facility may also serve individuals under age 18 and over age 64.

<sup>a</sup>The legal definitions of 'forensic' and 'involuntary' patients vary across jurisdictions. Typically, forensic patients are those whose mental health treatment is a result of a criminal offense. Involuntary patients are those who are legally mandated to undergo mental health treatment typically because they are an imminent threat to others or themselves. Voluntary patients are those who seek inpatient treatment on their own.

Another indicator of bed availability, as well as demand for mental health inpatient hospital services, is the inpatient utilization rate.<sup>27</sup> Table II.4 displays utilization rates overall and by facility type. These utilization rates are substantially above the national average of 66 percent across all hospital types.<sup>28</sup> A summary of the literature from the United States and the United Kingdom highlights important findings on the implications of utilization rates.<sup>29</sup> Utilization rates greater than 80 percent may create a more stressful work environment, and utilization rates above 85 percent are associated with deterioration in care quality. Higher occupancy rates imply an increased likelihood that patients will be unable to access needed care, particularly at smaller facilities. The summary of the literature states that for facilities with more than 100 beds, an average utilization rate of 85 percent should be sufficient

High utilization rates at psychiatric IMDs may have negative implications for care quality and patient access.

<sup>27</sup> Utilization rate is the number of inpatients on the survey reference date divided by the number of staffed inpatient beds on the same day.

<sup>28</sup> <https://www.cdc.gov/nchs/data/hus/2017/089.pdf>.

<sup>29</sup> Jones, 2013.

to provide immediate access to 95 percent of patients in need of emergency care. However, small facilities will need lower utilization rates to ensure the same level of access.

**Table II.4. Utilization rate for a given day in facilities serving individuals 18–64 in MEPD states**

Type of facility	Utilization rate (%)
<b>Total</b>	<b>93</b>
Private psychiatric IMDs serving people 18–64	97
Public psychiatric IMDs serving people 18–64	93
All general hospital psychiatric units	85
VA mental health facilities	163 <sup>a</sup>
Other mental health facilities with less than 17 inpatient beds that serve people 18–64	93

Source: SAMHSA analysis of N-MHSS 2016 data in accordance with Mathematica specifications.

Note: Totals include data from Alabama, California, Connecticut, District of Columbia, Illinois, Maine, Maryland, Missouri, North Carolina, Rhode Island, Washington, and West Virginia. Facilities indicating that they are a jail, prison, or detention center that provides treatment exclusively for incarcerated persons or juvenile detainees are excluded from the N-MHSS survey.

<sup>a</sup>We cannot verify the accuracy of this very high utilization rate. Utilization rate is calculated by dividing the number of patients receiving inpatient mental health treatment on a given day by the number of beds specifically designated for mental health care. It is possible that some patients receive inpatient mental health treatment in beds not specifically designated for mental health care.

## E. Limitations of the analysis

The limitations of this analysis are twofold:

- Our calculations may underestimate the share of all psychiatric IMDs and associated beds available in MEPD states during the demonstration time period that were specifically available to MEPD-eligible individuals. Underestimation may occur because data on the number of facilities and beds participating in MEPD were collected in late 2012 to early 2013; whereas, data reported on the total number of IMDs and associated beds in the state were collected through the 2010 N-MHSS. Although the N-MHSS was also conducted in 2012, the 2012 survey did not include information on number of beds and patients. Therefore, we use data from the 2010 survey because it is the closest year available that includes this information, and the 2010 public use file allows for calculations by state.
- Additionally, the number of facilities and beds available in any given state may change from year to year. In fact, the N-MHSS data show that the totals aggregated across MEPD states decreased from 2010 to 2016. If the total number of psychiatric IMDs and beds available in one or more states during the demonstration was actually lower than the 2010 N-MHSS data suggest, then our calculations of the share of facilities and beds available for MEPD-eligible individuals would underestimate the true percentages.

**F. Conclusions**

Overall, the private psychiatric IMDs that participated in MEPD account for a small share of all inpatient psychiatric beds in participating states. Therefore, readers should be cautious in generalizing MEPD findings to statements about potential effects of eliminating the IMD exclusion more broadly. Efforts to improve the availability of inpatient psychiatric services might consider ways to increase the availability of beds in general hospital psychiatric units and facilities with fewer than 17 beds, both of which are exempt from the IMD exclusion. Exploring ways to increase the availability of beds for people voluntarily seeking services or ways to decrease the number of involuntary admissions might also be fruitful.

### III. MEDICAID AND MEDICARE COSTS BEFORE AND DURING MEPD

#### Key Findings

- No significant reductions in total or mental health Medicaid and Medicare costs are associated with MEPD.
- A statistically significant reduction in physical health care costs in California should be interpreted with caution because no such reduction occurred in the other four states studied. The reasons such an effect might have occurred as a result of federal reimbursement for IMD services is unclear; the change may have been coincidental for reasons unrelated to MEPD.

#### A. Background and purpose

MEPD was premised on the idea that better access to higher quality care provided in participating IMDs during a psychiatric crisis might reduce the need for acute and ambulatory care services during and following the crisis, thereby reducing overall Medicare and Medicaid costs for participants. However, some state and local governments fund care for Medicaid beneficiaries in IMDs outside of the Medicaid program. In such states, therefore, Medicaid beneficiaries already have access to IMD care, so it is unclear how MEPD might affect overall Medicaid and Medicare costs.

The original MEPD evaluation examined demonstration effects on Medicaid and Medicare costs for the full range of mental health services (including, inpatient, emergency, and ambulatory care) provided to beneficiaries with psychiatric EMCs. We found no effect of MEPD on mental health costs in three of the five states with sufficient data for analysis; we found increased costs associated with MEPD in the other two states. However, for four of these states, we only had six months of data during the demonstration, which might not have been enough time for MEPD to exert its effects. The original MEPD evaluation did not examine physical health or other Medicaid and Medicare costs.

The Cures Act requires the current evaluation to add to the original evaluation by including physical health costs. Thus, we examine the effect of MEPD on costs for the full continuum of health services, including costs for both mental and physical health care provided to beneficiaries with psychiatric EMCs. Furthermore, we strengthen our prior analysis by including additional years of data that were not available at the time of the original evaluation.

The Cures Act requires information on whether MEPD led to a reduction in Medicaid spending on the full continuum of physical and mental health care.

#### B. Data and methods

We used Medicaid and Medicare administrative files provided by CMS as well as IMD admission data provided directly by MEPD states and IMDs. We included only beneficiaries served on a fee-for-service basis by Medicaid and, for dual Medicare-Medicaid enrollees,

Medicare.<sup>30</sup> Because managed care payments do not appear in administrative claims data,<sup>31</sup> we could not determine how managed care costs were affected by MEPD. Our analysis varied across states based on the availability of Medicaid data.<sup>32</sup> Only five of the MEPD states (Alabama, California, Maryland, Missouri, and West Virginia) had sufficient data to include in the analyses.<sup>33</sup> The time period of data available for the analysis varied across these states. Only two quarters (six months) of data were available for the MEPD period in Alabama and Maryland; 10 quarters (30 months) of MEPD period data were available for the other states (Table III.1).

**Table III.1. Summary of data and methods for the cost analysis**

	Number of quarters in pre-MEPD period	Number of quarters in MEPD period	Comparison group	Type of analysis
Alabama	6	2	No	Interrupted time series
California	4	10	Yes	Difference-in-differences
Maryland	6	2	No	Interrupted time series
Missouri	5	10	No	Interrupted time series
West Virginia	4	10	No	Interrupted time series

For each analysis, we identified the first psychiatric EMC for each beneficiary—we call this the reference EMC. We then summarized the Medicaid and Medicare costs for each beneficiary relative to the month in which the reference EMC occurred. Quarter 1 includes the month in which the reference EMC occurred and the two following months. Quarter 2 includes the third through fifth month after the month in which the reference EMC occurred, and so on. Within each quarter, we calculated the average total, mental, and physical health care costs (across the three months in the quarter) per beneficiary per month.<sup>34</sup>

<sup>30</sup> We include Medicare costs for dual Medicare-Medicaid beneficiaries in order to more fully capture changes in cost to the federal government. Medicare is the first payer for dual beneficiaries, so excluding such costs would underestimate the effects of MEPD on costs to the federal government.

<sup>31</sup> Claims data are administrative data that service providers submit to Medicaid and Medicare in order to get paid (that is, to claim reimbursement).

<sup>32</sup> The timeliness and quality of state submissions of Medicaid claims data to CMS varies. Before releasing claims data for research purposes, CMS (and organizations it contracts with for such purposes) carefully reviews the data. In communication with the states, CMS and its contractors then clean the data to verify and, if necessary, improve its accuracy, consistency, and completeness. The time required for this process results in lags between the time the data are submitted and when they are available for research use. This lag time varies by state and time period covered by the data.

<sup>33</sup> We exclude the District of Columbia, Illinois, North Carolina, and Rhode Island because Medicaid data were not available for the MEPD period at the time the analysis file was created. We exclude Connecticut because the data submitted by the IMD do not include identifiers to link to the Medicaid data. We exclude Maine because data on IMD admissions before MEPD are not available. We exclude Washington because almost all Medicaid beneficiaries with serious mental illness (who are at particular risk for psychiatric EMCs) were enrolled in behavioral health managed care plans, whose cost data are not available. Additional information about data availability are provided in Appendix B.

<sup>34</sup> Mental health costs include total payments for any claim on which the primary diagnosis was a mental health condition, as defined by the Agency for Healthcare Research and Quality's 2015 Clinical Classification Software (CCS), which groups diagnostic codes into a manageable number of clinically meaningful categories. We included

For California, which had a comparison group, we conducted a difference-in-differences analysis to estimate the impact of MEPD on Medicaid and Medicare costs. For the remaining states (Alabama, Maryland, Missouri, and West Virginia) for which we did not have comparison groups, we conducted interrupted time series analyses to control for any trend in costs that existed in the pre-MEPD period. All analyses controlled for differences between groups and between time periods in beneficiary characteristics (age, gender, race, ethnicity); dual Medicare-Medicaid enrollment status; whether the individual was eligible for the analysis in all months of the quarter; enrollment in fee-for-service Medicaid in the six months prior to the reference EMC;<sup>35</sup> and, if enrolled, Medicaid and Medicare costs (aligning with the outcome variable) in the six months prior to the reference EMC.<sup>36</sup> We also included an indicator for calendar month of the reference EMC to control for seasonal effects on costs.

In both the pre- and post-MEPD periods, costs for services paid by sources other than Medicaid and Medicare (such as behavioral health services funded through state or local government general funds, criminal justice system costs, or costs of supportive housing programs) were not reflected in the analysis. The analysis also did not include MEPD costs for IMD services.<sup>37</sup> Likewise, DSH payments used to compensate IMDs for services provided to Medicaid beneficiaries were not included in the analysis (see Chapter V for details regarding MEPD effects on DSH payments).

## **C. Results**

This section first discusses the results of our analysis for California, then discusses our findings for the analyses for Alabama, Maryland, Missouri, and West Virginia.

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all diagnoses in the CCS Level 5 (mental illness), except for developmental disorders (intellectual disabilities or learning disorders); disorders usually diagnosed in infancy, childhood, or adolescence (elimination disorders or pervasive developmental disorders); and alcohol- and substance-related disorders. We defined physical health costs as all non-mental health costs. Total costs include all costs paid by Medicare or Medicaid.

<sup>35</sup> In March 2013, CMS announced to the MEPD states that individuals with psychiatric EMCs who receive care in IMDs participating in MEPD need not be enrolled in Medicaid at the time of admission in order for MEPD to pay for the IMD services. CMS explained that MEPD would also pay for inpatient care for individuals who at the time of IMD admission were presumed to be eligible for Medicaid, even if they were not yet enrolled. Payment for IMD care provided to these individuals under MEPD would be made to the state retrospectively after the person was enrolled in Medicaid and had a Medicaid identification number. This payment provision was applicable to IMD admissions under MEPD that occurred in January 2013 or later. Individuals newly enrolled in Medicaid as a result of MEPD, however, may differ from other Medicaid beneficiaries in ways that might affect the type and amount of services they use—thereby affecting costs. Therefore, we include whether the individual was enrolled in fee-for-service Medicaid during the six months prior to the reference EMC in the analysis to control for the effects of such differences on costs.

<sup>36</sup> Individual differences among beneficiaries (such as the existence of various chronic conditions or a tendency to seek or not seek services) likely affect the type and amount of services that individual beneficiaries use, which in turn affects Medicaid and Medicare costs. Therefore, we include costs for the six months before an individual's reference EMC to control for the effects of such differences.

<sup>37</sup> IMD costs under MEPD were paid out of a separate demonstration fund, rather than through Medicaid claims.

## 1. California results

MEPD had no statistically significant impact on either mental health costs or total costs among California beneficiaries. Table III.2 shows that all costs increase between the baseline and demonstration periods for both the intervention and comparison groups. The estimated impact of MEPD on physical health care costs was statistically significant: Physical health care costs increased less between the baseline and demonstration periods for the intervention group than for the comparison group. Through additional analyses (not shown), we determined that the effect on physical health costs occurred during the first two quarters (six months) after the reference EMC. Apparent declines for total and mental health costs are not statistically significant, so we cannot rule out the possibility that costs were actually the same in the baseline and demonstration periods and that observed differences occurred by chance.

MEPD did not reduce mental health or total costs in California.

A significant decline in physical health spending associated with MEPD should be interpreted with caution.

**Table III.2. Impact of MEPD on Medicaid and Medicare costs in California**

	Average cost per beneficiary per month <sup>c</sup>		Estimated impact of MEPD, per beneficiary per month		
	Intervention group	Comparison group	Change associated with MEPD <sup>d</sup>	Percent change associated with MEPD <sup>e</sup>	p-value
<b>Total costs</b>					
Baseline	\$2,492	\$3,080			
Demonstration	\$2,829	\$3,606	-\$188	-6.2	0.24
<b>Mental health costs</b>					
Baseline	\$1,481	\$1,924			
Demonstration	\$1,822	\$2,275	-\$9	-0.5	0.93
<b>Physical health costs<sup>a</sup></b>					
Baseline	\$929	\$1,044			
Demonstration	\$941	\$1,249	-\$193	-17.0	0.05*
Number of observations <sup>b</sup>	7,663	48,581			
Number of unique beneficiaries	2,805	17,167			

Source: Analysis of Medicaid and Medicare data obtained from CMS for 2010 to 2014.

Note: The intervention group is Medicaid beneficiaries age 21 to 64 who received services for a psychiatric EMC from a hospital emergency department, general hospital psychiatric unit, or participating IMD at any time during the evaluation period and who lived within the counties served by MEPD. The comparison group is beneficiaries meeting the same criteria but who lived in similar counties not served by MEPD. See Appendix B for a description of how we identified comparison counties. In Appendix B, we also explain how we calculate impact estimates. Mental and physical health cost estimates do not sum to the total health cost estimates because we derived the estimates for total, mental, and physical health costs from separate analyses.

<sup>a</sup>We define physical health costs as non-mental health costs. In our analysis, we do not count claims with a primary diagnosis of substance use disorders, developmental disorders, or disorders usually diagnosed in infancy, childhood, or adolescence as mental health costs. Therefore, these costs are included in the physical health costs.

<sup>b</sup>An observation is costs for one quarter for one person.

<sup>c</sup>The costs are adjusted for differences in patient characteristics over time and between groups.



Table II.2 (continued)

<sup>d</sup>The change associated with MEPD reflects the difference between the intervention and comparison group in the change in costs from baseline to the demonstration period. For example, physical health care costs per beneficiary per month would have been an average of \$193 higher if MEPD had not occurred.

<sup>e</sup>We calculate percent change by dividing change in costs associated with MEPD by the average cost for the intervention group during the demonstration. Physical health care costs per beneficiary per month, for example, would have been an average of 17 percent higher if MEPD had not occurred.

\*A *p*-value of .05 indicates strong evidence against the impact being zero. Impact estimates with no asterisk indicate that we cannot rule out the possibility that the impact was zero and that the estimate occurred by chance.

## 2. Results for Alabama, Maryland, Missouri, and West Virginia

MEPD was not associated with statistically significant reductions in Medicaid and Medicare total, mental, or physical health care costs in Alabama, Maryland, Missouri, or West Virginia (Table III.3). These findings should be interpreted with caution, however, because without a comparison group, we are unable to distinguish between the effects of MEPD and those of other economic and policy changes that occurred during the MEPD period.

We find no evidence that MEPD reduced total, mental, or physical health care costs in Alabama, Maryland, Missouri, or West Virginia.

The findings for Alabama indicate that MEPD was associated with statistically significantly higher total and mental health costs per beneficiary per month. Our analyses for Alabama find sharply declining costs beginning in the baseline period and continuing throughout the evaluation period (not shown). The significant findings indicate that costs were higher in the MEPD period than would have been expected had the baseline trend continued at the same rate into the MEPD period. The declining trend parallels substantial cuts to Alabama's mental health budget in this period. Alabama's total general fund mental health budget was reduced by 36 percent from fiscal year 2009 to fiscal year 2012;<sup>38</sup> these cuts could account for decreasing costs over the baseline period. Funding for state-run psychiatric hospitals in Alabama declined from \$171 million in 2009 to \$96 million by 2014, with patients shifted from inpatient to community-based care;<sup>39</sup> the increased reliance on community-based care in the MEPD period could account for Medicaid and Medicare costs leveling out during MEPD. Thus, the estimated increase in costs associated with MEPD may have been caused by shifts in state policy for the mental health treatment system rather than MEPD. It is also possible that the apparent increase was a statistical artifact resulting from the fact that we only had six months of data during the MEPD period for Alabama.

<sup>38</sup> See [http://blog.al.com/spotnews/2012/12/alabama\\_cut\\_mental\\_health\\_budg.html](http://blog.al.com/spotnews/2012/12/alabama_cut_mental_health_budg.html).

<sup>39</sup> See [https://www.al.com/news/mobile/index.ssf/2016/08/one\\_alabama\\_county\\_looks\\_to\\_ex.html](https://www.al.com/news/mobile/index.ssf/2016/08/one_alabama_county_looks_to_ex.html).

**Table III.3. Impact of MEPD on Medicaid and Medicare total, mental health, and physical health costs**

	Average cost per beneficiary per month <sup>b</sup>		Estimated impact of MEPD, per beneficiary per month			Number of observations	
	Baseline period	MEPD period	Change associated with MEPD <sup>c</sup>	Percent change associated with MEPD <sup>d</sup>	p-value	Observations <sup>e</sup>	Unique beneficiaries
<b>AL</b>						17,008	8,822
Total health costs	\$2,234	\$2,474	\$240	10.7	<0.01*		
Mental health costs	\$1,239	\$1,412	\$174	14.0	<0.01*		
Physical health costs <sup>a</sup>	\$1,029	\$1,047	\$18	1.7	0.79		
<b>MD</b>						12,176	6,234
Total health costs	\$6,157	\$5,942	-\$215	-3.5	0.45		
Mental health costs	\$3,692	\$3,815	\$124	3.4	0.51		
Physical health costs <sup>a</sup>	\$2,363	\$2,006	-\$357	-15.1	0.15		
<b>MO</b>						134,625	33,846
Total health costs	\$3,235	\$3,158	-\$77	-2.4	0.72		
Mental health costs	\$1,818	\$1,774	-\$19	-1.0	0.88		
Physical health costs <sup>a</sup>	\$1,689	\$1,311	-\$378	-22.4	0.12		
<b>WV</b>						40,291	11,702
Total health costs	\$3,691	\$2,893	-\$799	-21.6	0.19		
Mental health costs	\$2,010	\$1,574	-\$437	-21.7	0.28		
Physical health costs <sup>a</sup>	\$1,831	\$1,265	-\$566	-30.9	0.31		

Source: Mathematica analysis of Medicaid and Medicare administrative data from 2010 to 2014.

Note: Appendix B provides an explanation of how we calculate impact estimates. Mental and physical health cost estimates do not sum to the total health cost estimates because we derived the estimates for total, mental, and physical health costs from separate analyses.

<sup>a</sup>We define physical health costs as non-mental health costs. In our analysis, we do not count claims with a primary diagnosis of substance use disorders, developmental disorders, or disorders usually diagnosed in infancy, childhood, or adolescence as mental health costs. Therefore, these costs are included in the physical health costs.

<sup>b</sup>The costs are adjusted for differences in patient characteristics over time and between groups.

<sup>c</sup>The change associated with MEPD reflects the change in costs from baseline to the demonstration period. For example, total costs per beneficiary per month would have been an average of \$240 lower if MEPD had not occurred.

<sup>d</sup>We calculate percent change by dividing change in costs associated with MEPD by the average cost for the baseline period. Total costs per beneficiary per month, for example, would have been an average of 10.7 percent lower if MEPD had not occurred.

<sup>e</sup>An observation is costs for one quarter for one person.

\*A p-value <.01 indicates strong evidence against the impact being zero. Impact estimates with no asterisk indicate that we cannot rule out the possibility that the impact was zero and that the estimate occurred by chance.

#### D. Analysis limitations

Our findings should be interpreted cautiously for several reasons:

- First, the data were sufficient to analyze only 5 of 12 MEPD states. Results from the other seven states might differ had we been able to include them.

- Second, in 2 of the 5 states included in the analyses, we have data from only six months after the start of MEPD. Six months may not be enough time to observe MEPD effects, particularly if program implementation was slow or the medical community had limited awareness of MEPD early in the demonstration and did not refer patients in need of inpatient care to participating IMDs.
- Third, only one state has sufficient data to conduct a difference-in-differences analysis. In the other states, we are unable to distinguish changes attributable to MEPD from those attributable to other factors, such as local economic or policy changes.

Although this analysis addresses questions set forth in the Affordable Care Act, there are limitations in its ability to address fully the Cures Act legislation. The Cures Act specifies that the reduction in costs should be “attributable to such individuals receiving treatment in institutions for mental diseases under the demonstration project.” We did not assess whether the reduction in costs was attributable to patients receiving treatment in IMDs under MEPD because we cannot determine from available data which MEPD patients received care in an IMD before MEPD.<sup>40</sup>

## **E. Conclusions**

We find no evidence that MEPD led to reductions in combined Medicaid and Medicare costs. The only exception is a statistically significant reduction in physical health costs in California. However, policymakers should be cautious about drawing conclusions related to this finding from California without replication or further analysis because no such reduction occurred in the other four states studied. The reasons such an effect might have occurred as a result of federal reimbursement for IMD services is unclear; the change may have been coincidental for reasons unrelated to MEPD.

We find no significant reductions in Medicaid and Medicare total costs or mental health costs associated with MEPD. A statistically significant reduction in physical health costs in California should be interpreted with caution.

The results from this analysis are consistent with the results of the original MEPD evaluation, which found no reductions in mental health care costs associated with MEPD. This analysis improves upon the findings of the original MEPD evaluation by including physical health care costs in addition to mental health costs. For three states, this analysis also benefits from the availability of additional years of data since we completed the original MEPD evaluation (two additional years of data for California and Missouri and one additional year for West Virginia).

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<sup>40</sup> Because of the IMD exclusion, IMDs cannot bill Medicaid for fee-for-service inpatient care they provide to beneficiaries who are age 21 to 64. Therefore, costs of IMD stays for these beneficiaries do not appear in the Medicaid data. Although we obtained data on the costs of IMD admissions directly from the IMDs that participated in MEPD, it was not feasible to collect admissions data from all nonparticipating IMDs in MEPD states. Without these data, estimates of changes in cost attributable to Medicaid beneficiaries who received services from IMDs under MEPD might be biased in unknown ways.

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## IV. FORENSIC HOSPITALS

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### Key Findings

- Forensic hospitals are rare in MEPD states. Non-forensic state psychiatric hospitals serve over twice as many forensic patients as forensic hospitals.
- Forensic patients occupy about a third of all inpatient psychiatric beds (forensic and non-forensic) in the MEPD states on a given day.
- Forensic patients occupy over a quarter of all inpatient beds in non-forensic facilities that serve them.

### A. Background and purpose

In recent years, national discussions regarding the IMD exclusion have centered on perceived challenges for Medicaid beneficiaries in accessing inpatient psychiatric care. In the context of such discussions, stakeholders have noted the large decline in the number of beds in public IMDs over the past six decades and the fact that their remaining beds are often reserved for forensic patients—that is, individuals whose mental health treatment is a result of a criminal offense.<sup>41</sup> Court-ordered stays may be substantially longer than other stays because the courts may require an individual to remain in a secure facility even after clinical staff have judged that the individual no longer needs psychiatric inpatient services. Lengthy stays reduce bed turnover, thereby compromising a state’s ability to admit new patients in a timely manner. The original MEPD evaluation did not examine forensic hospitals or address the share of inpatient psychiatric hospital capacity occupied by forensic patients. For each MEPD state, the Cures Act requires information about the number of forensic hospitals and beds and the number of forensic beds in other hospitals.

The Cures Act requires information about the number of forensic hospitals and beds and the number of forensic beds in other hospitals.

### B. Data and methods

For this analysis, we use the following definitions:

- Forensic hospitals are specialized inpatient facilities that are exclusively dedicated to serving forensic psychiatric patients,<sup>42</sup> and
- Non-forensic hospitals are inpatient facilities that are not dedicated exclusively to serving forensic patients.

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<sup>41</sup> Fisher et al., 2009.

<sup>42</sup> To ensure a comprehensive understanding of the availability of inpatient beds for forensic patients, we expanded the search beyond forensic hospitals to include any state-operated mental health facility with inpatient beds specifically designated for forensic patients.

We use separate data sources for forensic and non-forensic hospitals:

1. **Forensic hospitals.** We collected data on state-operated forensic facilities through an Internet search and by contacting state officials. For each of the 12 MEPD states, we searched the Internet to identify forensic psychiatric facilities and extract information about the number of beds in each facility. In states with limited information on the Internet, we followed up with state officials to verify the comprehensiveness of the available information and to obtain information on forensic facilities that were not identified in our Internet search. See Appendix C for detailed information on the facilities identified and the sources of information for each state.
2. **Non-forensic hospitals.** We use data from the 2016 N-MHSS survey to identify the number of inpatient mental health beds filled by forensic patients in facilities that also serve non-forensic patients. As noted in Chapter II, the N-MHSS survey is conducted by SAMHSA on a roughly biennial basis. It surveys all known public and private mental health treatment facilities in the United States. Facilities indicating that they are jails, prisons, or detention centers that provide treatment exclusively for incarcerated persons or juvenile detainees are excluded from the survey. Thus, the survey sample includes facilities that serve non-forensic patients exclusively or both forensic and non-forensic patients. Each facility that provides inpatient services reports the number of its inpatient beds and the number of patients who are receiving inpatient mental health treatment services on a given day. Patient counts are also broken down by legal status at admission: voluntary admission; involuntary admission, non-forensic; and involuntary admission, forensic. The survey response rate for 2016 was 91.1 percent.

The combination of data from these two sources provides a relatively comprehensive assessment of forensic inpatient bed availability and utilization in the MEPD states. We report the data on facilities that serve only forensic patients in Section C. We report the data on facilities that serve both forensic and non-forensic patients in Section D.

### **C. Forensic hospitals**

The treatment system for forensic patients varies across the MEPD states. Seven states (Alabama, Connecticut, District of Columbia, Illinois, Maine, Missouri, and Washington) have forensic hospitals. Of these, five states (Alabama, Connecticut, District of Columbia, Illinois, and Maine) have only one facility dedicated exclusively to forensic patients. Washington has two such facilities. Missouri is an outlier, with six forensic hospitals.

Dedicated forensic hospitals are rare in the MEPD states.

The remaining five states (California, Maryland, North Carolina, Rhode Island, and West Virginia) do not have forensic hospitals. In these states, forensic patients are housed and treated at various state psychiatric facilities along with non-forensic patients:

- California's Department of State Hospitals manages five state hospitals that are predominantly (90 percent) forensic patients; however, these facilities also serve individuals with involuntary non-forensic commitments (10 percent).

- Maryland’s Department of Health does not designate psychiatric beds as forensic or non-forensic, so patients admitted to state psychiatric hospital beds may or may not be involved in the legal system. Only one of Maryland’s five state psychiatric hospitals was originally designed to serve a majority forensic population. However, in 2018 forensic patients made up 97 percent of patients on average across all of the state’s psychiatric hospitals.
- Three states do not have facilities that serve only forensic patients, but they do have set numbers of beds designated for forensic patients in specific state psychiatric hospitals. Twenty-one percent of total inpatient beds at North Carolina’s Central Regional Hospital are designated as forensic inpatient beds (84 forensic inpatient beds out of 398 total beds). Similarly, 12 percent of total inpatient beds in Rhode Island’s sole state psychiatric facility (34 forensic inpatient beds out of 284 total beds) are designated as forensic inpatient beds. Fifty percent of total beds in West Virginia’s two state psychiatric hospitals (117 forensic inpatient beds out of 235 total beds) are designated as forensic inpatient beds.

Overall, across the 12 MEPD states, we identify 13 forensic hospitals with 2,559 beds (Table IV.1). Missouri and Illinois represent the highest shares of beds with 44 percent and 25 percent, respectively. Of the states with at least one forensic hospital, Washington has the fewest beds, with 54 beds across two facilities.

**Table IV.1. Number of forensic hospitals and beds, 2018**

State	Facilities	Beds
<b>Total</b>	<b>13</b>	<b>2,559</b>
Alabama	1	140
California <sup>a</sup>	0	0
Connecticut	1	232
District of Columbia <sup>a</sup>	1	285
Illinois	1	629
Maine <sup>b</sup>	1	92
Maryland	0	0
Missouri	6	1,127
North Carolina <sup>c</sup>	0	0
Rhode Island	0	0
Washington	2	54
West Virginia	0	0

Source: Mathematica analysis of data we collected from state websites and officials. See Appendix C for information on data sources by state.

<sup>a</sup>These data are from 2016.

<sup>b</sup>These data are from 2017.

<sup>c</sup>North Carolina has one hospital serving forensic patients (Central Regional Hospital), but it also serves non-forensic patients, so we do not include it here.

## D. Non-forensic hospitals

Non-forensic state psychiatric hospitals serve over twice as many forensic patients as forensic hospitals.

Data on the number of beds in non-forensic hospitals that are reserved for forensic patients are not available. Therefore, we use the number of inpatient mental health beds filled by forensic patients on a given day as a proxy for forensic beds. On a given day, non-forensic hospitals serve more than two and a half times the number of forensic patients (6,788 patients, from Table IV.2) as there are beds in forensic

hospitals (2,559 beds, from Table IV.1). Most of the forensic patients in non-forensic hospitals are in state psychiatric hospitals (5,846 patients out of 6,788). State psychiatric hospitals are the only facility type for which more than half the patients served are forensic patients (66 percent). Forensic patients account for 10 percent or less of inpatients in all other facility types.

Forensic patients account for 10 percent or less of inpatients in all non-state psychiatric facilities.

**Table IV.2. Non-forensic hospitals serving forensic patients in MEPD states, 2016**

Facility type	Facilities			Patients		
	Total number	Number serving any forensic patients	Percentage serving any forensic patients	Total number	Number of forensic patients	Percentage of forensic patients
<b>Total</b>	<b>412</b>	<b>70</b>	<b>17</b>	<b>23,459</b>	<b>6,788</b>	<b>29</b>
State psychiatric hospital	37	30	81	8,920	5,846	66
Non-state psychiatric hospital	97	17	18	5,657	558	10
General hospital psychiatric unit	252	18	7	7,470	257	3
Other mental health facility providing inpatient care to adults	26	5	19	1,412	127	9

Source: SAMHSA analysis of data from N-MHSS 2016 in accordance with Mathematica specifications.

Notes: The following states are included in MEPD: Alabama, California, Connecticut, District of Columbia, Illinois, Maine, Maryland, Missouri, North Carolina, Rhode Island, Washington, and West Virginia. Data are reported in aggregate for the MEPD states to protect the confidentiality of data for individual facilities in states with a small number of facilities. The fourth and seventh columns are shaded for emphasis.

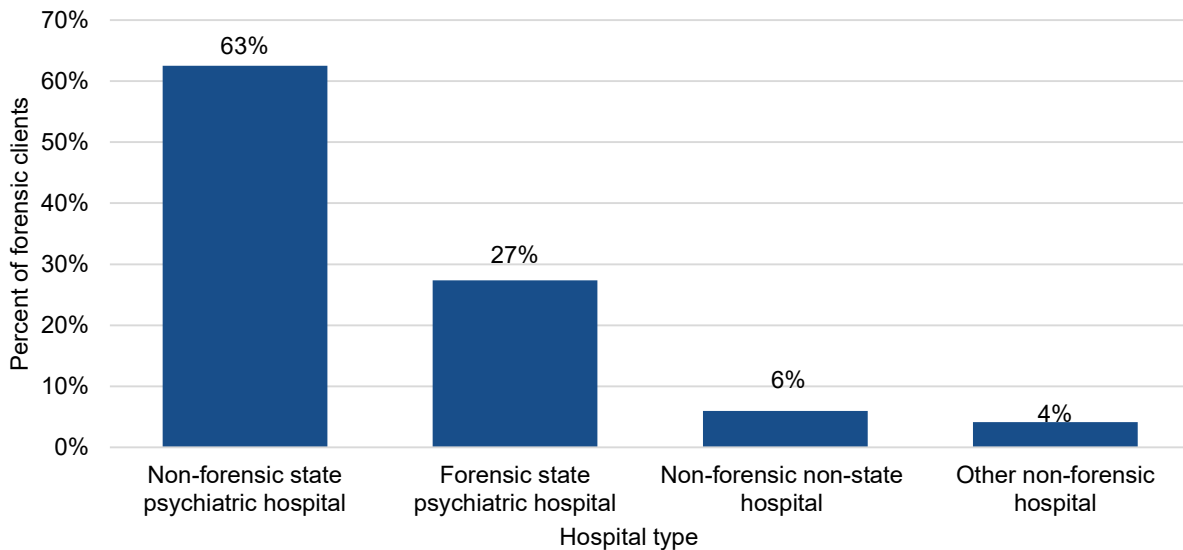
## E. Share of capacity dedicated to forensic patients

Assuming that the forensic hospitals included in Table IV.1 were operating at full capacity,<sup>43</sup> we estimate that on a given day 9,347 forensic patients and 26,018 total patients are served in the MEPD states across both forensic (Table IV.1) and non-forensic (Table IV.2) hospitals. The majority of forensic patients (63 percent) are served in non-forensic state psychiatric hospitals (Figure IV.1). Fewer (27 percent) are served in forensic hospitals.

<sup>43</sup> We were unable to obtain data for forensic hospitals on patients served on a given day. Therefore, for estimating purposes, we assume that the facilities operate at full capacity and the number of patients served is the same as the number of beds.

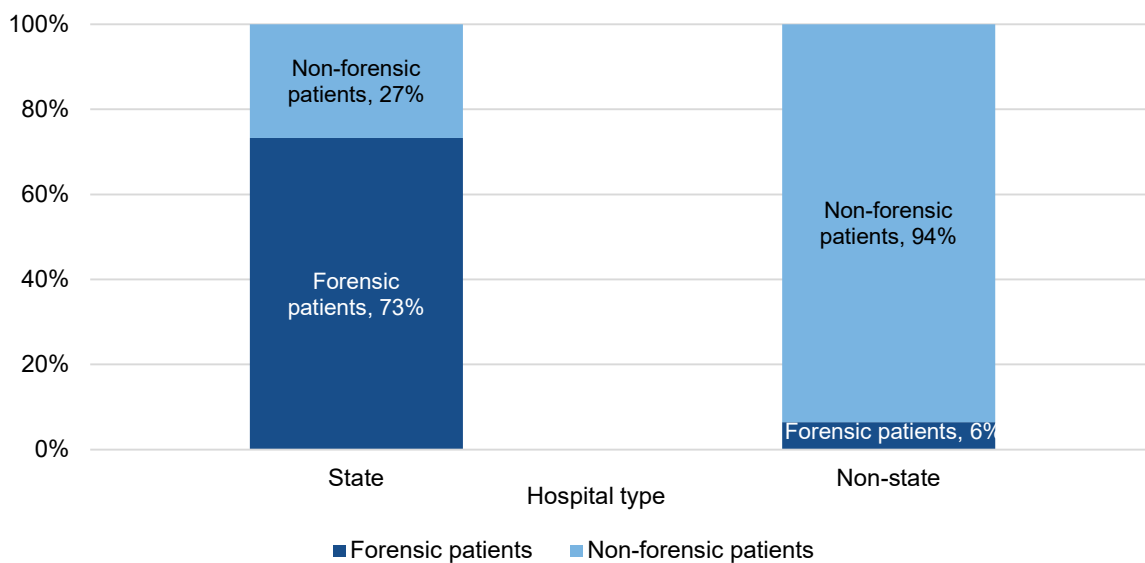


**Figure IV.1. Share of all forensic patients treated in forensic hospitals versus non-forensic hospitals**



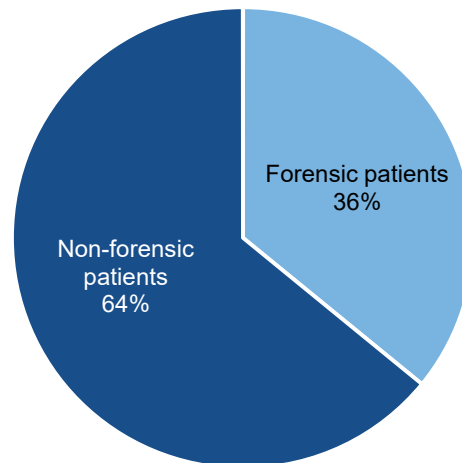
As shown in Figure IV.2, most (73 percent) of the capacity in state-operated psychiatric hospitals (including both forensic and non-forensic state hospitals) is dedicated to forensic patients. In contrast, non-state operated facilities serve predominantly non-forensic patients (94 percent).

**Figure IV.2. Share of patient types served in state-operated (forensic and non-forensic) hospitals versus non-forensic hospitals**



Although the percentage of beds occupied by forensic patients differs by facility type, about a third of all inpatient psychiatric beds in the MEPD states are occupied by forensic patients on a given day (Figure IV.3).

**Figure IV.3. Share of patients by forensic status**



#### **F. Limitations of the analysis**

We were unable to find public information that is systematically collected and reported across the states on forensic hospitals. For states whose information was unavailable through a web search, we requested information from state officials. However, four states (Alabama, California, the District of Columbia, and Maine) did not respond to these requests. For these states, our analysis is limited to information available through the Internet search only, so the data may not be current or comprehensive.

We focused our data collection at the state level. Forensic hospitals and beds operated by the federal or local governments are excluded. We classify beds and patients based on state definitions, which may not be consistent across states.

We also may have misclassified some facilities. We divide the facilities serving forensic patients into two discrete categories for this analysis: (1) forensic hospitals (Section C) and (2) non-forensic hospitals (Section D). These categories parallel the exclusion criteria for N-MHSS 2016, which excludes facilities that serve only criminal justice patients. This survey screens out facilities based on the question, “Is this facility a jail, prison, or detention center that provides treatment exclusively for incarcerated persons or juvenile detainees?” We assume that facilities serving only forensic patients respond affirmatively to this question and are deemed ineligible for the survey. Likewise, we assume facilities serving any non-forensic patients respond negatively and are deemed eligible. However, facility administrators may not interpret the question strictly. We are unable to compare the identities of the facilities in the two groups to prevent these errors.

A final limitation to our analysis is that in order to protect the confidentiality of facilities in states with few facilities of particular types, we are unable to report the N-MHSS 2016 analyses by state.<sup>44</sup>

## **G. Conclusions**

We find some evidence supporting concerns that high volumes of forensic patients may limit access for non-forensic patients: in particular, forensic patients account for about two-thirds of patients in state psychiatric hospitals. However, when other sources of inpatient psychiatric care are considered, there is less support for this concern: forensic patients account for less than one-third of all hospital psychiatric inpatients and only 6 percent of non-state hospital inpatients. State-operated and non-state-operated hospitals may differ in their ability to meet specific patient care needs. Moreover, access to care at non-state hospitals may be limited by a patient's ability to afford care; access to state hospitals may be particularly critical for such patients.

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<sup>44</sup> When collecting data for the N-MHSS survey SAMHSA pledges to responding facilities that the information they provide will be protected to the fullest extent allowable under Section 501(n) of the Public Health Service Act (42 USC 290aa(n)). This law permits the public release of identifiable information about an establishment only with the consent of that establishment and limits the use of the information to the purposes for which it was supplied. In states with a small number of psychiatric hospitals, information about their client characteristics might be identifiable if data are presented at the state level.

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## V. DISPROPORTIONATE SHARE HOSPITAL PAYMENTS TO IMDS PARTICIPATING IN MEPD

### Key Findings

- The evidence does not suggest that MEPD was associated with a reduction in DSH payments in participating states.
- Only 4 of the 29 hospitals participating in MEPD received DSH payments in the year prior to the start of the demonstration.

### A. Background and purpose

State Medicaid programs are required under federal law to provide supplemental payments to hospitals serving a large number of Medicaid insured or uninsured individuals. These hospitals are referred to as “disproportionate share hospitals.” The original MEPD evaluation examined the effect of MEPD on Medicaid and Medicare costs for mental health care. However, because DSH payments cannot be specifically allocated to individual beneficiaries, the evaluation did not include them. The Cures Act requires an analysis assessing whether MEPD may have resulted in reduced Medicaid DSH payments to IMDs in participating states.

The Cures Act requires information on MEPD effects on DSH payments.

### B. Overview of federal DSH regulations relevant to IMDs

The federal government allots a maximum amount of Medicaid DSH funding to each state to help cover uncompensated care costs at hospitals, including IMDs, and other facilities providing care to Medicaid beneficiaries and uninsured individuals. Within the overall DSH allotment, the federal government specifies a maximum amount that may be allocated to IMDs (known as the state’s IMD allotment). Each state’s Medicaid plan details the state’s methods for determining which hospitals receive DSH funding and how much they receive within requirements identified in Section 1923 of the Social Security Act. State formulas for allocating funds among qualifying hospitals must be based on the proportion of low-income<sup>45</sup> and Medicaid patients served but may otherwise vary across states.

Due to the Medicaid IMD exclusion, unless there is another source of payment, IMD services provided to adult Medicaid beneficiaries are classified as unpaid costs of care for the uninsured, a type of uncompensated care that is eligible for DSH funding (MACPAC 2016). If an IMD participating in MEPD received demonstration payments for Medicaid patients whose care would have otherwise been uncompensated, the IMD’s DSH payment amount from the state

<sup>45</sup> The low-income utilization rate is defined as the sum of the Medicaid portion and the charity care portion. The Medicaid portion is total revenue earned from serving Medicaid patients plus the amount of any cash subsidies from state and local government divided by the hospital’s total revenue from all services provided. The charity care portion is equal to the total charges for charity care minus state and local cash subsidies divided by the hospital’s total revenue from all services provided. The definition of charity care varies by state.

may have been less under MEPD than otherwise.<sup>46</sup> Access to participating IMDs might also increase as a result of MEPD funding. If so, DSH payments to nonparticipating IMDs in the state might also decline due to the nonparticipating IMDs serving fewer Medicaid patients. Appendix D details the federal requirements and components of the MEPD states' Medicaid plans, which address DSH payments to IMDs.

In the next two sections, we present our analysis of whether MEPD reduced DSH payments to participating IMDs or overall in the MEPD states. We begin with an analysis of direct payments to IMDs that participated in MEPD; then we address potential indirect effects on nonparticipating IMDs in the MEPD states.

### C. Direct DSH payments to MEPD-participating IMDs

Only a subset of IMDs in each participating state – privately operated psychiatric IMDs – were eligible for MEPD. States also could implement additional requirements to limit the set of IMDs participating in MEPD. Thus, while all of the MEPD states provided Medicaid DSH payments to at least one IMD in the state in the year before MEPD began (2011), IMDs that participated in MEPD received DSH payments during the baseline period in only three states: District of Columbia, Missouri, and Rhode Island (Table V.1).

**Table V.1. Receipt of Medicaid DSH payments by IMDs participating in MEPD**

State	MEPD-participating IMDs received DSH payments		Baseline DSH payment amount to MEPD-participating IMDs
	Baseline (2011)	Post-implementation (2012–2014)	
Alabama	No	No	NA
California	No	No	NA
Connecticut	No	No	NA
District of Columbia	Yes	Yes	\$2,501,551
Illinois	No	No	NA
Maine	No	No	NA
Maryland	No	No	NA
Missouri	Yes	Yes	\$769,099 <sup>b</sup>
North Carolina	No	No	NA
Rhode Island	Yes	Yes	\$8,331
Washington	No	No	NA
West Virginia	No <sup>a</sup>	Yes	NA <sup>a</sup>

Source: Mathematica analysis of CMS DSH audit reports, 2011 to 2014.

<sup>a</sup>West Virginia's DSH audit report for 2011 lists the two IMDs that participated in MEPD. However, no uncompensated care costs are reported for either IMD and no DSH payments were made to them.

<sup>b</sup>Missouri's DSH audit report for 2011 lists DSH payments for three of the five IMDs that participated in MEPD. However, one of these IMDs has no uncompensated care costs reported and another received a DSH payment that exceeded its uncompensated care costs. According to federal guidelines, DSH payments cannot exceed a facility's uncompensated care costs. Because the DSH payments that exceed the uncompensated care costs are ineligible for DSH payments and because the state will not receive federal matching funds unless they are recouped and redistributed to eligible facilities, we do not count the payments here.

NA = not available.

<sup>46</sup> Because Medicaid DSH payments also cover Medicaid shortfalls (defined as the difference between the hospital's cost and the Medicaid payment amount), some uncompensated costs may still be associated with IMD services provided under MEPD.

In 9 of the 12 MEPD states, no DSH payments were made to any of the IMDs that participated in MEPD in the year before MEPD began. This means that in these states no direct savings associated with MEPD result from reductions in DSH payments to participating IMDs.

Only 4 of the 29 IMDs that participated in MEPD had uncompensated care costs and received DSH payments before the demonstration.

Across the three MEPD states that provided DSH payments to MEPD IMDs in 2011, only 4 of the 29 participating IMDs received DSH payments in that year (Table V.2). Contrary to expectations, DSH payments at two of those IMDs increased following MEPD implementation:

- Relative to the 2011 baseline, DSH payments to the Psychiatric Institute of Washington in the District of Columbia were 4 percent to 6 percent higher in the first two years of MEPD (2012 and 2013). In addition, the payments increased as a proportion of uncompensated care costs from 60 percent to 62 percent of such costs. DSH payments and uncompensated care costs to the Psychiatric Institute of Washington declined in 2014. However, this change was likely related to the District's Affordable Care Act Medicaid expansion rather than MEPD.
- DSH payments to Butler Hospital in Rhode Island were low at baseline—only \$8,331, and fewer than 1 percent of uncompensated care costs. DSH payments increased 6 percent from 2012 to 2014, following the start of MEPD.

The other two IMDs are both in Missouri:

- Royal Oak did not receive any DSH payments from 2012 to 2013, following the start of MEPD—which suggests potential direct savings associated with MEPD implementation of about \$201,213 (the DSH payment paid to the hospital in 2011 in Table V.2).
- Relative to the 2011 baseline, DSH payments to Two Rivers were 1 percent and 13 percent lower in the first two years of MEPD (2013 and 2014) but were 83 percent higher in 2014. The payments decreased as a proportion of uncompensated care costs in 2013 (from 56 percent at baseline to 50 percent) but increased to 72 percent in 2012 and 100 percent in 2014. The 2014 DSH payment to Two Rivers exceeded the combined payments to the two participating IMDs that received them in the baseline year. The Missouri Medicaid State Plan shows no program changes that would result in these changes in DSH payments over time. The state plan provides that DSH hospitals will be paid all the way up to their hospital specific limits if the State's Federal DSH allotment is not exhausted. The hospital specific limit is the total amount of uncompensated care costs for services provided to Medicaid and uninsured patients. Our analysis cannot disentangle potential effects of MEPD from effects of the economy on uncompensated care costs across hospitals in Missouri that might have led the state to allocate more or less DSH funding to Two Rivers over time.

Two participating IMDs, one in Missouri and one in West Virginia, did not receive DSH payments in the baseline period, but did receive these payments in the demonstration period.

**Table V.2. Receipt of Medicaid DSH payments by IMDs participating in MEPD**

IMD	DSH payments				Uncompensated care costs			
	2011	2012	2013	2014	2011	2012	2013	2014
<b>District of Columbia</b>								
Psychiatric Institute of Washington	\$2,501,551	\$2,646,421	\$2,594,710	\$2,083,620	\$4,199,585	\$3,975,385	\$4,501,206	\$2,898,802
<b>Missouri<sup>a</sup></b>								
Royal Oak	\$201,213	\$0	\$0	\$0	\$201,213	NA	NA	NA
St. Louis Regional Psychiatric Stabilization Center	\$0	\$0	\$206,352	\$317,832	NA	NA	\$1,913,826	\$746,236
Two Rivers	\$567,886	\$561,240	\$493,200	\$1,043,554	\$1,007,216	\$781,402	\$978,482	\$1,043,554
<b>Rhode Island</b>								
Butler	\$8,331	\$8,828	\$8,828	\$8,828	\$2,472,340	\$5,139,215	\$5,700,767	\$4,786,654
<b>West Virginia</b>								
River Park	\$0	\$0	\$0	\$49,473	-\$369,439	-\$646,089	-\$528,968	\$936,534

Source: Mathematica analysis of CMS DSH audit reports, 2011 to 2014.

<sup>a</sup>The annual DSH audit reports include facilities with DSH payments exceeding their total uncompensated care costs because payments are made to facilities before final cost information is available. According to federal regulations, payments to a given hospital may not exceed the hospital's total uncompensated care costs for low-income patients. Ineligible payments identified in audits can be recouped and redistributed to other eligible facilities that did not exceed federal limits. Because states will not receive federal matching funds for ineligible payments unless they are recouped and redistributed to eligible facilities, we do not report DSH payments for IMDs with negative total uncompensated care costs. For IMDs whose reported DSH payment exceed their total uncompensated care costs, we report the amount of total uncompensated care costs as the DSH payment. The following MEPD-participating IMDs had negative total uncompensated care costs in all years that they had reported DSH payments and therefore are excluded from the table above: in Missouri, CenterPoint Hospital and Signature Psychiatric Hospital; in West Virginia, Highland Hospital. The DSH payment for Royal Oaks Hospital in Missouri in 2011 exceeded its total uncompensated care costs. Thus, the DSH payment was imputed as its total uncompensated care costs in that year. River Park Hospital in West Virginia had negative uncompensated care costs in 2011 through 2013. Thus, we report no DSH payments for those years.

NA = not available.



Overall, in 11 of 12 participating states, there was no direct reduction in DSH payments to IMDs that participated in MEPD. Only Missouri appears to have experienced a reduction in DSH payments to MEPD IMDs in the first two years of MEPD. However, this reduction was not sustained in the third year of MEPD. The next section examines whether DSH payments aggregated across all IMDs in Missouri were reduced during MEPD or whether reductions in payments to IMDs that participated in MEPD were offset by increases in payments to other IMDs in the state.

In 11 of 12 participating states, there was no direct reduction in DSH payments to IMDs participating in MEPD. In Missouri, reductions in the first two years of MEPD were not sustained in the third.

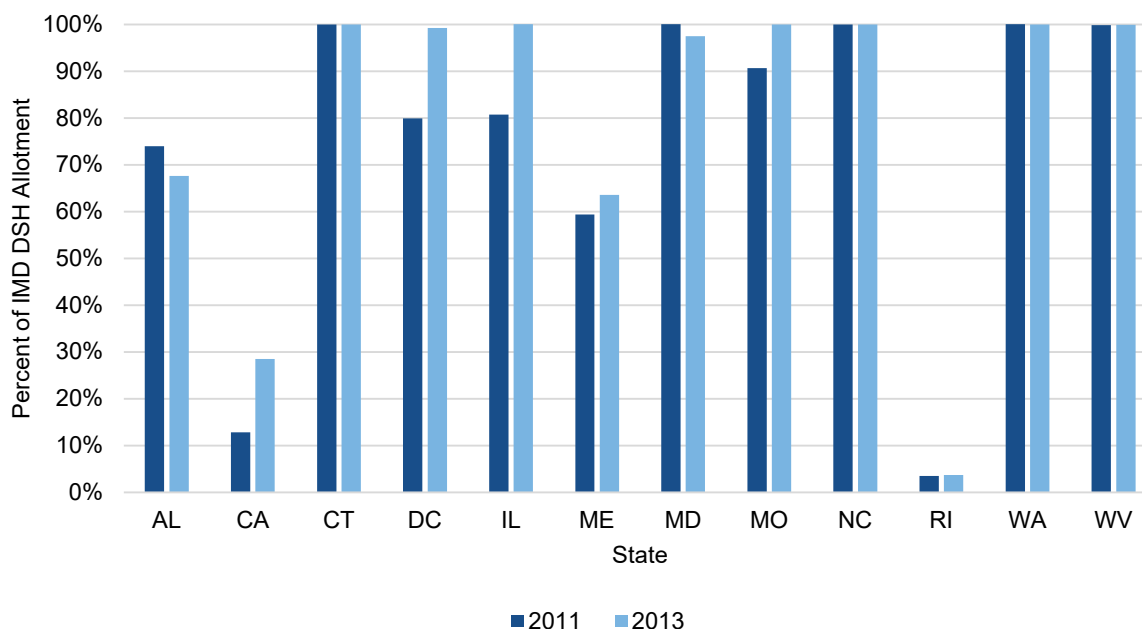
**D. Aggregate DSH payments to all IMDs in states participating in MEPD**

This section examines changes in aggregate DSH payments across all IMDs (whether they participated in MEPD or not) in the MEPD states between the baseline year (2011) and the MEPD period (2012 to 2014). First, we examine the tendency for DSH payments to equal 100 percent of the federal IMD allotment in some of the states. Then, we assess changes in DSH payments in states without this tendency.

**1. States allocating 100 percent of the federal IMD DSH allotment**

Half of the MEPD states (Connecticut, Maryland, Missouri, North Carolina, Washington, and West Virginia) allocate DSH payments to IMDs so that they total 100 percent of the federally allowed maximum (Figure V.1).

**Figure V.1. DSH payments to IMDs as a percentage of a state’s IMD allotment, 2011 and 2013**



Source: Mathematica analysis of CMS DSH audit reports and federal IMD allotments, 2011 and 2013.

The formula for allocating DSH payments across qualifying IMDs is designed to distribute 100 percent of the federally allowable maximum amount in three of these states (Connecticut, Missouri, and West Virginia). The initial IMD DSH payment formulas used in the other states (Maryland, North Carolina, and Washington) resulted in aggregate payments that exceeded the state's federal IMD allotment. Payments for each IMD were then adjusted downward so that the total was 100 percent of the allotment. Table V.3 briefly describes the relevant DSH payment guidelines for the IMDs in these states and identifies the proportion of the federal IMD allotment paid to eligible IMDs in each year from 2011 through 2014.

**Table V.3. IMD DSH payment allotment methodologies in states that typically allocate 100 percent of the federally allowed maximum**

State	Elements of DSH payment allotment methodology
Connecticut	<ul style="list-style-type: none"> <li>Each qualifying IMD receives a share of the state's IMD allotment equal to its share of the cost of services provided to low-income individuals among the qualifying IMDs.</li> <li>In each year from 2011 through 2014, Connecticut's payments were 100 percent of the federal IMD allotment.</li> </ul>
Maryland	<ul style="list-style-type: none"> <li>Maryland's formula is not tied to the federal maximum allotment. For IMDs with inpatient charity care costs exceeding 40 percent of total inpatient hospital costs, the DSH payment rate is the greater of the IMD's annual low-income costs divided by its annual inpatient medical costs minus 1, all multiplied by 2, and then multiplied by its inpatient Medicaid payment or minimum payment required by federal law.</li> <li>Although the state plan does not mandate that DSH payments to IMDs sum to the federal IMD allotment, payments were 100 percent of the federal allotment in each year from 2011 through 2014, except in 2013 when they were 97 percent.</li> </ul>
Missouri	<ul style="list-style-type: none"> <li>The state updated its approach to calculating interim DSH payments for state fiscal year 2013. In the updated approach, each IMD with a positive estimated uncompensated care cost will receive the same percentage of its uncompensated costs as DSH payments, such that the total allocation of DSH payments across all IMDs yields an amount up to 100 percent of the federal IMD allotment. If the Medicaid program's original estimated DSH payments do not fully expend the federal IMD DSH allotment for any plan year, the remaining IMD DSH allotment may be paid to IMDs that are under their projected hospital-specific DSH limit.</li> <li>DSH payments as a share of the federal maximum increased from 91 percent in 2011 to 99 percent in 2012 and 100 percent in 2013 and 2014.</li> </ul>
North Carolina	<ul style="list-style-type: none"> <li>North Carolina's formula is not tied to the federal IMD allotment. DSH payments to IMDs are equal to the facility-specific average per diem cost from its most recent cost report available at the time of data collection multiplied by bed days of service to low-income persons. The payments should not exceed facility uncompensated care costs or, in aggregate, the state's federal IMD allotment.</li> <li>In each year from 2011 through 2014, the state's DSH payments to IMDs were 100 percent of the federal allotment.</li> </ul>
Washington	<ul style="list-style-type: none"> <li>State psychiatric hospitals are eligible for DSH payments up to the amount of their uncompensated care costs; however, if the total uncompensated care costs for state psychiatric hospitals exceeds the federal IMD allotment for the state, the federal allotment is split between eligible hospitals.</li> <li>In each year from 2011 through 2014, the state's DSH payments to IMDs were 100 percent of the federal allotment.</li> </ul>

Table V.3 (continued)

State	Elements of DSH payment allotment methodology
West Virginia	<ul style="list-style-type: none"> <li>• The Commissioner of the Single State Agency allocates funds to IMDs for DSH payments subject to federal and state requirements. These allotments may be established so that in total they equal the federally allowed maximums. In addition, the state plan indicates that if payments initially allocated to some IMDs exceed their federal cost limits, these payments should be redistributed to other eligible IMDs that are below their federal cost limit.</li> <li>• Although the state plan does not mandate that the commissioner allocate funds to IMDs to equal 100 percent of the IMD allotment, payments were 100 percent of the federal allotment in each year from 2011 through 2014.</li> </ul>

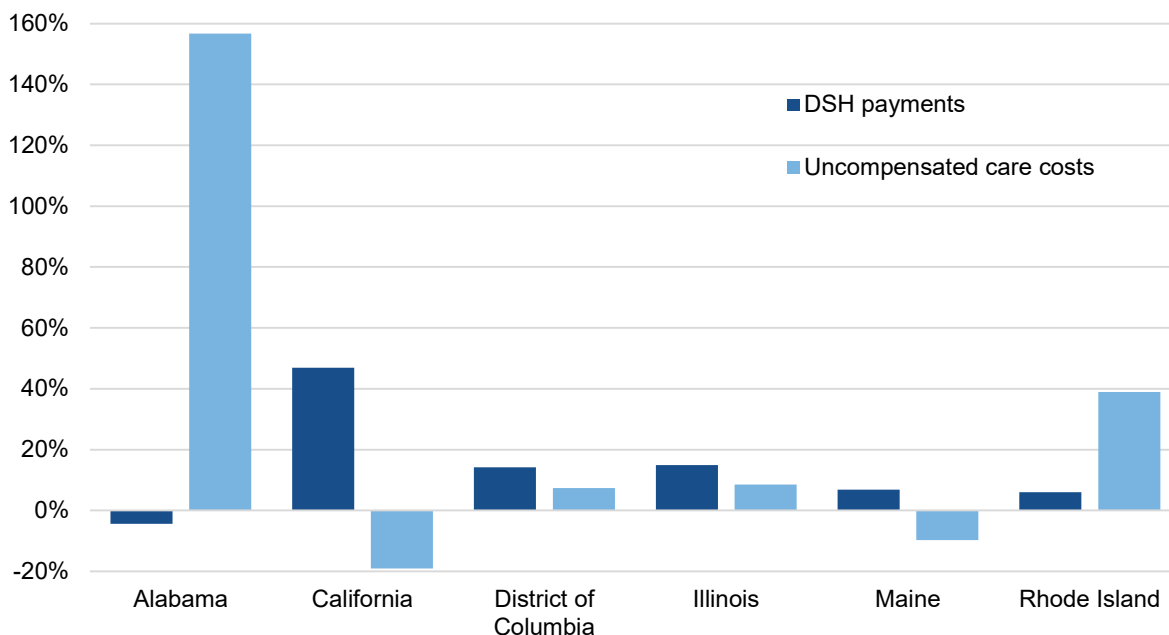
Source: Mathematica analysis of CMS DSH audit reports, 2011 to 2014.

In MEPD states that allocate 100 percent of their IMD allotment each year, we find that MEPD did not affect the DSH payment to IMDs. With the exception of Missouri, the IMD DSH payment levels for these states were fixed to the federal maximums both before and during MEPD. Reductions in uncompensated care costs and uninsured admissions associated with MEPD did not reduce the DSH payment levels below that threshold. Missouri's IMD DSH payments increased to 100 percent of the federal allotment following implementation of MEPD. This change resulted from a change in state policy and does not appear to have resulted from MEPD.

## 2. Changes in DSH payments in states that allocated less than 100 percent of the federal IMD DSH allotment

To assess how DSH payments were affected by MEPD in the remaining six states (California, the District of Columbia, Illinois, Maine, Rhode Island, and Alabama) that did not tend to allocate 100 percent of the federal IMD allotment, we analyze the percent change in DSH payments and uncompensated care costs at IMDs eligible for DSH payments between the baseline year and the average of the MEPD period (Figure V.2). Among these states, all of the states but one (Alabama) increased their aggregate DSH payments during MEPD. With the exception of Rhode Island, these increases exceed the percent change in uncompensated care costs during the same period. Because DSH payments rose and the percentage of uncompensated care costs represented by DSH payments also increased in California, the District of Columbia, Illinois, and Maine, we conclude that MEPD is unlikely to have reduced aggregate DSH payments in these states. Below we discuss the changes in Rhode Island and Alabama in more detail.

**Figure V.2. Percent change in DSH and uncompensated care between 2011 and 2012–2014**



Source: Mathematica analysis of CMS DSH audit reports, 2011 to 2014.

Note: We calculate the percentage change by dividing the difference between the average for the MEPD period (2012 to 2014) and the baseline amount by the baseline amount.

**Rhode Island.** Only two IMDs in Rhode Island received DSH payments between 2011 and 2014: (1) Emma Bradley Hospital and (2) Butler Hospital.

Emma Bradley Hospital did not participate in MEPD. The population served – it provides services exclusively to children and adolescents – does not overlap with the MEPD target population of adults age 18 to 64. Thus, the uncompensated care costs at Emma Bradley would not have been affected by MEPD. DSH payment to Emma Bradley increased 6 percent during the MEPD period, despite substantial reductions in uncompensated care costs. Thus, it does not appear that DSH payments to Emma Bradley declined as an indirect effect of MEPD.

In contrast, Butler Hospital participated in MEPD. During MEPD in 2012 to 2013, Medicaid uncompensated care costs increased 163 percent and uninsured uncompensated care costs increased 66 percent at Butler. We were unable to identify a reason for the increase in these uncompensated costs. Although DSH payments to Butler increased 6 percent between the baseline and the MEPD period, they did not keep up with the substantial increases in uncompensated care. DSH payments to Butler were low at baseline (only \$8,331). Because these payments increased, it is unlikely that DSH savings resulted from MEPD at this IMD. In addition, the low level of DSH payments suggests that any savings would be modest.

**Alabama.** Although DSH payments declined in the state of Alabama during the MEPD period, it does not appear that this decline resulted from MEPD. In the period of our analysis (2011 through 2014), the only IMD in Alabama that received DSH payments was the Mary Starke Harper Geriatric Psychiatry Center, a state-owned facility that did not participate in

MEPD. This facility focused on treating geriatric patients age 65 and older, whereas MEPD targeted individuals age 21 to 64. Thus, MEPD would not have directly affected the population served by the facility or its associated uncompensated care costs. The DSH payments to Mary Starke Harper were determined based on the state's funding allocation to the DSH category for state-owned psychiatric hospitals. Because Mary Starke Harper was the only hospital qualifying for DSH in this category, it received all the allocated funds. This allocation was not affected by the needs of IMDs participating in MEPD.

Although the DSH payments to Mary Starke Harper declined 9 percent (\$290,492) between 2011 and 2013, they were stable between 2013 and 2014. It does not appear that the lower level of payments in 2013 and 2014 relative to 2011 was related to MEPD. Rather, this change appears to have been driven by state budget considerations. DSH payments to Mary Starke Harper declined despite a threefold increase in uncompensated care costs at the facility between 2011 and 2013. This dramatic change in uncompensated care is likely related to a major change in Alabama's psychiatric hospital system in 2013.<sup>47</sup> The governor's budget for fiscal year 2013 recommended a reduction of \$12 million (10 percent) in the state general fund appropriation to the state mental health department. In addition, the patients served by this facility did not overlap with those affected by MEPD.

## **E. Limitations of the analysis**

This analysis had several limitations:

- The data available on uncompensated care costs were limited to the costs at IMDs that received DSH payments in a given year. We were not able to assess these costs at other IMDs that did not receive DSH payments.
- The state funding allocations for specific categories of IMDs were at the discretion of state officials and state budget allocations. We were not able to assess the factors that may have affected these decisions in each analysis year and state.
- Numerous economic, social, and policy issues may have affected the level of uncompensated care provided to low-income individuals at state psychiatric hospitals and the level of DSH payments made. We were unable to account for these factors in our analysis.

## **F. Conclusions**

MEPD had the potential to reduce Medicaid DSH payments by providing reimbursement to private psychiatric hospitals for services that would otherwise have been uncompensated and eligible for DSH payments. However we do not find any evidence of DSH payment reductions. The vast majority of facilities that participated in MEPD did not receive DSH payments prior to MEPD. Among those facilities that did receive DSH payments prior to MEPD, the available information indicates that substantial uncompensated care costs remained that qualified them to continue to receive DSH payments during MEPD.

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<sup>47</sup> See <http://www.gadsdentimes.com/news/20120215/all-but-two-mental-hospitals-to-close>.

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## VI. LENGTH OF STAYS IN IMDs, GENERAL HOSPITAL PSYCHIATRIC UNITS, AND HOSPITAL EMERGENCY DEPARTMENTS

### Key findings

- **IMDs:** Average length of MEPD-funded stays is short, but durations vary widely, with the longest stays in each state ranging from 46 days to 147 days
- **General hospital psychiatric units:** Length of stays in general hospital psychiatric units tend to be similar to or shorter than the length of stays in IMDs
- **Hospital emergency departments:** Average length of hospital emergency department stays range from 7 hours to more than 24 hours across the MEPD states that we examine

### A. Background and purpose

For the original MEPD evaluation, we reported the average length of stays in participating IMDs by state. We also reported the average length of stays in three other facility types, aggregated across states: (a) general hospital scatter beds,<sup>48</sup> (b) general hospital psychiatric units, and (c) hospital emergency departments. Since the MEPD evaluation was published, some national discussions regarding the Medicaid IMD exclusion have considered the relative value of IMDs versus general hospital psychiatric units. Quality improvement activities often include average length of stay as an indicator of resource use and efficiency because a shorter stay is expected to reduce the cost per hospital discharge. Although we reported the average length of stays across MEPD states in the original MEPD evaluation, we did not analyze length of stays separately by state. Comparing the average length of stays in IMDs versus general hospital psychiatric units could inform future policy discussions.

The Cures Act requires the most recent information on the average length of stays in IMDs, general hospital psychiatric units, and hospital emergency departments for each state that participated in MEPD.

In response to the Cures Act requirement, we present data on the average length of stays in IMDs, general hospital psychiatric units, and hospital emergency departments, separately by state.

### B. Data and methods

We used different data sources to determine the length of stays for each facility type:

- **IMDs:** (1) MEPD payment and monitoring data and (2) administrative data on MEPD-eligible beneficiaries, which we obtained directly from MEPD-participating IMDs
- **General hospital psychiatric units:** Medicaid and Medicare administrative data

<sup>48</sup> When specialized psychiatric inpatient beds are not available, general hospitals will sometimes admit individuals experiencing psychiatric EMCs to beds in general medical units scattered throughout the hospital; such placements are referred to as scatter beds.

- **Hospital emergency departments:** Self-reported administrative data that we obtained directly from select hospital emergency departments that referred MEPD-eligible beneficiaries with psychiatric EMCs to participating IMDs. These data cover two years before through the first two years of MEPD. See Appendix E for more information about data we include in the analyses.

We calculated the length of inpatient stays in IMDs and general hospital psychiatric units as the difference between a beneficiary's admission date and discharge date. The hospital emergency department length of stay reflects the total hours between the times the beneficiary entered and left the hospital emergency department. Because MEPD could have affected the length of stays, we separately calculated the average length of stays occurring before and during MEPD.

## C. Results

### 1. Length of IMD stays funded by MEPD

Based on MEPD payment and monitoring data, the length of IMD stays funded by MEPD averages 8.6 days (Table VI.1). Average length of stay is fairly consistent across the states, ranging from 6.2 days in Missouri to 10.6 days in Maine. Within states, however, the length of stays varies widely. The shortest stay within a state is less than one day; the longest is 147 days.

IMD stays funded by MEPD average 8.6 days. However, the length of stays vary widely. At least 75 percent of stays lasted fewer than 24 days. The longest stay in each state ranges from 46 days to 147 days.

**Table VI.1. Length of IMD stays (in days) funded by MEPD, by state**

State	Number of admissions	Median length of stay <sup>a</sup>	Average length of stay	Standard deviation <sup>b</sup>	Minimum	Maximum
<b>Total</b>	<b>16,731</b>	<b>7</b>	<b>8.6</b>	<b>7.6</b>	<b>0<sup>c</sup></b>	<b>147</b>
Alabama	1,112	7	10.0	8.0	1	70
California	3,152	7	8.5	6.6	1	71
Connecticut	855	6	7.6	5.0	0 <sup>c</sup>	46
District of Columbia	857	7	7.6	4.5	1	66
Illinois	336	7	9.5	6.8	1	55
Maine	681	7	10.6	10.8	1	83
Maryland	4,169	7	9.5	9.8	1	147
Missouri	2,065	5	6.2	4.5	1	72
North Carolina	635	8	9.4	6.5	1	53
Rhode Island	245	6	7.4	6.8	1	61
Washington	715	8	10.2	8.5	1	97
West Virginia	1,909	7	7.6	5.5	1	105

Source: Mathematica analysis of MEPD data that participating states submitted to CMS for payment and monitoring purposes (July 2012 through June 2015).

<sup>a</sup>The median is the midpoint of the distribution of all stays. This means that half of all IMD stays are as long or longer than the median and the other half are the same length or shorter than the median. For each state, the median length



Table VI.1 (*continued*)

of stay is shorter than the average length of stay and the standard deviation is large relative to the mean and median. This pattern indicates that most stays are short—that is, more stays are shorter, rather than longer, than the average. However, some stays are much longer than the average.

<sup>b</sup>Length of stay does not have a normal distribution. As such, Chebychev's rule applies, which states that at least 75 percent of the data will be within the mean plus two standard deviations and 89 percent will be within the mean plus three standard deviations. Therefore, because the overall mean is 8.6 and the standard deviation is 7.6, at least 75 percent of stays last fewer than 23.8 days and 89 percent last fewer than 31.4 days.

<sup>c</sup>A length of stay of zero indicates that the beneficiary was admitted and discharged on the same day.

## 2. Length of stays in general hospital psychiatric units

We present the average length of stays in general hospital psychiatric units side by side with the average length of stays in MEPD IMDs. We used data provided directly by the IMDs to calculate length of stays in IMDs (rather than the MEPD payment and monitoring data presented above), to ensure greater consistency between the beneficiaries included for the IMDs and general hospital psychiatric units.<sup>49</sup>

Six of the twelve MEPD states (Alabama, California, Connecticut, Maryland, Missouri, and West Virginia) have sufficient data to include in the analysis (see Appendix D). Three of the six states only have Medicaid and Medicare data through the first six months of MEPD, so we restrict the analyses to two years of pre-MEPD data and six months of MEPD data for all states.

In five of six states we examine, the length of stays in general hospital psychiatric units are similar to or shorter than the length of stays in IMDs.

Table VI.2 presents the average length of stay in days in general hospital psychiatric units and IMDs, by state. The exhibit shows that in five of the six states we examine (all but California), the length of stays in general hospital psychiatric units are similar to or shorter than the length of stays in IMDs.

<sup>49</sup> All patients included in the MEPD payment and monitoring data are identified as suicidal, homicidal, or dangerous (known as having a psychiatric EMC). The Medicaid and Medicare data we use for the general hospital psychiatric units, however, has no indicators of suicidality, homicidality, or dangerousness, so we use a proxy definition to define psychiatric EMCs (see Appendix B). Actual MEPD participants are only a subset of beneficiaries identified as having psychiatric EMCs by using the proxy definition. In addition, MEPD participants may differ from other beneficiaries identified with the proxy definition in unknown ways. In this section, therefore, we present the general hospital psychiatric unit length of stays side by side with IMD length of stays based on data we received directly from the IMDs, because in this data set we use the same proxy definition to choose which beneficiaries to include as IMD patients as we do for the general hospital psychiatric units.

**Table VI.2. Average length of stay in general hospital psychiatric units and IMDs (in days), by state**

State	General hospital psychiatric unit		IMD	
	Pre-MEPD (SD)	During MEPD (SD)	Pre-MEPD (SD)	During MEPD (SD)
Alabama	9.2 (10.8)	8.5 (9.4)	9.1 (5.0)	10.0 (8.7)
California	9.8 (8.9)	9.7 (8.3)	8.4 (6.3)	7.9 (5.7)
Connecticut	7.3 (6.4)	7.7 (6.6)	7.2 (4.7)	10.3 (12.5)
Maryland	6.2 (9.2)	6.3 (9.2)	11.0 (12.3)	9.6 (11.3)
Missouri	8.0 (9.4)	7.9 (8.2)	9.5 (8.0)	7.8 (6.4)
West Virginia	9.9 (9.5)	9.6 (8.8)	18.3 (52.2)	13.0 (17.6)

Source: Mathematica analysis of Medicaid and Medicare administrative data and IMD admissions data provided by states and participating IMDs, covering July 2010 to December 2012.

Note: Analysis includes MEPD-eligible beneficiaries (which we define by using a proxy definition of psychiatric EMC—see Appendix B). Averages are not adjusted to account for differences in patient populations.

SD = standard deviation.

### 3. Length of psychiatric stays in hospital emergency departments

Table VI.3 depicts the average length of hospital emergency department stays for the seven MEPD states for whom we have hospital emergency department data. The table shows that the length of psychiatric stays in hospital emergency departments ranges from 7 hours to more than 24 hours across MEPD states with available data.

The average length of psychiatric stays in emergency departments ranges from 7 hours to over 24 hours across MEPD states with available data.

**Table VI.3. Average length of hospital emergency department stays (in hours), by state**

State	Pre-MEPD (SD)	During MEPD (SD)
Alabama	11.7 (12.2)	10.1 (9.4)
California	19.1 (16.5)	24.4 (26.9)
Connecticut	21.4 (29.7)	17.7 (19.5)
Maryland	12.0 (13.0)	10.9 (12.0)
Missouri	7.8 (4.9)	8.3 (5.6)
Washington	7.0 (8.9)	8.9 (13.4)
West Virginia	7.9 (5.4)	7.7 (5.2)

Source: Mathematica analysis of data directly obtained from hospital emergency departments, which covers 19,461 visits to 12 hospital emergency departments (across the seven states) that occur from 2010 to 2014.

Note: Averages are not adjusted to account for differences in patient populations before and during MEPD.

SD = standard deviation.

### D. Limitations of analysis

There are limitations to our analyses on length of stays:

- When we identify cases where a beneficiary has an episode of care that includes time spent in both a general hospital psychiatric unit and a general hospital scatter bed, we are unable to

determine the amount of time spent in each location. In these instances, we classify the entire episode as a stay in a general hospital psychiatric unit. In addition, we are unable to determine the amount of time spent in each location if a beneficiary has an episode that involves time spent in both the hospital emergency department and a general hospital psychiatric unit of the same hospital, so we include time spent in the hospital emergency department in the general hospital psychiatric unit length of stay calculation. As a result, we may overestimate the length of stay in a general hospital psychiatric unit for some cases.

- In the data we obtained from hospital emergency departments, data entry errors and inconsistencies in the fields we use to calculate length of stay might skew the averages. To mitigate this, we exclude extreme outliers<sup>50</sup> that might indicate data entry errors. Nevertheless, the analysis of the length of stays in hospital emergency departments might still include erroneous data that we are not able to detect.
- The analysis of length of hospital emergency department stays relies on data from only one to three hospital emergency departments in each state. Average length of stays in other hospital emergency departments might differ from the averages we report here.

## **E. Conclusions**

The original MEPD evaluation found that, aggregated across six MEPD states, the average length of general hospital psychiatric unit stays is shorter than the average length of IMD stays funded through MEPD. When assessing the average length of stays separately for these six states, we confirm that the average length of stays in general hospital psychiatric units tends to be similar to or shorter than the length of stays in psychiatric IMDs. Our presentation of lengths of stays does not adjust for possible differences in the patients these two types of facilities serve. More complex psychiatric EMCs or patients experiencing co-occurring physical health problems may require longer lengths of stays. In addition, MEPD imposed requirements regarding discharge planning and stabilization review, and the total amount of funding available to each state was restricted. Our analysis cannot determine the extent to which IMD stays would be longer or shorter without such restrictions.

The wide variation in the length of IMD stays has important implications regarding the potential effect of policies that set caps on length of stays. An examination of factors that affect length of stay might provide important information to consider in setting such caps.

In the original MEPD evaluation, we analyzed lengths of hospital emergency department stays because stakeholders are concerned that the lack of inpatient psychiatric beds can increase the time patients spend in hospital emergency departments waiting for a bed to become available. Our current analysis shows that the average length of hospital emergency department stays ranges across MEPD states from 7 hours to more than 24 hours. Examination of local factors affecting length of hospital emergency department stays may suggest areas for improvement.

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<sup>50</sup> Outliers include visits with a length of stay of fewer than zero hours or more than 480 hours.

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## VII. PAYMENT RATES FOR IMDs, GENERAL HOSPITAL PSYCHIATRIC UNITS, AND HOSPITAL EMERGENCY DEPARTMENTS

### Key findings

- Payment rates vary by state, year, facility, and patient
  - IMDs (MEPD rate): Range from \$371 to \$1,548 per day
  - General hospital psychiatric units: Not consistently more expensive than IMDs; higher than IMDs in some states, lower in others
  - EDs: Range from \$108 to \$350 for high complexity visit
- Payment rates for general hospital psychiatric units and hospital emergency department visits vary substantially, depending upon state payment approaches and patient and provider characteristics. Thus, simple summaries of these payment rates and comparisons of IMD and general hospital psychiatric unit rates were not possible.

### A. Background and purpose

Stakeholders discussing the IMD exclusion have suggested that cost savings might accrue to Medicaid by diverting patients from general hospital psychiatric units to psychiatric IMDs. This notion is premised on the possibility that psychiatric IMD stays might be less expensive than stays in general hospital psychiatric units. One factor affecting cost per stay is the Medicaid payment rate. Although for the original MEPD evaluation, we examined MEPD effects on total Medicaid and Medicare mental health costs, we did not examine differences in payment rates for specific types of facilities. The Cures Act requires information about Medicaid payment rates for IMDs, hospital emergency departments, and other inpatient hospitals.

The Cures Act requires information about Medicaid payment rates for IMDs, hospital emergency departments, and other inpatient hospitals during MEPD.

Medicaid payment methodologies vary by type of facility and across states. They can also vary within a state across facilities of the same type or within a facility based on individual beneficiary characteristics. Therefore, for each of the states that participated in MEPD, we describe the Medicaid payment methodologies in addition to the payment rates for the requested types of facilities.

### B. Data and methods

**IMD payment rates.** We obtained IMD payment rates negotiated for MEPD from CMS demonstration staff for state fiscal years 2012 to 2015. We calculated the average payment rate and the range of payment rates across IMDs in each state and, in California, by county.

**General hospital psychiatric units and hospital emergency departments.** We searched Medicaid and state health department websites for Medicaid payment rates from 2012 to 2015 for general hospital psychiatric unit inpatient stays and hospital emergency department visits. In addition, we searched Medicaid state plans for information about payment rates and methodologies. We also searched Google for other sources of information about payment rate calculation and payment policies for each state. When we could not find data for a state during

the MEPD period but could find the state's Medicaid payment data for other years, we expanded the search to include data for the years closest to the MEPD period.

For states with different rates for each facility, we report the average payment rate and the range of payment rates across hospitals in the state. For general hospital psychiatric units in six MEPD states, we found and report a range of per diem rates across hospitals in the state. Three of the remaining MEPD states base payments on diagnosis and level of illness severity (known as diagnosis related groups, or DRGs). For these states, we used online DRG pricing calculators provided on state websites to calculate DRG rates for hypothetical patients with characteristics that resemble individuals who received inpatient services from IMDs under MEPD. For the remaining states (Alabama, North Carolina, and West Virginia), we found neither set payment rates nor online DRG pricing calculators, so we excluded them from the analysis.

Our intent is to examine payment rates for hospital emergency department visits that are specifically associated with psychiatric EMCs. Therefore, we report rates for hospital emergency department visits associated with four procedure codes:<sup>51</sup>

- psychiatric diagnostic interviews with medical services;
- psychiatric diagnostic interviews without medical services;
- moderate complexity hospital emergency department visits; and
- high complexity hospital emergency department visits.

## **C. Results**

### **1. IMD per diem payment rates**

Table VII.1 shows that MEPD payment rates for IMDs vary by state, year, and IMD. Rates range from \$371 per day to \$1,548 per day.

Payment rates for IMDs under MEPD range from \$371 per day to \$1,548 per day.

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<sup>51</sup> A procedure code is a medical classification used to identify specific interventions for billing purposes. See Appendix F for the definition of the four specific procedure codes listed.

**Table VII.1. Average per diem payment rates for IMDs under MEPD (in dollars)**

State	FY 2013			FY 2014			FY 2015		
	Number of IMDs	Average rate	Range	Number of IMDs	Average rate	Range	Number of IMDs	Average rate	Range
Alabama	4	600	NA	4	600	NA	4	600	NA
California: Sacramento County	3	950	NA	3	950	NA	3	950	NA
California: Contra Costa County	1	1,070	NA	1	1,100	NA	1	1,155	NA
Connecticut	1	815	NA	1	815	NA	1	815	NA
District of Columbia	1	730	NA	1	730	NA	1	730	NA
Illinois	2	693	637–750	2	693	637–750	2	693	637–750
Maine	2	999	984–1,015	2	999	939–1,015	2	999	984–1,015
Maryland	3	805	650–1,032	3	805	609–1,073	3	805	609–1,073
Missouri	3	775	371–1,422	4	669	371–1,405	5	867	371–1,548
North Carolina	1	524	NA	1	524	NA	1	524	NA
Rhode Island	1	1,210	NA	1	1,210	NA	1	1,210	NA
Washington	3	904	866–923	3	792	758–809	3	775	746–790
West Virginia	2	1,100	800–1,400	2	1,100	800–1,400	2	1,100	800–1,400

Source: Mathematica analysis of CMS data on MEPD per diem rates for participating IMDs.

FY = fiscal year; NA = not applicable.

## 2. General hospital psychiatric unit payment rates

Medicaid payment policies for general hospital psychiatric unit stays vary from state to state. We used the definitions from the Kaiser Commission on Medicaid and the Uninsured Medicaid Benefits Database<sup>52</sup> to categorize common Medicaid payment methodologies. Categories include per diem, per discharge, hospital prospective rate setting, and DRG methods (Table VII.2).

Payment rates for general hospital psychiatric units vary substantially, depending upon state payment approaches and patient and provider characteristics. Thus, simple comparisons of payment rates for stays in IMDs and general hospital psychiatric units are not possible.

<sup>52</sup> See the reference list at the end of this report for the complete citation.

**Table VII.2. Medicaid payment policies for general hospital psychiatric unit stays, by payment policy**

Inpatient payment policy	State	Description
Per diem	AL, <sup>a</sup> MO, CT, IL, WA	Payment for each day of care. Per diems are either an all-inclusive rate or base rate plus add-on payments.
Per discharge	ME	Single payment for an episode of care, such as a stay in the psychiatric unit.
Hospital prospective rate setting	MD	Payment based on approved rates under a hospital prospective rate setting experiment.
DRGs	DC, RI, CA, NC, <sup>a</sup> WV <sup>a</sup>	Establishes payment by the diagnosis of the patient, procedures performed, and duration of stay. States can use DRGs, MS-DRGs, AP-DRGs, or APR-DRGs. States can use case-mix, the average acuity level of a hospital's patients compared to its peers, to adjust payment.

Source: Kaiser Family Foundation (2014) and Medicaid and CHIP Payment and Access Commission (2014).

<sup>a</sup>We did not find inpatient payment rates for Alabama, North Carolina, or West Virginia.

DRGs = diagnosis related groups; MS-DRGs = Medicare severity diagnosis related groups; AP-DRGs = all patient diagnosis related groups; APR-DRGs = all patient refined diagnosis related groups.

Table VII.3 presents payment rates for the MEPD states that reimburse hospitals based on a per diem, per discharge, or hospital prospective rate setting method. Among the states in Table VII.3, we find that the payment rates differ by hospital in Illinois, Maryland, Missouri, and Washington. For example, the rates ranged from \$712 to \$1,872 among 72 general hospital psychiatric units in Washington. Connecticut has a flat rate across hospitals, but the rate decreases on Day 30 of the stay. Although most hospitals in Maine are reimbursed \$6,439 per discharge, one is reimbursed at a rate that is more than double the rate for all other hospitals in the state.



**Table VII.3. Medicaid payment rates for general hospital psychiatric unit stays, by states with per day or per discharge policies**

State	Inpatient payment policy	Years	Rate
Alabama	Per diem	-	Not available <sup>a</sup>
Connecticut	Per diem	2012–2014	Days 1–29: \$900, Days 30+: \$825 <sup>b</sup>
Illinois	Per diem	CY 2015	Range: \$372–\$898 Average: \$448 among 92 hospitals
Maine	Per discharge	2012–2014	\$6,439 (Northern Maine Medical Center: \$15,680)
Maryland	Hospital prospective rate setting (daily rates)	SFY 2012	Range: \$650–\$1,695 Average: \$1,241.51 among 31 hospitals
		SFY 2013	Range: \$688–\$1,430 Average: \$1,017 among 31 hospitals
		SFY 2014	Range: \$609–\$1,534 Average: \$1,054 among 31 hospitals
		SFY 2015	Range: \$843–\$1,641 Average: \$1,146 among 30 hospitals
Missouri	Per diem	2017	Range: \$228–\$4,446 <sup>c</sup> Average: \$1,349 among 145 hospitals
Washington	Per diem	2014–2015	Range: \$712–\$1,872 Average: \$863 among 72 hospitals <sup>d</sup>

Source: Mathematica analysis of state Medicaid and health department websites. See Appendix E for specific sources.

<sup>a</sup>Medicaid payment rates for general hospital psychiatric unit stays are not readily accessible online for Alabama. Methodology is available in Alabama Medicaid State Plan, Attachment 4.19-A, Method for Payment of Reasonable Costs for Inpatient Hospital Services.

<sup>b</sup>Per diem rates are for intermediate duration acute psychiatric care provided in a designated general hospital certified by the state Department of Mental Health and Addiction Services. From 2012-2015, Connecticut calculated per diem rates based on a weighted average of payments for both fee-for-service and managed care. Connecticut transitioned to payment based on DRGs in 2015.

<sup>c</sup>Inpatient per diem not specific to psychiatric unit. The hospitals with larger per diems tend to be federally deemed critical access hospitals.

<sup>d</sup>These services are reimbursed at a per diem rate based on occupancy in the inpatient unit during the midnight bed count. Physician and other professional time not included in the daily rate is billed separately.

CY = calendar year; SFY = state fiscal year.

In Table VII.4, we provide the rates we estimated with the DRG pricing calculators for the District of Columbia, California, and Rhode Island. As expected, we find a wide range of payment rates for each of the diagnoses, depending upon the level of severity. Each of the diagnoses includes four levels of severity. The rates for the highest severity level are at least double the rates for the lowest severity levels. Within each state, the rates for schizophrenia are higher than the rates for major depressive disorders and bipolar disorders.

**Table VII.4. Medicaid payment rates for general hospital psychiatric unit stays, by states with DRG pricing calculators**

State	Year	Schizophrenia (750-1 to 750-4)	Major depressive disorders and other/unspecified psychoses (751-1 to 751-4)	Bipolar disorders (753-1 to 753-4)
California <sup>a</sup>	2013/2014	\$4,641.12–\$14,124.24	\$2,592.00–\$11,729.52	\$2,989.44–\$11,316.24
	2014/2015	\$4,781.39–\$14,103.81	\$2,630.69–\$11,839.56	\$2,919.71–\$10,786.70
District of Columbia	2015	\$9,158.10–\$25,110.41	\$6,640.56–\$21,160.51	\$7,175.24–\$19,989.38
	2016	\$8,889.48–\$24,203.67	\$6,472.56–\$20,411.77	\$6,957.14–\$19,287.54
	2017	\$8,889.48–\$24,203.67	\$6,472.56–\$20,411.77	\$6,957.14–\$19,287.54
Rhode Island	2012	\$10,272.78–\$30,000.00	\$5,743.92–\$26,068.56	\$6,738.06–\$25,184.88
	2015	\$10,016.10–\$30,000.00	\$5,600.40–\$25,417.20	\$6,569.70–\$24,555.60

Source: Mathematica analysis using DRG pricing calculators available on state websites. See Appendix F for specific sources.

Note: Medicaid payment rates for general hospital psychiatric unit stays are not readily accessible online for North Carolina and West Virginia. According to the North Carolina Medicaid State Plan, Attachment 4.19-A, the payment amount for a DRG billing is the product of the hospital-specific rate times the relative weight and unit value for that DRG exclusive of add-ons (for example, DSH and outliers). North Carolina Medicaid beneficiaries also receive psychiatric inpatient services through a managed care organization. Information on covered services, limitations, and exclusions for hospital services is available in the West Virginia Bureau for Medical Services (BMS) Provider Manual, Chapter 510, Hospital. DRG methodology is available in West Virginia Medicaid State Plan, Attachment 4.19-A, Inpatient Hospital Services, Section C: Methods Used to Establish DRG Payment Weights.

For each diagnosis in our analysis (schizophrenia, major depressive disorders and other/unspecified psychoses, and bipolar disorders), we report the lowest severity DRG (represented by the DRG suffix -1) as the minimum value in the range and the highest severity DRG (represented by the DRG suffix -4) as the maximum value in the range, where all user-specified conditions entered into the calculator other than the DRG remain the same each time the calculator is run. For example, DRG 750-1 and DRG 750-4 represent the lowest and highest severities for schizophrenia, respectively. In addition to user-specified conditions, other factors influencing the pricing estimate for a specific DRG may vary across states and individual hospitals. These factors include, for example, the statewide base rate, policy adjustors such as an outlier payment based on length of stay, hospital-specific conditions such as the ratio of cost to charges, and other methodologies determined by the states. These factors vary from state to state.

See Appendix F for user-specified conditions we entered into the DRG calculator for District of Columbia, California, and Rhode Island.

<sup>a</sup>California used competitively bid rates, negotiated rates, contracted capitation rates, or prospective all-inclusive rates using historical costs and peer groups prior to 2013. In 2012, the average contract rate in the Medi-Cal Selective Provider Contracting Program for hospitals with more than 300 hundred beds was \$1,682.

### 3. Hospital emergency department visits

Table VII.5 shows the Medicaid payment policies for emergency services provided in the outpatient hospital setting.<sup>53</sup> We use a report from the Medicaid and Children's Health Insurance Program Payment and

Numerous factors contribute to determination of payment rates for emergency department visits. In MEPD states, payment rates for emergency department visits of high complexity range from \$108 to \$350.

<sup>53</sup> Depending on state Medicaid payment policies, hospital emergency department visits related to an inpatient stay can be bundled into the inpatient claim. The payment rates we present in this section only include the rates for outpatient hospital emergency department visits.

Access Commission<sup>54</sup> to categorize the Medicaid payment methodologies used by each MEPD state. In addition to different payment policies, states can also adjust payment rates depending upon hospital type, geography, out-of-state services, exempt services, and other provider preventable conditions.<sup>55</sup> States can also provide supplemental payments to government-owned hospitals, safety net hospitals, and academic health centers. Emergency services also often have payment rules that are different from the outpatient payment policy that would otherwise govern them.

**Table VII.5. Medicaid payment policies for hospital emergency services, by payment policy**

Emergency service payment policy	State	Description
Fee schedule <sup>a</sup>	AL, CA, WV	A fee schedule is a state's complete list of services and the corresponding payment amounts, which are typically determined based on market value, an internal process, or as a percentage of the Medicare rate. States often have accommodations for services without an established fee.
Hospital-specific rate setting	MD	A global budget for all hospital services is established for each hospital based on a historical base period and adjusted to account for a number of factors, including inflation, infrastructure requirements, volume increases, and performance in quality-based or efficiency-based programs.
Ambulatory payment classifications (APC)	ME, RI	The APC system, used by Medicare, bundles individual services into one of 833 APCs based on clinical and cost similarity. All services within an APC have the same payment rate. A single visit may have multiple APCs and multiple separate payments.
Enhanced ambulatory patient groups (EAPGs)	DC, <sup>b</sup> IL	EAPGs bundle ancillary and other services commonly provided in the same medical visit. Payment is based on the complexity of a patient's illness.
Percentage of charge	MO	Uses a "percentage of charge" to reflect cost, typically using some documentation of a provider's historical cost to charge ratio.

Source: Medicaid and CHIP Payment and Access Commission (2014, 2016).

Note: Medicaid beneficiaries in Connecticut, North Carolina, and Washington receive outpatient mental health services through managed care plans and therefore are not included in this analysis. Connecticut has a carve-out model where managed care organizations cover hospital emergency department visits. North Carolina has a Medicaid waiver that allows the state to require that its Medicaid beneficiaries receive mental health services (including hospital inpatient and hospital emergency department visits) through a managed care organization. In Washington, almost all individuals with serious mental illness were enrolled in behavioral health managed care plans. Managed care plans pay providers a fixed payment for each person served within a given time period (typically a month), regardless of the type or amount of services provided.

<sup>a</sup>Reimbursement is an all-inclusive fee, which includes the use of an emergency room; routine supplies (such as sterile dressings); minor supplies (bandages, slings, finger braces, and so on); pharmacy charges; suture, catheter, and other trays; intravenous fluids and supplies; routine electrocardiogram monitoring; and oxygen administration and O2 saturation monitoring.

<sup>b</sup>On October 1, 2014, the District of Columbia changed its outpatient payment method from a cost-based, hospital-specific visit rate to EAPGs for all outpatient hospital services.

<sup>54</sup> See the reference list at the end of this report for the complete July 2016 citation.

<sup>55</sup> See <https://www.medicaid.gov/medicaid/finance/provider-preventable-conditions/index.html> for an explanation of other provider preventable conditions.

Table VII.6 presents Medicaid payment rates for hospital emergency services based on selected procedure codes for moderate and high severity hospital emergency department visits. See Appendix F for additional descriptions of the procedure codes used in the analysis. Payment rates for hospital emergency department visits of moderate complexity range from \$68 in California to \$236 in Rhode Island. Visits of high complexity range from \$108 in California to \$350 in Rhode Island.

**Table VII.6. Medicaid payment rates for hospital emergency department services, by state**

State	Emergency service payment policy	Year	Psychiatric diagnostic interview		Hospital emergency department visits	
			Without medical services (90791)	With medical services (90792)	Moderate complexity (99284)	High complexity (99285)
Alabama	Fee schedule	2018	\$107	\$90	\$79	\$330
California	Fee schedule	2018	\$162	\$131	\$68	\$108
West Virginia	Fee schedule	2013	\$86	\$89	\$87	\$124
Maryland	Hospital-specific rate setting	2018	\$146	\$154	\$117	\$172
Maine <sup>a</sup>	APC	2013	\$92	\$92	\$192	\$280
Rhode Island	APC	2018	\$110	\$110	\$236	\$350
District of Columbia	EAPGs	2018	\$110	\$124	\$104	\$153
Illinois <sup>b</sup>	EAPGs	2012–2014	\$68	\$68	\$181	\$181
Missouri <sup>c</sup>	Percentage of charge	2017	NA	NA	NA	NA

Source: State Medicaid and health department websites. See Appendix F for specific sources.

<sup>a</sup>Effective July 1, 2009, Maine reimbursed outpatient services by using the lower of 83.8 percent of MaineCare outpatient costs or total charges for outpatient services. Effective July 1, 2013, MaineCare reimbursed 83.7 percent of the adjusted Medicare APC rate for all outpatient services. This excluded hospital-based physician services. Rates were calculated by using the January 2013 Addendum B updates. The rate for APC 0615 (HCPCS 99284) was \$229.37; for APC 0616 (HCPCS 99285), \$334.71; and for APC 0323 (HCPCS 90791 and 90792), \$110.16. We calculated the payment rates by multiplying the Medicare APC rates by 0.837.

<sup>b</sup>The rates for Illinois do not reflect the 3.5 percent rate reduction for all dates of service beginning July 1, 2012, and after.

<sup>c</sup>Missouri reimburses outpatient visits as a percentage of charges. In 2017, the minimum outpatient payment percentage rate for in-state hospitals was 0.2 and the maximum was 1.0. The average percentage rate was 0.348. APC = ambulatory patient classification; EAPGs = enhanced ambulatory patient groups; NA = not applicable.

#### D. Limitations of the analysis

Limitations of the analysis include the following:

- Data availability on payment rates and payment rate policies varies from state to state and year to year, which means the payment rate data are not comparable across states.
- We were able to obtain some information about base payment rates for general hospital psychiatric unit stays. However, the rates that hospitals charge vary by patient, depending upon numerous potential adjustments – for example, outlier payments for mental health

diagnoses may apply when the length of stay is greater than 20 days. In the next chapter, we present our analyses of actual expenditures for general hospital psychiatric unit stays and hospital emergency department visits; we conduct these analyses in order to account for additional payments that are not reflected in the rates.

## **E. Conclusions**

Payment rates for general hospital psychiatric units and hospital emergency department visits varied substantially, depending upon state payment approaches and patient and provider characteristics. Therefore, simple summaries of these payment rates across states and comparisons of IMD and general hospital psychiatric unit rates are not possible. The original MEPD evaluation did not assess payment rates for specific types of facilities. Our current state-by-state analysis may help stakeholders to understand not only differences in payment rates by facility type, but also variations across states, hospitals, and patient characteristics. In Chapter VIII, we calculate average Medicaid expenditures per stay for the same three facility types as an estimate of effective payment rates.

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## VIII. EXPENDITURES AS A PROXY FOR PAYMENT RATES

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### Key findings

- In some states, the average expenditure per stay in a general hospital psychiatric unit is higher than the average expenditure per stay in IMDs that participated in MEPD. In other states, general hospital psychiatric unit stays are cheaper.
- Average expenditures for hospital emergency department visits that do not result in general hospital psychiatric unit stays generally exceed base payment rates.

### A. Background and purpose

As described in Chapter VII, Medicaid payment rate information for general hospital psychiatric units and hospital emergency departments is not available on a systematic basis for some states. Further, payment rates vary by patient, depending upon numerous potential adjustments. Per diem payment rates for general hospital psychiatric unit stays also do not reflect the overall cost of a stay, which is affected by the length of the stay, and base payment rates do not always include all costs associated with the stay, such as laboratory, x-ray, and prescription drug costs that are billed separately. In order to assess whether effective payment rates for inpatient stays in IMDs are different than those for stays in general hospital psychiatric units, we present data on actual Medicaid expenditures for psychiatric stays in IMDs, general hospital psychiatric units, and hospital emergency departments. Our goal is to account for costs associated with inpatient stays that are not reflected in base payment rates and gain an understanding of the overall costs per stay in different types of facilities.

### B. Data and methods

We used MEPD payment and monitoring data to analyze expenditures for IMD stays funded under MEPD in participating states. We examined expenditures for psychiatric stays in general hospital psychiatric units and hospital emergency departments in five MEPD states: Alabama, California, Maryland, Missouri, and West Virginia. For these analyses, we included Medicaid-only beneficiaries who have a psychiatric EMC at any point during the evaluation period. We excluded beneficiaries who were dual Medicare-Medicaid beneficiaries at any time during a given quarter because the Cures Act specifically asks about Medicaid payment rates. Because Medicare is the first payer, general hospital psychiatric unit stays and hospital emergency department visits for dual beneficiaries are likely covered by Medicare instead of Medicaid. We calculated the average expenditures for general hospital psychiatric unit stays and hospital emergency department visits by using payment information in the Medicaid claims data.

### C. Results

Table VIII.1 shows the average expenditures per IMD stay funded under MEPD, by state. The average expenditure per stay ranges from \$4,852 in North Carolina to \$9,518 in Maine.

**Table VIII.1. Average expenditures for IMD stays funded by MEPD, by state**

State	Average amount claimed per stay (in dollars)
<b>Total</b>	<b>6,766</b>
Alabama	5,972
California	7,483
Connecticut	6,068
District of Columbia	5,409
Illinois	5,594
Maine	9,518
Maryland	8,290
Missouri	5,339
North Carolina	4,852
Rhode Island	8,766
Washington	5,829
West Virginia	5,133

Source: Mathematica analysis of data participating states submitted to CMS for payment and monitoring purposes during the MEPD implementation (July 2012 through June 2015).

In addition to costs of IMD stays, we also examine the average expenditures for psychiatric stays in general hospital psychiatric units and hospital emergency departments. Table VIII.2 shows the average and median expenditures for psychiatric stays in general hospital psychiatric units and hospital emergency departments in five states during the MEPD period. The average expenditure for a stay in a general hospital psychiatric unit that includes a hospital emergency department visit ranges from \$4,358 in California in 2013 to \$8,525 in West Virginia in 2012. The average expenditure for each general hospital psychiatric unit inpatient stay without a hospital emergency department visit ranges from \$5,701 in Maryland in 2012 to \$9,067 in West Virginia in 2012. For Missouri and West Virginia, the average expenditure per stay in a general hospital psychiatric unit is higher than the average expenditure per stay in an IMD (compare expenditures presented in Tables VIII.1 and VIII.2), while general hospital psychiatric unit stays are cheaper in California and Maryland. In Alabama, the average expenditure per stay for IMDs relative to general hospital psychiatric units is mixed, depending upon whether the general hospital psychiatric unit stay did or did not include a hospital emergency department visit.

In some states, the average expenditure per stay in a general hospital psychiatric unit is higher than the average expenditure per stay in IMDs that participated in MEPD. In other states, general hospital stays are cheaper.

Average expenditures for hospital emergency department visits that do not result in inpatient stays generally exceed identified payment rates. Expenditures for additional services not included in the payment rate likely account for the differences.

The average expenditure for a hospital emergency department visit that does not result in an inpatient stay ranges from \$102 in Alabama in 2012 to \$470 in Missouri in 2014. For some states, expenditures likely include additional services that are not included in the Medicaid payment rates presented in Chapter VII, Table VII.6, such as hospital-based physician services. Thus, the average expenditures for hospital emergency

department visits we present in Table VIII.2 are higher than the Medicaid payment rates for emergency services we present in Chapter VII, Table VII.6.



**Table VIII.2. Medicaid expenditures (in dollars) for general hospital psychiatric unit stays and hospital emergency department visits**

State and year	General hospital psychiatric unit stay with hospital emergency department visit		General hospital psychiatric unit stay without hospital emergency department visit		Hospital emergency department visit only	
	Average	Median	Average	Median	Average	Median
<b>Alabama</b>						
2012	5,498	4,809	7,014	5,641	102 <sup>b</sup>	82
<b>California</b>						
2012	4,953	3,953	5,714	4,481	142	204
2013	4,358	4,248	5,941	4,181	128	180
2014 <sup>a</sup>	-	-	-	-	128	211
<b>Maryland</b>						
2012	7,049	6,492	5,701	5,787	172	166
<b>Missouri</b>						
2012	6,928	5,963	6,139	4,973	446	385
2013	7,443	6,457	6,354	4,949	441	421
2014	7,277	6,489	6,241	4,892	470	436
<b>West Virginia</b>						
2012	8,525	7,304	9,067	6,477	267	236
2013	8,304	7,266	8,809	6,532	294	268
2014	8,077	7,183	8,561	5,934	286	242

Source: Mathematica analysis of Medicaid data obtained from CMS, 2012 to 2014.

Note: The expenditures include both facility and professional services claims. Averages are not adjusted for differences among facility types or over time.

<sup>a</sup>In California, the number of Medicaid claims for stays in general hospital psychiatric units declined from 2012 to 2014. Specifically, there were 5,380 claims in 2012; 1,323 claims in 2013; and 16 claims in 2014. We attribute this decline to the Medi-Cal Specialty Mental Health Services program under the state's Section 1915(b) waiver. Under the waiver, counties contract with mental health plans to authorize and pay for professional specialty mental health services that were previously reimbursed through the fee-for-service Medi-Cal claim system. Claims for general hospital psychiatric unit services provided by Short-Doyle Medi-Cal hospitals are submitted through the Short-Doyle Medi-Cal claim system rather than the fee-for-service Medi-Cal claim system.

<sup>b</sup>In Alabama in 2012, the average expenditures per day in the hospital emergency department were 97 dollars. For all other cells in this column, the average expenditures per hospital emergency department visit and day were the same.

Table VIII.3 shows the average expenditures per day in a general hospital psychiatric unit compared to the average MEPD per diem rates for IMDs. In some states, per diem expenditures for stays in general hospital psychiatric units are higher than per diem rates for stays in IMDs funded by MEPD. In other states, they were lower.

**Table VIII.3. Average Medicaid expenditures (in dollars) per day in general hospital psychiatric units and average MEPD per diem payment rates for IMDs**

State and year <sup>a</sup>	General hospital psychiatric unit day with hospital emergency department visit	General hospital psychiatric unit day without hospital emergency department visit	IMDs per diem rates under MEPD
<b>Alabama</b>			
2012	785	788	NA
2013	NA	NA	600
2014	NA	NA	600
2015	NA	NA	600
<b>California</b>			
2012	539	573	NA
2013	487	620	950–1,070
2014	NA <sup>b</sup>	NA <sup>b</sup>	950–1,100
2015	NA	NA	950–1,155
<b>Maryland</b>			
2012	1,283	831	NA
2013	NA	NA	650–1,032
2014	NA	NA	609–1,073
2015	NA	NA	609–1,073
<b>Missouri</b>			
2012	772	673	NA
2013	741	710	371–1,422
2014	739	691	371–1,405
2015	NA	NA	371–1,548
<b>West Virginia</b>			
2012	779	773	NA
2013	764	754	800–1,400
2014	745	683	800–1,400
2015	NA	NA	800–1,400

Source: Mathematica analysis of Medicaid data obtained from CMS, 2012 to 2014; and CMS data on MEPD per diem rates for participating IMDs, fiscal year 2013 to 2015.

Note: The general hospital psychiatric unit expenditures include both facility and professional services claims. Averages are not adjusted for differences among facility types or over time.

<sup>a</sup>The average expenditures in general hospital psychiatric units reflect the averages in the calendar year, whereas the per diem payment rates for IMDs under MEPD reflect the averages in the fiscal year. These differences in timeframes might influence the general hospital psychiatric unit and IMD comparisons in Missouri because, unlike the other states, the average IMD per diem rates fluctuate across years and the average IMD rates are similar to the average general hospital psychiatric unit expenditures.

<sup>b</sup>In California, the number of Medicaid claims for stays in general hospital psychiatric units declined from 2012 to 2014. Specifically, there were 5,380 claims in 2012; 1,323 claims in 2013; and 16 claims in 2014. We attribute this decline to the Medi-Cal Specialty Mental Health Services program under the state's Section 1915(b) waiver. Under the waiver, counties contract with mental health plans to authorize and pay for professional specialty mental health services that were previously reimbursed through the fee-for-service Medi-Cal claim system. Claims for general hospital psychiatric unit services provided by Short-Doyle Medi-Cal hospitals are submitted through the Short-Doyle Medi-Cal claim system rather than the fee-for-service Medi-Cal claim system.

NA = not available.

**D. Limitation of the analysis**

Most of the participating states restricted MEPD eligibility to beneficiaries whose Medicaid service costs were reimbursed on a fee-for-service basis. Because managed care payments are made on a capitated basis, costs per service unit are not available in Medicaid claims data.<sup>56</sup> Therefore, our expenditure analyses exclude managed care beneficiaries in all states. Expenditures per stay and per day may differ in a managed care environment.

**E. Conclusions**

When using Medicaid expenditures as a proxy for payment rates, we find that in some states, the average expenditure per stay in a general hospital psychiatric unit is higher than the average expenditure per stay in IMDs that participated in MEPD. In other states, general hospital psychiatric unit stays are cheaper. Therefore, any potential cost savings that might accrue to Medicaid by diverting patients from general hospital psychiatric units to IMDs would vary by state.

Average expenditures for hospital emergency department visits that did not result in general hospital psychiatric unit stays generally exceed identified payment rates. Expenditures for additional services not included in the payment rate, such as certain professional services, likely account for the differences. When comparing payment rates across facility types, stakeholders should bear in mind that payment rates do not necessarily represent the full amount spent for services.

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<sup>56</sup> Although managed care costs per service unit are not available in Medicaid claims data for the time period studied in this report, such data may become available in association with later demonstrations for which IMD costs are broken out and tracked.

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## IX. HOSPITAL EMERGENCY DEPARTMENT USE BEFORE AND DURING MEPD

### Key findings

- MEPD was not associated with reduction in hospital emergency department use for psychiatric EMCs:
  - In two states, Medicaid beneficiaries living in areas where MEPD was implemented had a higher probability of a hospital emergency department visit when experiencing a psychiatric EMC during MEPD than were similar beneficiaries before MEPD began.
  - In the remaining three states in the analyses, we found no difference in the probability of hospital emergency department use between the groups of interest.

### A. Background and purpose

One of the motivations for MEPD was a concern among stakeholders that hospital emergency departments are overcrowded with people experiencing psychiatric EMCs. It was thought that MEPD might reduce such overcrowding by diverting Medicaid beneficiaries with psychiatric EMCs from hospital emergency departments to psychiatric IMDs. The original MEPD evaluation found no evidence that hospital emergency department visits among Medicaid beneficiaries with psychiatric EMCs decreased as a result of MEPD (aggregated across states with available data). To further explore potential differences in hospital emergency department use associated with MEPD, the Cures Act requires analyses differentiating hospital emergency department use among three groups of beneficiaries, by state:

1. Beneficiaries who received treatment in an IMD through MEPD
2. Beneficiaries who were eligible but did not receive treatment in an IMD through MEPD
3. Beneficiaries with serious mental illness who did not meet eligibility criteria for MEPD

While we cannot distinguish the third group from the second group using available data, we are able to compare the first and second group using a proxy definition. The only way to distinguish the second and third groups would be to determine whether the beneficiary was suicidal, homicidal, or deemed dangerous to themselves or others. Available data sources do not have adequate information to make this distinction reliably.<sup>57</sup> Given this limitation, we expand on our original MEPD evaluation by examining hospital emergency department use for the first and second groups (not the third group), by state.

The Cures Act requires information on the differences in hospital emergency department use between:

1. Beneficiaries who received treatment in an IMD through MEPD
2. Beneficiaries who were eligible but did not receive treatment in an IMD through MEPD
3. Beneficiaries with serious mental illness who did not meet eligibility criteria for MEPD

<sup>57</sup> See Appendix H for a detailed explanation of the challenges in defining the three groups with available data.

## B. Data and methods

To analyze hospital emergency department visits, we used our original MEPD analysis files. These files contain Medicaid and Medicare administrative data linked to data on IMD admissions that states and IMDs provided to us directly.

For California, the analysis compares MEPD-eligible beneficiaries who lived within the geographic area covered by MEPD during MEPD (Group 1) with similar beneficiaries who lived outside of the MEPD area (Group 2).<sup>58</sup> To calculate the effect of MEPD on the probability of a hospital emergency department visit, we conducted a logistic difference-in-differences analysis. In Alabama, Maryland, Missouri, and West Virginia, MEPD covered the entire state, so we could not identify beneficiaries outside of the MEPD area. For these states, we compared MEPD-eligible beneficiaries who experienced a psychiatric EMC during MEPD (Group 1) to MEPD-eligible beneficiaries who experienced a psychiatric EMC before MEPD began (Group 2). We used a pre-post logistic regression model for these analyses. All analyses controlled for beneficiary characteristics, including age, gender, race, dual Medicare-Medicaid enrollment, diagnosis, and an indicator for whether the beneficiary had experienced a psychiatric EMC in the previous 12 months.<sup>59</sup>

## C. Results

The results of the California analysis (Table IX.1) show that we found no statistically significant effect of MEPD on hospital emergency department visits for beneficiaries living in counties that later participated in MEPD relative to beneficiaries living in other counties that never participated in MEPD.

**Table IX.1. Probability of a hospital emergency department visit among MEPD-eligible beneficiaries living in and outside of MEPD counties before and during MEPD (California)**

	Intervention group	Comparison group	Change in probability associated with MEPD <sup>a</sup>	p-value
Baseline	89.6%	98.5%	NA	NA
Demonstration	89.7%	97.5%	1.2	0.20
Number of observations	6,911	34,575		

Source: Mathematica analysis of Medicaid and Medicare data we obtained from CMS combined with IMD data we obtained from California counties that participated in MEPD (2010 through 2012).

Note: The intervention group is Medicaid beneficiaries age 21 to 64 who lived within the counties served by MEPD. The comparison group is beneficiaries who lived in similar counties not served by MEPD. We estimate the impact of MEPD by using a logistic difference-in-differences regression model. Control variables include age; age squared; gender; race; dual Medicare-Medicaid enrollment status; category of psychiatric EMC (mood disorder, schizophrenia, or other); and an indicator for whether the person had experienced a psychiatric EMC within the previous 12 months. The percentages under the intervention and comparison group columns are the average probability of a hospital emergency department visit for a

<sup>58</sup> See Appendix H for a detailed explanation of our decisions about which beneficiaries to include in Groups 1 and 2.

<sup>59</sup> The control variables are included in the analyses to account for differences in beneficiaries' demographic characteristics.

Table IX.1 (continued)

beneficiary in the intervention or comparison group during the baseline or demonstration period. The probabilities are adjusted for differences in beneficiary characteristics over time and between groups.

<sup>a</sup>The number in the fourth column tells us whether the change in probability of a hospital emergency department visit for the intervention group is different from the change in probability for the comparison group. The  $p$ -value of 0.20 means the difference in probability between the two groups is not statistically significant ( $p = 0.20$ ). This means that we cannot rule out the possibility that the impact was zero and that the estimate occurred by chance.

In the pre-post analyses for two states (Alabama and Missouri), we find that MEPD-eligible beneficiaries with psychiatric EMCs during MEPD (Group 1) are more likely to visit a hospital emergency department than those with psychiatric EMCs before MEPD began (Group 2) (Table IX.2). In Maryland and West Virginia, there are no significant differences between the groups.

**Table IX.2. Probability of hospital emergency department visits among MEPD-eligible beneficiaries with psychiatric EMCs before and during MEPD**

State	N	Baseline	Demonstration	Change in probability <sup>a</sup>	$p$ -value
Alabama	17,138	79.7%	86.6%	6.9	< 0.001
Maryland	51,014	91.0%	91.4%	0.3	0.31
Missouri	58,042	76.0%	80.4%	4.4	< 0.001
West Virginia	21,269	87.7%	87.9%	0.2	0.68

Source: Mathematica analysis of Medicaid and Medicare data we obtained from CMS combined with IMD data we obtained from states and IMDs that participated in MEPD (2010 through 2012).

Note: We estimate the impact of MEPD by using logistic pre-post regression models. Control variables include age; age squared; gender; race; dual Medicare-Medicaid enrollment status; category of psychiatric EMC (mood disorder, schizophrenia, or other); and an indicator for whether the person had experienced a psychiatric EMC within the previous 12 months. The percentages under the baseline and demonstration columns are the average probability of a hospital emergency department visit for a beneficiary with a psychiatric EMC before or during MEPD. The probabilities are adjusted for differences in beneficiary characteristics over time.

<sup>a</sup>The change in probability of a hospital emergency department visit tells us whether there was a change in the trend for the probability of a hospital emergency department visit between the demonstration and baseline periods (Groups 1 and 2, respectively). In Alabama and Missouri, we detected a significant trend ( $p < 0.001$ ) for a higher probability of hospital emergency department visits associated with MEPD (Group 1).

#### D. Limitations of the analysis

This analysis had several limitations:

- We have sufficient data to analyze only five states, and four of those states have only six months of data for the MEPD period. Because states were newly implementing MEPD during this period, the findings might not be representative of hospital emergency department use later in the MEPD period.
- We cannot ensure that all beneficiaries that we deem eligible for MEPD using the proxy definition actually receive services in an IMD through MEPD. Nor can we ensure that beneficiaries in the comparison group or pre-demonstration period did not receive IMD services. We do not know whether the results would hold if we were able to implement more targeted analyses based on more precisely defined analytic samples.
- We were not able to distinguish adults with serious mental illness who do not meet MEPD eligibility criteria from Medicaid beneficiaries who do meet the criteria, because reliable

indicators of suicidality, homicidality, and dangerousness are not present in the available data.

## **E. Conclusions**

The original MEPD evaluation found no evidence that hospital emergency department visits among Medicaid beneficiaries with psychiatric EMCs decreased as a result of MEPD (aggregated across states). Our state-by-state analyses confirm this result. We did not measure hospital emergency room overcrowding or diversion directly. However, the lack of reductions in hospital emergency department use do not support hopes that MEPD might reduce overcrowding through diversion. However, stakeholders should consider potential unmeasured factors that might have influenced the results when evaluating whether MEPD reduced overcrowding in hospital emergency departments. For example, in interviews for the original MEPD evaluation, hospital emergency department staff cited increased demand for inpatient and emergency services resulting from the opioid epidemic and Medicaid expansions under the Affordable Care Act.



## **X. CONCLUSIONS**

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In the years before MEPD began, behavioral health stakeholders expressed concerns about: a perceived dearth of psychiatric inpatient beds for people experiencing psychiatric EMCs, reports of excessive boarding of psychiatric patients in hospital emergency rooms while waiting for a bed to become available, and contentions regarding the unfairness of the IMD exclusion to beneficiaries in need of inpatient services and to IMDs that might have to provide uncompensated care to Medicaid beneficiaries under the Emergency Medical Treatment and Labor Act. MEPD and its original evaluation were designed to test the effects of providing federal reimbursement for inpatient care provided by private psychiatric IMDs to adults ages 21 to 64 to stabilize psychiatric EMCs on: access to inpatient care, use of hospital emergency departments, length of inpatient and hospital emergency department stays, discharge planning in participating IMDs, Medicaid mental health costs, and the number of Medicaid beneficiaries treated in private psychiatric IMDs as a result of MEPD relative to patients admitted to the same IMDs by other means. In our original MEPD evaluation, however, we found little to no evidence of MEPD effects on any of these core outcomes.

The Cures Act study provides information to fill some of the gaps in the original MEPD evaluation that are relevant to ongoing national discussions about the IMD exclusion. In particular, we quantified:

- The number of IMDs and IMD beds that participated in MEPD as a share of all psychiatric IMDs and beds in psychiatric IMDs in participating states;
- The number of forensic hospitals, beds in forensic hospitals, and forensic beds in non-forensic hospitals; and
- Average lengths of stays and payment rates for participating IMDs, general hospital psychiatric units, and hospital emergency departments

Through these analyses, we confirm that

- IMDs that participated in MEPD represent only a small share of all psychiatric IMDs and beds in psychiatric IMDs in participating states; and
- Forensic hospitals are rare in MEPD states. As a result, on any given day, forensic patients occupy a substantial portion of beds in non-forensic hospitals (particularly state hospitals). This finding, coupled with our finding of high bed utilization rates in non-forensic hospitals, supports stakeholder perceptions regarding the lack of availability of inpatient beds for patients experiencing psychiatric EMCs.

On the other hand, our findings that lengths of stay, payment rates, and expenditures per stay are not significantly greater for general hospital psychiatric units than for participating IMDs do not support stakeholder suggestions that federal reimbursement for psychiatric IMD stays might result in decreased Medicaid costs by diverting patients from more costly general hospital psychiatric units.

As was the case for the original MEPD evaluation, our Cures Act study found little evidence that MEPD is associated with reductions in Medicaid and Medicare costs (including, total costs,

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DSH payments, mental health care costs, and physical health care costs). Nor is it associated with reduced hospital emergency department use. Possible reasons for the lack of significant effects include the following:

- Before MEPD began, many of the MEPD states were using state-only funds to reimburse private psychiatric IMDs for inpatient services provided to Medicaid beneficiaries ages 21 to 64. For such states, the MEPD intervention was primarily a shift in the payer. The payer may not be the most salient factor for changing the outcomes of interest.
- One of the most consistent findings in the original MEPD evaluation was that all parties that participated in qualitative interviews (state project directors; staff of participating IMDs, hospital emergency departments, and general hospitals that use scatter beds when specialized psychiatric beds are not available; and Medicaid beneficiaries who received inpatient care through MEPD) commented on the lack of community-based care to prevent psychiatric EMCs and provide aftercare services upon hospital discharge. Hospital emergency department staff, in particular, stated their perceptions that demand for their services had been increasing due to the dearth of community-based care. When such care is not available, beneficiaries might turn to more expensive inpatient and emergency services.
- Demand for inpatient and emergency services is increasing due to state Medicaid expansions under the Affordable Care Act and the national opioid epidemic. The high inpatient bed utilization rates that we found suggest that some inpatient facilities may not be able to absorb new demand generated by demonstrations and initiatives such as MEPD.

## GLOSSARY

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**Affordable Care Act.** The Patient Protection and Affordable Care Act of 2010 (P.L. 111-148), as amended by the Health Care and Education Reconciliation Act of 2010 (P.L. 110-152) (collectively, the Affordable Care Act), authorized MEPD and its evaluation. Under the Affordable Care Act, states may expand their Medicaid programs to include individuals with incomes up to 138 percent of the federal poverty level, starting in January 2014. Such expansions might be responsible for some increases in Medicaid costs that occurred during MEPD, rather than MEPD itself. The Affordable Care Act is commonly referred to as Obamacare.

**Centers for Medicare & Medicaid Services (CMS).** CMS is the federal agency that oversees Medicaid and Medicare Services. It also oversees demonstrations (such as MEPD) to test and evaluate the effects of new or potential Medicaid and Medicare policy changes.

**Claims data.** Claims data are administrative data that service providers submit to Medicaid and Medicare in order to get paid—that is, to claim reimbursement. Claims data provided by CMS include only amounts actually paid, not necessarily the full amount claimed because some charges are not allowed under Medicaid or Medicare.

**Cures Act.** Data presented in this report respond to specific requirements laid out in Section 12004 of the 21st Century Cures Act (H.R. 34, 114th Congress).

**Diagnosis related group (DRG).** A payment category used to classify patients for the purpose of reimbursing hospitals for each case in a given category with a fixed fee regardless of the actual costs incurred.

**Difference-in-differences analysis.** This type of analysis compares (1) the difference between costs before and during MEPD for the part of California that participated in MEPD (the MEPD area) to (2) the difference between costs before and during MEPD for a comparable part of California that did not participate in MEPD (the non-MEPD area). Comparing changes in the MEPD area to changes in the non-MEPD area helps discern whether any changes that occurred over time in the MEPD area would have occurred even without MEPD (that is, due to factors other than MEPD).

**Disproportionate share hospital (DSH) payments.** The federal government allots DSH funding to each state to help cover uncompensated care costs at hospitals, including IMDs, and other facilities that provide care to Medicaid beneficiaries and uninsured individuals (Section 1923 of the Social Security Act [42 U.S.C. 1396r-4]). Beyond those hospitals that are deemed to qualify for DSH payments under federal law, states determine which hospitals receive DSH funds and how much each hospital receives within limits set by the federal government. Within each state's DSH allotment, the federal government specifies a maximum amount that may be allocated to IMDs. This amount is known as the state's IMD allotment.

**Emergency medical condition (EMC).** For this report, the term EMC specifically refers to a psychiatric EMC. For the purposes of MEPD, a psychiatric EMC is defined as being suicidal, homicidal, or dangerous to oneself or others.

**Facility.** In addition to hospitals, inpatient psychiatric care may be provided by a variety of community-based facilities, such as crisis residential alternatives to hospitalization; crisis stabilization centers; and community mental health centers that offer multiple levels of care, including outpatient, residential, and inpatient care. We use the word facility when referring to

these other care settings or a mixture of hospitals and other care settings. Because a general hospital psychiatric unit is only one part of a hospital, we also call them facilities rather than hospitals. Only mental health facilities are included in analyses presented in this report. Residential substance use disorder treatment facilities were not included in MEPD, so we do not include them in the analyses.

**Fee-for-service.** A payment arrangement whereby Medicaid pays doctors or other service providers for each particular service they provide to an individual Medicaid patient. This is in contrast to other payment arrangements, such as managed care, whereby Medicaid pays service providers a flat rate for each patient served in a given month.

**Forensic bed.** An inpatient bed designated specifically for forensic patients.

**Forensic patient (or forensic admission).** For the purposes of this report, we operationally define a forensic patient as an individual whose mental health treatment is a result of a criminal offense.

**Forensic hospital or facility.** For the purposes of this report, we operationally define forensic hospitals to include state-operated psychiatric hospitals and mental health facilities that designated all of their inpatient beds exclusively for forensic patients.

**General hospital psychiatric unit.** An inpatient psychiatric treatment unit that is part of a general medical hospital. These units typically do not meet the definition of an IMD; therefore, in most cases, the IMD exclusion does not apply to them.

**IMD exclusion.** Since the enactment of the Medicaid statute in 1965, payment for services for Medicaid beneficiaries ages 21 to 64 who are patients in an IMD has been prohibited; this is known as the IMD exclusion.

**Institution for mental diseases (IMD).** A Medicaid designation defined by statute as a “hospital, nursing facility, or other institution of more than 16 beds, that is primarily engaged in providing diagnosis, treatment, or care of persons with mental diseases, including medical attention, nursing care, and related services” (Section 1905(i) of the Social Security Act). Only psychiatric IMDs are included in analyses presented in this report. Residential substance use disorder treatment facilities were not included in MEPD, so we do not include them in the analyses, even though many of them also qualify as IMDs.

**Interrupted time series analysis.** In addition to comparing average costs before and during MEPD, this type of analysis also considers whether trends in costs before the demonstration might explain any differences in costs between the pre- and post-MEPD periods. If a preexisting trend continues into the MEPD period, then whatever was causing that preexisting trend might be responsible for the differences in costs between the pre- and post-MEPD periods, rather than MEPD itself.

**Medicaid Emergency Psychiatric Demonstration (MEPD).** The Affordable Care Act authorized MEPD, which provided federal matching funds to states for inpatient care provided by private IMDs to stabilize psychiatric EMCs among adult Medicaid beneficiaries age 21 to 64. Other than in MEPD, Medicaid does not pay for inpatient care in IMDs for this age group. Twenty-nine IMDs in 12 states participated in MEPD, which was conducted from July 1, 2012, to June 30, 2015. MEPD was designed to test the effect of providing such payments on access to inpatient mental health care and on costs of the full range of mental health services—including, inpatient, outpatient, and emergency services.

**Reference EMC.** In our analysis of changes in Medicaid and Medicare costs associated with MEPD, the reference EMC refers to the first EMC a beneficiary experiences within a particular analysis period.

**Scatter beds.** When a specialized psychiatric inpatient bed is not available, general hospitals will sometimes admit individuals with psychiatric EMCs to beds in general medical units scattered throughout the hospital. Beds used for this purpose are referred to as scatter beds.

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