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REPORT

FINAL REPORT

Medicaid Emergency Psychiatric Services Demonstration Evaluation: Final Report

Volume 1

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Authors list enclosed

Submitted to:
U.S. Department of Health and Human Services
CMS Centers for Medicare and Medicaid Services
7500 Security Boulevard
Baltimore, MD 21244-1850

Government Task Leader: Vetisha McClair
Contracting Officer's Technical Representative: Leslie Jones
Contract Number: HHSM-500-2010-00026I/HHSM-500-T0007

Submitted by:
Mathematica Policy Research
1100 1st Street, NE, 12th Floor
Washington, DC 20002-4221
Telephone: (202) 484-9220
Facsimile: (202) 863-1763

Project Director: Crystal Blyler
Reference Number: 40123.444

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AUTHORS PAGE

Crystal Blyler (project director)
Melissa Azur (quantitative task leader)
Bonnie O'Day (qualitative task leader)
Priyanka Anand
Allison Barrett
Kavita Choudhry
Kara Contreary
Sarah Croake
Molly Crofton
Noelle Denny-Brown
Brian Johnston
Jasmine Little
Jennifer Lyons
Brenda Natzke
Stephanie Peterson
Max Rubinstein
Allison Siegwarth
James Woerheide
Kara Zivin

The following members of the site visit teams also contributed to the writing of the qualitative states summaries:

Elizabeth Babalola
Margaret Coit
Theresa Feeley-Summerl
Benjamin Fischer
Jung Kim
Rebecca Kleinman
Nikkilyn Morrison
Stefanie Pietras
Courtney Powers
Lily Roberts

We also built on the work of and drew from previous project documents to which the following people contributed:

Grace Ferry
Angela Gerolamo
Jennifer McGovern
Jessica Nysenbaum
Amy Overcash
Ellen Singer

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STRUCTURE OF THE REPORT

This report consists of three volumes. This is Volume I. **Volume I** comprises an Executive Summary; background information about the demonstration; an overview of legislative requirements for the evaluation, our conceptual framework, and the evaluation design; a narrative description of the results of the primary statistical models; conclusions; and references. **Volume II** is a technical appendix that provides additional detail about qualitative and quantitative data collection and analysis methodology, and supplemental tables presenting additional details about results presented in Volume I as well as results of alternative statistical models. **Volume III** provides detailed qualitative summaries regarding the implementation of the demonstration in each of the 12 participating states.

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EXHIBITS

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EXECUTIVE SUMMARY

Section 2707 of the Affordable Care Act (ACA; P.L. 111-148) required the U.S. Department of Health and Human Services (HHS) to conduct and evaluate a demonstration on the effects of providing Medicaid reimbursements to private psychiatric hospitals that treat beneficiaries ages 21 to 64 with psychiatric emergency medical conditions (EMCs).[1] The demonstration tested the extent to which reimbursing these hospitals for inpatient services needed to stabilize a psychiatric EMC, which is generally prohibited under Medicaid statute, improved access to and quality of care for beneficiaries and reduced overall Medicaid costs and utilization. This report presents the final evaluation results.

Rationale for the demonstration

Since the enactment of Medicaid in 1965, institutions for mental disease (IMDs), defined as "hospitals, nursing facilities, or other institutions primarily engaged in providing diagnosis, treatment, or care of persons with mental illness," have been prohibited by statute from receiving federal Medicaid matching funds for inpatient treatment provided to adults ages 21 to 64. Through this exclusion, Congress sought to maintain the historic responsibility of states for long-term hospitalization in large mental institutions and emphasize community-based care as an alternative. As a result of widespread "deinstitutionalization" that began in the 1950s, fewer hospital beds were needed, and over the next five decades publicly funded state IMDs closed or were downsized significantly. Individuals experiencing psychiatric emergencies were served in small psychiatric facilities or the psychiatric units of general hospitals, both of which are exempt from the IMD exclusion, or through community-based alternatives to hospitalization. During the past ten years, however, frequent boarding of psychiatric patients in general hospital emergency departments (EDs) has been reported to occur when specialized inpatient psychiatric beds are not available.

This situation is further complicated by requirements under the 1986 Emergency Medical Treatment and Labor Act that hospitals participating in Medicare examine any person who comes to the ER to determine whether he or she has an EMC. The hospital must provide treatment to stabilize the condition or provide for an appropriate transfer to another facility. An IMD that participates in Medicare and has specialized capabilities and the capacity to treat psychiatric EMCs must admit or accept transfers of patients with such conditions for stabilizing treatment, regardless of the individual's ability to pay. As a result, in states that do not cover the costs of inpatient treatment for Medicaid beneficiaries using state-only funds, IMDs excluded from Medicaid reimbursement may be required to provide uncompensated treatment to beneficiaries with psychiatric EMCs.

Implementation of the demonstration

In response to these concerns and legislative requirements, CMS implemented the Medicaid Emergency Psychiatric Services Demonstration (MEPD) and its evaluation. In August 2011, CMS solicited applications from states to participate in the demonstration and in March 2012 selected 11 states (Alabama, California, Connecticut, Illinois, Maine, Maryland, Missouri, North

[1] Psychiatric EMCs were deemed to be present when an individual expressed suicidal or homicidal thoughts or gestures, or was judged to be a danger to him- or herself or others.

Carolina, Rhode Island, Washington, and West Virginia) and the District of Columbia (hereafter referred to as a state) to participate; 28 private IMDs participated in the demonstration. MEPD began on July 1, 2012 and, in accordance with legislative requirements, ended three years later, on June 30, 2015.

Data submitted by participating states to CMS for payment and monitoring purposes show the following:

- MEPD funded 16,731 admissions of 11,850 Medicaid beneficiaries.
- About three-quarters of admissions were judged eligible for MEPD on the basis of suicidal thoughts or gestures; relatively few (10 percent) were based on homicidality.
- About two-thirds of beneficiaries were admitted with diagnoses of mood disorders and one-third with diagnoses of schizophrenia or other psychotic disorders.
- Of the 11,850 beneficiaries, 77 percent were admitted to a participating IMD just once during MEPD.
- The average IMD length of stay was 8.6 days. However, the distribution of length of stays was skewed, and, although the vast majority were for less than a month, some were substantially longer (with a maximum of 147 days).
- For 90 percent of admissions, beneficiaries were discharged to their homes or self-care; another 3 percent were discharged home under the care of a home health service organization. The extent to which such placements included discharge to homeless shelters, group homes or other supervised living arrangements, and the streets is unknown; follow-up care arrangements for individuals discharged to their homes or self-care were also unspecified in these data. Four percent of admissions were transferred to other institutions.
- The ACA authorized $75 million in federal funds for MEPD. Total federal and state expenditures on claims were approximately $113 million. Depending on the state, the federal share of these claims ranged from 50 to 73 percent.

Evaluation Design

The ACA directed HHS to "conduct an evaluation of the demonstration project in order to determine the impact on the functioning of the health and mental health service system and on individuals enrolled in the Medicaid program." The ACA required the evaluation to include the following:

A. An assessment of access to inpatient mental health services under the Medicaid program; average lengths of inpatients stays; and emergency room (ER) visits

B. An assessment of discharge planning by participating hospitals

C. An assessment of the impact of the demonstration project on the costs of the full range of mental health services (including inpatient, emergency, and ambulatory care)[2]

[2] Note, however, that the ACA did not require CMS or states participating in MEPD to demonstrate cost neutrality.

D. An analysis of the percentage of consumers with Medicaid coverage who are admitted to inpatient facilities as a result of the demonstration project, as compared to those admitted to these same facilities through other means

E. A recommendation regarding whether the demonstration project should be continued after December 31, 2013, and expanded on a national basis

The ACA further mandated that "not later than December 31, 2013, the Secretary shall submit to Congress and make available to the public a report on the findings of the evaluation." In September 2012, CMS awarded a contract to Mathematica Policy Research to conduct the evaluation. We prepared the Report to Congress for the secretary in the first year of the evaluation contract, and CMS posted the report to its public website in January 2014 (http://innovation.cms.gov/Files/reports/MEPD_RTC.pdf). Due to the timing of the implementation of the demonstration and the time required to plan and conduct the evaluation, HHS did not have enough data to recommend expanding the demonstration at the time the report was submitted, but recommended that the demonstration continue through the end of the current authorization to allow a fuller evaluation of its effects.

To fully assess all of the areas mandated by the ACA, as well as to meet the interests of critical stakeholders, we designed and implemented a comprehensive, mixed-methods evaluation of the MEPD. We used quantitative data on service utilization and expenditures to evaluate the MEPD's effect on inpatient admissions, length of stay, ER visits, and costs, as well as on psychiatric boarding in EDs and scatter beds. We designed a pre-post quantitative analysis: the pre-demonstration period was two years prior to the implementation of MEPD (2010–2012) and the post period was two years of demonstration experience (2012–2014). The primary quantitative data were service utilization and expenditure data drawn from Medicaid and Medicare[3] enrollment and claims files. Data on IMD admissions under the MEPD and ED boarding came directly from states, IMDs, and EDs. Where possible, we identified comparison groups and conducted difference-in-differences analyses.

To assess discharge planning by participating hospitals, as mandated by ACA evaluation area B, we collected qualitative data through site visit interviews with state project directors and IMD staff, medical record reviews, beneficiary interviews, and review of documents such as state MEPD proposals and operating plans. We also examined qualitative data on psychiatric EMC determination and stabilization review processes to better understand how states and hospitals operationalized the ACA demonstration requirements. Qualitative data also provided information on how care provided in IMDs was similar to or different than care provided in general hospital scatter beds and EDs. In addition, we supplemented quantitative data with qualitative reports regarding changes to boarding and referral process in EDs and general hospital scatter beds resulting from MEPD. Key informant interviews and an ongoing environmental scan conducted throughout MEPD also provided information about contextual events that might influence demonstration outcomes.

[3]To obtain a more accurate estimate of total costs and savings to the federal government, Medicare files were included for dual Medicare-Medicaid enrollees.

Results

Exhibit ES.1 summarizes the results of the evaluation. Overall, we found little to no evidence of MEPD effects on inpatient admissions to IMDs or general hospital scatter beds; IMD or scatter bed lengths of stays; ER visits and ED boarding; discharge planning by participating IMDs; or the Medicaid share of IMD admissions of adults with psychiatric EMCs. Federal costs for IMD admissions increased, as expected, and costs to states decreased. The extent to which these findings were driven by data limitations, were affected by external events, or reflect true effects of MEPD is difficult to determine.

Exhibit ES.1. Summary of evaluation results, by ACA area

Measure	Findings
Access to inpatient mental health services under the Medicaid program, average lengths of inpatient stays, and ER visits	
Inpatient IMD admissions[a]	The one statistically significant change that showed a decrease in IMD admissions is likely due to a data quality issue in one quarter of the pre-demonstration period. In the one state with 1.5 years of data during the MEPD, admissions increased late in the MEPD period.
General hospital scatter bed admissions	No effects (use was low but increased during MEPD in both MEPD and comparison groups)
IMD length of stay	No effects (nonsignificant trend for IMD stays to be longer than stays in general hospital psychiatric units)
General hospital scatter bed length of stay	No effects
ER visits	No effects (trend toward more ER visits during MEPD)
ED boarding time	No effects
Discharge planning by participating IMDs	
• In most states, IMDs did not change their discharge planning processes for MEPD[b] and used identical procedures for Medicaid and non-Medicaid patients. • The vast majority of beneficiaries were discharged to their homes rather than transferred to other facilities. • A third of the states implemented specific procedures to improve linkages with community-based providers for beneficiaries with EMCs. • With few exceptions, beneficiaries interviewed expressed satisfaction with the discharge planning processes at the IMDs, and 88 percent felt safe to leave the IMD when they were discharged. • IMDs appeared to provide better connection to and documentation of recommendations for aftercare than medical-surgical units in general hospitals serving beneficiaries in scatter beds. • Discharge planning was hampered by lack of available community-based care.	

Measure	Findings
Costs of the full range of mental health services (including inpatient, emergency department, and ambulatory care)[c]	
Federal Medicaid/MEPD costs for IMD inpatient stays	Costs increased
State costs for Medicaid beneficiary IMD inpatient stays	Costs decreased
IMD costs for Medicaid beneficiary IMD inpatient stays	Increased in one state, decreased in the other
Medicaid and Medicare costs for full range of mental health services[d]	Increased in two states, no effect in three
Percentage of consumers with Medicaid coverage admitted to inpatient facilities as a result of MEPD, compared to those admitted to same facilities through other means	
Proportion of admissions meeting MEPD eligibility criteria	Increase in proportion of Medicaid admissions may be due to ACA Medicaid expansion

[a] The evaluation did not separately examine MEPD's effects on readmissions.

[b] Neither the ACA nor CMS required states or IMDs to change care processes for the MEPD.

[c] Note that the ACA did not require CMS or states participating in MEPD to demonstrate cost neutrality. Not all MEPD states were included in the analyses, due to insufficient usable data.

[d] Medicare costs were included for dual Medicare-Medicaid enrollees.

Limitations. Our analytic approach and data sources presented various limitations. Data obtained directly from IMDs and EDs varied in quality and structure, and we had to make some judgements about the meaning of some of the response categories and actual responses in standardizing variables across facilities. Due to data limitations, most quantitative analyses included only a subset of participating states, and the extent to which the results would be similar for other states is unknown. For analyses relying on Medicaid data,[4] we were able to obtain only data for the first six months of MEPD for most states. As suggested by the analysis of IMD admissions in one state with 1.5 years of demonstration data, some effects might have occurred later in the demonstration; whether results would differ if data from the full MEPD time period were available is unknown. Qualitative data were biased in favor of positive results, as they relied heavily on interviews with and documents provided by state project directors and IMD staff. Beneficiary interviews were also likely subject to positive bias due to selection factors, as IMD staff obtained consents, and individuals with potentially more negative experiences (such as those with guardians who may have been involuntarily committed) and outcomes (such as those transferred to other facilities or to homeless shelters) were less likely to participate.

Most quantitative analyses did not include comparison groups for most states.[5] Pre-post analyses without comparison groups cannot determine whether changes observed over time result from MEPD or external factors. We conducted interrupted time series analyses to assess the difference in trends occurring during MEPD from trends in the pre-demonstration period, but these analyses could not establish causality regarding any differences found. Various state and hospital-level changes occurred during and independently of MEPD that could have differentially influenced outcomes for intervention and comparison groups, or overall. For example, two-thirds of participating states expanded Medicaid eligibility under the ACA during the evaluation period, which might have been responsible for an increase in the Medicaid share

[4] Medicaid data were used for analyses of IMD and scatter bed admissions and lengths of stays, ER visits, and total Medicaid and Medicare mental health costs. They were not used for analyses of ED boarding, discharge planning, costs of IMD admissions, or Medicaid share of IMD admissions (ACA area D).

[5] Exceptions included analyses of IMD length of stay and ED boarding time.

of IMD admissions in several expansion states. As a result, we cannot be certain that any effects are due to the MEPD alone. Moreover, as suggested by respondents during qualitative interviews and by observed increases in scatter bed use and ER visits in both MEPD and comparison groups, a broad increase in demand arising, in part, from the Medicaid expansions, may have masked program effects.

Implications and limitations on generalizing the results for future policy decision-making

At the time this report was written, considerable legislative and regulatory activity was taking place regarding potential full or partial elimination of the IMD exclusion. The Improving Access to Emergency Psychiatric Care Act (P.L. 114-97), enacted December 11, 2015, allows potential extension of MEPD in current states and potentially expands participation to additional states through FY2019, if HHS is able to determine and CMS can certify that a state's participation is projected not to increase net Medicaid program spending. Beyond the demonstration, on May 6, 2016, CMS released a final regulation regarding Medicaid managed care, which clarified that, in states that allow it, managed care plans can use their capitated payments to pay for IMDs as an alternative setting in lieu of state plan-covered services for enrollees over the age of 21 and under the age of 65 who stay in IMDs 15 or fewer days in a given month. Additional proposals and legislative options regarding Medicaid payment for IMD admissions are being discussed by Congress and mental health stakeholders. Therefore, it is critical to keep in mind the following limitations to the generalizability of the findings from MEPD:

- Facilities participating in MEPD were limited to private IMDs and did not include publicly-funded IMDs or residential substance abuse treatment facilities (RTFs), which are also subject to the IMD exclusion.
- The results apply only to adults with mental illnesses who are suicidal, homicidal, or otherwise judged to be dangerous to themselves or others. MEPD did not address inpatient treatment or ER visits among people with substance-related disorders or beneficiaries seeking inpatient or emergency treatment for serious psychological distress who were not judged to be dangerous to themselves or others.
- The extent to which MEPD effects generalize to a managed care environment is largely unknown.
- MEPD may underestimate the number of private IMD admissions and length of IMD stays that would be covered under Medicaid if the IMD exclusion were eliminated altogether.
- The authorizing legislation for MEPD (that is, the ACA) did not include the requirement for HHS to determine or CMS to certify that a state's participation was projected not to increase net Medicaid program spending. Therefore, states participating in MEPD were not required to offset costs of IMD admissions funded under MEPD or to demonstrate cost neutrality. We cannot determine, therefore, the effect that specific state efforts in this regard might have on costs or other evaluation outcomes.
- Due to resource limitations, outcomes examined were limited to those mandated by the ACA and for which data were readily available. Other potentially important outcomes, such as mortality from suicide and other causes, acts of violence, involvement with and costs to

the criminal justice system, homelessness, symptom remission and consumer recovery, effects on state- and county-funded community-based services, and 30-day hospital readmissions were beyond the scope and resources for this evaluation.

Conclusion

Data limitations prevent us from drawing strong conclusions about the effect of MEPD on access to inpatient care, length of stays, ER visits, and costs. Available data suggest, however, that increased access of adult Medicaid beneficiaries to IMD inpatient care would likely come at a cost to the federal government.[6] Moreover, providing access to IMD services may not be able to address the numerous reasons other than inpatient bed searches that contribute to long stays of psychiatric patients in EDs. Given the high cost of inpatient care relative to community-based care and major shortages in the availability of community-based care and psychiatric ED services across the country, future initiatives may wish to balance consideration of potential increases in funding for IMD and general hospital inpatient services within the context of a more comprehensive approach that considers distribution of new resources across all aspects of the system (inpatient, emergency, and ambulatory care).

[6] Note, however, that the ACA did not require states participating in MEPD to demonstrate cost neutrality; had this provision been included, states may have made specific efforts to offset the costs of IMD admissions through cost-savings elsewhere. We cannot determine, however, the effect such efforts might have had on costs or other evaluation outcomes.

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PART I

BACKGROUND AND EVALUATION DESIGN

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I. INTRODUCTION AND BACKGROUND

Section 2707 of the Affordable Care Act (ACA) (P.L. 111-148) directed the U.S. Department of Health and Human Services (HHS) to conduct and evaluate a demonstration to provide Medicaid reimbursements to private psychiatric hospitals, which are referred to in Medicaid as "institutions for mental diseases" (IMDs), that treat beneficiaries ages 21 to 64 with psychiatric emergency medical conditions (EMCs). The Medicaid Emergency Psychiatric Demonstration (MEPD) tested whether reimbursing these hospitals for inpatient services to stabilize psychiatric EMCs (which is generally prohibited under Medicaid statute) improves access to and quality of care for beneficiaries and reduces the cost of the full range of mental health services. In spring 2012, the Centers for Medicare & Medicaid Services (CMS) selected 12 states to participate in the three-year MEPD. In September 2012, CMS awarded a contract (HHSM500201000026I/HHSM-500-T0007) to Mathematica Policy Research to evaluate the demonstration. This report presents the final results of the evaluation.

In this chapter, we provide background information on factors that contributed to the need for the demonstration and provide an overview of the legislative mandate. In Chapter II, we describe the MEPD and characteristics of participating states. In Chapter III, we outline the evaluation design, data sources and collection procedures, and analytic methods. Part II and its chapters offer a comprehensive presentation of the evaluation results. The final chapter presents conclusions, limitations of our analyses, and implications of the MEPD for future policy considerations.

A. The Medicaid IMD exclusion

Since the enactment of Medicaid in 1965, IMDs have been prohibited from receiving federal matching funds for inpatient treatment provided to adults 21 to 64 years old. Legislation defines IMDs as "hospitals, nursing facilities, or other institutions primarily engaged in providing diagnosis, treatment, or care of persons with mental illness." The IMD exclusion does not apply to psychiatric treatment units that are part of larger medical entities, such as general hospitals or skilled nursing facilities. Such facilities may receive federal Medicaid matching funds for inpatient treatment of mental illnesses regardless of the age of the beneficiary. Under 1988 amendments,[7] Congress further limited the definition of IMDs to facilities with more than 16 beds.

The IMD exclusion policy is rooted in the national emphasis, beginning in the 1960s, on supporting community-based care as an alternative to long-term hospitalization. Historically, funding inpatient psychiatric treatment was the responsibility of each state, and large state and local municipal mental institutions existed across the country. The introduction of psychiatric medications in the 1950s meant that many people with mental illnesses who previously had been institutionalized could receive treatment in more desirable and less restrictive outpatient settings. This movement away from institutionalization toward community-based treatment came to be known as "deinstitutionalization." In subsequent decades, individuals experiencing psychiatric emergencies increasingly have been served in small psychiatric facilities or in the psychiatric

[7] 42 U.S.C. §1905(1)(B).

units of general hospitals, both of which are exempt from the Medicaid IMD exclusion, or through community-based alternatives.

B. Reductions in inpatient psychiatric beds since 1950

During the years that deinstitutionalization progressed, publicly funded state IMDs downsized in response to the decreasing need for inpatient beds and the shifting of care to community settings. The enactment of Medicaid also may have contributed to continuing reductions in public IMD admissions and a corresponding decreasing number of beds after 1970 (Atay et al. 2007; Foley et al. 2006; Substance Abuse and Mental Health Services Administration [SAMHSA] 2012), as states shifted services from those funded solely by state revenues to those for which they could receive federal Medicaid matching funds. In response to closures of public IMDs, the number of inpatient beds in private psychiatric hospitals, general hospital psychiatric units, and other mental health organizations increased from 1970 to 1990, partially replacing the state-funded beds that had been eliminated. After 1990, however, the number of beds in these facilities also began to decrease (Foley et al. 2006), perhaps in response to shortened lengths of stays stipulated by managed care organizations and to continuing service improvements that further decreased the need for inpatient treatment.

C. Psychiatric boarding in emergency departments (EDs) and scatter beds

After three decades of decline, psychiatric inpatient admissions began to increase in 2002 (Foley et al. 2006), a trend that continued until at least 2005 (Atay et al. 2007; Manderscheid et al. 2009). In one study, state mental health agency staff attributed this uptick to increases in the forensic population (those committed to treatment by the criminal courts) and the number of people diagnosed with schizophrenia or affective (mood) disorders, as well as to shortages of community housing and community care staff (Manderscheid et al. 2009). Many stakeholders have suggested that increased admissions, coupled with continuing inpatient bed reductions, have resulted in inpatient psychiatric bed shortages (National Association of State Mental Health Program Directors Research Institute 2006; Torrey et al. 2008), which they believe contribute to excessive boarding of psychiatric patients in general hospital EDs. During the last decade, numerous studies have documented that the length of time psychiatric patients spend in EDs is often quite long and, on average, exceeds the amount of time patients spend in EDs for other reasons (American College of Emergency Physicians 2008; Bender et al. 2008; LaFrance and Walsh 2013; Nicks and Manthey 2012; Weiss et al. 2012). When an individual needs inpatient care, the time ED staff spend seeking hospital beds that will accept the patient lengthens the time he or she spends in the ED (though it must be noted that these studies also document many additional factors that contribute to long ED stays for psychiatric patients). To free up ED beds, patients who require hospitalization but for whom psychiatric beds are not available might be placed inappropriately in general medical units scattered throughout the hospital. Such placements are referred to as “scatter beds” (Mark et al. 2009).

Weiss et al. (2012) found that psychiatric patients seen in EDs who were Medicaid beneficiaries were more likely to be admitted for inpatient treatment than those with commercial insurance, and the time they remained in the ED after the need for inpatient treatment was identified was also longer. This suggests that Medicaid beneficiaries might be disproportionately affected by boarding that occurs as ED staff search for beds in hospitals that will accept them. LaFrance and Walsh (2013), however, did not find a significant association between Medicaid status and boarding time.

D. Emergency Medical Treatment and Labor Act (EMTALA)

Difficulties in accessing inpatient care become particularly acute when the individuals seeking treatment are suicidal, homicidal, or present a danger to themselves or others. Under EMTALA, enacted in 1986, hospitals that participate in Medicare are required to examine any person who comes to the ED to determine the presence of an 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.

For psychiatric emergencies, if the individual expresses suicidal or homicidal thoughts or gestures and is judged to be dangerous to self or others, he or she is considered to have an EMC (CMS 2011). A psychiatric EMC is regarded as stabilized when the individual is no longer expressing suicidal or homicidal thoughts or gestures and no longer requires immediate treatment that protects him or her and prevents injury to self or others.

An IMD that participates in Medicare and has specialized capabilities and the capacity to treat psychiatric EMCs must admit or accept transfers of patients with such conditions for stabilizing treatment, regardless of the person's ability to pay. As a result, in states that do not use state funds to cover the costs of inpatient treatment for Medicaid beneficiaries in private IMDs, private IMDs might be required to provide uncompensated treatment to Medicaid beneficiaries with psychiatric EMCs.

E. Legislative authority and requirements for the demonstration

In response to concerns about reductions in inpatient psychiatric beds and psychiatric boarding, Section 2707 of the ACA directs the secretary of HHS to conduct and evaluate a demonstration to determine the impact of providing payment under state Medicaid plans for medical assistance provided by private IMDs to beneficiaries 21 to 64 years old who require such assistance to stabilize psychiatric EMCs. The MEPD and its evaluation was designed to test whether the expansion of Medicaid coverage to include emergency services provided in private IMDs improves access to and quality of medically necessary care as well as discharge planning by participating hospitals, and reduces Medicaid costs[8] and utilization (CMS 2011). The demonstration, which was implemented by CMS, also explored a potential remedy to alleviate the psychiatric boarding and scatter bed burdens to general hospitals and EDs. The ACA specified the following:

- States seeking to participate had to submit applications and be determined eligible for demonstration funds on a competitive basis.
- The term EMC means one who expresses suicidal or homicidal thoughts or gestures, if determined dangerous to self or others. On October 16, 2012, CMS notified participating states that it had expanded the eligibility criteria, effective October 1, 2012, to also include beneficiaries who might not have expressed suicidal or homicidal thoughts or gestures but were judged nevertheless to be dangerous to self or others.
- Participating states had to establish and specify in their applications a mechanism to ensure that participating IMDs determined whether or not EMCs among demonstration participants

[8] Note, however, that the ACA did not require CMS or states participating in MEPD to demonstrate cost neutrality.

had been stabilized. This mechanism was required to commence before the third day of the inpatient stay. States were permitted to manage the provision of stabilization services through utilization review, authorization, or management practices, or the application of medical necessity and appropriateness criteria.

- A patient was to be considered to be stable when the EMC no longer existed and the individual was no longer dangerous to self or others.
- The demonstration was to be conducted for a period of three consecutive years.
- $75 million was appropriated from fiscal year 2011 funds for the demonstration, and funds were to remain available for obligation through December 31, 2015.
- The secretary could provide no demonstration payments for any reason after December 31, 2015.[9]

[9] On December 11, 2015, the Improving Access for Emergency Psychiatric Care Act became law (P.L. 114-97). This law allows for extending the MEPD for current states through fiscal year 2016 if HHS determines and CMS certifies that a state's participation is projected not to increase net Medicaid program spending. An additional extension through December 31, 2019, may be granted and the states eligible to participate may be expanded under the same circumstances. Data collection and analyses for this report, however, includes only the states and time period covered under the initial ACA authorization.

II. OVERVIEW OF THE MEPD

In this chapter, we describe the implementation of the demonstration by CMS and the participating states, including the mental health system context in which the demonstration operated in each state and the approaches states used to implement and monitor the demonstration.

A. CMS selection of MEPD states

On August 9, 2011, CMS solicited applications from states to take part in the demonstration.[10] CMS selected states to participate based on their application responses and took into consideration (1) the geographic distribution of the states; (2) the availability of various types and combinations of beds in the state (for example, in general hospital psychiatric units, private psychiatric hospitals, and public mental hospitals); (3) the level and types of investments in community-based behavioral health services by the state; and (4) the design of the state's Medicaid program (including the degree of specialized managed behavioral health care, coverage of optional populations, and use and design of the rehabilitation services option). The number of participating states was limited to ensure that sufficient funds would be available for an informative assessment of the effects of MEPD in each state. In March 2012, CMS selected 11 states and the District of Columbia (hereafter referred to as a state) to participate (**Exhibit II.1**). The demonstration began on July 1, 2012.

Exhibit II.1. States participating in MEPD

Alabama	California	Connecticut	District of Columbia
Illinois	Maine	Maryland	Missouri
North Carolina	Rhode Island	Washington	West Virginia

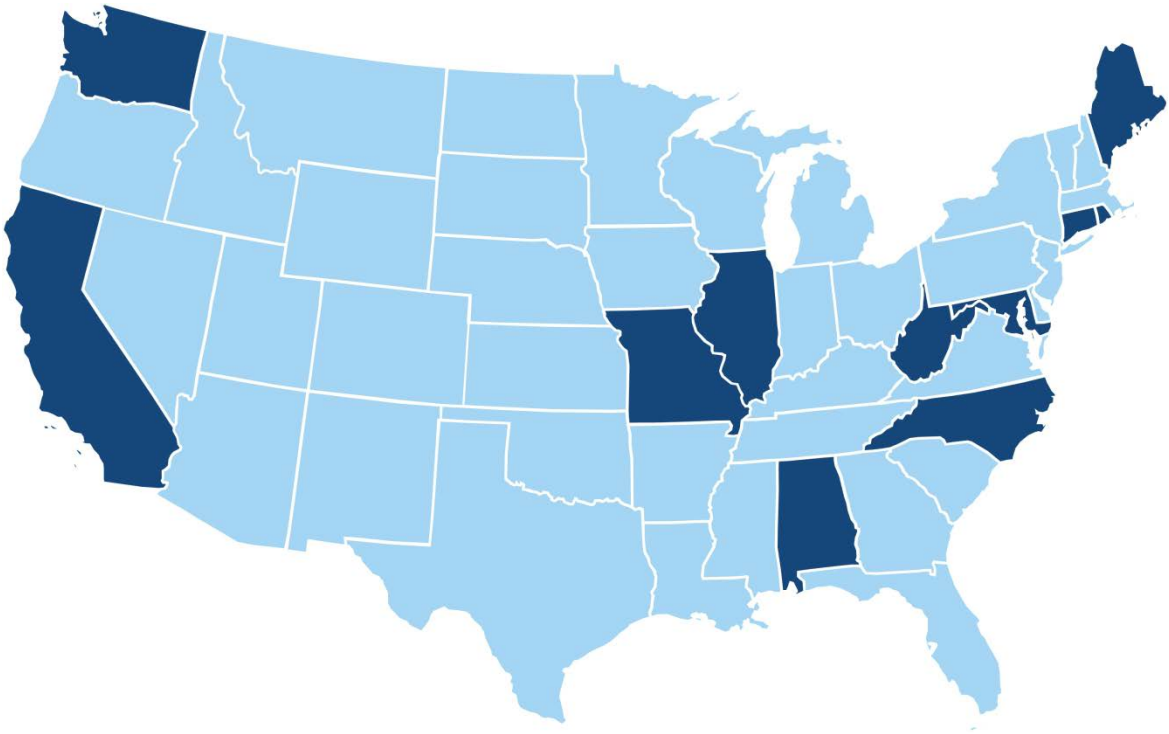
B. State mental health service system context

As shown in **Exhibit II.2**, MEPD states were geographically distributed across the country, located in each of the four Census Bureau-designated regions of the United States: three in the Northeast, five in the South, two in the Midwest, and two in the West.

The mental health systems in participating states varied in number, size, and type of inpatient psychiatric facilities, as well as in the availability of community-based services. We characterized the availability of psychiatric services in the demonstration states at the beginning of MEPD, based upon review of the state demonstration proposals and interviews conducted with demonstration staff between November 2012 and March 2013. More recent changes to the state mental health service system might not be reflected.

[10] *Federal Register*, vol. 76, no. 68, April 8, 2011, p. 19777.

Exhibit II.2. Distribution of states participating in MEPD



In line with the national deinstitutionalization trend, all of the states participating in MEPD indicated they had shifted their focus in recent decades from inpatient treatment to community based-services. In 2012, all but one of the state mental health agencies (SMHAs) in the demonstration states spent more on community-based programs than on inpatient treatment in state hospitals (**Exhibit II.3**). At the start of the MEPD, four participating states—Alabama, Illinois, and North Carolina, and the District of Columbia—were transitioning beneficiaries to community-based settings in response to class action lawsuits.[11] The states varied widely in per capita spending for mental health services and the relative proportion of funds spent on hospitals and community-based programs.

[11]Alabama was continuing to transition beneficiaries to the community in response to a 1970 class action lawsuit requiring the state to establish basic standards of treatment for people with mental illness. As a result of a lawsuit in 2010, Illinois was required to give beneficiaries in IMD nursing homes the option of being served in the community and expanding the current community-based service system to support the needs of those individuals. In response to a 2012 U.S. Department of Justice settlement established to ensure that people with mental illnesses would be allowed to reside in their communities in the least restrictive settings of their choice, North Carolina was planning to move a large portion of individuals out of IMD adult care homes and increase community-based mental health services, including assertive community treatment (ACT), supported housing, supported employment, and crisis services. In 2012, the District of Columbia reached a court settlement in a 37-year-old class action lawsuit that required it to add 300 affordable housing units and expand job services for adults with serious mental illness.

Exhibit II.3. SMHA expenditures and services availability in 2012

State	SMHA expenditures, 2012[1]			Percentage of SMHA clients receiving services, 2012[2]	
	Spending per capita, adults/elderly (over age 18) ($)	Percentage of all expenditures on state hospitals[d]	Percentage of all expenditures on community-based programs[d]	Assertive community treatment (ACT)	Supported housing
Alabama	42.02	36	62	1.6	0.4
California[a,c]	132.02	20	79	1.3	0.3
Connecticut[a,c]	255.68	25	68	0.6	2.8
District of Columbia	242.58	43	41	7.8	4.3
Illinois	72.15	28	70	1.0	1.8
Maine[b]	231.16	11	87	6.1	10.7
Maryland[b]	148.59	21	76	4.8	15.2
Missouri	98.85	41	55	0.8	-
North Carolina[b]	85.18	22	77	4.1	-
Rhode Island	131.38	33[e]	65	-	2.8
Washington	95.00	28	70	-	-
West Virginia[a,c]	64.63	33	67	1.0	10.5

Sources: [1]National Association of State Mental Health Program Directors Research Institute, 2012 Revenue and Expenditures Study. Available at [http://www.nri-inc.org]. Accessed June 21, 2016.

[2]SAMHSA Center for Mental Health Services 2012 Uniform Reporting System Output Tables. Available at [http://www.samhsa.gov/data]. Accessed June 21, 2016.

[a] Medicaid revenues for community programs are not included in SMHA-controlled expenditures.

[b] SMHA-controlled expenditures include funds for mental health services in jails or prisons.

[c]Children's mental health expenditures are not included in SMHA-controlled expenditures.

[d] Totals do not add to 100 percent. Expenditures were also used for prevention, research, training, and administration.

[e] Rhode Island did not have a state psychiatric hospital. Reported figures are expenditures for psychiatric services at a state-run hospital (Eleanor Slater Hospital).

1. Availability of inpatient psychiatric care

The proportion of SMHA expenditures spent on state hospitals at the start of MEPD (2012) varied from 11 percent in one state to more than 30 percent in almost half of the 12 states (**Exhibit II.3**). Before MEPD, private IMDs were uncompensated for inpatient treatment provided to Medicaid beneficiaries in 7 of the participating states, but in 4 of them, IMDs participating in MEPD received disproportionate share hospital (DSH) payments from the state (**Exhibit II.4**). The 5 remaining states used state or county funds to reimburse Medicaid stays at IMDs before MEPD.

Exhibit II.4. Funding for inpatient stays in private IMDs for adult Medicaid beneficiaries before MEPD

State	Funding of private IMD stays for adult Medicaid patients before MEPD
Alabama	Uncompensated.
California	In California, counties, not the state, are responsible for mental health services. Sacramento and Contra Costa counties, the two participating in MEPD, used county funds to reimburse IMDs.
Connecticut	Connecticut reimbursed inpatient stays at IMDs for individuals enrolled in the Medicaid program for low-income adults (known as Husky D).
District of Columbia	Uncompensated, but IMDs participating in MEPD received DSH[a] payments from the state.
Illinois	Uncompensated.
Maine	Uncompensated.
Maryland	Maryland used state-only dollars to reimburse private IMDs for 84 percent of per diem charges for inpatient psychiatric services.
Missouri	Uncompensated, but IMDs participating in MEPD received DSH[a] payments from the state.
North Carolina	Uncompensated, but IMDs participating in MEPD received DSH[a] payments from the state.
Rhode Island	Uncompensated, but IMDs participating in MEPD received DSH[a] payments from the state.
Washington	Washington used state-only dollars to reimburse private IMDs for inpatient psychiatric services for Medicaid beneficiaries ages 22–64.
West Virginia	West Virginia used state-only dollars to reimburse IMDs for involuntary commitments when beds were unavailable in other facilities.

Source: State demonstration proposals and interviews with state demonstration staff from fall 2012 to winter 2013.

[a] Disproportionate share hospital (DSH) payments provide financial assistance to hospitals that serve a large number of low-income patients, including Medicaid beneficiaries.

In addition to the private IMDs participating in MEPD, other types of facilities—including nonparticipating private IMDs, state- and county-funded IMDs, general medical facilities with psychiatric units, and smaller facilities exempted from the IMD exclusion—also offered inpatient psychiatric services in participating states during MEPD. As indicated in Appendix A, many of the state- and county-funded hospitals focused on long-term treatment or reserved acute beds for forensic patients. Some inpatient beds might also have been set aside for specific age groups that are exempt from the IMD exclusion, such as children, adolescents, or adults age 65 or older; others could have been designated for patients with specific treatment needs, such as those with substance-related disorders or trauma histories.

2. Availability of community-based supports

Community-based services to prevent or serve as alternatives to hospitalization were also available in most states at the start of MEPD (Appendix A). These services, such as ACT[12] and supported housing, have proven effective for reducing demand for inpatient hospitalization (SAMHSA 2008, 2010). As shown in **Exhibit II.3**, the percentage of SMHA clients in MEPD states that received ACT in 2012 ranged from 0.6 to 7.8; the percentage who received supported housing ranged from 0.3 to 15.2.[13] In their applications, operating plans, and calls with Mathematica, demonstration staff in seven states described recent efforts to increase access to

[12] ACT is a comprehensive set of community-based mental health and support services for adults with serious mental illness and high use of inpatient treatment.

[13] Two states did not report the percentage of beneficiaries receiving ACT, and three did not report the percentage receiving supported housing.

community services, including expanding supportive housing and peer support services, and developing ED diversion programs.

C. State approaches to implementing MEPD

Across the 12 states, 27[14] private IMDs participated in MEPD from the start of the demonstration, and they represented a mix of nonprofit and for-profit hospitals. Demonstration states varied in number, size, and type of participating IMDs and the number of IMD beds available for demonstration participants (**Exhibit II.5**). Within a state, the number of participating IMDs ranged from one to 4: 8 states included all of the private IMDs in their state. Total IMD bed capacity varied widely, ranging from 22 staffed beds in one hospital to 336 staffed beds within a health system. Because the IMDs served a variety of clients, some of whom were not eligible for MEPD, only a portion of the total number of IMD beds were available for demonstration participants.

States had latitude in defining the geographic location targeted by the demonstration. Variations in mental health service delivery and availability of inpatient beds in various parts of each state influenced those decisions. As shown in **Exhibit II.6**, 5 states targeted specific geographic areas, and in 7 states, the demonstration was statewide. Some states imposed geographic restrictions on enrollment—for example, Illinois required referral from one of two local EDs and demonstration participants had to live in a location near the IMDs to ensure the feasibility of post-discharge follow-up.

States' eligibility requirements regarding the inclusion or exclusion of dual Medicare-Medicaid and managed care enrollees (**Exhibit II.6**) also differed. Nine states included dual enrollees; three excluded them. In four states, managed care enrollees were eligible for the demonstration. In these four states, managed care tends to be mandatory and is statewide or countywide, and the states took steps to ensure that inpatient treatment provided under the demonstration was otherwise excluded from federal matching funds, as required by MEPD. The remaining eight states excluded managed care enrollees from the demonstration.

States also differed in whether they allowed people who were eligible for but not yet enrolled in Medicaid to participate in MEPD. Initially, CMS limited eligibility for MEPD to individuals already enrolled in Medicaid. CMS received feedback from the states that this criterion excluded a substantial proportion of the population in need. On March 26, 2013, in response to state feedback, CMS expanded eligibility for MEPD to include individuals who are eligible for but not yet enrolled in Medicaid, retroactive to January 1, 2013. In response, Alabama, Contra Costa County in California, Connecticut, Maryland, Missouri, and Washington expanded their own demonstration eligibility requirements; the other states did not.

[14] One IMD in Alabama withdrew from the MEPD in December 2012 when it closed its adult unit. Two additional IMDs in Missouri joined MEPD later in the demonstration. Washington and its three IMDs withdrew from MEPD on October 1, 2014, after receiving CMS approval of a state Medicaid waiver that covered the costs of IMD services through managed care.

Exhibit II.5. Private IMDs participating in MEPD

State	Name and location of participating IMDs	Total number of IMD beds[a]	Number of beds potentially available for beneficiaries enrolled in demonstration
Alabama	BayPointe Hospital, Mobile County[b]	24 for adults in psychiatric crisis	24
	EastPointe Hospital, Mobile County	66 for adults in psychiatric crisis	66
	Hill Crest Behavioral Health Services, Birmingham	94 for adults, adolescents, and children	53
	Mountain View Hospital, northeast of Birmingham	68 child and adult	18 on adult unit, with additional 10 possible from swing unit
California	John Muir Behavioral Health Facility, Contra Costa County	73 (37 adult)	37
	Heritage Oaks Hospital, Sacramento	125 (106 adult)	106
	Sierra Vista Hospital, Sacramento	107 (83 adult)	83
	Sutter Center for Psychiatry, Sacramento	73 (43 adult)	43
Connecticut	Natchaug Hospital, Tolland County, in the northeastern region of state	57 (33 adult)	33
District of Columbia	Psychiatric Institute of Washington	124 beds for children, adolescents, adults, and senior adults with mental health and addictive illnesses	45 (DC capped the number of MEPD admissions allowed per month; it raised the cap several times during the demonstration)
Illinois	Chicago Lakeshore Hospital, Chicago, Cook County	146 for children, adolescents, and adults with acute mental illness	28, with an additional 28-bed unit available if capacity reached
	Riveredge Hospital, Chicago, Cook County	210 for children, adolescents, and adults	210 (10 admissions allowed per month)
Maine	Acadia Hospital, Bangor (urban)	100 (68 staffed, 36 adult)	36
	Spring Harbor Hospital, Westbrook (rural)	100 (88 staffed, 48 adult)	48
Maryland	Adventist Behavioral Health, Rockville (Washington, DC area)	106 (79 adult)	79
	Brook Lane Health Services, western urban area	42	20
	Sheppard Pratt Health System, Baltimore region	414 (336 staffed)	225

State	Name and location of participating IMDs	Total number of IMD beds[a]	Number of beds potentially available for beneficiaries enrolled in demonstration
Missouri[c]	Royal Oaks Hospital, Windsor, a small rural community in the central part of the state	41 (40 staffed)	8
	St. Louis Regional Psychiatric Stabilization Center, St. Louis	25	25
	Two Rivers Behavioral Health System, Kansas City	105	85
North Carolina	Holly Hill Hospital, Wake County	168 (108 adult)	108
Rhode Island	Butler Hospital, Providence	117 licensed (78 short-term and intensive adult psychiatric), plus 20 under a state Department of Mental Health waiver	78, plus 20 waiver beds
Washington[d]	Fairfax Hospital, King County, which includes Seattle	133 licensed (101 set up, 21 of which are for adolescents)	80
	Lourdes Counseling Center, Richland, a large rural area	32 (22 staffed, all for adults)	22
	Navos Mental Health Solutions, King County, which includes Seattle	72 (32 residential treatment, 40 hospital), primarily for involuntary commitment	40
West Virginia	Highland Hospital, Charleston, Kanawha County, in the southwestern portion of the state	80	34
	River Park Hospital, Huntington, Cabell County, in the southwestern portion of the state	102	28

Source: State demonstration proposals and communications with IMD staff from fall 2012 to October 2013.

[a]Numbers may include beds for children and adolescents, older adults, and other individuals not eligible for MEPD.

[b]On December 20, 2012, we were informed that BayPointe Hospital had shifted its adult population to EastPointe Hospital and that unless the EastPointe unit reaches capacity, the BayPointe adult unit would not be reopened.

[c]Two additional Missouri IMDs joined MEPD more than a year after it had begun: CenterPoint, located in St. Charles (a suburb of St. Louis), joined September 1, 2013; Signature Psychiatric Hospital, located in Kansas City, joined in June 2014.

[d]Washington and its 3 IMDs withdrew from MEPD on October 1, 2014, after receiving CMS approval of a state Medicaid waiver that covered the costs of IMD services through managed care.

Exhibit II.6. Demonstration geographic location and state-specific eligibility requirements for enrollment

State	Target geographic location[a]	Geographic restrictions?	Dual Medicare-Medicaid enrollees eligible?	Managed care enrollees eligible?	Other eligibility requirements?[b]
Alabama	Entire state	No	Yes	NA	Must have full Medicaid, be Medicaid eligible, or have SOBRA[c] pregnant women coverage on the day of admission
California	Sacramento and Contra Costa counties	Must be a Sacramento County or Contra Costa County resident	Yes	Yes	In Sacramento County, must be enrolled in Medicaid
Connecticut	New London, Windham, and Tolland counties (eastern part of state)	No	No	No	May also be "gravely disabled" by serious mental illness[d]
District of Columbia	Entire district	No	Yes	No	Must be enrolled in Medicaid
Illinois	Cook County	Must be referred from one of two participating EDs Must have a home address within a few miles of partnering IMD and participating ED	No	No	Must be enrolled in Medicaid
Maine	Northern and southern Maine	Initially was requiring that demonstration participants live in a geographically close location that allows follow-up, but later relaxed this criterion	No	NA	Must be enrolled in Medicaid
Maryland	Entire state	No	Yes	Yes	No
Missouri	Central Missouri; Kansas City and St. Louis metropolitan areas[e]	No	Yes	No	No
North Carolina	Wake County	Must be a Wake County resident	Yes	Yes	Must be enrolled in Medicaid

State	Target geographic location[a]	Geographic restrictions?	Dual Medicare-Medicaid enrollees eligible?	Managed care enrollees eligible?	Other eligibility requirements?[b]
Rhode Island	Entire state	No	Yes	No	Must be enrolled in or eligible for Connect Care Choice, the state's primary care case management program, in which physicians are reimbursed primarily on a fee-for-service basis
Washington	Entire state	No	Yes	Yes	No
West Virginia	Entire state; emphasis on southwestern part of state (where 2 private IMDs are located)	No	Yes	NA	Must be enrolled in Medicaid

NA = not applicable. Indicates that prepaid health plans covering inpatient and/or outpatient mental health services either did not exist in the state or, when present, did not enroll the population targeted by the MEPD.

[a]Defined as the region the demonstration serves.

[b]Initially, CMS limited eligibility for MEPD to individuals already enrolled in Medicaid. CMS received feedback from the states that this criterion excluded a substantial proportion of the population in need. On March 26, 2013, in response to state feedback, CMS expanded eligibility for MEPD to include individuals who are eligible for but not yet enrolled in Medicaid, retroactive to January 1, 2013. In response, Alabama, Contra Costa County in California, Connecticut, Maryland, Missouri, and Washington expanded their own demonstration eligibility requirements; the other states did not.

[c]The Sixth Omnibus Budget Reconciliation Act of 1986 (SOBRA) allows states to provide medical services related to pregnancy, delivery, and postpartum care to low-income pregnant women.

[d]Connecticut defined gravely disabled as at-risk to self or others, not necessarily by means of suicide or homicide.

[e]Because of the shortage of inpatient psychiatric beds in Missouri, referrals were expected from all parts of the state.

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III. EVALUATION DESIGN AND METHODOLOGY

Section 2707 of the ACA required HHS to "conduct an evaluation of the demonstration project in order to determine the impact on the functioning of the health and mental health service system and on individuals enrolled in the Medicaid program." The ACA directed that the evaluation include the following:

A. An assessment of access to inpatient mental health services under the Medicaid program; average lengths of inpatients stays; and emergency room (ER) visits

B. An assessment of discharge planning by participating hospitals

C. An assessment of the impact of the demonstration project on the costs of the full range of mental health services (including inpatient, emergency, and ambulatory care)[15]

D. An analysis of the percentage of consumers with Medicaid coverage who are admitted to inpatient facilities as a result of the demonstration project, as compared to those admitted to these same facilities through other means

E. A recommendation regarding whether the demonstration project should be continued after December 31, 2013, and expanded on a national basis

The ACA further mandated that "not later than December 31, 2013, the Secretary shall submit to Congress and make available to the public a report on the findings of the evaluation." We prepared the Report to Congress for the secretary in the first year of the evaluation contract, and CMS posted the report to its public website in January 2014 (http://innovation.cms.gov/Files/reports/MEPD_RTC.pdf). Due to the timing of the implementation of the demonstration and the time required to plan and conduct the evaluation, HHS did not have enough data to recommend expanding the demonstration at the time the report was submitted, but recommended that the demonstration continue through the end of the current authorization to allow a fuller evaluation of its effects.

To fully assess all of the areas mandated by the ACA, as well as to meet the interests of critical stakeholders, we designed and implemented a comprehensive, mixed-methods evaluation of the MEPD. We used quantitative data on service utilization and expenditures to evaluate the MEPD's effect on ACA-mandated evaluation areas A, C, and D, as well as on psychiatric boarding in EDs and scatter beds. We designed a pre-post quantitative analysis: the pre-demonstration period was two years prior to the implementation of MEPD (2010–2012) and the post period was two years of demonstration experience (2012–2014). Where possible, we identified comparison groups and conducted difference-in-differences analyses.

To assess discharge planning by participating hospitals, as mandated by ACA evaluation area B, we collected qualitative data through site visit interviews with state project directors and IMD staff, medical record reviews, beneficiary interviews, and review of documents such as state MEPD proposals and operating plans. We also examined qualitative data on psychiatric EMC determination and stabilization review processes to better understand how states and hospitals operationalized the ACA demonstration requirements. Qualitative data also provided

[15] Note, however, that the ACA did not require CMS or states participating in MEPD to demonstrate cost neutrality.

information on how care provided in IMDs was similar to or different than care provided in general hospital scatter beds and EDs. In addition, we supplemented quantitative data with qualitative reports regarding changes to boarding and referral process in EDs and general hospital scatter beds resulting from MEPD. Key informant interviews and an ongoing environmental scan conducted throughout the demonstration period also provided information about contextual events that might influence demonstration outcomes.

Given the complexity of the evaluation and the degree of stakeholder interest in its outcome, we formed a nine-member technical expert panel (TEP) to provide guidance on the evaluation's conceptual framework, research questions, and design and on the expected outcomes of MEPD. TEP members represented a broad set of stakeholders, including service providers and administrators, psychiatric emergency and health system researchers, and consumers (Appendix B). We convened the TEP on January 16, 2013, and held follow-up conversations with individual TEP members on an ad hoc, as-needed basis.

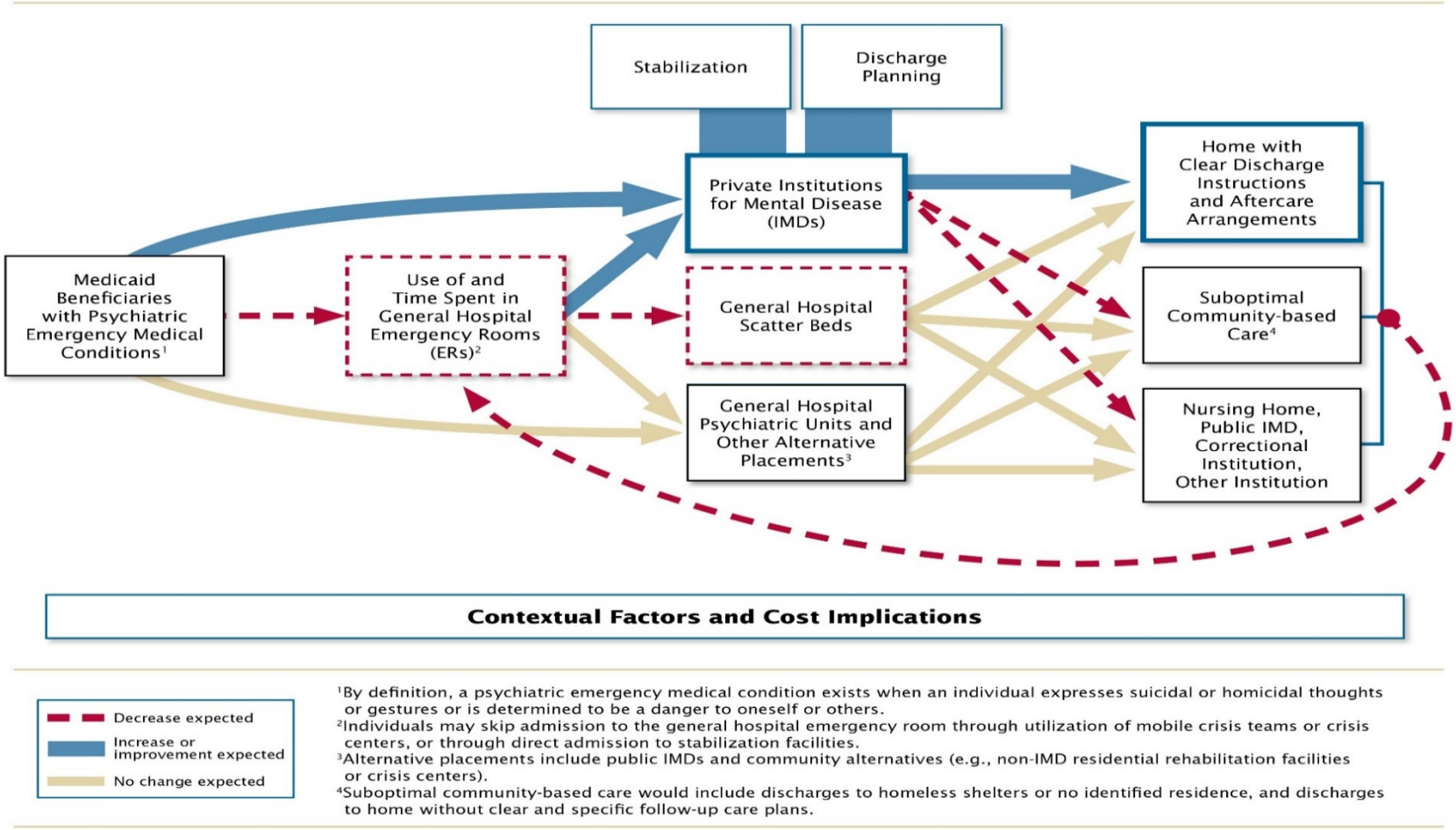
In this chapter, we further describe our approach to the evaluation, including the conceptual framework we used to guide the evaluation, the data used to support the evaluation, and our analytic approach to addressing each ACA-mandated evaluation area.

A. Conceptual framework

Before the MEPD began, we developed a conceptual framework to guide the evaluation. We based the framework on our interpretation of possible expectations underlying the ACA demonstration and evaluation requirements, as well as published stakeholder statements about their expectations for the MEPD. Early on in the demonstration, we presented the framework to CMS demonstration and evaluation staff and states participating in the MEPD, and we revised it several times in response to feedback.

As depicted in **Exhibits III.1** and **III.2**, the MEPD was aimed at reducing a number of undesirable aspects of the current system of care for people with psychiatric EMCs by increasing the use of private IMDs. In the current system, the typical path for Medicaid beneficiaries with psychiatric EMCs begins in a general hospital ER. Once the ER determines that the beneficiary is in need of inpatient treatment, the search for an available inpatient bed begins. A lack of available beds may lead to a long period of boarding in the ER or inappropriate placement in a general hospital scatter bed. Stabilization in such units may take longer than if more appropriate care were provided, leading to both diminished quality of care and higher costs. Discharge planning by nonspecialized staff may result in lower quality placements. Inadequate care following a discharge that occurs before the beneficiary is fully stabilized can result in readmission to the ER and a recurrence of the cycle. The MEPD sought to break this cycle by increasing the use of private IMDs. Increased availability of beds in these specialized facilities was expected to decrease both psychiatric boarding in ERs and inappropriate placements in general hospital scatter beds. Receipt of specialized treatment was expected to decrease the time needed for stabilization and increase both time spent on and quality of discharge planning; this,

Exhibit III.1. Conceptual framework: Anticipated MEPD effects on the flow of Medicaid beneficiaries with psychiatric EMCs through the health care system



in turn, was expected to result in a better quality of post-discharge care and a reduction in the need for readmission. Decreased use of ERs and stabilization times, along with reduced use of inpatient treatment due to readmissions, could result in net savings to overall Medicaid costs, as well as to Medicare costs for dual Medicaid-Medicare enrollees.[16]

Exhibit III.2. Anticipated outcomes associated with the MEPD

Expected change[a]	No expected change
Increased use of private IMDs	Placement in general hospital psychiatric units, public IMDs, and community alternatives
Reduced psychiatric boarding in ERs	Quality of discharge planning in general hospitals, public IMDs, and community alternatives
Fewer placements in general hospital scatter beds	Aftercare following discharge from general hospitals, public IMDs, and community alternatives
Improved discharge planning in participating IMDs, resulting in better aftercare following discharge	
Fewer ER visits	
Lower overall Medicaid mental health costs,[b] as a result of shorter time to stabilization, more effective aftercare, decreased ER use, and decreased readmissions	

[a]One state and its IMD(s) objected to hypotheses regarding improved discharge planning, improved quality of care and stabilization review, and decreased lengths of stays in IMDs. They rightfully pointed out that MEPD did not require them to change their processes of care, and stated that they had not done so because their processes were already state-of-the-art. Moreover, they believed that care process should not differ for a single subgroup (Medicaid beneficiaries) of the larger population they served, but that all patients should be treated identically. Note that failure to find the hypothesized changes associated with processes of care should not be construed as suggesting that participating states or IMDs were in any way derelict in how they implemented the demonstration.

[b]Note, however, that neither the ACA nor CMS required participating states to offset costs of IMD admissions funded under the demonstration, or demonstrate cost reductions or cost-neutrality.

Because Medicaid already paid for care in general hospital psychiatric units and for community-based crisis alternatives to hospitalization before the demonstration, MEPD was not expected to affect admissions, processes of care, or outcomes in such facilities. MEPD was designed to make additional beds in private IMDs available to Medicaid beneficiaries in order to help ease stresses associated with insufficient inpatient bed capacity, rather than to divert patients from previously Medicaid-reimbursable facilities to the private IMDs. Although the MEPD was expected to decrease scatter bed use, it was not expected to affect care processes (such as stabilization review, length of stay, discharge planning, or quality of aftercare) associated with scatter bed use because MEPD imposed no requirements on general hospitals. The evaluation focused on the ACA-mandated evaluation questions and elements of the conceptual framework that were expected to change; we did not assess effects on elements of the conceptual framework that were not expected to be affected by the MEPD.

[16] Note, however, that neither the ACA nor CMS required participating states to offset costs of IMD admissions under MEPD, or demonstrate cost reductions or cost neutrality.

B. Analytic framework for addressing ACA-mandated areas and related topics

In this section, we provide an overview of the empirical methods, data sources, and (where applicable) comparison groups we used to address specific research questions within each ACA-mandated evaluation area. A summary table of our general analytic approach for answering each question appears in Appendix C. A detailed description of our data collection and analysis methods is available in Volume II—Technical Appendices.

The intervention targeted Medicaid beneficiaries ages 21–64 who experienced a psychiatric EMC. Therefore, our analyses included only adults ages 21–64 who experienced a psychiatric EMC at some point during the four-year evaluation period (two years pre-MEPD and two years during MEPD). Because our quantitative data sources seldom included indicators of whether someone was suicidal, homicidal, or a danger to self or others, we developed a proxy measure of psychiatric EMC based on a combination of diagnostic codes and use of inpatient or emergency services (see Volume II, Chapter II for more detail). Throughout the report, we use the phrase "MEPD-eligible" to refer to the full group of adults with psychiatric EMCs, even for comparison groups whose members could not participate in MEPD because it was not operating (1) in their region or (2) during the pre-demonstration time period. With two exceptions, the analyses examined only services received by Medicaid beneficiaries within the MEPD-eligible group. (The exceptions were that [1] non-Medicaid patients served as the comparison group for ED boarding analyses and [2] ACA evaluation area D examined the ratio of MEPD-eligible Medicaid beneficiaries to all adults with psychiatric EMCs, regardless of insurance status).

1. Assessment of access to inpatient mental health services under the Medicaid program; average length of inpatient stays; and ER visits

When we had sufficient data and a comparison group, we used a difference-in-differences approach to analyze the questions related to inpatient access, lengths of inpatient stays, and ER visits. This method compares the change in each outcome before and after MEPD for the intervention group to the change in the same outcome over the same time period for the comparison group. When we were unable to conduct a difference-in-differences analysis, we conducted pre-post analyses without any type of comparison group. We used Medicaid and Medicare[17] claims data for analyses regarding ER visits, and scatter bed admissions and lengths of stays; we used data obtained directly from MEPD states and IMDs for analyses regarding inpatient admissions and lengths of stays in IMDs.

IMD admissions and length of stays. To determine MEPD's effect on admissions to participating IMDs among MEPD-eligible beneficiaries (question A1), the intervention group was beneficiaries who lived in the catchment area of a participating IMD, the comparison group was beneficiaries who lived outside of the MEPD catchment area, and the outcome variable was the proportion of psychiatric EMC episodes that involved a stay at the IMD. To determine MEPD's effect on average length of IMD stays (question A3), we compared average length of

[17] Medicare claims were included for beneficiaries living in the nine states that allowed dual Medicare-Medicaid enrollees to participate in MEPD.

stays of beneficiaries living within the MEPD catchment area in participating IMDs versus general hospital psychiatric units.

Scatter bed admissions and length of stays. The scatter bed admissions question (question A2) asks about the effect of MEPD on the probability that a beneficiary with a psychiatric EMC was admitted to a general hospital scatter bed. To answer this question, we compared the proportion of Medicaid beneficiaries living within the catchment areas of participating IMDs who received services for psychiatric EMCs in scatter beds with the proportion of those who lived outside of the MEPD catchment area and received psychiatric EMC services from scatter beds. Our assumption was that admissions of beneficiaries within the catchment area would be affected by MEPD, whereas admissions of beneficiaries outside the catchment area would not. Analysis of the average length of stays in scatter beds (question A4) also compared stays of beneficiaries living within and outside of the MEPD catchment area.

ER visits and boarding. As with IMD and scatter bed admissions, to analyze the effect of MEPD on the number of ER visits (question A5), we compared the proportion of beneficiaries experiencing psychiatric EMCs who visited the ER who lived within versus outside of the MEPD catchment area.

Because the effect of MEPD on ED boarding time (question A6) has been a topic of interest to stakeholders, we conducted an additional analysis of boarding times using administrative data we obtained data directly from a selection of EDs that referred MEPD-eligible participants to participating IMDs. When we had sufficient data, we conducted difference-in-differences analyses comparing ED boarding times for adult Medicaid beneficiaries with psychiatric EMCs to ED boarding times for non-Medicaid adult patients with psychiatric EMCs. Boarding time, as it was expected to be affected by MEPD, was narrowly defined as the time from when the patient was identified as requiring hospitalization to the time an available bed was found that was willing to accept the patient (or, because acceptance times are often not available, the time when the patient left the ED, as a proxy). For states for which data were insufficient to calculate boarding time per se, we conducted the analysis on total length of stay in the ED, as a proxy for boarding time.[18]

2. Assessment of discharge planning by participating hospitals

The ACA mandates an assessment of discharge planning by participating hospitals. We interpreted the inclusion of this evaluation area in the ACA to reflect congressional interest in the quality of discharge planning, which may differ between IMDs and general hospital medical-surgical units in which psychiatric patients are placed in scatter beds. The CMS demonstration payment and monitoring data included information about the proportion of demonstration participants discharged to community-based residences (question B3). However, because similar

[18] Total time spent in the ED includes time that does not constitute boarding as a result of being unable to find an inpatient bed to accept the patient, such as (1) time required to complete the psychiatric assessment and determine the existence of a psychiatric EMC (this includes time for the specialist doing the assessment to arrive at the ED, which qualitative reports suggested could be lengthy); (2) time to complete toxicology screens to determine the presence of alcohol or other substances and, if present, for the substances to clear the person's system; (3) time for additional assessments, such as brain imaging, and medical clearance; and (4) time awaiting vehicles or escorts to transport the patient to the IMD.

data were not available for the pre-demonstration period or comparison facilities, we were only able to use these data to describe discharge disposition as it occurred during MEPD. Because quantitative data addressing discharge planning are lacking, we addressed this ACA area primarily through analysis of qualitative data. These data included descriptions of discharge planning provided in state demonstration documents, as well as information provided by state and facility staff during site visit interviews. We also examined medical records and interviewed beneficiaries participating in MEPD to better understand how discharge planning was implemented at the individual patient level. Our qualitative investigations included questions about how discharge planning under MEPD compared with (1) discharge planning that occurred before the demonstration, (2) discharge planning for nondemonstration and non-Medicaid patients, and (3) discharge planning in general hospitals using scatter beds. Specifically, we examined when discharge planning began for an individual patient, the level of detail provided in discharge plans, and how patients and outpatient providers were involved in discharge planning.

3. Assessment of the impact of the demonstration project on the costs of the full range of mental health services (including inpatient, emergency, and ambulatory care)

To address the third ACA-mandated evaluation area, we set forth a set of research questions focused on the effect of MEPD on costs incurred by the federal government (question C1), states (question C2), and participating IMDs (question C3). We used data provided by states and IMDs and analyzed the data separately by state. Research question C4 examined MEPD's effect on overall costs to Medicaid and Medicare[19] for the full range of mental health services provided to MEPD-eligible beneficiaries at any time within the four-year evaluation period.[20] To answer this question, we used Medicaid and Medicare claims data.

Although examination of changes in costs relied primarily on quantitative analyses, we did not have data on non-Medicaid state costs for mental health services other than inpatient treatment provided by participating IMDs. Therefore, we supplemented the quantitative data with qualitative data obtained through interviews with state project directors regarding additional effects of MEPD on state costs for mental health services. The availability of Medicaid reimbursement for inpatient admissions to private IMDs might result, for example, in savings to the state for inpatient admissions to public IMDs, which were not covered under Medicaid or MEPD. Through qualitative interviews, we also asked state project directors and hospital staff about administrative costs they have incurred in implementing MEPD.

4. Analysis of the percentage of consumers with Medicaid coverage who are admitted to inpatient facilities as a result of the demonstration project, as compared to those admitted to these same facilities through other means

We implemented a pre-post analysis of the change in the Medicaid share of admissions for psychiatric EMCs to participating IMDs before and during MEPD. We used data on IMD admissions submitted by the states and IMDs. In order to calculate the proportion of all adults

[19] Medicare costs were included only for dual Medicare-Medicaid enrollees in the nine states that included them in the demonstration.

[20] Mental health costs included inpatient, emergency, and ambulatory care services provided not only when the person was experiencing a psychiatric EMC but also when he or she was not.

ages 21 to 64 with psychiatric EMCs admitted to participating IMDs who were Medicaid beneficiaries, these data included admissions of both Medicaid and non-Medicaid patients. We aggregated these data to calendar quarters and then calculated the percentage of all patients with psychiatric EMCs that were Medicaid beneficiaries in each quarter of the evaluation period.[21] Due to privacy concerns, in some cases, states and IMDs only submitted data on non-Medicaid beneficiaries to us in aggregate form.

C. Data collection

CMS and Mathematica received approval for our data collection efforts from the Office of Management and Budget (in accordance with the Paperwork Reduction Act), the New England Institutional Review Board (IRB) (from which we received an exemption and a waiver from the Privacy Board that allowed us to collect, without patient authorization, health information that is protected under the Health Insurance Portability and Accountability Act), and a subset of states' and facilities' IRBs. We executed business associates agreements with most states and facilities to ensure the protection of personal health information. To ensure mutual understanding of the specific data to be provided within given timelines, we also completed a memorandum of understanding (MOU) with each participating entity; for EDs, the MOUs also specified incentive payments that we offered for participation in the evaluation.[22]

As described in Volume II (Chapter II), a technical appendix with a detailed description of data collection and analysis procedures and results, quantitative data available for the evaluation were limited for a number of reasons. As a result, each quantitative analysis included only a subset of the states that participated in MEPD. Appendix D of this volume (Volume I) shows which states were included in each quantitative analysis.

[21] The ACA required a comparison of the percentage of admissions of Medicaid beneficiaries as a result of MEPD to the percentage of admissions through other means. We used non-Medicaid beneficiaries as the comparison.

[22] Because EDs were not mandated participants in the MEPD, we offered incentive payments to encourage and partially offset the costs of participating in the evaluation: each ED received up to $5,000 for providing all requested administrative data. We offered additional incentives to EDs and general hospitals for participating in the qualitative site visits of up to $2,500 per fully completed site visit.

PART II

EVALUATION RESULTS

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IV. INTRODUCTION AND OVERVIEW OF THE EVALUATION RESULTS SECTION

In this section, we present the final evaluation results. **Exhibit IV.1**, below, summarizes the quantitative evaluation results for each ACA area, by research question. In Chapter V, we present descriptive information on IMD stays funded under MEPD, as reported by the states to CMS for payment and monitoring purposes. In Chapter VI, we provide information about contextual events that may have influenced MEPD, gleaned from qualitative interviews with state and facility staff, as well as from our environmental scan. In Chapters VII through XI, we describe question-specific methodology and analytic results for each research question. The final chapter presents conclusions and limitations on generalizing from MEPD in larger policy discussions.

Exhibit IV.1. Summary of evaluation results, by ACA area

Measure	Findings
Access to inpatient mental health services under the Medicaid program, average lengths of inpatient stays, and ER visits	
Inpatient IMD admissions[a]	The one statistically significant change that showed a decrease in IMD admissions is likely due to a data quality issue in one quarter of the pre-demonstration period. In the one state with 1.5 years of data during the MEPD, admissions increased late in the MEPD period.
General hospital scatter bed admissions	No effects (use was low but increased during MEPD in both MEPD and comparison groups)
IMD length of stay	No effects (nonsignificant trend for IMD stays to be longer than stays in general hospital psychiatric units)
General hospital scatter bed length of stay	No effects
ER visits	No effects (trend toward more ER visits during MEPD)
ED boarding time	No effects
Discharge planning by participating IMDs	
• In most states, IMDs did not change their discharge planning processes for MEPD[b] and used identical procedures for Medicaid and non-Medicaid patients. • The vast majority of beneficiaries were discharged to their homes rather than transferred to other facilities. • A third of the states implemented specific procedures to improve linkages with community-based providers for beneficiaries with EMCs. • With few exceptions, beneficiaries interviewed expressed satisfaction with the discharge planning processes at the IMDs, and 88 percent felt safe to leave the IMD when they were discharged. • IMDs appeared to provide better connection to and documentation of recommendations for aftercare than medical-surgical units in general hospitals serving beneficiaries in scatter beds. • Discharge planning was hampered by lack of available community-based care.	

Measure	Findings
Costs of the full range of mental health services (including inpatient, emergency department, and ambulatory care)[c]	
Federal Medicaid/MEPD costs for IMD inpatient stays	Costs increased
State costs for Medicaid beneficiary IMD inpatient stays	Costs decreased
IMD costs for Medicaid beneficiary IMD inpatient stays	Increased in one state, decreased in the other
Medicaid and Medicare costs for full range of mental health services[d]	Increased in two states, no effect in three
Percentage of consumers with Medicaid coverage admitted to inpatient facilities as a result of MEPD, compared to those admitted to same facilities through other means	
Proportion of admissions meeting MEPD eligibility criteria	Increase in proportion of Medicaid admissions may be due to ACA Medicaid expansion

[a] The evaluation did not separately examine MEPD's effects on readmissions.

[b] Neither the ACA nor CMS required states or IMDs to change care processes for the MEPD.

[c] Note that the ACA did not require CMS or states participating in MEPD to demonstrate cost-neutrality. Not all MEPD states were included in the analyses, due to insufficient usable data.

[d] Medicare costs were included for dual Medicare-Medicaid enrollees.

V. DESCRIPTION OF IMD STAYS FUNDED UNDER THE MEPD

In this section, we present descriptive analyses based on data submitted to CMS for payment and monitoring purposes by states that participated in the MEPD. These data describe the numbers and characteristics of Medicaid beneficiaries directly affected by MEPD. To show the variability in MEPD implementation across states, we present the total number of IMD admissions occurring under the MEPD and the average length and cost of MEPD IMD stays by state. Because of the ACA interest in discharge planning, we also present summary data on discharge dispositions.

A. MEPD psychiatric inpatient admissions to participating IMDs

The 12 participating states reported 11,850 Medicaid beneficiaries had 16,731 admissions to IMDs under MEPD (**Exhibit V.1**). Across the states, the number of unique participants admitted ranged from 204 beneficiaries in Rhode Island to 3,015 in Maryland, and the number of admissions ranged from 245 in Rhode Island to 4,169 in Maryland. Although states could submit demonstration claims to CMS for reimbursement for beneficiaries discharged through June 30, 2015, most states stopped enrolling beneficiaries in MEPD in spring 2015 because of concerns that MEPD funds would be exhausted or a stay might extend beyond the reimbursement cutoff date and the claim would not be reimbursed.

Exhibit V.1. Inpatient admissions to IMDs under the MEPD, by state

State	Date of first enrollment	Date of last enrollment	Number of unique participants through 6/30/2015[a]	Number of admissions through 6/30/2015
Alabama	07/03/2012	03/25/2015	735	1,112
California	07/01/2012	06/25/2015	2,098	3,152
Connecticut	07/02/2012	04/13/2015	639	855
District of Columbia	07/02/2012	05/11/2015	559	857
Illinois	12/18/2012	03/09/2015	230	336
Maine	07/27/2012	03/17/2015	496	681
Maryland	07/01/2012	03/10/2015	3,015	4,169
Missouri	07/07/2012	03/20/2015	1,387	2,065
North Carolina	12/18/2012	06/18/2015	380	635
Rhode Island	09/26/2012	05/26/2015	204	245
Washington	07/19/2012	09/29/2014[b]	628	715
West Virginia	08/01/2012	05/15/2015	1485	1,909
Total	**07/01/2012**	**06/25/2015**	**11,850[c]**	**16,731**

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

[a]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 the demonstration, 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.

[b]Washington withdrew from MEPD effective September 30, 2014.

[c]The number of unique participants in each state does not sum to the total number of unique participants because one or more participants were admitted in multiple states.

The average length of stay for admissions during MEPD was 8.6 days (**Exhibit V.2**). Average length of stay was fairly consistent across the states, ranging from 6.2 days in Missouri to 10.6 days in Maine. The shortest stay was less than one day; the longest was 147 days.

Exhibit V.2. Length of stays for IMD inpatient admissions during the MEPD, by state

State	Number of admissions	Median length of stay[a]	Average length of stay	Standard deviation[b]	Minimum	Maximum
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[c]	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
Total	**16,731**	**7**	**8.6**	**7.6**	**0[c]**	**147**

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

[a]For each state, the median length 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 the distribution of length of stays is skewed to the right, meaning that most length of stays are short (more stays are shorter, rather than longer, than the average) but some are much longer than is suggested by the average length of stay.

[b]Length of stay does not have a normal distribution; as such "Chebychev's rule" applies, which states that at least 75% of the data will be within 2 standard deviations of the mean (that is, within the mean plus 2 standard deviations), and 89% will be within 3 standard deviations of the mean. Therefore, because the overall mean is 8.6 and the standard deviation is 7.6, at least 75% of stays lasted fewer than 23.8 days, and 89% lasted fewer than 31.4 days.

[c]A length of stay of zero indicates that the beneficiary was admitted and discharged on the same day.

B. Characteristics of Medicaid beneficiaries admitted to IMDs under MEPD

Most admissions were determined to be eligible for MEPD because of the individuals' suicidal thoughts or gestures (**Exhibit V.3**). On October 1, 2012, CMS expanded the eligibility criteria to include admissions for which beneficiaries were judged to be dangerous to themselves or others by means other than suicidal or homicidal thoughts or gestures. The policy change affected the distribution of eligibility determinations. Under the original criteria, 17 percent of admissions were reported as eligible due to homicidal thoughts or gestures; this dropped dramatically to 4 percent after the expansion and dangerousness to self or others rose from 2 percent to 21 percent of admissions. This suggests that before the change in the eligibility policy, some people who were dangerous to themselves or others might have been categorized as homicidal, which would allow for reimbursement under the demonstration.

Exhibit V.3. Characteristics of Medicaid beneficiaries admitted to IMDs in the MEPD

Characteristic	Number	Average/percent
Age at admission[a]	**16,728**	**38 years**
Emergency medical condition (admitted before Oct 1, 2012)[b]	**719**	
Suicidal thoughts or gestures	526	73
Homicidal thoughts or gestures	125	17
Both suicidal and homicidal thoughts or gestures	54	8
Determined to be a danger to self or others by means other than suicidal or homicidal[c]	14	2
Emergency medical condition (admitted after Oct 1, 2012)[b]	**16,012**	
Suicidal thoughts or gestures	11,078	69
Homicidal thoughts or gestures	701	4
Both suicidal and homicidal thoughts or gestures	897	6
Determined to be a danger to self or others by means other than suicidal or homicidal	3,336	21
Admitting diagnosis for IMD stay	**16,731**	
Depressive disorders	4,618	28
Bipolar disorders	4,085	24
Schizophrenia spectrum disorders	4,051	24
Other mood disorders	1,500	9
Other psychotic disorders	1,302	8
Substance-related disorders	370	2
Anxiety disorders	327	2
Other mental health diagnoses	436	3
Other non-mental health diagnoses	42	0
Primary discharge diagnosis differs from admitting diagnosis	**4,133**	**25**

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

[a]Three records had invalid dates of birth and were excluded from analysis of age.

[b]The categories of eligibility changed on October 1, 2012 to include "determined to be a danger to self or others by means other than suicidal or homicidal."

[c]All beneficiaries who were admitted before October 1, 2012 and had an EMC of "determined to be a danger to self or others by means other than suicidal or homicidal" were discharged after October 1, 2012.

Diagnoses for 61 percent of IMD admissions were bipolar disorders, depressive disorders, or other mood disorders; 32 percent were schizophrenia or other psychotic disorders (**Exhibit V.3**). For 25 percent of admissions, the primary discharge diagnosis differed from the diagnosis assigned upon admission. More thorough assessments conducted during the inpatient stay may have resulted in more accurate diagnoses at discharge; alternatively, such changes may simply reflect the complexity of the diagnostic picture for MEPD participants. The low rate of substance-related disorders among admitting diagnoses likely reflects CMS's specification that admissions for substance use disorders without co-occurring mental illnesses not be included in

MEPD. A sizeable portion (20 percent) of admissions, however, had primary or secondary discharge diagnoses of substance-related disorders (data not shown).

C. Discharge status and multiple admissions under MEPD

Payment and monitoring data for MEPD show that 90 percent of beneficiaries admitted were discharged to their homes or self-care (**Exhibit V.4**); another 3 percent were discharged home under the care of a home health service organization. Note that the extent to which such placements included discharge to homeless shelters, group homes or other supervised living arrangements, and the streets is unknown; follow-up care arrangements for individuals discharged to their homes or self-care are also unspecified in these data. Four percent of admissions were transferred to other institutions.

Most beneficiaries (77 percent) were admitted to a participating IMD just once during MEPD; the remaining 23 percent were admitted at least twice during the three-year period. Eight percent had three or more admissions to participating IMDs during MEPD.

Exhibit V.4. Discharge status following inpatient admission and number of beneficiaries with multiple admissions during the MEPD

Discharge status and number of admissions	Number	Percent[a]
Discharge status following inpatient admission	**16,731**	
Discharged to home or self-care[b]	15,026	90
Discharged/transferred to another facility[c]	695	4
Discharged/transferred to home under care of organized home health service organization	462	3
Left against medical advice	112	1
Still a patient[d]	103	1
Hospice (home or medical facility)	3	0
Expired (died)	1	0
Other/not available[e]	329	2
Beneficiaries with one or more admissions under the MEPD[f]	**11,850**	
One admission	9,181	77
Two admissions	1,666	14
Three admissions	524	4
Four admissions	218	2
Five admissions	107	1
Six or more admissions[g]	154	1

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

[a]Categories do not sum to 100 percent due to rounding.

[b]The extent to which such placements included discharge to homeless shelters, group homes or other supervised living arrangements, and the streets is unknown. Aftercare arrangements for individuals discharged to their homes or self-care are also unspecified in these data.

[c]Includes discharge/transfer to another short-term general hospital, skilled nursing facility, intermediate care facility, federal health care facility, or another type of institution, as well as discharge to hospital-based swing bed care, inpatient rehabilitation, long-term care hospital, nursing facility, psychiatric hospital, or critical access hospital.

[d]Beneficiaries were discharged from the demonstration when they were no longer suicidal, homicidal, or dangerous to themselves or others. In some cases, however, the IMD, state or local courts, or other state or local entities may have determined that continued hospitalization was needed even after MEPD criteria for stabilization were met. In such cases, the beneficiary was discharged from MEPD but may have remained a patient of the IMD.

[e]292 of the admissions for which discharge status was not available occurred in Maryland.

[f]Unlike readmission rates that may be reported from other sources, which are often expressed as readmissions during a short timeframe (for example, within one week or 30 days of discharge), numbers presented in this table include rehospitalizations occurring at any time during the 3-year demonstration. Rehospitalizations include admissions to any participating IMD, that is, not just the first IMD to which the beneficiary was admitted. Multiple hospitalizations reported here include only admissions to IMDs participating in MEPD; admissions to nonparticipating IMDs and general hospitals are not included.

[g]The maximum number of admissions was 16.

D. MEPD expenditures

The ACA authorized $75 million in federal funding to be spent over three years for the demonstration. According to MEPD payment and monitoring data, total Medicaid expenditures for demonstration inpatient admissions across all 12 states, including both state and federal shares, were $113,194,748 (**Exhibit V.5**). The federal share of the expenditures reported ranged from 50 to 73 percent, depending on the state (see Appendix E for federal medical assistance percentages [FMAP] by state and year). Total expenditures for individual states ranged from $1,879,496 in Illinois to $34,562,008 in Maryland. The differences in expenditures across states can be explained largely by the states' differing numbers of admissions. The average amount claimed per admission ranged from $4,852 in North Carolina to $9,518 in Maine. State variations in average amount claimed per admission may reflect, in part, variations in average length of stay, regional costs, and case mix.

Exhibit V.5. MEPD total expenditures (federal plus state) for IMD inpatient admissions, by state

State	Number of admissions through 6/30/2015	Total amount claimed through 6/30/2015 (in dollars)	Average amount claimed per admission (in dollars)
Alabama	1,112	6,641,020	5,972
California	3,152	23,587,690	7,483
Connecticut	855	5,188,217	6,068
District of Columbia	857	4,635,500	5,409
Illinois	336	1,879,496	5,594
Maine	681	6,481,594	9,518
Maryland	4,169	34,562,008	8,290
Missouri	2,065	11,024,840	5,339
North Carolina	635	3,080,761	4,852

State	Number of admissions through 6/30/2015	Total amount claimed through 6/30/2015 (in dollars)	Average amount claimed per admission (in dollars)
Rhode Island	245	2,147,775	8,766
Washington	715	4,167,869	5,829
West Virginia	1,909	9,797,978	5,133
Total	**16,731**	**113,194,748**	**6,766**

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

VI. CONTEXTUAL EVENTS THAT MAY HAVE INFLUENCED MEPD RESULTS

Throughout the evaluation period, we conducted an environmental scan of media articles and other sources to identify events affecting participating states and facilities that might influence MEPD outcomes; results of the scan are presented in Appendix F. In addition, we asked state and facility staff about external events that might affect the MEPD or its results. Below, we report the most common types of events respondents identified.

According to state project directors and facility staff, increased demand for inpatient mental health services was the most important contextual issue that may have affected demonstration results. Eight of the MEPD states expanded Medicaid under the ACA, which contributed to increased demand; for example, in West Virginia, respondents reported that about 300,000 individuals became newly eligible for Medicaid.[23] In five states, respondents attributed perceived increases in ER visits during MEPD to this expansion, and IMD staff in three states attributed some increased admissions to the expansion. One IMD in Maryland reported that the number of demonstration enrollees doubled each month after the expansion took effect.

Respondents also cited other reasons for increased demand for emergency psychiatric care that coincided with the demonstration period. In several states, such as Alabama, ***closure of state hospitals increased demand for inpatient services.*** In Missouri, state hospital beds were converted to a forensics unit, which created a bed shortage for non-forensic cases, according to staff of one IMD. Respondents in North Carolina said that service shortages, economic issues, and limited psychiatric beds increased the demand for available inpatient beds and boarding in ERs. In four states, IMD and ER clinical staff said ***patients had more acute symptoms than in the past***, which contributed to increased demand; they attributed the increases in acuity and demand to an ***increase in substance use***, as more patients were presenting in the ER with co-occurring substance use and mental health conditions. In seven states, IMD staff mentioned a reduced or ***limited supply of inpatient or outpatient care*** due to budget cuts and other issues. For example, interviewees pointed to a chronic ***lack of psychiatrists to prescribe medication after discharge*** as contributing to rehospitalization.

In 10 states, respondents described external service improvements or increased availability of care that occurred during the demonstration period that may affect outcomes similar to those targeted by MEPD. For example, respondents in eight states reported implementing ER diversion initiatives (such as crisis walk-in clinics, behavioral health home models, mobile crisis units, and crisis intervention, stabilization, and housing services) to reduce psychiatric boarding in ERs. Several states also implemented strategies to identify risk factors for ER readmission and wraparound outpatient supports for at-risk patients to reduce readmissions. Other service improvements not related to MEPD may have also affected outcomes. For example, respondents in Missouri mentioned new clustered apartments or other residences with staff support that they hoped would decrease recidivism. An IMD in Maryland expanded its outpatient services to decrease rehospitalizations. In Maine, interviewees credited a new behavioral health home program, which combined behavioral and physical health care with case management, with some

[23] We did not gather quantitative data to confirm respondent perceptions of increased demand created by Medicaid expansions under the ACA.

success in avoiding readmissions and establishing longer-term relationships between clinicians and patients.

VII. ACA AREA A, PART 1: INPATIENT ADMISSIONS AND LENGTH OF STAY

In this chapter, we describe our results regarding the effects of MEPD on inpatient admissions and length of stay, including admissions both to participating IMDs and to nonpsychiatric units of general hospitals ("scatter beds").[24] We provide an introduction to each research question along with the results and a brief discussion; however, it is important to first note key data limitations behind these analyses. Data availability is a problem that affects all the quantitative research questions. (We used Medicaid, Medicare, and IMD data in our analyses of these questions.) Due to a lack of available data, less than half of the states (Alabama, California, Maryland, Missouri, and West Virginia) are included in the admissions analyses and only half of the states are include in the length of stay analyses (Alabama, California, Connecticut, Maryland, Missouri, and West Virginia) (Appendix D). For these analyses, we have only six months of data during MEPD in four states and 1.5 years of data during MEPD in two states. As a result, if MEPD had a delayed effect on inpatient admissions and length of stay, we may not have sufficient data to detect these effects. In addition, because many states implemented MEPD statewide, we were only able to identify a comparison group in two states (and for the admissions questions, in just one state; see Volume II, Exhibit II.5 for more information), limiting our difference-in-differences analysis to these states. Although MEPD-eligible beneficiaries in the intervention and comparison groups are similar in many ways, for some research questions, there are some statistically significant differences in the characteristics of the two groups; this raises questions about the strength of the comparison groups. Finally, we pooled the data from the remaining four states to conduct pre-post analyses; however, we cannot make any causal statements about MEPD's effects in these analyses. Given these limitations, the results and their generalizability should be interpreted cautiously.

A. IMD admissions

This section examines how the probability of an admission to a participating IMD for psychiatric EMCs changed for MEPD-eligible beneficiaries who lived in the IMD's catchment area[25] relative to that of MEPD-eligible beneficiaries who lived outside the IMD's catchment area during the evaluation period. The sample included 41,486 episodes of care (not unique beneficiaries) in the one state (California) where we were able to examine MEPD's effects on IMD admissions relative to a comparison group. We also examined how the probability of an admission to a participating IMD for a psychiatric EMC changed for MEPD-eligible beneficiaries during the demonstration time period (without a comparison group) in four states where data were available (Alabama, Maryland, Missouri, and West Virginia). The sample included 149,844 episodes of care. (See Volume II, Chapter II for a detailed description of the data sources and our analytic approach.)

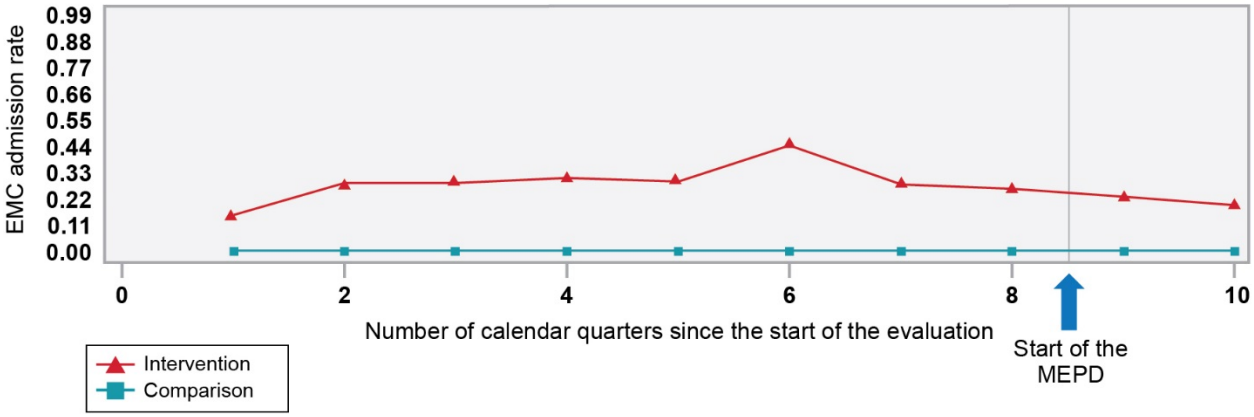
[24] We did not assess readmissions separately from admissions outcome, but the effects of MEPD on readmission rates are, to some degree, captured in the combination of effects on IMD and general hospital admissions. Readmissions to participating IMDs and general hospitals might have underestimated overall psychiatric readmissions because data on admissions to publicly-funded IMDs were not available.

[25] A catchment area is the geographic region where the states implemented MEPD. Some states clearly defined the catchment area (for example, residents living within specific counties or zip codes). Other states provided more general definitions (for example, MEPD was implemented across the state.)

We hypothesized that admissions to participating IMDs would increase due to increased access to designated psychiatric beds. We found no change in the probability of admission to a participating IMD for MEPD-eligible beneficiaries during the demonstration within Alabama, Maryland, Missouri, and West Virginia. In California, we found that MEPD-eligible beneficiaries living inside the catchment area had a 6.03 percentage point decrease in the probability of being admitted to a participating IMD with a psychiatric EMC relative to MEPD-eligible beneficiaries living outside the catchment area during MEPD.

Exhibit VII.1 depicts the unadjusted likelihood of admission to a participating IMD in California for the intervention and comparison groups, by study quarter.[26] The likelihood of admission appears largely stable during the evaluation period; however, a pronounced increase in IMD admissions occurs in the intervention group in the sixth quarter (winter 2012). The deviation from trend does not appear to persist; therefore, it is likely not attributable to a particular policy change and may reflect data quality issues. IMD admissions in the intervention group appear to decrease slightly over time. In the pooled pre-post analyses, the unadjusted probability of admission to a participating IMD was 0.04 pre-demonstration and 0.06 during MEPD.

Exhibit VII.1. Unadjusted probability of admission to a participating IMD in California



Source: Mathematica analysis of Medicaid, Medicare, and IMD data obtained from CMS and participating states (2010 through 2012).

Results from our primary regression model, which controlled for beneficiary demographics, are consistent with the unadjusted trends. As **Exhibit VII.2** illustrates, we found that, in California, for MEPD-eligible beneficiaries residing inside the IMD's catchment area, MEPD was associated with a 6.03 percentage point decrease in the probability of being admitted to a participating IMD during a psychiatric EMC ($p < .001$; see Volume II, Exhibit III.1 for the full

[26] The unadjusted probabilities of IMD admissions before and during the demonstration are 0.29 and 0.22, respectively, for the treatment group, and zero in both time periods for the comparison group.

regression)[27]; however, this may be a result of the sixth quarter increase in admissions. These results were robust to alternative model specifications (Volume II, Exhibit III.2).[28]

Exhibit VII.2. Regression results for probability of IMD admission

	Difference-in-differences in California (n = 41,486)		Pooled pre-post (n = 149,844)	
	Average marginal effect (percentage points)	Standard error	Average marginal effect (percentage points)	Standard error
Intervention group	22.31***	1.08	NA	NA
Demonstration period	-6.05	1.19	1.10	1.39
Intervention * Demonstration period	-6.03***	1.19	NA	NA

Source: Mathematica analysis of Medicaid, Medicare, and IMD data obtained from CMS and participating states. The data from California include 6 months of data during MEPD. The pre-post analyses include data from 4 states; one state has 1.5 years of demonstration data and the remaining states have 6 months of demonstration data.

Note: Exhibit presents average marginal effect from logistic models of IMD admission. The pooled pre-post analyses include state-level fixed effects. 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 intervention group is MEPD-eligible beneficiaries who live inside the IMDs' catchment areas. The comparison group is MEPD-eligible beneficiaries who live outside the IMDs' catchment areas.

***p < 0.001.

Exhibit VII.2 also displays the results for the pooled pre-post analyses (see Volume II, Exhibit III.3 for the full regression). This analysis revealed no statistically significant difference in the probability of admission for a psychiatric EMC before and during MEPD. In alternative models that allowed the effects of being in MEPD to vary by post-implementation quarter (Volume II, Exhibit III.4), we found a small positive increase in the quarterly probability of admissions during the demonstration period. A large increase in the probability of an admission late in the evaluation period—when data were only available from a single state—largely drives this finding.

The results do not support our hypothesis that IMD admissions would increase as a result of MEPD. Several factors could explain the unexpected findings. The sixth-quarter spike in IMD admissions before MEPD may have confounded our results. It is possible that if the admissions trend had remained constant in that quarter, we would have found no significant change in IMD

[27] We also found that beneficiaries residing inside the catchment area of a participating IMD were significantly more likely to be admitted to a participating IMD even before the demonstration start date. This result reflects the definition of the comparison group as beneficiaries with psychiatric EMCs who resided outside of the MEPD catchment area. The MEPD catchment area was defined as zip codes with high admission rates to participating IMDs. Therefore, the admission rate for comparison groups will necessarily be lower than the admission rate for those residing within the catchment area.

[28] Alternative specifications included a flexible post period (in which we allowed the effect of the demonstration to vary by post-implementation quarter to allow for delayed impacts) and controlled interrupted time series, in which we estimated the trend in IMD admission rates in the pre-demo period and allowed both the level and trend in admission rates to change as a result of the demonstration.

admissions. We only had six months of data during MEPD for four out of five of the states included in these analyses. Given that the finding of a small increase in the probability of IMD admissions in alternative models was likely driven by the one state for which we had 1.5 years of data during MEPD, we may not have had sufficient data to detect a change in IMD admissions.

B. Scatter bed admissions

We examined how the probability of an admission to a scatter bed for psychiatric EMCs changed during the evaluation period for MEPD-eligible beneficiaries who lived in an IMD's catchment area relative to MEPD-eligible beneficiaries who lived outside the IMD's catchment area. The sample included 41,486 episodes of care (not unique beneficiaries) in California. We also examined how the probability of an admission to a scatter bed for psychiatric EMCs changed for MEPD-eligible beneficiaries before and during the demonstration (without a comparison), again in the four states where data were available for the demonstration period (Alabama, Maryland, Missouri, and West Virginia). The sample included 149,844 episodes of care. See Volume II, Chapter II for a detailed description of the data sources and our analytic approach. We hypothesized that scatter bed admissions would decrease due to increased access to designated psychiatric beds.

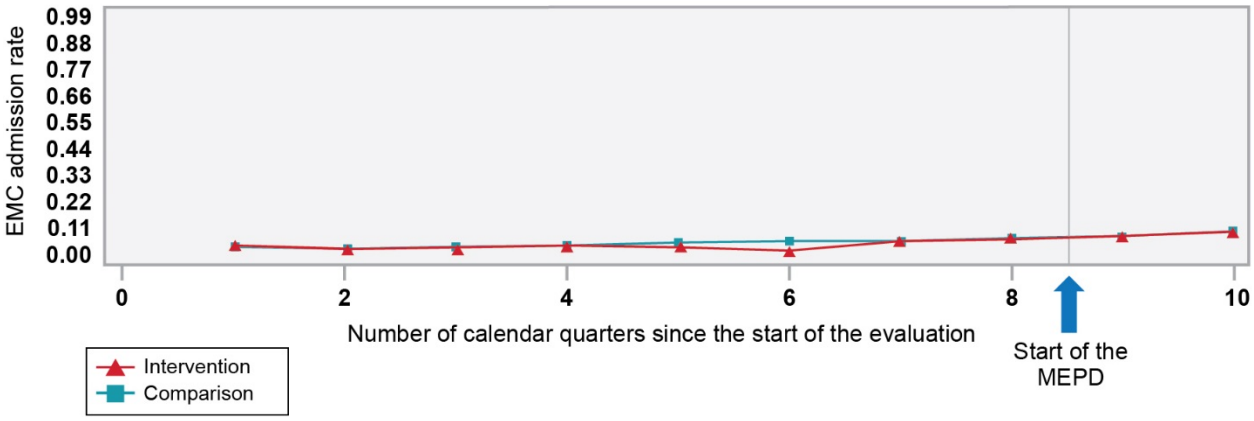
We did not detect a statistically significant difference in the probability of scatter bed admissions for MEPD-eligible beneficiaries living inside the IMDs' catchment areas relative to those living outside them. However, we did find statistically significant evidence that the probability of scatter bed admissions increased during MEPD for both the intervention and comparison groups.

Exhibit VII.3 depicts the unadjusted probability of admission to a scatter bed in California for the intervention and comparison groups by study quarter.[29] The likelihood of scatter bed admissions is relatively small overall and is similar for MEPD-eligible beneficiaries in the intervention and comparison group. There is a slight dip in scatter bed admission in the intervention group in the sixth calendar quarter (winter 2012). In the pooled pre-post analyses, the unadjusted probability of admission to a scatter bed is 0.02 pre-demonstration and 0.03 during MEPD.

Our regression results, which further control for beneficiary demographics, are consistent with the unadjusted trends. As **Exhibit VII.4** illustrates, MEPD was not associated with a statistically significant change in the probability of being admitted to a scatter bed during a psychiatric EMC in California (see Volume II, Exhibit III.5 for the full regression). During the demonstration, MEPD-eligible beneficiaries were 4.41 percentage points more likely to be admitted to a scatter bed than before MEPD was implemented. These results are consistent across alternative model specifications (Volume II, Exhibit III.6).

[29] The unadjusted probabilities of scatter bed admissions before and during the demonstration were 0.04 and 0.09, respectively, for both the treatment and comparison groups.

Exhibit VII.3. Unadjusted probability of scatter bed admissions in California



Source: Mathematica analysis of Medicaid, Medicare, and IMD data obtained from CMS and participating states (2010 through 2012).

Exhibit VII.4. Regression results for probability of scatter bed admission

	Difference-in-differences analysis in California (n = 41,486)		Pre-post analyses (n = 149,844)	
	Average marginal effect (percentage points)	Standard error	Average marginal effect (percentage points)	Standard error
Intervention group	0.82	0.76	NA	NA
Demonstration period	4.41***	0.75	0.71***	0.09
Intervention group * Demonstration period	0.78	0.81	NA	NA

Source: Mathematica analysis of Medicaid, Medicare, and IMD data obtained from CMS and participating states.

Note: Exhibit presents average marginal effect from logistic model of scatter bed admission. In the difference-in-differences model, the intervention group is MEPD-eligible beneficiaries who live inside the IMDs' catchment areas. The comparison group is MEPD-eligible beneficiaries who live outside the IMDs' catchment areas. Control variables for both models 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 pooled pre-post analyses also include state-level fixed effects.

*** indicates $p < 0.01$.

In the pooled pre-post analyses (**Exhibit VII.4**), we found a smaller but statistically significant difference in the probability of admission to a scatter bed during MEPD (see Volume II, Exhibit III.7 for the full regression). Alternative models confirmed that changes were in the same direction for each quarter of the demonstration period, growing stronger over time (Volume II, Exhibit III.8). The alternative interrupted time series analysis, however, showed that the linear trend during the demonstration period did not differ significantly from the trend in scatter bed us during the pre-demonstration period. This suggests that the increase observed during the demonstration was due to factors in place before the demonstration began, rather than to MEPD.

The results do not support our hypothesis that scatter bed admissions would decrease as a result of MEPD. Qualitative interview respondents commonly suggested scatter bed admissions

did not decrease because placements in scatter beds did not occur or occurred only rarely before MEPD began. Respondents in Washington (a state where we did not have quantitative data) reported *increases* in scatter bed use because demand for inpatient psychiatric care increased at the same time that some hospitals had decreased or closed their psychiatric units. We found that overall scatter bed admissions increased in both the comparison and intervention groups. It is possible that broad increases in demand for psychiatric care may have masked program effects.

C. IMD length of stay

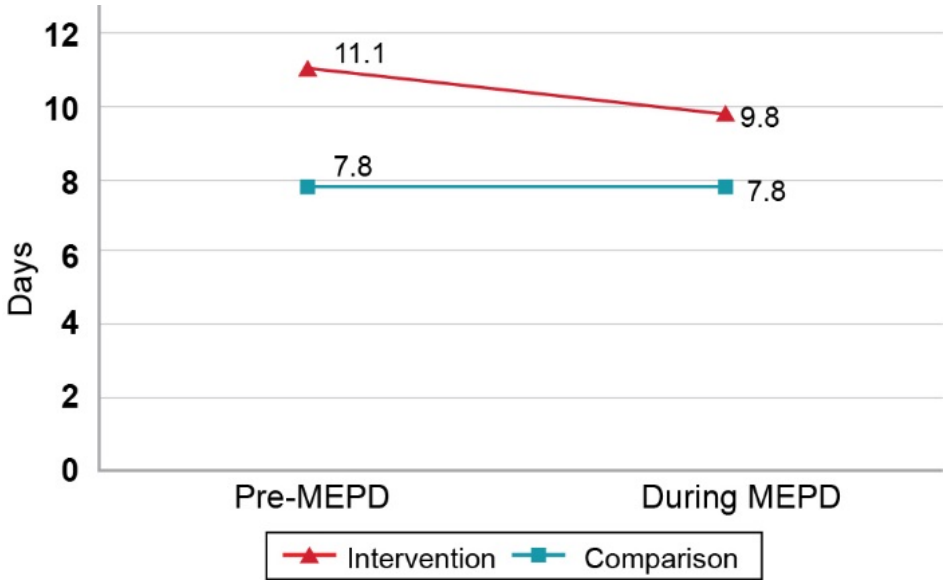
This section examines how the average length of stay for MEPD-eligible beneficiaries living within an IMD catchment area who received services from a participating IMD for a psychiatric EMC changed relative to MEPD-eligible beneficiaries living with an IMD catchment area who received services from a psychiatric unit in a general hospital for a psychiatric EMC. (See the Volume II, Chapter II for a detailed description of the data sources and our analytic approach.) The sample included 136,846 episodes of care (not unique beneficiaries) from six states (Alabama, California, Connecticut, Maryland, Missouri, and West Virginia). Demographic characteristics are presented in Volume II, Exhibit II.11.

We previously noted data limitations relevant to the admissions and length of stay questions. Both the IMD and scatter bed length of stay analyses have common and additional data limitations to note. When we identified cases where a beneficiary had an episode of care that included time spent in both a psychiatric unit and a scatter bed, we were unable to determine the amount of time spent in each location. In these instances, we classified the episode as a stay in a psychiatric unit. Similarly, if a beneficiary had an episode that involved time spent in both the ED and a psychiatric unit, we were unable to determine the amount of time spent in each location. As a result of this approach to defining scatter bed use, we may have overestimated the length of stay in a psychiatric unit for some cases. Also, we were unable to distinguish appropriate scatter bed use from inappropriate use in the data. This could lead to an overestimate of MEPD's effects on lengths of stay in IMDs and scatter beds.

We did not detect a statistically significant difference in length of stay for MEPD-eligible beneficiaries admitted to a participating IMD relative to ones admitted to a psychiatric unit in a general hospital.

Exhibit VII.5 depicts the unadjusted mean length of stay for the intervention and comparison groups by evaluation period. The exhibit shows that the length of IMD stay is higher than length of stay in a psychiatric unit, both before and during MEPD. During MEPD, the mean length of IMD stay decreased while the mean length of stay in a psychiatric unit remained the same. These mean lengths of stay are comparable to the median length of stay of about seven days as suggested by beneficiary interviews and to the mean lengths of stay for the overall demonstration population found in the analysis of the CMS MEPD payment and monitoring data.

Exhibit VII.5. Unadjusted mean length of stay in IMDs and general hospital psychiatric units



Source: Mathematica analysis of Medicaid, Medicare, and participating IMD data, covering July 2010 to December 2012 in six states (Alabama, California, Connecticut, Maryland, Missouri, and West Virginia).

Note: The intervention group includes MEPD-eligible beneficiaries who lived inside the IMDs' catchment areas and were admitted to an IMD. The comparison group includes MEPD-eligible beneficiaries who lived inside the IMDs' catchment areas and were admitted to a general hospital psychiatric unit. Means are unadjusted.

Our regression results, which further control for beneficiary demographics and state-level fixed effects, are consistent with the unadjusted trends. As **Exhibit VII.6** illustrates, the estimated change in mean length of IMD stay was not statistically significant (see Volume II, Exhibit III.9 for the full regression). The "intervention" and "Demonstration period" variables were also not significant. These results were consistent across alternative model specifications (see Volume II, Exhibit III.10).

Exhibit VII.6. Regression results for length of IMD stay

	Marginal effect (n = 134,647)	Standard error
Intervention group	3.57*	1.46
Demonstration period	-0.17	0.09
Intervention group*demonstration period	-1.33	0.84

Source: Mathematica analysis of Medicaid, Medicare, and participating IMD data, covering July 2010 to December 2012 in six states (Alabama, California, Connecticut, Maryland, Missouri, and West Virginia).

Note: Exhibit presents results regarding average length of stay from an ordinary least squares (OLS) regression model. The intervention group included MEPD-eligible beneficiaries who lived inside the IMDs' catchment areas and were admitted to an IMD. The comparison group was MEPD-eligible beneficiaries who lived inside the IMDs' catchment areas and were admitted to a general hospital psychiatric unit. Control variables include age, age squared, gender, race/ethnicity, Medicaid-Medicare dual enrollment status, rural location, primary diagnosis, and number of psychiatric EMCs in 12 months before current admission. The model also includes state-level fixed effects.

*$p < 0.10$

The results do not support our hypothesis that IMD lengths of stay would decrease as a result of MEPD. A combination of unmeasured factors may explain the lack of effects we found. For example, some qualitative interview respondents suggested that IMD lengths of stay may increase as a result of MEPD because of available funding for stabilization and care. Alternatively, other key informants suggested that IMD lengths of stay may artificially decrease, because beneficiaries had to be discharged from the demonstration after they were no longer suicidal, homicidal, or dangerous to themselves or others. In four states, IMDs reported keeping some beneficiaries in the hospital after they were discharged from the demonstration, or transferring them to a state hospital, because they determined a need for additional care even though the psychiatric EMC had been stabilized. Other informants suggested lengths of stay may decrease due to improved relationships between the IMD and community partners under the demonstration. Competing contextual factors and the ways in which individual IMDs responded to the demonstration may have "zeroed out" any effects.

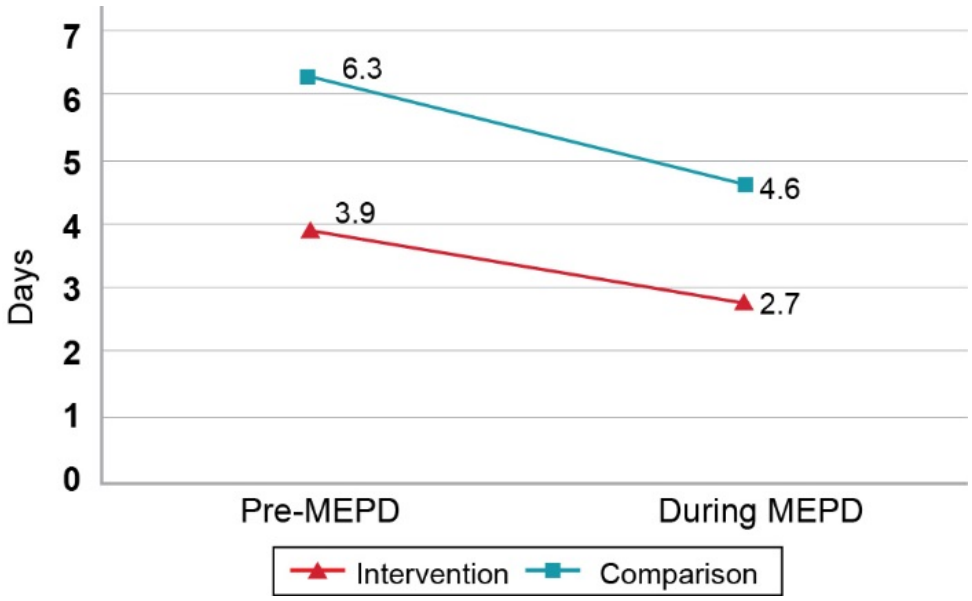
D. Scatter bed length of stay

We examined how the average length of stay in general hospital scatter beds for psychiatric EMCs changed during the evaluation period for MEPD-eligible beneficiaries who lived in an IMD's catchment area relative to MEPD-eligible beneficiaries who lived outside an IMD's catchment area. The sample included 2,478 episodes of care (not unique beneficiaries) from California and Connecticut. We also examined how the average length of stay changed before and during MEPD (without a comparison) in five states for which data from the demonstration period were available (Alabama, Maryland, Missouri, Washington, and West Virginia). The sample included 5,728 episodes of care (not unique beneficiaries). See Volume II, Chapter II for a detailed description of the data sources and our analytic approach. Demographic characteristics are presented in Volume II, Exhibit II.13.

As with the IMD length of stay results, we did not detect a statistically significant difference in length of stay for MEPD-eligible beneficiaries who lived in the IMDs catchment areas and were admitted to a scatter bed relative to those who lived outside the IMDs catchment areas and were admitted to a scatter bed.

Exhibit VII.7 depicts the unadjusted mean length of stay for the intervention and comparison groups by evaluation period. The mean length of stay in scatter beds was shorter in the intervention group than in the comparison group both before and during MEPD. Consistent with previous analyses that showed a deviation in the trend in a pre-demonstration quarter, there was an increase in mean scatter bed length of stay in a pre-demonstration quarter (not shown). In the pooled pre-post analyses, the average lengths of stay in scatter beds before and during MEPD were 3.3 and 3.5 days, respectively.

Exhibit VII.7. Unadjusted mean length of scatter bed stay among difference-in-differences sample



Source: Mathematica analysis of Medicaid and Medicare data, covering July 2010 to June 2014 in California and Connecticut (difference-in-differences model).

Note: The intervention group is MEPD-eligible beneficiaries who live inside the IMDs' catchment areas. The comparison group is MEPD-eligible beneficiaries who live outside the IMDs' catchment areas.

Our regression results, which further control for beneficiary characteristics and state-fixed effects, are consistent with the unadjusted trends. As **Exhibit VII.8** illustrates, MEPD was not associated with a statistically significant change in the mean length of stay in a scatter bed for a psychiatric EMC (see Volume II, Exhibit III.11 for the full regression). There was a statistically significant decrease in the mean length of stay in a scatter bed during MEPD compared to before it for both intervention and comparison group. The regression model results were consistent across alternative model specifications (Volume II, Exhibit III.12).

We did not find any statistically significant changes in length of stay in scatter beds in our pooled pre-post analysis (**Exhibit VII.8**; see Volume II, Exhibit III.13 for the full regression). This result was consistent across alternative model specifications (Volume II, Exhibit III.14).

Exhibit VII.8 Regression results for length of scatter bed stays

	Difference-in-differences model (n = 2,401)		Pre-post model (n = 5,554)	
	Marginal effect	SE	Marginal effect	SE
Intervention group	-1.30	0.60	n/a	n/a
Demonstration period	-1.26**	0.06	0.01	0.22
Intervention group*Demonstration period	0.01	0.67	n/a	n/a

Source: Mathematica analysis of Medicaid and Medicare data, covering July 2010 to June 2014 in California and Connecticut (difference-in-differences model) and July 2010 to December 2013 in Alabama, Maryland, Missouri, Washington, and West Virginia (pre-post model).

Note: The exhibit presents results regarding mean length of stay from an ordinary least squares (OLS) regression model. In the difference-in-differences model, the intervention group includes MEPD-eligible beneficiaries who lived inside the IMDs' catchment areas. The comparison group includes MEPD-eligible beneficiaries who lived outside the IMDs' catchment areas. Control variables for both models include age, age squared, gender, race/ethnicity, Medicare-Medicaid dual enrollment status, rural location, primary diagnosis, and number of psychiatric EMCs in the 12 months before current admission. The models also include state-level fixed effects.

**Statistically significant at the 0.05 level.

We did not find evidence that MEPD had a statistically significant effect on length of stay in scatter beds. We did find evidence of a decrease in scatter-bed length of stay during MEPD; however, similar to the admissions results, this trend may be an artifact of a higher mean length of stay in one or two quarters in the pre-demonstration period. Alternatively, it could reflect a genuine decrease in length of stay in scatter beds (in both the intervention and comparison groups), which is partially supported by our medical records review that found a slightly shorter length of stay for scatter beds in the intervention group during MEPD. However, the pre-post analyses (without comparison groups) do not support this finding.

E. Quality of care

In qualitative interviews, beneficiaries overwhelmingly reported being pleased with the quality of care they received at the IMD during MEPD. Most beneficiaries reported seeing a psychiatrist or therapist regularly and participating in therapeutic group activities while in the IMD, and many said their condition had improved. Furthermore, 28 of 38 beneficiaries who were asked and answered the question "If you had to be hospitalized again in the future, where would you prefer to go?" stated they would prefer to be treated at the demonstration IMD again.[30] In addition, in all 12 states, state and facility staff believed that the demonstration increased beneficiary access to higher quality psychiatric care. In some states, respondents remarked that MEPD funding afforded appropriate stabilization of psychiatric EMCs among Medicaid beneficiaries. However, in 2 of the 12 states, at least one respondent had a contradictory opinion, such as a concern that beneficiaries were being discharged under the demonstration before they were stabilized.

[30] Eight indicated they would prefer to be treated elsewhere and two had no preference.

VIII. ACA AREA A, PART 2: ER VISITS AND ED BOARDING TIME

A. ER visits

The ER visit analysis used Medicaid, Medicare, and IMD data to examine how the probability of being admitted to an ER for psychiatric EMCs changed for MEPD-eligible beneficiaries who lived in an IMD's catchment area relative to that of MEPD-eligible beneficiaries who lived outside an IMD's catchment area during the evaluation period. The sample included 41,486 episodes of care (not unique beneficiaries) in the one state (California) for which we were able to examine MEPD's effects on ER visits relative to a comparison group. We also examined how the probability of an ER visit for a psychiatric EMC changed for MEPD-eligible beneficiaries before and during the demonstration (without comparison) in four states where data were available (Alabama, Maryland, Missouri, and West Virginia). The sample included 149,844 episodes of care. Demographic characteristics are presented in Volume II, Exhibit II.9 and Exhibit II.10. The data limitations described in Chapter VII also apply to the analyses of ER visits. We had limited data for the demonstration period and therefore had to limit the analyses to five states, four of which only had six months of data for the demonstration period. Also, although we were able to create a comparison group in California, it differed from the intervention group on some demographic characteristics and may not be the optimal comparison. See the Volume II, Chapter II for a detailed description of the data sources and our analytic approach. We hypothesized that ER visits would decrease as a result of improved access to psychiatric care.

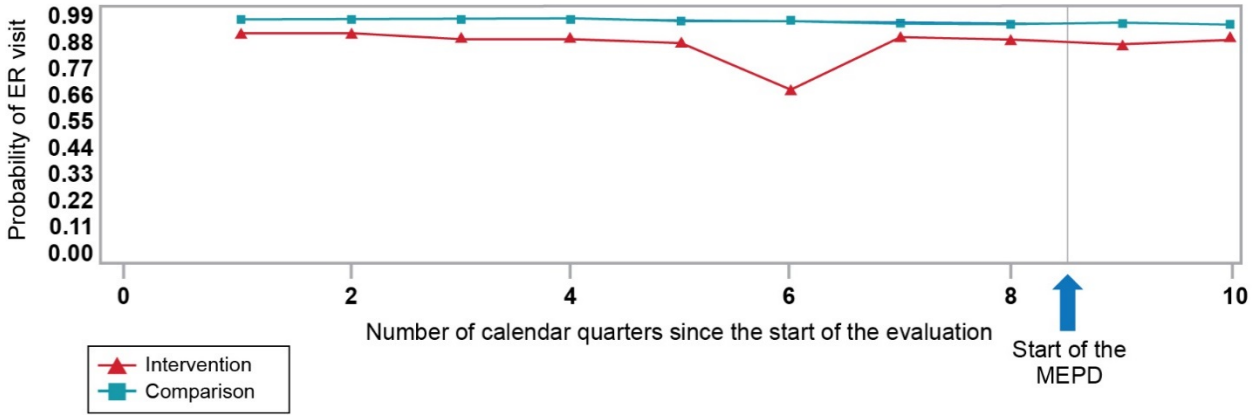
In California, we did not detect a statistically significant difference in the probability of ER visits for MEPD-eligible beneficiaries who lived inside the IMDs' catchment areas relative to MEPD-eligible beneficiaries who lived outside the IMDs' catchment areas. In our pooled pre-post analyses, we detected a nonsignificant trend for a higher probability of ER visits during MEPD.

Exhibit VIII.1 depicts the unadjusted quarterly ER visit rates in California, the only state with a comparison group in this analysis.[31] The rates appear mostly flat through our observation time frame, with the exception of a pronounced drop in ER visits in the sixth study quarter (winter 2012). As previously mentioned in the admissions and length of stay analyses, this drop could reflect a data quality problem or an unknown contextual event. In the pooled pre-post analyses, the unadjusted probability of visits to an ER was 0.82 pre-demonstration and 0.85 during MEPD.

As **Exhibit VIII.2** illustrates, in California, we did not find evidence that the change in the probability of ER visits for beneficiaries residing inside the participating IMD catchment area was different than the change in the probability for beneficiaries residing outside of the catchment area (see Volume II, Exhibit III.15 for full regression results). We found that before

[31] The unadjusted probabilities of scatter bed admissions before and during the demonstration were 0.89 and 0.90, respectively, for the treatment group, and 0.98 and 0.97, respectively, for the comparison group.

Exhibit VIII.1. Unadjusted probability an adult beneficiary with a psychiatric EMC visited an ER (California)



Source: Mathematica analysis of Medicaid, Medicare, and IMD data obtained from CMS and participating states (2010 through 2012).

the start of the demonstration, MEPD-eligible beneficiaries in the intervention group (inside a catchment area of a participating IMD) had a statistically significant eight percentage point lower chance of visiting an ER than MEPD-eligible beneficiaries in the comparison group (outside the catchment area). The regression model results were consistent across alternative model specifications (Volume II, Exhibit III.16).

Exhibit VIII.2. Regression results for probability of an ER visit

	Difference-in-differences model in California (n = 41,486)		Pre-post model (n = 149,844)	
	Average marginal effect (percentage points)	Standard error	Average marginal effect (percentage points)	Standard error
Intervention group	-7.82***	0.81	NA	NA
Demonstration period	0.10	0.89	3.49*	1.87
Intervention group*Demonstration period	1.16	0.91	NA	NA

Source: Mathematica analysis of Medicaid, Medicare, and IMD data obtained from CMS and participating states (2010 through 2012).

Note: Exhibit presents average marginal effect from logistic models of ER visits. The pooled pre-post analyses include state-level fixed effects. 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 intervention group is MEPD-eligible beneficiaries who live inside the IMDs' catchment areas. The comparison group is MEPD-eligible beneficiaries who live outside the IMDs' catchment areas.

* indicates p<0.10, *** indicates p < 0.01.

In the four states included in a pooled pre-post analysis (Alabama, Maryland, Missouri, and West Virginia), we found that MEPD-eligible beneficiaries were more likely to visit an ER after MEPD was implemented, but this result was not statistically significant (Exhibit VIII.2; see Volume II, Exhibit III.17 for full regression results). The results in California and in the pre-post

analyses were consistent across several alternative model specifications (Volume II, Exhibit III.18).

The results do not support our hypothesis that ER visits would decrease as a result of MEPD. It is possible that unmeasured factors could have influenced the results. For example, some states began ER diversion initiatives during the evaluation. If these statewide initiatives were effective, they could have obscured any effects of MEPD. Consistent with previous results, we did observe a secular trend in California. The trend may be due to the temporary drop in ER visits in the sixth study quarter; as previously discussed, this may reflect a data quality issue.

B. ED boarding time

The boarding time analyses examined how psychiatric boarding time for MEPD-eligible beneficiaries changed relative to non MEPD-eligible patients[32] presenting to EDs for psychiatric EMCs during the evaluation period (research question A6). We used data collected from six EDs across four MEPD states. The sample included 4,262 ED visits that ended with an inpatient admission.[33] We further examined the effect of the MEPD on total time in the ED to complement this analysis. The ED length of stay analyses used data from 14 EDs across 8 states and included 26,803 ED visits, irrespective of whether the visit ended with an inpatient admission. Demographic characteristics for both samples are presented in Volume II, Exhibit II.14. A detailed description of the data sources and our analytic approach is described in Volume II, Chapter II.

Several data limitations reduced the ability of our study to detect statistically significant effects. Specifically, our boarding time analysis had a small sample size: not all EDs were able to provide the data required to determine boarding time and inpatient discharge status. This reduced the power of the study to detect effects of relatively smaller magnitudes. We mitigated this limitation by complementing the boarding time analysis with the ED length of stay analysis, which had a larger sample size. In addition, we were unable to control for patient severity and comorbidities. Furthermore, data entry errors and inconsistencies in the fields used to calculate boarding time and to define our comparison and intervention groups may have further reduced the precision of our estimates, or even biased them. To mitigate this, we excluded extreme outliers that may indicate data entry errors. Nevertheless, both the ED boarding time and length of stay analyses may still include data entry errors that we were not able to detect. Finally, a small number of EDs disproportionately influenced both analyses: approximately two-thirds of the boarding time sample and one-fifth of the length of stay sample were based on data from one ED.

We hypothesized that MEPD would decrease ED boarding time and length of stay for MEPD-eligible beneficiaries relative to patients not eligible for the demonstration, as a result of improved access to psychiatric care. We found no statistically significant difference in ED

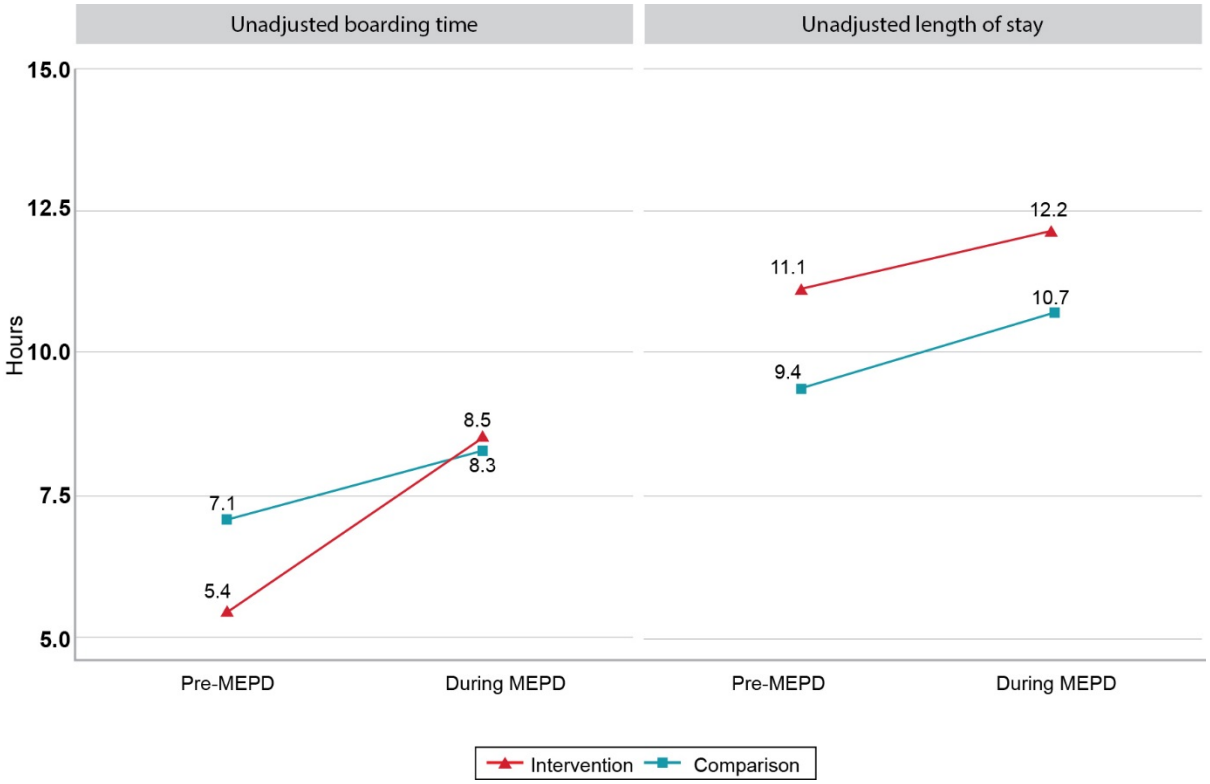
[32] Non-MEPD-eligible patients include adults enrolled in insurance other than Medicaid, Medicaid enrollees who do not meet the state MEPD eligibility criteria (such as requirements about managed care or dual Medicaid-Medicare enrollment), and patients who self-pay for care.

[33] We limited the ED boarding time analysis to ED visits with an inpatient discharge status since boarding time could only be calculated for patients requiring an inpatient psychiatric stay.

boarding time or length of stay for MEPD-eligible patients relative to non-MEPD-eligible patients with psychiatric EMCs.

Exhibit VIII.3 depicts both the unadjusted mean ED boarding time and the mean length of stay across all EDs for the intervention and comparison groups, by evaluation period. The means show that boarding time and length of stay rose for both the intervention and comparison groups; however, boarding time rose more rapidly for the intervention group than the comparison group.

Exhibit VIII.3. Unadjusted mean ED boarding time and length of stay, by intervention group and time period



Source: Mathematica analysis of data obtained from Emergency Departments, 2010–2014. Boarding time means include 4,139 ED visits from 6 EDs across 4 states. Length of stay means include 26,803 ED visits from 14 EDs across 8 states. Demonstration period varies by ED.

Our regression results, which further control for patient demographics and ED-fixed effects, are consistent with the unadjusted population trends. As **Exhibit VIII.4** illustrates, boarding time rose slightly for the intervention group relative to the comparison group, but the estimated change was not statistically significant (see Volume II, Exhibit III.19 for full regression results). Likewise, the change in ED length of stay did not statistically differ between the intervention and comparison groups (see Volume II, Exhibit III.20 for full regression results).[34] These results

[34] Although the difference-in-differences estimator for the boarding time analysis was positive and the estimator from the length of stay analysis was negative, neither represents a statistically significant difference.

were consistent across several alternative model specifications (Volume II, Exhibit III.21 and Exhibit III.22.).

Exhibit VIII.4. Adjusted effects of MEPD on ED boarding time and length of stay

	Boarding time (n = 4,139)	Length of stay (n = 26,803)
Intervention group	-0.43 (0.29)	0.66 (0.69)
Demonstration period	0.02 (1.74)	1.14 (1.11)
Intervention group* Demonstration period	0.97 (0.64)	-0.49 (0.79)
Constant	9.84*** (0.64)	19.05*** (0.27)

Source: Mathematica analysis of data obtained from emergency departments, 2010–2014; n = 4,139 for boarding time analysis, n = 26,803 for length of stay analysis.

Notes: Exhibit presents regression results from ordinary least squares (OLS) regressions. Standard errors, shown in parentheses, are robust for clustering at the facility level. The intervention group is MEPD-eligible beneficiaries. The comparison group is non-MEPD-eligible beneficiaries with a psychiatric EMC. Non-MEPD-eligible patients include adults enrolled in insurance other than Medicaid, Medicaid enrollees who do not meet the state MEPD eligibility criteria (such as requirements about managed care or dual Medicare-Medicaid enrollment), and patients who self-pay for care. Control variables include facility fixed effects, as well as patient age, gender, race/ethnicity, and dual Medicare-Medicaid enrollment status.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The results do not support our hypothesis that ED boarding time would decrease as a result of MEPD. The lack of statistically significant findings is not surprising given the data and study design limitations noted above. Moreover, the absence of statistically significant results is consistent with the mixed reports from both ED staff and Medicaid beneficiaries during MEPD: some respondents believed that boarding time for Medicaid beneficiaries increased during the demonstration, some believed it decreased, and others believed it remained roughly the same. Given these findings, it is possible that the MEPD impacted boarding time in some EDs but not in others; consequently, we may have detected no effect in aggregate. Moreover, although it is not statistically significant, the upward trend in boarding time suggested by the regression analyses is consistent with reports from respondents across nine states who said there was a substantial increase in Medicaid beneficiaries presenting to EDs with psychiatric EMCs during MEPD, a result of several factors, including the ACA Medicaid expansion. This increased demand would have tended to increase boarding time (and ED length of stay) for both MEPD-eligible and non-MEPD-eligible beneficiaries. This evidence suggests that secular trends during the evaluation period may have masked any demonstration effects if they existed.

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IX. ACA AREA B: DISCHARGE PLANNING

The ACA directed the evaluation to include an assessment of discharge planning by participating hospitals (ACA area B). Due to the lack of available quantitative data pertaining to discharge planning, we conducted this assessment through qualitative means. During site visits and through telephone interviews, we asked staff of IMDs and general hospitals that placed people with psychiatric EMCs in scatter beds when psychiatric beds were not available about several aspects of discharge planning, including how continuing care plans were developed, time spent on discharge planning, the level of detail in discharge plans, and the proportion of beneficiaries discharged to community based residences. We also reviewed discharge plans in a sample of medical records from each facility, including records from both before and during the implementation of MEPD. Through telephone interviews conducted after discharge, we also asked beneficiaries about their experiences with discharge planning in the participating IMDs. More details on our qualitative data collection and analysis methods can be found in Volume II, Chapter I. Below we present findings from our analysis of the qualitative data.

A. Continuing care plans

Respondents from a third of all states indicated that the proportion of individuals discharged from the IMD with a continuing care plan increased in response to the MEPD. Each of these states improved their discharge planning processes and strengthened linkages to aftercare services as a result of the demonstration. Below are examples of some of the specific efforts made:

- In Alabama, a registered nurse followed up with demonstration patients 3, 21, and 90 days post-discharge to reassess patients' needs and avoid unnecessary readmissions.
- In Illinois, demonstration participants were assigned to a targeted case manager (TCM) who led discharge planning, linked the patient with appropriate services after discharge, and provided transportation home and to the first aftercare appointment, if needed. The TCM had to make an appointment with the outpatient provider within seven days of discharge. If the patient was rehospitalized within 90 days, the state submitted claims for only 80 percent of the per diem rate (rather than 100 percent), and the IMD received only 80 percent of its usual payment for the readmission.
- In Maine, demonstration participants were assigned to a two-person transition team—one case manager and one peer support specialist—who worked with patients post-discharge to make sure their medical and medication needs were filled, get them to appointments with therapists or other providers, and attend to other needs.

B. Time spent planning discharge

Overall, views on whether the length of time spent developing discharge plans for Medicaid beneficiaries increased during the MEPD were mixed—at times, even within the same state or facility—depending, in part, on the respondent's vantage point.

- In five states, respondents from participating IMDs reported divergent views; in two of these states, most staff reported little to no change in the efficiency of discharge planning but a

small number of frontline staff said the process had become more efficient and reliable under the MEPD**.**

- Respondents in four states reported the MEPD had no effect on the length of time spent on discharge planning for Medicaid beneficiaries experiencing psychiatric EMC**s**.
- Respondents in three states reported that considerably more time is required to develop a discharge plan for demonstration participants (or any other patient**s**) who have an unstable living situation and/or few informal support**s.**

C. Proportion discharged to community-based residences

IMD staff in the majority of states could not comment on whether the demonstration had any effects on the type of residence to which Medicaid beneficiaries were discharged.

- IMD staff either did not track this information or could not draw a comparison about changes in discharges to community-based residences because the facilities typically did not admit adult Medicaid beneficiaries before MEPD.
- In seven of the 12 participating states, IMD staff reported that most participants are discharged home and treated by outpatient providers, which is consistent with quantitative payment and monitoring data the states submitted to CMS (see Exhibit V.4).
- In Alabama and Rhode Island, many demonstration participants were discharged to local community-based residences that provided a level of care comparable to a group home. Both ED and IMD staff in Alabama expressed concerns about the residences, alleging that many of them provided inadequate support to residents, leading to increased ED visits and inpatient admissions for psychiatric emergencies. These residences and other community-based programs were also expected to house former residents of recently closed state hospitals in the local area.
- Although a few beneficiaries said they were discharged to other treatment facilities or residential rehabilitation programs, the vast majority said they were discharged to their homes.

In three states, most respondents reported that the demonstration helped patients receive the full continuum of psychiatric care closer to home, thereby improving access to their support networks and increasing the likelihood that they would receive aftercare services from community providers.

Beneficiaries and facility staff described serious shortages of community resources available to beneficiaries after they had left the hospital.

- The first aftercare appointments with a physician were often two to three weeks or more after discharge, and many had no follow-up care upon leaving the hospital. A few beneficiaries said they could not reach their physicians for medication refills. Beneficiaries described a variety of problems accessing post-discharge care, and many had not received follow-up care at the time of the interview.

- IMDs in five states reported discharging patients to homeless shelters because appropriate housing options were not readily available.

D. Level of detail in discharge plans

Overall, IMD staff in 7 of the 12 participating states stated they did not implement any new discharge planning processes as a result of MEPD and that care coordination procedures are identical for all patients treated at the hospitals.[35] Consistent with staff reports, our review of pre- and post-demonstration medical records from the 28 participating IMDs did not reveal changes or improvements to discharge planning or documentation of discharge planning under MEPD.

Respondents in three states reported that discharge planning improved for all patients, not just demonstration participants, in response to efforts to address shortages of available outpatient providers. Below are two examples of such improvements:

- In the District of Columbia, the IMD began scheduling follow-up appointments to occur within seven days of discharge for all patients. IMD staff also ensured that all voluntarily admitted Medicaid patients were linked to the community behavioral health provider post-discharge; such linkage was not required before the MEPD.
- In Maryland, respondents at all three participating IMDs said they provided "bridge appointments" to all patients if it took them longer than seven days to see their outpatient provider; securing timely outpatient appointments was reportedly a constant challenge due to the shortage of providers, especially psychiatrists, in the state.

E. Beneficiary perspectives on IMD discharge planning process

With a few exceptions, beneficiaries expressed satisfaction with the discharge planning processes at the IMDs.

- In West Virginia, beneficiaries reported that the aftercare instructions were clearly understood and contained specific information about transitioning to follow-up care.
- One beneficiary in Missouri said that after a recent hospitalization, IMD staff made a follow-up care appointment with a community provider for her, whereas she had to make her own appointments in the past. Another patient from a Missouri IMD said that the hospital had made a follow-up appointment for her, and a third noted that a staff person from the IMD contacted her to discuss her outpatient care after she left the IMD.

[35] Neither the ACA nor CMS required states or IMDs to change their care procedures for MEPD.

> One beneficiary compared his treatment with past experiences in a non-MEPD state, "Well, [the general hospital and IMD] were better because in the [other] state…if they can't get you into anything or whatever, they're just going to discharge you after a couple of days. And from what I found out with [the MEPD hospitals] is they're not going to release you, period, with nowhere to go."

- Although most beneficiaries said they were involved in the discharge planning process, a few said they did not feel they were involved in it. As one beneficiary said, "They just took it upon themselves and didn't listen to me." Others said, "The doctor said I was ready to go home" or "They told me that was all the insurance would pay for." A beneficiary from West Virginia who was homeless said the IMD had released her with a bus pass and some medication. Another described the discharge process saying, "OK, here's the street, here you go."

Of the 100 beneficiary respondents, 88 said they felt safe to leave the IMD when they were discharged. Only 9 said they did not feel safe to leave, and 3 did not respond to the question.

F. Comparison of process between IMDs and scatter beds

We reviewed medical records from the general hospitals we visited in three states, to assess how discharge planning for beneficiaries boarded in scatter beds compared to discharge planning for those admitted to IMDs. ***Overall, general hospitals and IMDs appeared to provide better discharge planning on different dimensions.*** The discharge plans we reviewed in general hospitals better documented the reasons for hospitalization and the discharge diagnoses. IMDs, on the other hand, appeared to provide better connection to follow-up appointments within seven days of discharge, and provided better documentation of next level-of-care recommendations and discharge medications.

X. ACA AREA C: COSTS

To assess the effect of MEPD on costs, we assessed the costs of the full range of mental health services (including inpatient, emergency and ambulatory care). As shown in **Exhibit X.1**, we addressed four research questions. Hypotheses for questions C2 and C3, regarding changes to state and IMD costs, varied by state depending on whether the state paid for IMD stays before MEPD. For questions C1–C3, we used data on costs of IMD admissions that we obtained directly from the states and IMDs. For question C4, we used Medicaid and Medicare claims data. Instability in several key estimates coupled with a variety of contextual factors and no comparison group for most analyses mean that the cost findings presented here should be interpreted cautiously. The type and quality of cost information provided by the states and IMDs varied, which could impact the results. We did not have quantitative data to assess changes in costs to states and IMDs associated with MEPD administrative procedures that respondents described in qualitative interviews.[36]

Exhibit X.1. Cost research questions and hypotheses

Research question	Hypotheses	States
C1: How do federal Medicaid costs for care provided by private IMDs change after MEPD's implementation?	Federal Medicaid costs would increase during MEPD because, by definition, federal costs in the pre-demonstration period were zero.	AL, CA, DC, MD, WV
C2: How do costs incurred by the states for IMD admissions of Medicaid beneficiaries with psychiatric EMCs change after the MEPD's implementation?	For states that were paying for IMD services before MEPD, state costs would decrease during the demonstration period.	CA, MD, WV
	For states that were not paying for IMD services before MEPD, state costs would increase during the demonstration period, as the state paid its share of the MEPD costs.	AL, DC
C3: How do costs incurred by participating IMDs for inpatient admissions of Medicaid beneficiaries with psychiatric EMCs change after MEPD's implementation?	In states that were not paying for IMD services before MEPD (i.e., IMDs absorbed the costs through charity funds, overhead, etc.), IMD costs would decrease during the demonstration period.	AL, DC
	In states that were paying for IMD services before the demonstration, IMD costs would not differ before and during MEPD.	CA, MD, WV
C4: What is MEPD's effect on overall mental health costs to Medicaid and Medicare[a] for care provided to beneficiaries with psychiatric EMCs?	Better access to higher quality care provided in participating IMDs through MEPD may reduce the need for general hospital inpatient, emergency, and ambulatory services and, thereby, reduce overall mental health costs to Medicaid and Medicare.	AL, CA, MD, MO, WV

[a]Medicare costs were included only for dual Medicare-Medicaid enrollees. Dual enrollees were eligible to participate in the demonstration in all five states included in the cost analysis.

[36] In qualitative interviews, state project directors reported various ways they monitored the demonstration, including (1) holding monthly meetings with IMDs; (2) reviewing case files, discharge plans, administrative data, and quarterly reports; and (3) contracting with outside entities, such as administrative services organizations, to conduct pre-authorization reviews, monitor admissions and claims using the state's medical necessity criteria, and review discharge planning. Over half of participating IMDs reported increased staff time spent on planning and implementing MEPD. Most IMD officials said the monitoring procedures were not burdensome and they were satisfied with them, but a few described data collection glitches at the beginning of MEPD that were later resolved.

A. Effects of MEPD on Costs to Federal and State Governments and IMDs for IMD Admissions

For the first group of analyses, we examined how costs incurred by the federal government, states, and IMDs for admissions to IMDs of MEPD-eligible beneficiaries changed after implementation of MEPD. **Exhibit X.2** shows the pre- and post-MEPD mean cost per IMD stay to each payer, by state. **Exhibit X.3** provides estimates of the difference in costs before and after MEPD, controlling for patient demographic characteristics (including age, gender, race, dual Medicare-Medicaid enrollment) and length of stay.

Exhibit X.2. Unadjusted mean cost per IMD stay (in dollars), by state, payer, and evaluation period

		Number of stays	Federal costs[a]	Standard deviation	State costs[b]	Standard deviation	Cost to IMDs[c]	Standard deviation
Alabama	pre-MEPD	524	176.61[d]	161.26	2413.13	2159.70	3068.42	2168.38
	during MEPD	528	3451.49	3031.21	1814.99	1559.22	3269.15[e]	6280.71
California	pre-MEPD	1890	0.00	0.00	7511.00	6122.94		
	during MEPD	1654	3637.28	2949.66	3705.06	3018.82		
District of Columbia	pre-MEPD	381	0.00	0.00	1481.44	3155.72	0.00	0.02
	during MEPD	1262	1941.24	2220.16	887.07	960.83	376.36	2138.77
Maryland	pre-MEPD	2230	0.00	0.00	8700.40	9434.37		
	during MEPD	2700	4143.94	4500.20	4143.94	4500.20		
West Virginia	pre-MEPD	238	0.00	0.00	3879.49	14335.32	0.00	0.00
	during MEPD	742	3677.40	10374.05	1464.62	4192.23	32.60	432.11

Source: Analysis of IMD data obtained from states and IMDs, 2010-2014.

[a] Federal costs included the federal share of Medicaid claims (which should have been zero for all states because of the IMD exclusion) plus the federal share of MEPD IMD claims (which was equivalent to the federal medical assistance percentage [FMAP] rate applied to each state's Medicaid claims) (Appendix E).

[b] State costs included the state share of Medicaid and MEPD IMD claims, plus costs paid out of other state funds.

[c] IMD costs included unpaid claims, costs paid through charitable contributions, and other costs absorbed by the IMDs. Data obtained for IMDs in California and Maryland included only federal and state costs.

[d] Federal Medicaid costs for Alabama in the pre-demonstration period are for pre-hospitalization screenings and physician rounds associated with IMD stays. We used the FMAP rate to divide these costs into federal and state shares.

[e] For Alabama, although the unadjusted, untransformed costs to the IMD increased after MEPD implementation, results of the adjusted model (Exhibit X.3) found that the costs to the IMD significantly decreased. This suggests that the distribution of one or more of the covariates included in the adjusted model (patient age, gender, race/ethnicity, dual Medicare-Medicaid enrollment status, and length of stay) differed between the pre- and post-periods and were partially responsible for differences in the cost to IMDs presented here.

Exhibit X.3. Changes in cost per IMD stay after MEPD was implemented, by state, by payer

	Federal Medicaid costs		State costs		Cost to IMDs	
	Marginal effect or adjusted mean	Standard error	Marginal effect or adjusted mean	Standard error	Marginal effect or adjusted mean	Standard error
Alabama	3013.57***,a	86.35	-506.14**,a	217.93	-1291.57***,d	144.15
California	3713.42***,c	220.75	-3758.71***,d	113.87		
District of Columbia	1943.35***,b	121.63	-1518.16***,a	333.13	413.83***,b	81.05
Maryland	4261.63***,c	355.83	-3545.00***,d	130.71		
West Virginia	3128.06***,b	282.75	-3149.45***,a	654.86		

Source: Analysis of data obtained from states and IMDs, 2010-2014.

Note: The dependent variable was the cost per stay. Exhibit presents models listed in f, g, h, i below. Standard errors are robust for clustering at the facility level. Models controlled for age, gender, race, dual Medicare-Medicaid enrollment status, and length of stay.

[a] When we had pre- and post-demonstration data available, and when costs included values of both $0 and >$0, we conducted a pre-post two part model. The first part of the model is a logistic regression analysis predicting the likelihood of any costs in that time period. The second part of the model is a general linear model of non-zero costs using the gamma scale family and a log link function (Buntin and Zaslavsky 2004). The effect shown in the table is the marginal effect of the demonstration period (pre-post model).

[b] When we only had post-demonstration data available (because >95% of costs were $0 in the pre-demonstration period), and when costs included values of both $0 and >$0, we conducted a post-only two part model. The first part of the model is a logistic regression analysis predicting the likelihood of any costs in that time period. The second part of the model is a general linear model of non-zero costs using the gamma scale family and a log link function. In this model, the constant term represents the effect of interest, assessing whether the costs incurred in the post- period were different than $0. The effect shown in the table is the overall adjusted mean (post-only model), testing whether the mean is significantly different from $0.

[c] When we only had post-demonstration data available (because >95% of costs were $0 in the pre-demonstration period), and when values of all costs were >$0, we conducted a post-only general linear model using the gamma scale family and a log link function. When we had less than 5% of $0s in the post-period when we would have run a pre-post two part model, we ran a post-only general linear model. In this model, the constant term represents the effect of interest, assessing whether the costs incurred in the post period were different than $0 (post only model), testing whether the mean is significantly different from $0.

[d] When we had pre- and post-demonstration data available, and when costs only included values >$0, we conducted a pre-post general linear model using the gamma scale family and a log link function. The effect shown in the table is the marginal effect of the demonstration period (pre-post model).

[e] We did not compute the changes in cost to the IMD in West Virginia because the data included only seven observations with non-zero costs.

*p<0.10, **p<0.05, ***p<0.01

Federal costs. As expected, federal Medicaid costs significantly increased during MEPD in all states.

State costs. Also consistent with the hypothesis, state costs significantly decreased during MEPD in the three states that paid for IMD stays before the demonstration (California,[37]

[37] During qualitative interviews, one IMD in California said that state savings were being used for outpatient services.

Maryland, and West Virginia[38]). Unexpectedly, state costs also significantly decreased in both states (Alabama and DC) that, according to qualitative interviews, did not pay for IMD stays before MEPD. Data for both included substantial costs to the state in the pre-MEPD period, and we were unable to resolve the apparent discrepancy.

Among the seven states for whom we did not have sufficient data to conduct quantitative analyses, qualitative interview respondents in five discussed potential effects of MEPD on overall state mental health systems costs.[39] Respondents in four states expected no change in state costs as a result of MEPD.[40] As one respondent commented, "We did not previously cover this population so we haven't saved anything." Another said that although they received federal matching funds under MEPD, the savings did not benefit the mental health system because they were put into the general state funds. Respondents in only one additional state (NC)[41] expected to see state mental health cost savings, perhaps as a result of decreased use of more costly EDs and general hospital scatter beds.

IMD costs. Of the three states that provided IMD cost data, two (DC and West Virginia) indicated no costs incurred by the IMD in the pre-demonstration period. In DC, 95 percent of beneficiaries admitted to the IMD before MEPD were dual Medicare-Medicaid enrollees, and Medicare paid 98 percent of the costs not paid by the state (data not shown). In West Virginia, 76 percent of beneficiaries admitted before MEPD were dually enrolled in Medicare, and Medicare paid 69 percent of costs not reimbursed by the state; private insurance paid the remaining costs. In Alabama, only 19 percent of pre-MEPD beneficiary admissions were dual enrollees, and Medicare paid only 24 percent of costs not paid by Medicaid or the state; as a result, the IMD also incurred a substantial share of the costs.

Consistent with our hypothesis for states that did not pay for IMD stays before the demonstration, IMD costs in Alabama decreased during MEPD (when controlling for beneficiary characteristics and length of stay). Unexpectedly, however, IMD costs in DC significantly increased during MEPD. This contrasts with expectations expressed by qualitative interview respondents in DC who thought the demonstration would have no effect on IMD costs. In the pre-demonstration period, DC focused on providing care for patients admitted involuntarily when other beds were not available. Qualitative interview respondents in DC noted that the increase in access to care under the demonstration was especially notable for patients who were violent due to the severity of their psychiatric condition or who had comorbid substance abuse needs for which the IMD had special treatment programs; costs to the IMDs for care provided to

[38] In the pre-demonstration period, West Virginia paid only for inpatient stays under the involuntary commitment process. During MEPD, the state received the federal match for those individuals who were admitted involuntarily (which would decrease state costs), but also incurred new costs for the state share of voluntary admissions.

[39] Respondents in Missouri and Washington did not report about potential effects on state costs.

[40] Three of these states (Illinois, Maine, and Rhode Island) did not pay for IMD stays before MEPD. The fourth (Connecticut) reimbursed stays for only the subgroup of beneficiaries enrolled in the Medicaid program for low-income adults (known as Husky D).

[41] North Carolina did not pay for IMD stays before MEPD.

this group of beneficiaries may have been higher. However, under MEPD, the average cost to the DC IMD per stay remained relatively low.

In ten states, we did not have quantitative data to analyze changes to IMD costs.[42] Through qualitative interviews, however, staff of IMDs in two of these (California and Missouri) reported that the federal reimbursement under MEPD substantially benefited the organizations. In three others (Connecticut, North Carolina, and Rhode Island), IMDs reported MEPD had no effect on IMD costs, primarily because the population served under the demonstration was small and the per-person costs of care did not change significantly. IMD staff in Illinois, Maine, Maryland, Washington, and West Virginia either reported divergent views about the effect of MEPD on IMD costs or did not comment on this topic.

B. Effect of MEPD on overall Medicaid and Medicare costs

In addition to costs of IMD stays incurred by different payers, we also examined the effect of MEPD on total federal costs (to both Medicaid and, for dual enrollees, Medicare), per beneficiary per month, for mental health treatment across all settings of care (question C4). We hypothesized that better access to higher quality care provided in participating IMDs might reduce the need for general hospital inpatient, emergency, and ambulatory services and, thereby, reduce overall mental health costs to Medicaid and Medicare. For each state, we examined effects on both total costs (including state and federal shares of Medicaid, plus Medicare) and federal-only costs (excluding the state share of Medicaid). In this chapter, we present the results of our primary statistical models (difference-in differences for California, pre-post analyses for other states). Tables of results of alternative models can be found in Volume II, Chapter III. All statistical models controlled for beneficiary characteristics, including age, gender, race, and dual Medicare-Medicaid enrollment status. We also added an indicator for quarter during the year, as unadjusted analyses demonstrated a seasonal pattern of costs, with large drops during October-December each year.

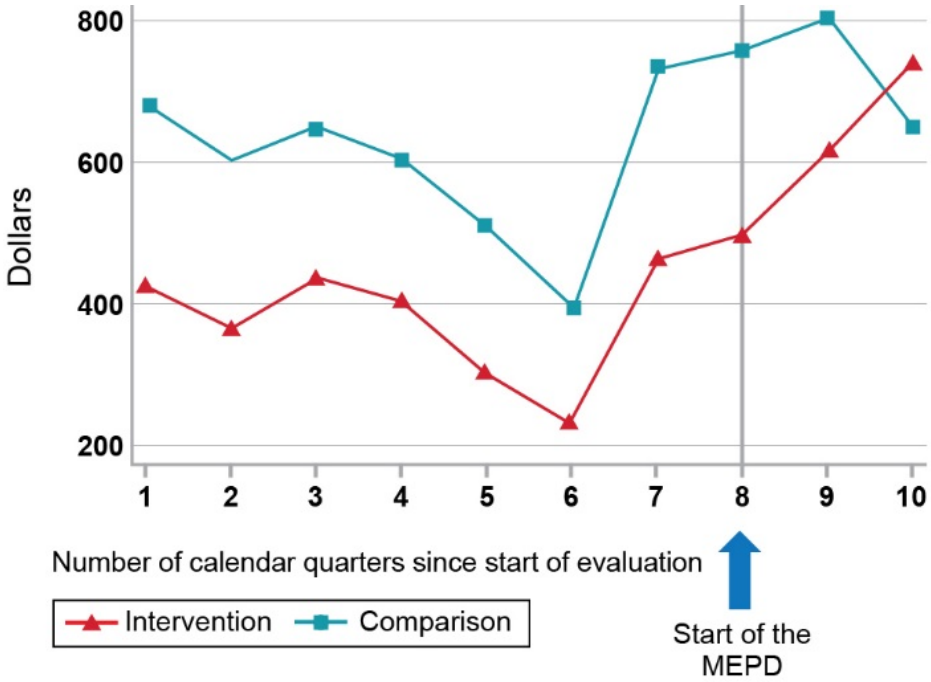
California was the only state for which we were able to identify a comparison group.[43] **Exhibits X.4** and **X.5** illustrate the average per beneficiary per month costs for the MEPD and comparison groups during 8 quarters (2 years) before and 2 quarters (6 months) after MEPD began, for the MEPD and comparison groups. As shown in the figures, during the pre-demonstration period, the pattern of changes in costs over time was similar between the groups.[44] After MEPD began, however, the patterns diverged.

[42] Although West Virginia submitted quantitative data on costs to the IMD, these included only seven observations with non-zero costs, which was insufficient for statistical modeling.

[43] The intervention group was Medicaid beneficiaries ages 21–64 who had received services for a psychiatric EMC from an ED, general hospital, or participating IMD at any time during the four-year evaluation period, and who lived within the MEPD catchment area. The comparison group was beneficiaries meeting the same criteria but who lived outside of the MEPD catchment area. We present details about how we constructed the comparison group in Volume II, Chapter II.

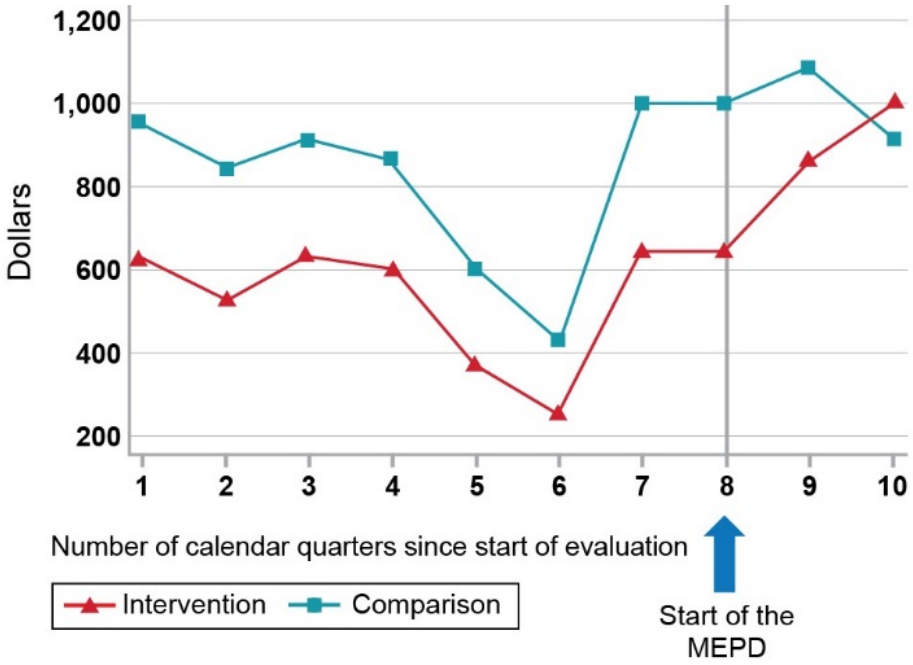
[44] The sharp dip in quarter six and subsequent rise is consistent with the apparent cyclical variation in costs occurring in all states. Costs tended to be lower at the beginning of each federal fiscal year (quarters 2, 6, 10, and 14, corresponding to October–December 2010–2013, respectively).

Exhibit X.4. Unadjusted average total federal mental health costs per beneficiary per month, by quarter (California)



Source: Analysis of Medicaid and Medicare data obtained from CMS, 2010-2012.
Note: Costs are unadjusted.

Exhibit X.5. Unadjusted average total Medicaid and Medicare mental health costs per beneficiary per month, by quarter (California)



Source: Analysis of Medicaid and Medicare data obtained from CMS, 2010-2012.

We used a difference-in-differences model to estimate the impact of MEPD on total and federal mental health costs in California. As shown in **Exhibit X.6**, we found that although total mental health costs and total federal mental health costs increased during the demonstration period overall (that is, for both the intervention and comparison groups), MEPD was associated with a statistically significantly greater increase in costs. These results were consistent across the alternative model specifications.

Exhibit X.6. Difference-in-differences results regarding total Medicaid and Medicare mental health costs in California

	Total MH spending (n=83,660)[a]		Total federal MH spending (n=83,660)[a]	
	Average marginal effect	Standard error	Average marginal effect	Standard error
Intervention group	-1.43	125.52	21.25	97.05
Demonstration period	414.36***	95.36	267.13***	77.93
Intervention group*Demonstration period	223.34**	97.53	192.99**	79.43

Source: Analysis of Medicaid and Medicare data obtained from CMS, 2010-2012.

Note: Exhibit presents average marginal effects of MEPD on total mental health costs and total federal mental health costs per beneficiary per month using a two part model. The first part of the model is a logistic regression analysis predicting the likelihood of any costs in that person quarter. The second part of the model is a general linear model of non-zero costs using the gamma scale family and a log link function (Buntin and Zaslavsky 2004) to account for non-normal distribution of costs. Control variables included age, race, gender, Medicare-Medicaid dual enrollment status, and quarter. We used robust standard errors to

address heteroscedasticity. The intervention group was Medicaid beneficiaries ages 21–64 who had received services for a psychiatric EMC from an ED, general hospital, or participating IMD at any time during the four-year evaluation period, and who lived within the MEPD catchment area. The comparison group was beneficiaries meeting the same criteria but who lived outside of the MEPD catchment area.

[a] N's reflect person-quarters.

*p<0.10, **p<0.05, ***p<0.01

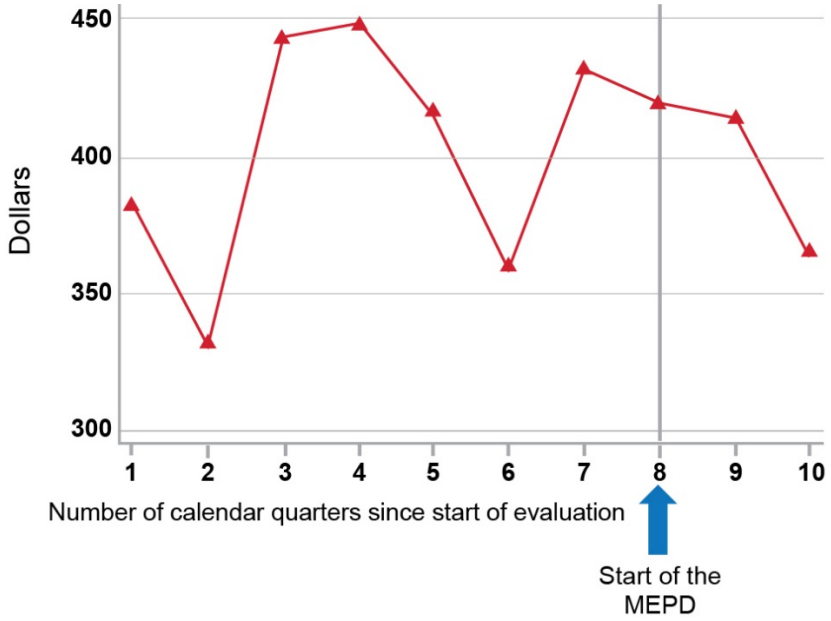
The remaining states (Alabama, Maryland, Missouri, and West Virginia) did not have comparison groups. **Exhibits X.7-X.14** show the total mental health costs and total federal mental health costs for each of them. Across the states, costs vary in a cyclical pattern, such that costs tended to be lower at the beginning of each federal fiscal year (quarters 2, 6, 10, and 14, corresponding to October–December 2010–2013, respectively). The strong cyclical variation makes it difficult to discern, simply by examining the graphs, any changes in costs after MEPD began. Moreover, the graphed data are not adjusted for beneficiary characteristics that might influence costs. The figures are presented simply to provide an understanding of the overall level of costs per beneficiary per month and to illustrate the cyclical pattern, which might influence statistical results.

For the four states without comparison groups, we used pre-post models to estimate the difference in total Medicaid and Medicare mental health costs before and during MEPD, controlling for beneficiary characteristics and seasonal variation in costs (**Exhibit X.15**). We found that, in Maryland, total mental health costs and total federal mental health costs were lower during the demonstration period, and in Alabama, Missouri, and West Virginia, they were higher. Alternative models confirmed that changes were in the same direction for each quarter of the demonstration period, growing stronger over time (Volume II, Chapter III). For Alabama, Maryland, and West Virginia, however, interrupted time series analyses showed that linear trends during the demonstration period did not differ significantly from trends in the pre-demonstration period. This suggests that, for these three states, the changes observed during the demonstration were due to factors in place before the demonstration began, rather than to MEPD. In Missouri, on the other hand, the interrupted time series analysis found that the linear increase in costs over time was greater during MEPD than before it.[45]

Limitations. Our findings should be interpreted cautiously for several reasons. In four of the five states included in these analyses, we only had data from two quarters after the start of MEPD. Six months may not be enough time to observe demonstration effects, particularly if program implementation was slow or the medical community had limited awareness of MEPD early in the demonstration. Furthermore, only one state had sufficient data to conduct a difference-in-differences regression analysis. Although we controlled for seasonal trends using a quarter indicator, the cyclical variation in costs may have still influenced the results. Results might have been different had we imposed a minimum enrollment period, which we did not.

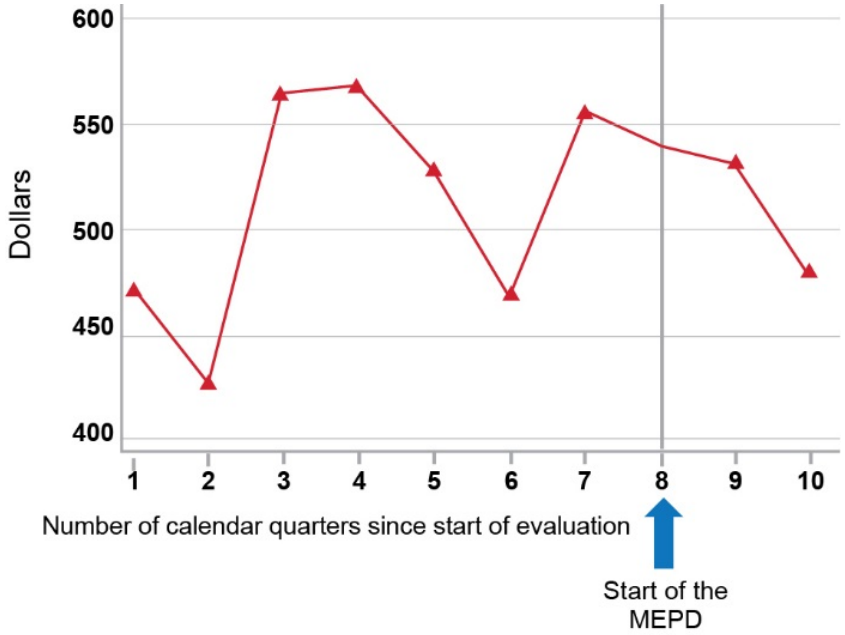
[45] The interrupted time series model cannot determine whether MEPD or some external factor was responsible for the increase during MEPD. Notably, the Governor funded a large ER diversion initiative that coincided in time and place with MEPD implementation in Missouri that potentially might have increased costs of outpatient services or general hospital inpatient admissions. We cannot disentangle effects of MEPD from this external initiative.

Exhibit X.7. Unadjusted average total federal mental health costs per beneficiary per month, by quarter (Alabama)



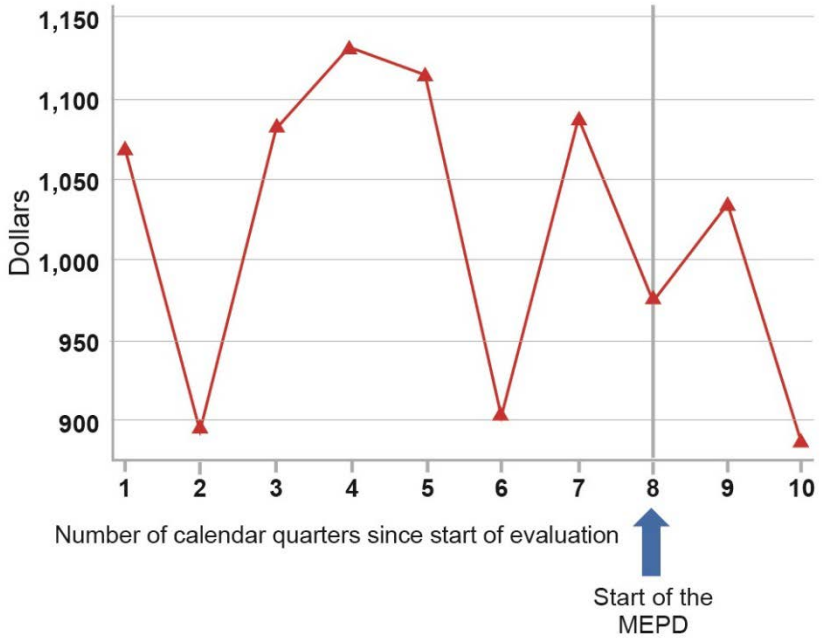
Source: Analysis of Medicaid and Medicare data obtained from CMS, 2010-2012.

Exhibit X.8. Unadjusted average total Medicaid and Medicare mental health costs per beneficiary per month, by quarter (Alabama)



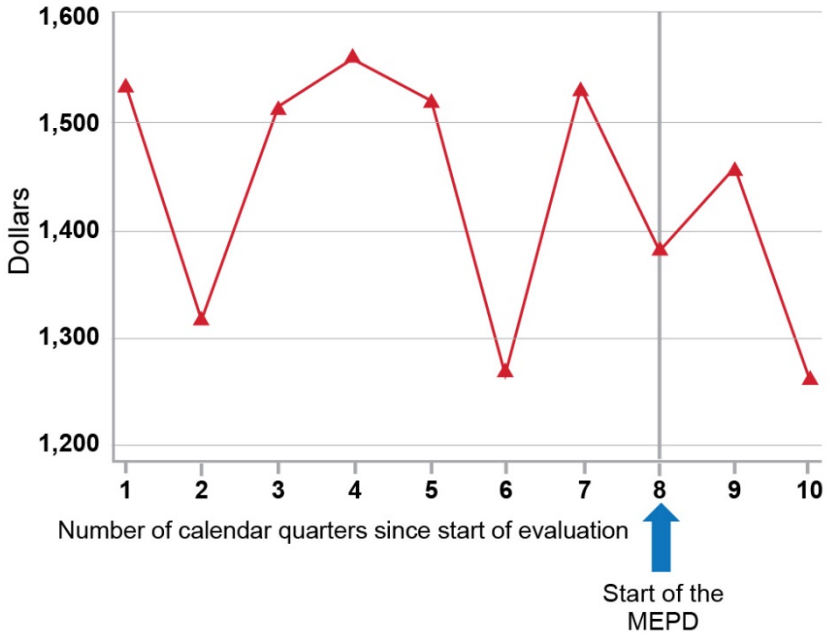
Source: Analysis of Medicaid and Medicare data obtained from CMS, 2010-2012.

Exhibit X.9. Unadjusted average total federal mental health costs per beneficiary per month, by quarter (Maryland)



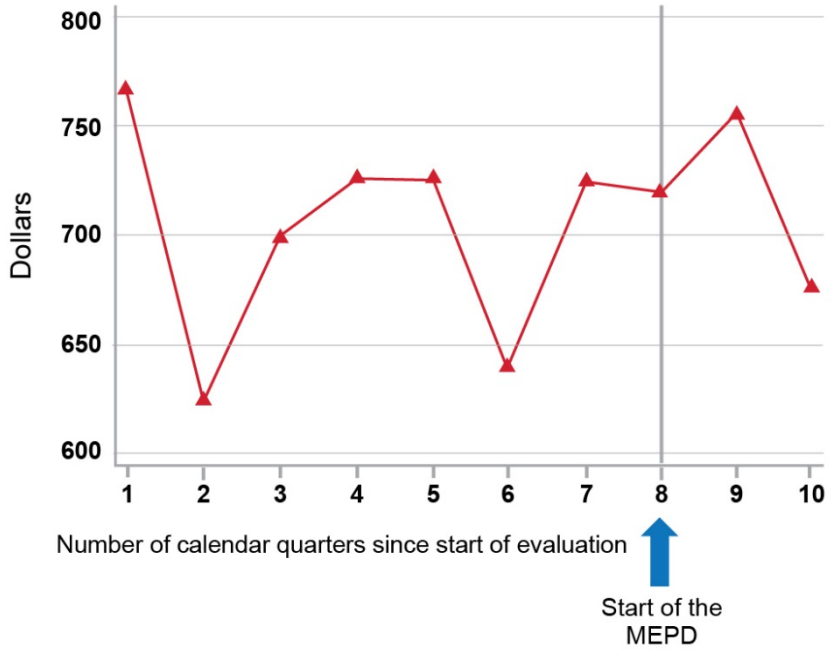
Source: Analysis of Medicaid and Medicare data obtained from CMS, 2010-2012.

Exhibit X.10. Unadjusted average total Medicaid and Medicare mental health costs per beneficiary per month, by quarter (Maryland)



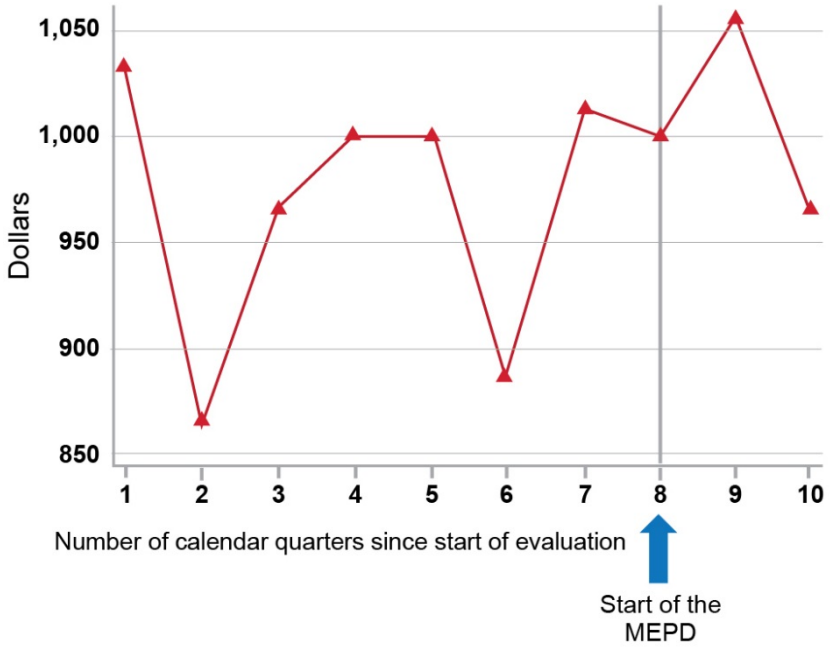
Source: Analysis of Medicaid and Medicare data obtained from CMS, 2010-2012.

Exhibit X.11. Unadjusted average total federal mental health costs per beneficiary per month, by quarter (Missouri)



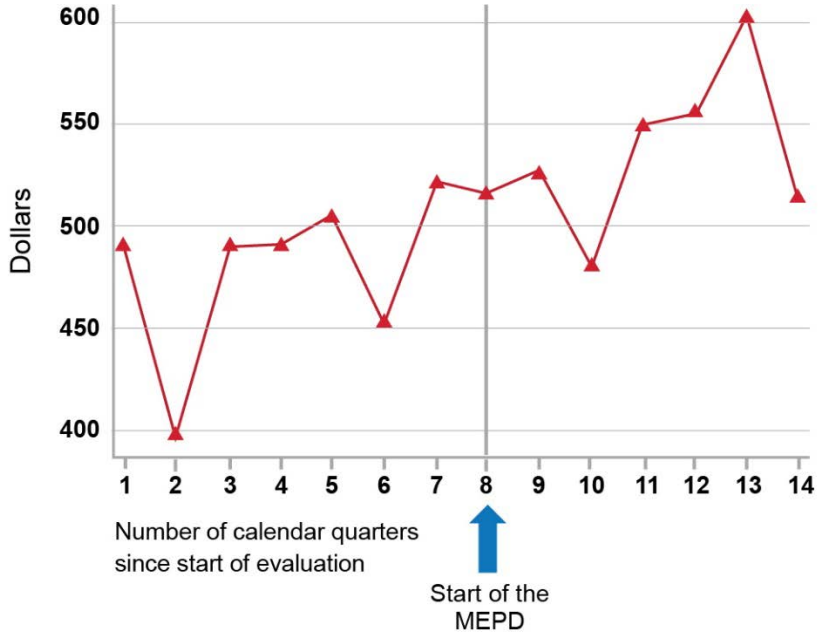
Source: Analysis of Medicaid and Medicare data obtained from CMS, 2010-2012.

Exhibit X.12. Unadjusted average total Medicaid and Medicare mental health costs per beneficiary per month, by quarter (Missouri)



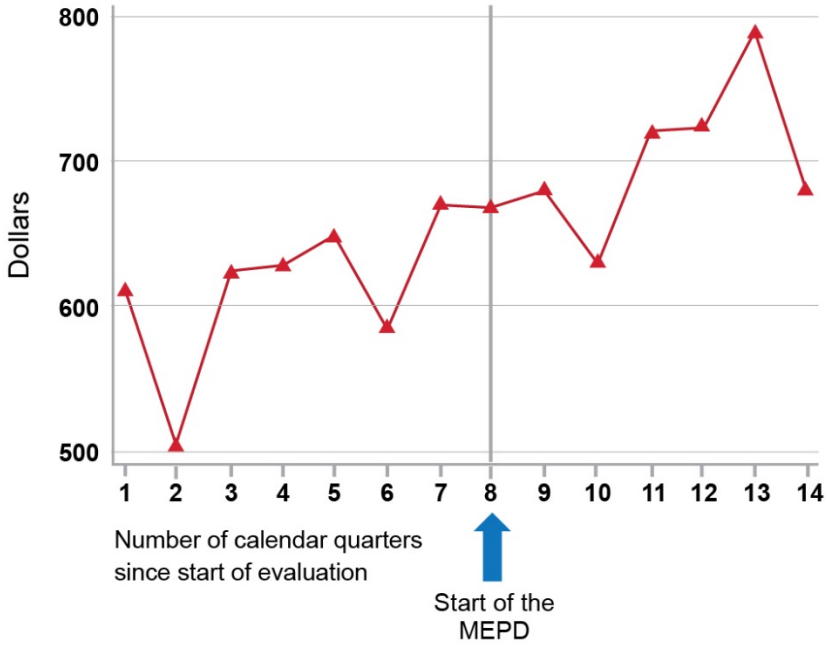
Source: Analysis of Medicaid and Medicare data obtained from CMS, 2010-2012.

Exhibit X.13. Unadjusted average total federal mental health costs per beneficiary per month, by quarter (West Virginia)



Source: Analysis of Medicaid and Medicare data obtained from CMS, 2010-2013.

Exhibit X.14. Unadjusted average total Medicaid and Medicare mental health costs per beneficiary per month, by quarter (West Virginia)



Source: Analysis of Medicaid and Medicare data obtained from CMS, 2010-2013.

Exhibit X.15. Adjusted pre-post differences in total Medicaid and Medicare mental health costs in four states

	Total MH spending (N=447,727)[a]		Total federal MH spending (N=447,727)[a]	
	Average marginal effect	Standard error	Average marginal effect	Standard error
Demonstration period (AL)[b]	47.57***	11.30	35.38***	9.03
Demonstration period (MD)[b]	-92.84**	38.23	-85.21***	30.66
Demonstration period (MO)[c]	71.94***	12.01	34.86***	8.96
Demonstration period (WV)[b]	98.73***	25.90	66.54***	18.36

Source: Analysis of Medicaid and Medicare data obtained from CMS, 2010-2013.

Note: Exhibit presents average marginal effects of MEPD on total mental health costs and total federal mental health costs per beneficiary per month using a two part model. The first part of the model is a logistic regression analysis predicting the likelihood of any costs in that person quarter. The second part of the model is a general linear model of non-zero costs using the gamma scale family and a log link function (Buntin and Zaslavsky 2004) to account for non-normal distribution of costs. Control variables included age, race, gender, Medicare-Medicaid dual enrollment status, and quarter. We used robust standard errors to address heteroscedasticity. The intervention group was Medicaid beneficiaries ages 21–64 who had received services for a psychiatric EMC from an ED, general hospital, or participating IMD at any time during the four-year evaluation period, and who lived within the MEPD catchment area.

[a] N's reflect person-quarters.

[b] For Alabama, Maryland, and West Virginia, alternative interrupted time series analyses showed that linear trends during the demonstration period did not differ significantly from trends in the pre-demonstration period (Volume II, Chapter III). This suggests that, for these three states, the changes observed during the demonstration were due to factors in place before the demonstration began, rather than to MEPD.

[c] For Missouri, the alternative interrupted time series analysis found that the linear increase in costs over time was greater during MEPD than before it (Volume II, Chapter III).

*p<0.10, **p<0.05, ***p<0.01

Exhibit X.16 displays a synthesis of the findings regarding costs of IMD stays, by payer, and total Medicaid and Medicare mental health costs.

Exhibit X.16. Synthesis of results regarding cost of IMD stays and other Medicaid and Medicare costs, by states

	C1–C3 (IMD data)			C4 (claims data)	
	Federal Medicaid costs	State costs	IMD costs	Total federal non-IMD mental health costs PBPM	Total non-IMD mental health costs PBPM
Alabama	S +	S -	S -	NS	NS
California	S +	S -	NA	S +	S +
District of Columbia	S +	S -	S +	NA	NA
Maryland	S +	S -	NA	NS	NS
Missouri	NA	NA	NA	S +	S +
West Virginia	S +	S -	NA	NS	NS

Source: Analysis of Medicaid, Medicare, and IMD data obtained from CMS, states, and IMDs (dependent on the research question).

Note: S denotes a significant finding at the p<0.05 level. S+ indicates a statistically significant increase in costs, S– indicates a statistically significant decrease in costs, NS indicates no significant effect of MEPD on costs, and NA means data were not available for that particular analysis.

These findings show that in all states included in the analyses, MEPD was associated with increased costs to the federal government and decreased costs to states for IMD stays, whether or not the state paid for IMD stays before the demonstration. MEPD's effect on total costs of Medicaid and Medicare mental health services (not including MEPD costs for IMD stays) varied by state, increasing costs in two states (including the one state, California, with a comparison group) and having no effect in three (including the one state, West Virginia, with data for a longer portion of the demonstration period).

XI. ACA AREA D: MEDICAID SHARE OF IMD ADMISSIONS

The ACA mandated an analysis of the percentage of consumers with Medicaid coverage who were admitted to inpatient facilities as a result of the demonstration project, as compared to those admitted to these same facilities through other means. To address this question, we compared the proportion of admissions of adults ages 21 to 64 with psychiatric EMCs to participating IMDs who were Medicaid beneficiaries before and during MEPD. We refer to this percentage as the "Medicaid share of IMD admissions." We analyzed data from 17 IMDs, including at least one IMD from each of the 12 MEPD states. The sample includes 274 observations of the Medicaid share of IMD admissions from 2010 to 2014 (that is, 16 quarterly observations for each of 15 IMDs, plus 17 quarterly observations for each of two IMDs). The IMDs submitted data in different formats (admissions-level data versus aggregate; see Volume II, Chapter II, Section E), and we were unable to verify the quality of the aggregate data or resolve problems with some of the variables in the admissions-level data. These issues probably increased the amount of noise in our analysis, reducing our ability to detect statistically significant results. We constructed the Medicaid share of IMD admissions separately for each quarter of the evaluation period and then conducted an interrupted time series analysis to control for any trend in Medicaid admission rates that may have existed in the pre-MEPD period. (See Volume II, Chapter II for a detailed description of the data and our approach.) We hypothesized that the Medicaid share of IMD admissions would increase as a result of MEPD, reflecting improved access to participating IMDs for Medicaid beneficiaries.

We observed a small but statistically significant increase in the trend in the quarterly Medicaid share of IMD admissions during MEPD. Further investigation revealed that a small subset of IMDs participating in the MEPD likely drove this effect.

As **Exhibit XI.1** illustrates, we found a statistically significant change in the trend during the MEPD. During MEPD, the quarterly Medicaid share of IMD admissions increased by 0.8 percentage points per quarter ($p<.05$). We found no evidence of a pre-existing trend in the quarterly Medicaid share of IMD admissions, and no evidence of an immediate impact following MEPD implementation ("Demonstration period"). These findings were robust to several alternative models (Volume II, Exhibit III.32).

Exhibit XI.I. Results of interrupted time series analysis of Medicaid share of IMD admissions

Coefficient	Marginal effect (n = 274)	Standard error
Demonstration period	-0.0100	0.0133
Pre-MEPD quarterly trend	0.0001	0.0015
Quarterly trend since MEPD began	0.0082**	0.0034
Constant	0.3292***	0.0168
Observations	**274**	
R-squared	**0.0718**	

Source: Mathematica analysis of IMD data from 2010 to 2014, including 17 IMDs across 12 states.

Note: Exhibit presents regression results from an interrupted time-series model. This model includes an indicator for the demonstration period, a linear quarterly time trend during the observed period, and an additional time trend beginning at MEPD implementation that allows the slope of the estimated time trend line to vary before and during the demonstration. We included IMD fixed effects to control for time-invariant IMD characteristics (for example, number of hospital beds) that might otherwise influence our estimates of how the Medicaid share of IMD admissions changed over time.

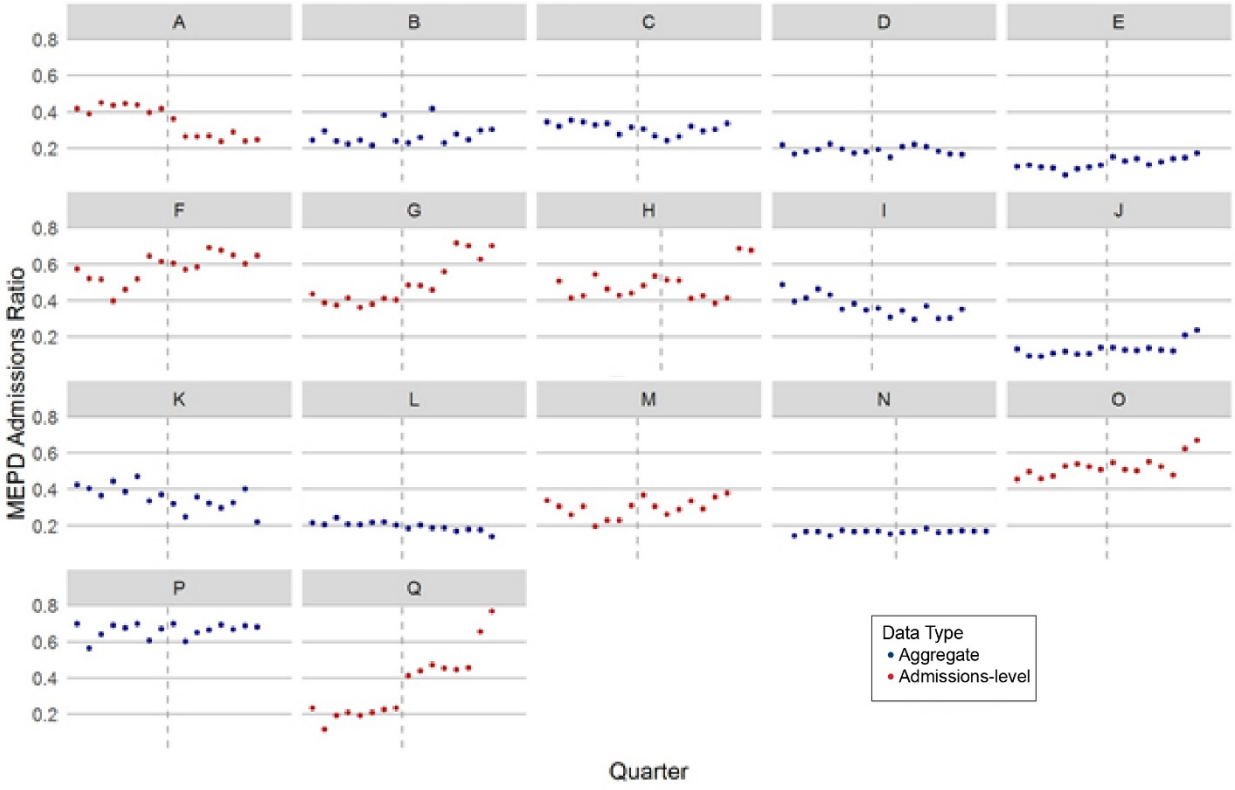
***p<.01, **p<.05, *p<0.1

Further analysis suggested that a small subset of IMDs largely drove this effect. **Exhibit XI.2** illustrates the variety of trends in Medicaid share of admissions across IMDs during the evaluation period: the Medicaid share of IMD admissions appears relatively constant for some IMDs, appears to decrease over time in other IMDs, and appears to increase slightly in a third group.[46] Most notably, however, the Medicaid share of IMD admissions appears to jump discontinuously during the final quarters of MEPD at several IMDs (including IMDs G, H, J, O, and Q). The IMDs in which we observed this pattern were not geographically clustered but, rather, were spread across states and regions.[47]

[46] The mean Medicaid share of IMD admissions before and during MEPD were 0.33 and 0.36, respectively.

[47] IMDs A, F, G, H, M, O, and Q submitted admissions-level data. The other IMDs submitted aggregated quarterly data. Notably, almost all of the IMDs that experienced increases in the Medicaid share of IMD admissions in the final quarters of MEPD submitted admissions-level data.

Exhibit XI.2. Average proportion of admissions of adults ages 21 to 64 with psychiatric EMCs to participating IMDs who were Medicaid beneficiaries, by IMD, by quarter



Source: Mathematica analysis of IMD data from 2010–2014. Includes 17 IMDs across 12 states. Exact demonstration period varies by IMD.

Note: The gray vertical dotted line in each panel indicates the approximate time of MEPD implementation. Individual admissions-level data that we then aggregated to the quarter are labeled "admissions-level." The data we received from IMDs that were already aggregated are labeled "aggregate." We randomly assigned letters to IMDs because, while obtaining administrative data from the IMDs, some of them expressed concern about IMD-specific data being made public; labeling the IMDs by state would also identify the IMD in states with only one IMD.

We ran another model (Volume II, Exhibit III.32) excluding the final two quarters of data from the evaluation period. In this model, the magnitude of the quarterly Medicaid share of IMD admissions during MEPD decreased to approximately 0.5 percentage points per quarter, and the estimate was no longer statistically significant. This result demonstrated that the final two quarters of data drove both the magnitude and statistical significance of the effect in our primary regression specification.

The cause of the increase in the Medicaid share of IMD admissions within this subset of IMDs is unclear, but we offer three tentative possibilities. First, the ACA Medicaid expansion, which took effect in all of the states at the start of 2014 (quarter 15), may have driven the increase in the Medicaid share of IMD admissions within this subset of IMDs. The fact that IMDs G, H, J, O, and Q, which saw increases in the Medicaid share of IMD admissions in their final quarters, are all located in states that adopted the ACA-Medicaid expansion supports this hypothesis. Nevertheless, this theory is not without flaws, as many other IMDs in the study were also located within states that adopted the ACA Medicaid expansion, yet they did not see a similar increase in the Medicaid share of IMD admissions. Moreover, increases in the Medicaid share of IMD admissions at IMD G predated the Medicaid expansion, and the increase lagged by a quarter at IMD H. A second possibility is that these IMDs increased their admissions of Medicaid beneficiaries in anticipation of the loss of funding at the end of MEPD. Finally, this effect may reflect a story of limited success: MEPD might have increased access among Medicaid beneficiaries only at certain IMDs. The lag between the MEPD's implementation and the increase may simply reflect the lag in the program's implementation. Several IMDs with observed increases in the Medicaid share of IMD admissions in their final quarters submitted all-payer admissions-level data, which suggests that data quality may differentiate IMDs with and without significant effects.

Our results suggest that MEPD was associated with a small increase in the Medicaid share of IMD admissions. However, a minority of participating IMDs drove these results, and factors unrelated to MEPD may be responsible. Data and study design limitations prevent us from drawing strong conclusions about the impact of the MEPD on the proportion of adult IMD patients treated for psychiatric EMCs who were Medicaid beneficiaries.

XII. CONCLUSIONS

The ACA directed the HHS secretary to assess the effect of MEPD on several outcomes related to treatment of beneficiaries ages 21 to 64 with psychiatric EMCs. The results of the evaluation, however, provided little evidence to suggest that such effects occurred. Overall, we found little to no evidence of MEPD effects on inpatient admissions to IMDs or general hospital scatter beds; IMD or scatter bed lengths of stays; ER visits and ED boarding; discharge planning by participating IMDs; or the Medicaid share of IMD admissions of adults with psychiatric EMCs. Federal costs for IMD admissions increased, as expected, and costs to states decreased. The extent to which these findings were driven by data limitations, were affected by external events, or reflect true effects of MEPD is difficult to determine.

A. Limitations of analyses

Our analytic approach and data sources presented various limitations. Data obtained directly from IMDs and EDs varied in quality and structure, and we had to make some judgements about their meaning in standardizing variables across facilities. Due to data limitations, most quantitative analyses included only a subset of participating states, and the extent to which the results would be similar for other states is unknown. For analyses relying on Medicaid data,[48] we were able to obtain only data for the first six months of MEPD for most states. As suggested by the analysis of IMD admissions in one state with 1.5 years of demonstration data, some effects might have occurred later during MEPD; whether results would differ if data from the full MEPD time period were available is unknown. Qualitative data were biased in favor of positive results, as they relied heavily on interviews with and documents provided by state project directors and IMD staff. Beneficiary interviews were also likely subject to positive bias due to selection factors, as IMD staff obtained consents, and individuals with potentially more negative experiences (such as those with guardians who may have been involuntarily committed) and outcomes (such as those transferred to other facilities or to homeless shelters) were less likely to participate.

Most quantitative analyses did not include comparison groups for most states.[49] Pre-post analyses without comparison groups cannot determine whether changes observed over time result from MEPD or external factors. We conducted interrupted time series analyses to assess the difference in trends occurring during MEPD from trends in the pre-demonstration period, but these analyses could not establish causality regarding any differences found. Various state and hospital-level changes occurred during and independently of MEPD that could have differentially influenced outcomes for intervention and comparison groups, or overall. For example, two-thirds of participating states expanded Medicaid eligibility under the ACA during the evaluation period, which might have been responsible for an increase in the Medicaid share of IMD admissions in several expansion states. As a result, we cannot be certain that any effects are due to the MEPD alone. Moreover, as suggested by respondents during qualitative interviews and by observed increases in scatter bed use and ER visits in both MEPD and comparison

[48] Medicaid data were used for analyses of IMD and scatter bed admissions and lengths of stays, ER visits, and total Medicaid and Medicare mental health costs. They were not used for analyses of ED boarding, discharge planning, costs of IMD admissions, or Medicaid share of IMD admissions (ACA area D).

[49] Exceptions included analyses of IMD length of stay and ED boarding time.

groups, a broad increase in demand arising, in part, from the Medicaid expansions, may have masked program effects.

B. Summary of results in relation to the conceptual framework

Access to high-quality inpatient care: The IMD exclusion enacted at the inception of Medicaid was rooted, in part, in the historic responsibility of states for long-term hospitalization of residents with mental illnesses in large mental institutions. According to state and IMD staff we interviewed, state and county facilities are increasingly focusing exclusively on such long-term care. Consequently, Medicaid beneficiaries with acute psychiatric emergencies had limited options for inpatient treatment before MEPD because most private IMDs were reluctant to admit them without a funding source and states had eliminated most publicly-funded IMDs and beds focused on short-term care. Although Medicaid does cover inpatient admissions in general hospital psychiatric units and community-based inpatient facilities with fewer than 17 beds, stakeholders reported that these were not fully meeting the need for acute inpatient beds available to Medicaid beneficiaries. States continued to close publicly-funded facilities throughout MEPD.

One of the most important goals of MEPD was to increase access to high-quality inpatient psychiatric treatment for Medicaid beneficiaries, and interview respondents largely believed this was accomplished. Exceptions to the general consensus occurred in states that reimbursed IMDs for inpatient treatment provided to Medicaid beneficiaries before MEPD, using state funds. Even in these states, however, some respondents reported that timeliness of access was improved because EDs no longer had to contact general hospital psychiatric units or state hospitals before seeking placement in an IMD.[50] Over the course of the demonstration, MEPD paid for over 16,000 admissions of Medicaid beneficiaries to participating IMDs (Exhibit V.1). Perhaps due to the lack of data for most of the demonstration period, however, statistical analyses could not confirm that this was an increase over pre-MEPD admission rates. In qualitative interviews, beneficiaries reported being pleased with the quality of care they received at the IMDs and stated a preference for being treated at the demonstration IMD again, should the need arise. Length of IMD stays tended to be longer than stays in general hospital psychiatric units and scatter beds.

Stakeholders often point to the use of general hospital scatter beds as a negative consequence of psychiatric bed shortages. In contrast to expectations, however, both quantitative and qualitative analyses suggested that boarding in general hospital scatter beds was relatively rare in participating states, both before and during MEPD. According to qualitative interviews, scatter beds were used in only a quarter of MEPD states. Even in states in which interview respondents reported treating psychiatric patients in general medical-surgical units, in many cases such placement seemed appropriate to treat co-occurring medical conditions, rather than representing boarding because psychiatric beds were not available. Quantitative analyses suggested, however, that the increasing demand for inpatient and emergency mental health services, as reported in qualitative interviews, may have increased scatter bed use during MEPD for both intervention and comparison groups.

[50] Quantitative analyses of ED boarding times, however, did not confirm this perception.

ED boarding: Contrary to expectations that access to IMD care would decrease the time beneficiaries spent awaiting inpatient beds, no changes in ED boarding times were observed during MEPD. This analysis included two years of data during the demonstration period and non-Medicaid comparison groups for eight states, and the finding was robust across statistical models, making it one of our strongest findings; increased need for emergency and inpatient services during the demonstration period, however, may have masked program effects.

Qualitative interview respondents mentioned numerous factors other than the availability of psychiatric beds that extended the time patients with psychiatric EMCs spent in the ED. These factors included waiting for mental health professionals to arrive to conduct psychiatric evaluations, time needed for substance use detoxification and medical clearance of co-occurring conditions, waiting for transportation to the identified IMD, and time required to complete involuntary commitment processes. ED respondents in several states said that finding beds for patients with co-occurring medical conditions, developmental or intellectual disabilities, and traumatic brain injury was particularly challenging because many facilities, including participating IMDs, would not accept such patients. ED staff expressed frustration with the excessive time needed to process psychiatric patients and complained that it drew resources away from the care of other patients. Addressing all of the factors that contribute to long stays in EDs among psychiatric patients may require other solutions in addition to improved inpatient bed access.

Discharge planning: Overall, state and facility interview respondents reported few changes to clinical processes of care. Such changes were not required for the demonstration, but before the evaluation, we hypothesized that some changes might be made in response to MEPD requirements to begin discharge planning immediately upon admission and conduct stabilization assessments within three days. IMD respondents nearly universally reported, and our reviews of medical records confirmed, that this was the case for all patients, even before MEPD. In about a quarter of participating states, specific efforts were made to improve connections of patients with outpatient providers following discharge. Respondents in several states felt that providing beneficiaries with access to inpatient care in their local communities enabled stronger connections with outpatient providers, which might have increased the likelihood of patients receiving aftercare services and, thereby, may have led to fewer readmissions.[51] IMDs appeared to provide better connection to and documentation of recommendations for aftercare than medical-surgical units in general hospitals serving beneficiaries in scatter beds.

The vast majority of beneficiaries were discharged to their homes rather than transferred to other facilities. With few exceptions, beneficiaries interviewed expressed satisfaction with the discharge planning processes at the IMDs, and the vast majority felt safe to leave the IMD when they were discharged. However, discharge planning was hampered by lack of available community-based care. One of the most consistent findings from our interviews was the existence of significant shortages of community-based outpatient services. Both beneficiaries and facility staff almost universally reported difficulties in obtaining needed aftercare services from community providers. Scheduling timely appointments with outpatient psychiatrists to

[51] We did not assess readmissions separately from admissions. Readmissions to participating IMDs and general hospitals might have underestimated overall psychiatric readmissions because data on admissions to publicly-funded IMDs were not available.

ensure provision of needed medications was particularly challenging. Respondents frequently expressed concern that the lack of outpatient services increased the incidence of psychiatric EMCs and needs for readmission, and contributed to an overall worsening of psychiatric conditions seen in EDs. In five states, IMDs reported discharging patients to homeless shelters because supportive housing options were not available.

Costs: Total Medicaid expenditures for MEPD inpatient admissions across all 12 states, including both state and federal shares, were $113,194,748, at an average cost of $6,766 per stay. Not unexpectedly, given that Medicaid was not previously reimbursing IMDs, Federal costs of Medicaid beneficiaries to IMDs significantly increased during the demonstration. Our conceptual framework suggested that these increases would be offset by decreased Medicaid and Medicare costs for other mental health services, such as use of EDs and general hospital inpatient services. Quantitative analyses, however, revealed that, in two states, Medicaid and Medicare costs increased rather than decreased, and costs did not change significantly in three other states.

All states included in the analyses, including those that did not pay for IMD admissions of Medicaid beneficiaries before the demonstration, benefited by paying less per admission during MEPD. In one of the two states with relevant data, average cost to the IMD for admission of a Medicaid beneficiary also decreased, but in the other, it rose. Although IMD staff we interviewed lauded MEPD for increasing access to inpatient IMD services for Medicaid beneficiaries and were grateful for federal and state reimbursement of these services, several commented that the reimbursement rate was lower than their costs.[52]

These findings should be interpreted in light of data and study design limitations - for most states we had only 6 months of data during MEPD, and all but one state lacked a comparison group.

C. Implications and limitations on generalizing the results for future policy decision-making

At the time this report was written, considerable legislative and regulatory activity was taking place regarding potential full or partial elimination of the IMD exclusion. The Improving Access to Emergency Psychiatric Care Act (P.L. 114-97), enacted December 11, 2015, allows potential extension of MEPD in current states and potentially expands participation to additional states through FY2019, if HHS is able to determine and CMS can certify that a state's participation is projected not to increase net Medicaid program spending. Beyond the demonstration, on May 6, 2016, CMS released a final regulation regarding Medicaid managed care, which clarified that, in states that allow it, managed care plans can use their capitated payments to pay for IMDs as an alternative setting in lieu of state plan-covered services for enrollees over the age of 21 and under the age of 65 who stay in IMDs 15 or fewer days in a given month. Additional proposals and legislative options regarding Medicaid payment for IMD admissions are being discussed by Congress and mental health stakeholders. Therefore, it is

[52]Note, however, that CMS reported that they did not determine or adjust reimbursement rates but reimbursed states at the IMDs' full per diem rates (less FMAP adjustments). In speculating on reasons for shortages of alternatives to IMD inpatient care and community-based services, some interview respondents also commented that reimbursement rates for general hospital psychiatric units and outpatient treatment were too low.

critical to keep in mind the following limitations to the generalizability of the findings from MEPD:

- Facilities participating in MEPD were limited to private IMDs and did not include publicly-funded IMDs or residential substance abuse treatment facilities (RTFs), which are also subject to the IMD exclusion. MEPD estimates, therefore, are underestimates of all IMD inpatient admissions and costs. Given the differences in patient populations served, length of stay estimates also may not generalize to public IMDs and RTFs.
- The demonstration population represents only a portion of all inpatient admissions and ER visits due to psychiatric conditions. The results apply only to adults with mental illnesses who are suicidal, homicidal, or otherwise judged to be dangerous to themselves or others. Most notably, MEPD did not address inpatient treatment or ER visits among people with substance-related disorders (other than those that co-occurred with a psychiatric EMC), although such treatment is subject to the IMD exclusion. In addition, consistent with the MEPD eligibility criteria, demonstration participants were more than twice as likely to be suicidal as subjects of a previous study of people receiving inpatient care after seeking help for psychiatric conditions in ERs (Weiss et al. 2012). Results of MEPD will 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 utilization and costs for the broader population of people seeking emergency and inpatient care for psychiatric conditions.
- Most of the participating states restricted MEPD eligibility to beneficiaries whose Medicaid service costs were reimbursed on a fee-for-service basis. Moreover, because managed care payments are made on a capitated basis, costs per service unit are not available in Medicaid and Medicare claims data, so our analyses of overall Medicaid and Medicare costs exclude managed care beneficiaries in all states. The extent to which MEPD effects generalize to a managed care environment, therefore, is largely unknown.
- MEPD may underestimate the number of private IMD admissions that would be covered under Medicaid if the IMD exclusion were eliminated. Although CMS did not cap enrollment, one state imposed its own cap on monthly enrollment, and qualitative interviews suggested that the defined budget for MEPD exerted pressure on IMDs in some states to curtail admissions or length of stays in order not to exceed it, especially in the last year of the demonstration. Admissions also lagged during the first six months of MEPD, due to slow start-up or delayed implementation of the demonstration. Some states imposed additional eligibility criteria related to geographic restrictions, dual enrollment in Medicare, and managed care membership, which further limited admissions.
- Similarly, MEPD may underestimate the average length of stay that would be covered under full elimination of the IMD exclusion. In addition to concerns by the states and IMDs not to exceed allocated MEPD funds, MEPD criteria regarding stabilization review may have contributed to shorter stays than would occur without such requirements. The ACA allowed the demonstration to pay for inpatient IMD services needed to stabilize a psychiatric EMC and required stabilization reviews to begin within three days of admission. Inpatients were considered to be stabilized when they were no longer suicidal, homicidal, or dangerous to themselves or others. In qualitative interviews, staff from a few IMDs suggested that these criteria were too stringent, and they sometimes kept beneficiaries in the hospital after

discharging them from MEPD to provide continued care until staff felt they could safely function in the community. Some IMDs further reported keeping some patients after MEPD discharge because involuntary commitments required treatment to continue or because outpatient options were not available.

- During MEPD, the average length of stay at a participating IMD was 8.6 days, well under the 15-day limit under the new managed care rule. The distribution of length of stays, however, was skewed, and, although the vast majority were for less than a month, some were substantially longer (with a maximum of 147 days).
- The authorizing legislation for MEPD (that is, the ACA) did not include a requirement for HHS to determine or CMS to certify that a state's participation was projected not to increase net Medicaid program spending. Therefore, states participating in MEPD were not required to offset costs of IMD admissions funded under MEPD or to demonstrate cost-neutrality. We cannot determine, therefore, the effect that specific state efforts in this regard might have on costs or other evaluation outcomes.
- Under MEPD, an independent contractor gathered demonstration claims and included a number of data elements not typically required for the payment of Medicaid claims. To ensure consistency with ACA-mandated eligibility criteria, states were required to report, for each admission, whether the patient was suicidal, homicidal, or dangerousness to oneself or others. Neither the Medicaid claims nor hospital data systems we explored for this evaluation included reliable indicators of suicidality, homicidality, or dangerousness. For evaluation purposes, we created a proxy for EMCs based on a combination of diagnostic codes and use of inpatient or emergency services. This proxy may have included people in the "MEPD-eligible" group whose IMD care costs were not actually paid by the demonstration and, conversely, may have excluded some people whose stays were covered by the demonstration. Unless such indicators of suicidality, homicidality, and dangerousness were made mandatory for Medicaid claims processing for psychiatric inpatient stays in IMDs, CMS would not be able to monitor and control payments to limit reimbursement solely to psychiatric EMCs.
- Many qualitative interview respondents were accustomed to thinking of psychiatric EMCs in terms of their own state's criteria for involuntary commitment, and differences between state and MEPD definitions likely contributed to requests early in the demonstration for CMS to broaden the definition of psychiatric EMCs to include people who were dangerous to themselves or others but not suicidal or homicidal. Even after CMS's expansion of the eligibility criteria, IMDs in some states expressed confusion about the extent to which people who were "gravely disabled" according to state definitions could be included in the demonstration.[53] Any proposal to restrict Medicaid payments for IMD stays to psychiatric EMCs, therefore, should consider more precisely defining the eligibility criteria and how to assess them.
- Finally, due to resource limitations, outcomes examined were limited to those mandated by the ACA and for which data were readily available. Costs of state- and county-funded

[53]CMS reported that changes to the MEPD eligibility criteria were made in direct response to two states that used the "gravely disabled" definition of an individual who, due to their psychiatric illness, presents a danger to themselves.

community-based services and disproportionate share hospital payments may have been affected by MEPD but were beyond the scope of our cost analyses. Other potentially important outcomes, such as mortality from suicide and other causes, acts of violence, involvement with and costs to the criminal justice system, homelessness, symptom remission and consumer recovery, and 30-day hospital readmissions were also beyond the scope and resources for this evaluation.

D. Conclusion

Data limitations prevent us from drawing strong conclusions about the effect of MEPD on access to inpatient care, length of stays, ER visits, and costs. Available data suggest, however, that increased access of adult Medicaid beneficiaries to IMD inpatient care would likely come at a cost to the federal government.[54] Moreover, providing access to IMD services may not be able to address the numerous reasons other than inpatient bed searches that contribute to long stays of psychiatric patients in EDs. Given the high cost of inpatient care relative to community-based care and major shortages in the availability of community-based care and psychiatric ED services across the country, future initiatives may wish to balance consideration of potential increases in funding for IMD and general hospital inpatient services within the context of a more comprehensive approach that considers distribution of new resources across all aspects of the system (inpatient, emergency, and ambulatory care).

[54] Note, however, that the ACA did not require states participating in MEPD to demonstrate cost-neutrality. Had this provision been included, states may have made specific efforts to offset the costs of IMD admissions through cost-savings elsewhere. We cannot determine, however, the effect such efforts might have had on costs or other evaluation outcomes.

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APPENDIX A

INPATIENT AND EMERGENCY SERVICES AVAILABLE AT BEGINNING OF MEPD, BY STATE

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Exhibit A.1. Psychiatric inpatient beds and other emergency services available in MEPD states at the start of MEPD, by state

State	Private IMDs	Public IMDs	Other Inpatient and emergency psychiatric services
Alabama	Four participating IMDs[a] Several IMDs serving patients under 21 did not participate because they were exempt from the IMD exclusion	One designed for geriatric patients with 96 beds One 115-bed maximum security facility for forensic patients criminally committed Two additional public IMDs with a total of 342 beds	10-bed public adolescent unit at University of Alabama
California	One participating IMD in Contra Costa County Three participating IMDs in Sacramento 22 additional non-governmental IMDs in the state, 4 of which were in northern California (one in San Francisco, a total of 192 beds in the other 3)	Contra Costa County had 23 beds at a county-owned general hospital, serving more patients requiring long-term treatment One public (county-operated) IMD in Sacramento County with 50 beds	The counties paid for a range of other services, including crisis hotlines Contra Costa had an outpatient crisis stabilization unit and a program that coordinated comprehensive outpatient mental health services for consumers with three or more psychiatric emergencies in the past 12 months; Contra Costa also contracted with five out-of-county facilities to provide inpatient treatment Sacramento had a 12-bed private inpatient facility and no general hospitals with psychiatric units
Connecticut	Only private IMD in the state that served Medicaid beneficiaries participated A second private IMD in a different catchment area had 60 beds and served those who self paid or were commercially insured	Three public IMDs in state, none of which were in MEPD catchment area, with 547 beds, 232 of which were forensic; these more often were for patients with much longer lengths of stay	750 beds in 22 general hospitals with acute psychiatric units across state, 3 of which were in the MEPD catchment area with 51 beds Mobile crisis teams across state; ACT teams
District of Columbia	One participating IMD	One public IMD with 293 beds for patients requiring stays of more than 15 days, including civil commitment	Seven general hospitals operated 177 additional psychiatric beds, including 4 beds with whom the state contracts for involuntary admissions 20 Veteran's Administration beds ACT teams; comprehensive psychiatric emergency program (CPEP) that provided referral and initial stabilization for individuals brought in by the police; mobile crisis service; short-term crisis beds; a walk-in clinic

State	Private IMDs	Public IMDs	Other Inpatient and emergency psychiatric services
Illinois	Two participating IMDs Seven additional private IMDs in the state, five of which were located in Cook County	Nine public IMDs, two of which were near the participating private IMDs	27 acute care hospitals with psychiatric units 1,400 licensed psychiatric beds in state across all facilities (IMDs and acute care hospitals) Crisis intervention; crisis stabilization; ACT teams; crisis and referral phone line
Maine	Two participating IMDs	Two public IMDs with 192 beds; both focused on chronic rather than acute treatment; due to an increase in referrals for forensic patients, one (Riverview) was no longer accepting civil patients	Seven community hospitals with psychiatric units Emergency department collaborative care management project to reduce non-urgent use of hospital ERs statewide
Maryland	Three participating IMDs	Five public IMDs (including one maximum security facility) with 1,610 licensed beds, primarily provided long-term inpatient treatment for adult, geriatric, forensic, and involuntary patients; increasingly in FY 2011, 80% of admissions were forensic	Acute care psychiatric units at 28 general hospital units (14 in Baltimore region) with 691 beds (421 in Baltimore region), including adult, geriatric, adolescent, and children 24-hour crisis lines; warm lines; crisis residential treatment centers; urgent care clinics; 24 mobile treatment/ACT teams; mobile crisis programs; partial hospitalization/intensive outpatient services
Missouri	Three participating IMDs Two additional private IMDs with 158 beds served adults and children with mental illness or addiction[b]	Seven public IMDs with 1,192 beds served long-term and forensic populations	Four acute care beds in state-operated psychiatric rehabilitation facility 32 psychiatric units in general hospitals, with 1,087 licensed acute adult beds across the state ReDiscover hospital diversion initiative in Kansas City to divert people with psychiatric disorders who accessed emergency and inpatient treatment to alternative services

State	Private IMDs	Public IMDs	Other Inpatient and emergency psychiatric services
North Carolina	One participating IMD Two additional private IMDs in different counties with 208 beds	Three public IMDs with 961 beds, including acute and long-term, adult, geriatric, children, forensic	41 general/acute care hospitals with 1,327 psychiatric beds; 120 state-funded contract inpatient psychiatric beds in local private hospitals across the state 23 licensed facility-based crisis programs with 419 beds Was participating in several ER diversion programs 79 walk-in crisis and aftercare sites; ACT teams; 39 mobile crisis management teams; six systemic, therapeutic, assessment, respite, and treatment teams
Rhode Island	One participating IMD	One public IMD with 495 beds served more medically needy patients and those requiring continuing treatment after discharge or more intensive treatment than that provided by a nursing home	Six other facilities offered 177 inpatient adult psychiatric short-term and intensive treatment beds, including 114 beds in two general hospitals with inpatient psychiatric units 12 hospitals provided emergency services; emergency and crisis services/respite beds at community mental health centers
Washington	Three participating IMDs	Two public IMDs with 729 civil beds provided long-term inpatient treatment	21 community hospitals with 593 psychiatric beds, including 11 with 388 beds for involuntary evaluation and treatment Eight residential treatment facilities with a total bed capacity of 139 adults Regional support network integrated crisis systems
West Virginia	Two participating IMDs	Two public IMDs with 260 beds, 90 of which were designated for forensic admissions and the remainder for forensic or civil involuntary commitments	Psychiatric units at 12 general hospitals with 375 beds ACT programs; 11 crisis stabilization outpatient treatment facilities; 21 general hospital ERs across the state; regional community behavioral health center crisis lines

Source: Reported by states and IMDs in initial MEPD proposals or during follow-up calls.

Note: Numbers of facilities, service teams, and beds fluctuate frequently. Numbers presented here represent the best information available to us as of October 29, 2013.

[a] As described later in the report, one of the Alabama IMDs that originally participated in the MEPD withdrew in December 2012 after closing its adult unit.

[b] As described later in the report, two additional private IMDs joined MEPD later in the demonstration.

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APPENDIX B

TECHNICAL EXPERT PANEL

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Exhibit B.1. Technical Expert Panel

Name	Organization	Expertise
Michael H. Allen	Professor of Psychiatry and Emergency Medicine, University of Colorado School of Medicine; Director of Research, University of Colorado Depression Center; Senior Investigator, Veterans Integrated Services Network 19 Mental Illness Research Education and Clinical Center	Emergency psychiatry research
Alisa Busch	Director of Integration of Clinical Measurement and Health Services Research at McLean Hospital; Chief, Health Services Research Division, Partners Psychiatry and Mental Health, a division of Partners HealthCare; Associate Professor of Psychiatry and Health Care Policy, Harvard Medical School	Psychiatry, quality of care, health services research
Richard Dougherty	Chief Executive Officer, DMA Health Strategies	Mental health and Medicaid policy and systems
Jonathan Edwards	Director of Peer Counseling, Division of Wellness, Recovery, and Community Integration, Kings County Hospital Center, New York, NY	Consumer perspectives on emergency and inpatient services, mental health recovery and service delivery systems
Karen Johnson	Senior Vice President of Clinical Services, Behavioral Health Division, Universal Health Services, Inc.	IMDs across many states
Theodore Lutterman	Director of Research, National Association of State Mental Health Program Directors Research Institute	Data systems of state mental health authorities
Kathleen McCann	Director, Quality and Regulatory Affairs, National Association of Psychiatric Health Systems	IMDs
Steve Sharfstein	President and Chief Executive Officer, Sheppard Pratt Health System; Clinical Professor and Vice Chair of Psychiatry, University of Maryland	IMDs, public mental health policy
Laura van Tosh	Independent Consultant; Former Director of Consumer Affairs, Western State Hospital, Washington; Former Consumer Affairs Coordinator, Greater Oregon Behavioral Health Care, Inc.	Consumer perspectives on inpatient care, mental health policy and program development

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APPENDIX C

ANALYTIC FRAMEWORK

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Exhibit C.1. Empirical methods used to answer research questions, by ACA-mandated evaluation area

	Research question	Data source	Empirical method	Intervention group	Control group	Dependent variable
ACA Area A: An assessment of access to inpatient mental health services under the Medicaid program; average length of inpatient stays; and ER visits						
A1	To what extent do admissions of Medicaid beneficiaries with psychiatric emergency medical conditions (EMCs) to private IMDs increase as a result of MEPD?	IMD data from states and IMDs Medicaid and Medicare claims	Difference-in-differences Pre-post analysis	Medicaid beneficiaries who lived in the catchment area of a participating IMD and received services for a psychiatric EMC from an ED, general hospital, or participating IMD	Medicaid beneficiaries who did not live in the catchment area of a participating IMD and received services for a psychiatric EMC from an ED, general hospital, or participating IMD	Indicator that episode involved a stay at an IMD
A2	Do admissions for Medicaid beneficiaries with psychiatric EMCs to nonpsychiatric units of general hospitals (scatter beds) decrease as a result of MEPD?	Medicaid and Medicare claims	Difference-in-differences Pre-post analysis	Medicaid beneficiaries who lived in the catchment area of a participating IMD and received services for a psychiatric EMC from an ED, general hospital, or participating IMD	Medicaid beneficiaries who did not live in the catchment area of a participating IMD and received services for a psychiatric EMC from an ED, general hospital, or participating IMD	Indicator that the episode involved a stay in a scatter bed in a general hospital
A3	What is MEPD's effect on lengths of stays for Medicaid beneficiaries with psychiatric EMCs admitted to private IMDs compared with lengths of stays in these facilities before MEPD and to lengths of stays in general hospital psychiatric units?	IMD data from states and IMDs Medicaid and Medicare claims data	Difference-in-differences	Medicaid beneficiaries who were admitted to a participating IMD for a psychiatric EMC	Medicaid beneficiaries who lived inside the catchment area of a participating IMD and were admitted to psychiatric unit in a general hospital for a psychiatric EMC	Length of inpatient stay in participating IMD or general hospital psychiatric unit

Research question		Data source	Empirical method	Intervention group	Control group	Dependent variable
A4	What is MEPD's effect on lengths of stays for Medicaid beneficiaries with psychiatric EMCs admitted to scatter beds in general hospitals?	Medicaid and Medicare claims	Difference-in-differences Pre-post analysis	Medicaid beneficiaries who lived in the catchment area of a participating IMD and were admitted to a scatter bed in a general hospital for a psychiatric EMC	Medicaid beneficiaries who did not live in the catchment area of a participating IMD and were admitted to a scatter bed in a general hospital for a psychiatric EMC	Length of inpatient stay in general hospital scatter bed for psychiatric EMC
A5	Are fewer Medicaid beneficiaries with psychiatric EMCs seen in ERs as a result of MEPD?	Medicaid and Medicare claims	Difference-in-differences Pre-post analysis	Medicaid beneficiaries who lived in the catchment area of a participating IMD and received services for a psychiatric EMC from an ED, general hospital, or participating IMD	Medicaid beneficiaries who did not live in the catchment area of a participating IMD and received services for a psychiatric EMC from an ED, general hospital, or participating IMD	Indicator that the episode involved a visit to an ER for a psychiatric EMC
A6	Does MEPD reduce psychiatric boarding time in EDs for Medicaid beneficiaries with psychiatric EMCs?	Administrative data provided by EDs	Difference-in-differences	Medicaid beneficiaries who received services for a psychiatric EMC from an ED from which we obtained administrative data	Non-Medicaid beneficiaries who received services for a psychiatric EMC from an ED from which we obtained administrative data	Boarding time (defined as time between identification of the need for inpatient treatment and time of departure from the ED) Total time in the ED (as a proxy)
ACA Area B: An assessment of discharge planning by participating hospitals						
B1	Does MEPD increase the proportion of individuals discharged with a continuing care plan from the participating hospitals?	Qualitative data	Descriptive	N/A	N/A	N/A
B2	Does MEPD increase the length of time spent developing a discharge plan for Medicaid beneficiaries with psychiatric EMCs in participating IMDs?	Qualitative data	Descriptive	N/A	N/A	N/A

Research question		Data source	Empirical method	Intervention group	Control group	Dependent variable
B3	Does MEPD increase the proportion of Medicaid beneficiaries with psychiatric EMCs in participating IMDs who are discharged to community-based residences?	Qualitative data	Descriptive	N/A	N/A	N/A
B4	Does MEPD increase the level of detail (e.g. appointment times, names of providers) in the discharge plans for Medicaid beneficiaries with psychiatric EMCs in participating IMDs?	Qualitative data	Descriptive	N/A	N/A	N/A
B5	How does the discharge planning process in participating IMDs compare to the processes in non-psychiatric units of general hospitals?	Qualitative data	Descriptive	N/A	N/A	N/A
ACA Area C: An assessment of the impact of the demonstration project on the costs of the full range of mental health services (including inpatient, emergency, and ambulatory care)						
C1	How do federal Medicaid costs for care provided by private IMDs change after MEPD's implementation?	IMD data from states and IMDs	Pre-post analysis	Medicaid beneficiaries admitted to a participating IMD for a psychiatric EMC	None	Federal Medicaid dollars paid for IMD stay
C2	How do costs incurred by the states for IMD admissions of Medicaid beneficiaries with psychiatric EMCs change after MEPD's implementation?	IMD data from states and IMDs	Pre-post analysis	Medicaid beneficiaries admitted to a participating IMD for a psychiatric EMC	None	State dollars (both Medicaid and non-Medicaid) paid for IMD stay
C3	How do costs incurred by participating IMDs for inpatient admissions of Medicaid beneficiaries with psychiatric EMCs change after MEPD's implementation?	IMD data from states and IMDs	Pre-post analysis	Medicaid beneficiaries admitted to a participating IMD for a psychiatric EMC	None	Cost of uncompensated care for IMD stay

Research question		Data source	Empirical method	Intervention group	Control group	Dependent variable
C4	What is MEPD's effect on overall mental health costs to Medicaid and Medicare for care provided to beneficiaries with psychiatric EMCs?	Medicaid and Medicare claims	Difference-in-differences Pre-post analysis	Medicaid beneficiaries who lived in the catchment area of a participating IMD and received services for a psychiatric EMC from an ED, general hospital, or participating IMD	Medicaid beneficiaries who did not live in the catchment area of a participating IMD and received services for a psychiatric EMC from an ED, general hospital, or participating IMD	Total Medicaid and Medicare payments for all inpatient, emergency, and ambulatory care services associated with mental health conditions
ACA Area D: An analysis of the percentage of consumers with Medicaid coverage who are admitted to inpatient facilities as a result of the demonstration project as compared to those admitted to these same facilities through other means						
	Within participating IMDs, how does the percentage of patients who are Medicaid beneficiaries admitted as a result of a psychiatric EMC change relative to the percentage of patients admitted through other means (i.e., with payment sources other than Medicaid) after MEPD's implementation?	IMD data from states and IMDs	Pre-post analysis	Participating private IMDs	None	Percentage of IMD patients ages 21-64 admitted for psychiatric EMCs who were Medicaid beneficiaries

Note: Throughout the table, “Medicaid beneficiaries” refers to beneficiaries ages 21-64.

APPENDIX D

STATES INCLUDED IN QUANTITATIVE ANALYSES

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Exhibit D.1. States included in quantitative analyses, by ACA-mandated evaluation area, research question, and analysis type

Question number	Question[a]	Difference-in-Differences	Pre-Post without Comparison[b]
ACA Area A: An assessment of access to inpatient mental health services under the Medicaid program; average length of inpatient stays; and ER visits			
A1	To what extent do admissions of Medicaid beneficiaries with psychiatric EMCs to private IMDs increase as a result of MEPD?	CA	AL(1), MD, MO(2), WV
A2	Do admissions of Medicaid beneficiaries with psychiatric EMCs to nonpsychiatric units of general hospitals (scatter beds) decrease as a result of MEPD?	CA	AL(1), MD, MO(2), WV
A3	What is MEPD's effect on lengths of stays for Medicaid beneficiaries with psychiatric EMCs admitted to private IMDs compared with lengths of stays in these facilities before MEPD and to lengths of stays in general hospital psychiatric units?	AL(1), CA, CT, MD, MO (2), WV	
A4	What is MEPD's effect on lengths of stays for Medicaid beneficiaries with psychiatric EMCs admitted to scatter beds in general hospitals?	CA, CT	AL, MD, MO, WA, WV
A5	Are fewer Medicaid beneficiaries with psychiatric EMCs seen in ERs as a result of MEPD?	CA	AL(1), MD, MO(2), WV
A6	Does MEPD reduce psychiatric boarding time in EDs for Medicaid beneficiaries with psychiatric EMCs?	Boarding time: AL(1), DC, MD(2), MO(2) Total time spent in the ED only: AL(1), CA(1), MD(1), CT, WA(2), WV(2)	
ACA Area C: An assessment of the impact of the demonstration project on the costs of the full range of mental health services (including inpatient, emergency, and ambulatory care)			
C1	How do the federal Medicaid costs for care provided by private IMDs change after MEPD's implementation?	Not applicable	AL(1), CA, DC, MD, WV(1)
C2	How do costs incurred by the states for IMD admissions of Medicaid beneficiaries with psychiatric EMCs change after MEPD's implementation?	Not applicable	AL(1), CA, DC, MD, WV(1)
C3	How do costs incurred by participating IMDs for inpatient admissions of Medicaid beneficiaries with psychiatric EMCs change after the MEPD's implementation?	Not applicable	AL(1), CA, DC, MD, WV(1)
C4	What is MEPD's effect on overall mental health costs to Medicaid and Medicare for care provided to beneficiaries with psychiatric EMCs?	CA	AL, MD, MO, WV

Question number	Question[a]	Difference-in-Differences	Pre-Post without Comparison[b]
ACA Area D: An analysis of the percentage of consumers with Medicaid coverage who are admitted to inpatient facilities as a result of the demonstration project as compared to those admitted to these same facilities through other means			
	Within participating IMDs, how does the percentage of patients who are Medicaid beneficiaries admitted as a result of a psychiatric EMC change relative to the percentage of patients admitted through other means (i.e., with payment sources other than Medicaid) after MEPD's implementation?	Not applicable	AL(1),CA(3), CT, DC, IL(1), ME, MD(3), MO(1), NC(1), RI, WA(1), WV(1)

[a] Throughout the table, Medicaid beneficiaries refers to adults ages 21-64.

[b] Numbers in parentheses after state abbreviations represent the number of facilities in the state included in the analysis, if less than the number of IMDs that participated in MEPD.

APPENDIX E

MEDICAID FEDERAL ASSISTANCE PERCENTAGES

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Exhibit E.1. Federal medical assistance percentage rates for federal fiscal year (FFY) 2012–2014, by MEPD state

State	FFY 2012	FFY 2013	FFY 2014	FFY 2015
Alabama	68.62	68.53	68.12	68.99
California	50.00	50.00	50.00	50.00
Connecticut	50.00	50.00	50.00	50.00
District of Columbia	70.00	70.00	70.00	70.00
Illinois	50.00	50.00	50.00	50.76
Maine	63.27	62.57	61.55	61.88
Maryland	50.00	50.00	50.00	50.00
Missouri	63.45	61.37	62.03	63.45
North Carolina	65.28	65.51	65.78	65.88
Rhode Island	52.12	51.26	50.11	50.00
Washington	50.00	50.00	50.00	50.03
West Virginia	72.62	72.04	71.09	71.35

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APPENDIX F

CONTEXTUAL EVENTS THAT MAY HAVE INFLUENCED THE MEPD RESULTS

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Exhibit F.1. Contextual events that may have influenced MEPD results

State	Event
National	• The Joint Commission updated standards for patient flow through the EDs starting January 1, 2013. • The federal government issued a final rule in February 2013 that defined 'essential health benefits' that must be offered by most health insurance plans in 2014, and said that 32 million people would gain access to coverage of mental health care as result. The rule includes mental health and substance-use disorder benefits, including behavioral health treatment, as essential, and applies federal parity protections to mental health and substance-use disorder benefits in the individual and small-group market. • A study published in June 2013 found that the share of funding for behavioral health specialty hospitals paid by Medicaid more than doubled (from 10 percent to 22 percent) from 1986 to 2005, despite the IMD exclusion. The article cites an overall increase in Medicaid enrollment, Medicaid managed care waivers, and an increased number of Medicaid eligible children and adolescents treated as the primary reasons for the rising Medicaid share. As a result, both psychiatric hospitals and general hospital psychiatric units saw an upswing in financing for behavioral health treatment from Medicaid. http://ps.psychiatryonline.org/Article.aspx?ArticleID=1658077 • Inpatient psychiatric facilities were not required to submit data for the Hospital Based Inpatient Psychiatric Services (HBIPS) 4 and 5 quality measures in August of 2013 to receive a full payment update under the Inpatient Psychiatric Facility prospective payment system for fiscal year 2014 due to a problem with the data submission portal. Data already submitted for the two measures was suppressed from public reporting. Participating facilities were required to submit all other measures by Aug. 23 to receive a full payment update in FY 2014. • The Secretaries of the Departments of Labor, Health and Human Services, and Treasury released final regulations implementing the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act (MHPAEA) in November 2013. In general, the final rule became effective for plan years beginning on or after July 1, 2014. In practice, most plan years begin on January 1, so the effective date for a majority of plans covered by MHPAEA was January 1, 2015. • A gunman shot and killed several elementary school students and teachers at Sandy Hook Elementary School in December 2012. This event spurred discussion about mental health and gun laws. Most states increased their spending on mental-health programs in the following year. Thirty-seven states increased spending in 2013, eight kept spending at the previous year's level, and Alaska, Wyoming, Nebraska, Louisiana, North Carolina, and Maine cut spending. Marois, M. B. (2013 November 22). Newtown Promotes Flood of Mental health Spending by U.S. States. Retrieved from http://www.bloomberg.com/news/2013-11-22/newtown-prompts-flood-of-mental-health-spending-by-u-s-states.html • HHS announced on December 10, 2013 that it would soon issue a $50 million funding opportunity to help Community Health Centers establish or expand behavioral health services for people living with mental illness or addiction. Community Health Centers could use these new funds, made available through the Affordable Care Act, for efforts such as hiring new mental health professionals and adding mental health and substance abuse disorder services. In addition, because proximity to mental health services can be a unique challenge in rural America, the Department of Agriculture set a goal of financing $50 million for the construction, expansion, or improvement of mental health facilities in rural areas over the next three years. These funds, made available through the Department's Community Facilities direct loan program, could be used to improve or construct mental health service facilities or put in place innovative tools such as telemedicine to expand access to mental health services at rural schools, community centers, hospitals, and other community-based settings.

State	Event
National (continued)	• According to a Newsweek story released on December 11, 2013, difficulty obtaining psychiatric care due to increasing difficulty in finding psychiatrists who will accept Medicaid was a national concern. (http://www.newsweek.com/good-luck-getting-psychiatric-care-224340) • As a result of the shortage of mental health providers, states were considering the use of telepsychiatry in early 2014. North Carolina allocated $4 million dollars to implement telepsychiatry at local hospitals and healthcare providers in Eastern North Carolina and across the state. Other states in the MEPD considering telepsychiatry were Maryland and Illinois. • Section 2551 of the ACA includes provisions to cut Medicaid Disproportionate Share Hospital payments by $14 billion over 10 years, beginning in fiscal year 2014. In states that decline to Medicaid expansion, therefore, federal funding for the uninsured will be reduced. (Note: DSH payments to some private IMDs help cover the costs of inpatient care for Medicaid patients subject to the IMD exclusion.) • On January 10, 2014 CMS issued the final rule on Medicaid Home and Community Services (PL 111-148, PL 111-152), which gave states more flexibility to offer care to Medicaid patients in their homes rather than in institutions like nursing homes or mental health facilities. • According to a study published in April 2014 from the American Mental Health Counselors Association (AMHCA), more than a half-million adults who said they wanted help with their serious mental conditions in 2014 couldn't get it because they lacked the resources and were not eligible for Medicaid to pay for treatment. In 2014, an estimated 568,886 adults ages 18 through 64 diagnosed with a serious mental illness, serious psychological stress, or substance use disorder lived in 24 states that did not expand Medicaid eligibility under the Affordable Care Act, including the MEPD states of Alabama, Maine, Missouri, and North Carolina. In contrast, 351,506 adults with those same mental health problems received treatment paid for by Medicaid in the 26 states and the District of Columbia that did expand coverage of the state-federal health insurance program to eligible adults living on low incomes. • According to an April 2014 survey by the American College of Emergency Physicians, 84% of emergency room (ER) physicians reported that psychiatric patients were boarded in their emergency departments. ER visits overall were reported to have increased following the ACA. • According to an April 2014 CMS report, 3 million additional individuals enrolled in Medicaid or CHIP through the end of February 2014 compared to enrollment before the Health Insurance Marketplace opened on October 1, 2013. Enrollment in states that adopted the Medicaid coverage expansion increased five-fold compared to states that did not expand Medicaid. Enrollment in March was expected to be even higher, although individuals can continue to enroll in Medicaid all year round. Eligibility determinations also continued to grow: between October 2013 and February 2014, 11.7 million people were determined eligible for Medicaid and CHIP by state agencies, up from 8.9 million reported for the October – January period. • On June 23, 2014 the Philadelphia Inquirer reported that six months into implementation of the Affordable care Act (ACA), people had yet to increase their use of mental health and substance abuse benefits. • The ICD-10 code set was implemented on October 1, 2014.

State	Event
Alabama	• Alabama Psychiatric Services closed on February 13, 2015. The closure was expected to affect 250 employees and 28,000 patients. • The MEPD ended in Alabama in April 2015, two months earlier than expected. • Alabama Department of Mental Health was facing a $35 million budget cut. In April 2015, Commissioner Jim Reddoch estimated that the cuts would be closer to $100 million when the loss of federal matching funds was included. • The 74-bed North Alabama Regional Hospital, one of four remaining state psychiatric institutions, closed on June 30, 2015.
California	• In May of 2012, the owners of Sierra Vista Hospital agreed to pay $3.45 million to the government to settle charges that it defrauded the Medicare program by billing Medicare's Partial Hospitalization Program for unqualified patient visits between January 2003 and September 2009. • A February 2014 study from California showed that the innovative "Alameda Model" of transferring patients from general hospital emergency departments to regional psychiatric emergency service reduced the length of boarding times for patients awaiting psychiatric care by over 80 percent. Analysis also found that psychiatric emergency services provided assessment and treatment that may have stabilized over 75 percent of the crisis mental health population at this level of care, resulting in reduced demand for inpatient psychiatric beds. (http://escholarship.org/uc/item/01s9h6wp) • In April of 2014, California planned to distribute about $75 million in grants to boost county mental health care programs. A total of 20 grants were to be distributed to 28 counties in the state for efforts to expand mental health services including an additional 827 residential mental health and crisis stabilization beds; about 60 new workers to staff mobile support teams; and more than 36 support vehicles. • In May of 2014, Contra Costa County Health Services Department opened a new 10,000 square foot health center. Behavioral health services, psychiatry, therapy, and substance abuse treatment are among the services that this new facility would provide. • In June of 2014, California expanded Medicaid eligibility to single and childless adults. • In June of 2014, Mental IllnessPolicy.Org reported that California's Mental Health Services Act funding was going to programs not treating mental illness. http://mentalillnesspolicy.org/states/california/mhsa/mental_health_services_act_mhsa.html • In July 2014, Sacramento County was preparing to apply for a $3-4 million dollar grant to fund a 15-bed mental health crisis residential treatment program. The funding was made available through Senate Bill 82, signed by California Governor Jerry Brown. Robertson, Kathy. (2014 July 21). Sacramento County Angling for More Mental Health Crisis Care. Retreived from http://www.bizjournals.com/sacramento/news/2014/07/21/sacramento-county-angling-for-more-mental-health.html • Sonoma County, California, sent mental health patients seeking inpatient treatment outside of the county in fiscal year 2013–2014, including to Sacramento County, one of the two California counties participating in MEPD. • In March 2015, Sacramento County approved a $4.2 million increase in payments to local psychiatric hospitals as part of an effort to ease a mental health crisis. The board also approved county plans to apply for $5.7 million in grant funding for three new 15-bed crisis stabilization units in the region. It also directed county staff to develop a plan within 90 days for shifting care to less-expensive outpatient services that better serve the needs of mental health patients.

State	Event
Connecticut	• In October of 2013, Connecticut allocated funds towards resources to help Connecticut families access mental health treatment. These resources included a free claims "tool kit" to streamline insurance reimbursement, and additional funds for prevention and early identification programs. • An analysis of CMS-released data showed that Connecticut hospitals restrain psychiatric patients at double the national average. The analysis also showed that the state developed post-discharge care plans for fewer than 70 percent of their patients. Chedekel, L. (2014 May 31). *State Restrains Psychiatric Patients at High Rate.* Retrieved from http://c-hit.org/2014/05/31/state-restrains-psychiatric-patients-at-high-rate/ • According to an analysis in April 2015 by the Connecticut Community Providers Association, Governor Malloy's proposed budget reduced grant funding that helped mental health treatment agencies pay for uninsured clients by $25.5 million in the next fiscal year. The grants covered the gap between the state's reimbursement for Medicaid patients and the actual cost of mental health services. Despite the cuts, the budget called for increasing spending overall by $22.8 million in the next fiscal year for the Department of Mental Health and Addiction Services in Connecticut. Much of that increased spending stemmed from larger Medicaid caseloads and new programs initiated since the 2012 Newtown shooting, such as services for high-risk populations and an anti-stigma campaign meant to encourage people to seek treatment. Advocates argued the additional spending on mental health clients using Medicaid did not necessarily help the agencies financially. Despite more people having government-funded health insurance coverage under the Affordable Care Act, the agencies said they cannot afford the cost of treating the additional Medicaid clients at the current reimbursement levels, predicting layoffs and program closures.
Illinois	• Under the Affordable Care Act, parolees in Illinois now qualify for Medicaid benefits after their release from prison. Illinois prison officials estimated nearly 30,000 newly released inmates wold be eligible for coverage in 2014. • In February 2015, Governor Bruce Rauner's budget plan included $27.5 million in Medicaid cuts in the Division of Alcoholism and Substance Abuse and an $82 million reduction in the Division of Mental Health.
Maine	• In October 2013, CMS terminated federal funding at Riverview Psychiatric Center. The federal funding represented about half of the center's operating budget. • In November 2014, five Maine health centers received $1.2 million for substance abuse and mental health services as part of about $51 million being given to 210 health centers nationally through the Affordable Care Act. The U.S. Department of Health and Human Services explained that the funding would provide services for nearly 12,000 residents. The department said the money would go toward hiring new mental health professionals and adding services, among other things.

State	Event
Maryland	• In February 2013, Hospitals in Maryland joined together to track and share information about the availability of psychiatric beds at their institutions. The online registry was aimed at speeding patients out of overcrowded emergency rooms and into facilities where they could get the help they needed. Organizers hoped the new program would improve patient care, ease overcrowding in emergency rooms, help psychiatric units fill their beds and allow health officials to study how well mental health resources were matching patient demand. • In April 2013, Diamond Plan, a Medicaid Managed Health Care Plan, expanded from 3 to 13 counties. The plan was available in the city of Baltimore and in Anne Arundel, Baltimore, Carroll, Caroline, Cecil, Dorchester, Harford, Howard, Kent, Montgomery, Prince George's, Queen Anne's, Somerset, Talbot, Wicomico and Worcester counties to Maryland residents who were newly-eligible HealthChoice members and to existing members eligible for the annual right to change plans. • More than 9,100 people were treated by mental health services in Anne Arundel County in fiscal 2012, a 12 percent increase over the previous year. Outpatient care, the largest category of services in Anne Arundel, increased by 13 percent during that period. Enrollment in Maryland's state-sponsored health premiums and expanded Medicaid coverage was expected to bump up those numbers even further. HealthCare Access Maryland, the nonprofit organization in charge of enrollment, aimed to sign up at least 11,000 uninsured people for Medicaid or health coverage by Jan. 1, 2014. Under the ACA, insurance premiums, both public and private, were required to cover mental health care. • In June 2014, Kaiser Permanente became a participating managed care organization in Maryland. • In February 2015, University of Maryland researchers found that "Medicaid is now the main payment source and financing mechanism for services for adults with serious mental illness. Services formerly paid with state mental health funds are now covered by Medicaid, lightening the burden on state budgets affected by the recession and other factors."

State	Event
Missouri	• In 2010, the Metropolitan Psychiatric Center (MPC) closed its 50 acute inpatient beds, exacerbating the shortage of psychiatric beds in St. Louis. Those 50 beds were used for forensic purposes only. • Missouri was the first state in the country to get its "health homes" program rolled out, and the state's Department of Mental Health pioneered a new method of care coordination for those with the most complex diagnoses. "Health homes" bring primary care providers, counselors, social workers and mental health staff together in state-sponsored community centers to identify health care needs and provide holistic treatment options to Medicaid patients who generally have both a mental illness and a chronic health condition. The Department of Mental Health reported improved health outcomes and some savings as a result of the health homes program. By reducing emergency room visits, the program saved the state $7.8 million in fiscal year 2012. • In 2013, partially in response to the elementary school shooting in Newtown, Connecticut, Missouri governor Jay Nixon allocated $10 million for an emergency room diversion initiative run by the Department of Mental Health. The initiative operated at seven sites across the state, including the locations of all three IMDs participating in the MEPD, and provided services to the uninsured, underinsured, and Medicaid beneficiaries. The initiative in Kansas City (Two Rivers) was run by ReDiscover; in the Windsor (Royal Oaks) area, by Pathways Community Health; and in St. Louis (Psychiatric Stabilization Center), by the Behavioral Health Network. The ReDiscover initiative was a continuation of a program begun in 2009 in which hospitals identified patients with frequent visits to ERs as a result of mental health or substance abuse disorders and ReDiscover provided both short- (stabilization, respite care) and long-term (recovery, housing, transportation) assistance. The Behavioral Health Network funded slots for psychiatric patients coming out of community hospitals who were in need of rapid uptake into community-based mental health services to ensure adequate follow-up and the avoidance of rehospitalization and high usage of ER services. Rita Adkins and Liz Sale, of the Missouri Institute of Mental Health, were conducting the evaluation of the initiative. • In March 2013, the Missouri Senate voted down Medicaid expansion to individuals at 138 percent of FPL. • Kelly Gable, Pharm.D., gained provider and prescriber status in January 2014, making her the first psychiatric pharmacist to be granted provider and prescriber status by the Missouri Department of Mental Health. In June 2014, Gable was the only pharmacist in Missouri authorized to function as a psychiatric prescriber on community mental health teams. Within this role, her practice site was eligible to bill and receive reimbursement for services through the state Medicaid system. Obtaining provider status enabled Gable to function as the primary psychiatric prescriber within assertive community treatment teams – those that included a pharmacist, nurse practitioner, substance abuse specialist and others – where she filled the role traditionally held by a psychiatrist. ACT teams provided services directly to people where they lived. • In the spring of 2014, Behavioral Health Response in St. Louis was awarded and Award of Excellence by the National Council for Behavioral Health. Youth with suicidal or homicidal thoughts — or their family or community members — were able to call, text, or web chat with a clinician 24/7. Behavioral Health Response services reduced ER visits, saved costs, and saved lives — 100 percent of young people who called to get help with suicidal or homicidal thoughts agreed to a safety plan and 71 percent were linked to a community provider for treatment and/or housing services within 14 days of the initial call.

State	Event
Missouri (continued)	• In July 2014, through personal communications, we were told that the governor of Missouri had withheld $750k of $1 million in funding for the Psychiatric Stabilization Center (PSC). This led the second of three partners funding the PSC, SSM Healthcare, to withdraw from the partnership. Barnes-Jewish Hospital previously withdrew. • In September 2014, the Health Resources and Services Administration distributed $1.5 million to seven Missouri health centers as part of its Affordable Care Act Health Center Expanded Services program. Missouri planned to use these funds to increase access to health services through the implementation of additional service hours, medical providers, and medical services, including primary health, oral, vision, behavioral, and pharmaceutical services. The funding was to support 21 new construction projects and 126 health center renovation projects. As stated in the Missouri Health Center Outreach and Enrollment Assistance funding breakdown, with funds allocated to Missouri community health centers in 2013, centers were expected to hire an additional 59 workers, who would assist approximately 62,102 additional patients. • In April 2015, BJC HealthCare took over operations of the St. Louis Psychiatric Stabilization Center (PSC), one of the IMDs participating in MEPD. BJC officials said the move was necessary because the psychiatric hospital was financially unstable. Initially, the hospitals had expected fewer than 20 percent of PSC's patients to be uninsured, pending Medicaid expansion. But because Missouri's legislature voted not to expand Medicaid coverage to people making less than 138 percent of the federal poverty level, the number of uninsured patients at PSC shot up to an average of 42 percent last year. BJC expected to double the 25-bed capacity of the facility by opening PSC's vacant third floor and closing the psychiatric emergency unit at Christian Hospital in north St. Louis County. Psychiatric beds at Christian were to be converted to beds for trauma and surgical care. PSC was to be renamed the "Barnes-Jewish Hospital Psychiatric Support Center."

State	Event
North Carolina	• In 2009, Wake County implemented a six-year pilot project to train Emergency Medical Services staff to bypass the ED and take patients directly to a mental health facility if the patient had no acute medical concerns. ED officials credited the project with decreasing ED boarding time and overcrowding. • In March 2013, the state's decision to block Medicaid expansion under the federal government's overhaul of health care was expected to force hospitals such as Southeastern Regional Medical Center to find new ways to absorb the cost of providing services to the indigent and uninsured, according to Southeastern Health's chief financial officer. "We will have to look at our full scope of behavioral health services," he said. "A lot of medical facilities across the state are losing money on the behavioral (mental) health services they provide." • In July 2013, nearly 2,000 patients in Wake County, NC who had been served by the county's Human Services Department began being served by doctors and therapists at private agencies and UNC Health Care. The move was the latest step in a mental health overhaul effort that started in 2001, when the General Assembly aimed to trim costs by allowing managed care organizations to care for patients receiving services through Medicaid and other public funding sources. • As reported in the Raleigh News & Observer in August 2013, North Carolina was struggling to serve patients needing complex care. In 2009, North Carolina spent $24 million in addition to Medicaid funding to provide extra services to 567 people living in the community with both mental illness and developmental disabilities. That amount dropped to $9.6 million in 2011, when 235 people were served. Successfully caring for those with complex needs in the community continued to stress the state, particularly with limited funding. John Rittelmeyer, a lawyer with Disability Rights North Carolina, helped file a new lawsuit in 2010 on behalf of several people with mental illnesses and developmental disabilities who lost their services because a managed-care company contracted by the state cut reimbursement rates. • In February 2014, Officials with the North Carolina Department of Health and Human Services unveiled their plan to consolidate from 10 to 4 the managed-care organizations overseeing mental health, intellectual/developmental disabilities and substance-abuse services for Medicaid-eligible patients. • In May 2014, Pardee Hospital in Hendersonville closed their outpatient psychiatric clinic. Pardee said they were forced to close after the clinic's physicians quit suddenly and they did not have the staff to treat 700 patients. • The Walter B. Jones treatment center, the only substance abuse center that treated residents in 38 counties in the eastern part of the state, said they would no longer accept Medicare or Medicaid reimbursements as of May 1, 2015. About 20 percent of the patients at this 66-bed inpatient center used Medicare or Medicaid. The action ended a long-running dispute with CMS, which contended that the center could not be certified and receive federal funds as a psychiatric hospital under U.S government standards if it served patients with substance abuse as their primary diagnosis.
Rhode Island	• Rhode Island received a CMS grant to reduce unnecessary emergency room use by Medicaid beneficiaries in late 2010. The grant ended in 2011, but the program became an operational part of the state's Medicaid program. By providing intensive care coordination for individuals with "serious and severe behavioral health conditions," the program focused on high-volume ER users among Medicaid beneficiaries. In the first six months of the program approximately 150 individuals were assigned to a behavioral health care manager.

State	Event
Washington	• In April 2014, Gov. Jay Inslee signed legislation into law that was expected to reshape the way Washington state purchased health care. In an effort to cut costs, the state was spending $4.6 million to integrate mental health and substance abuse treatment in the Medicaid program and move toward state purchasing of care based on outcomes, rather than office visits and procedures. According to the governor, the new law was expected to reduce health care costs by an estimated $60 million over the next three years. Senate Bill 6312 aimed to integrate mental health, chemical dependency and primary care so that treatment for severe mental illness and for chemical dependency would be offered under the primary care system. • The state Supreme Court ruled in August 2014 that detaining and holding psychiatric patients in settings such as emergency rooms without providing appropriate treatment was unconstitutional. After the signing of the legislation, over 100 beds had opened statewide, with 64 more scheduled to open in July 2015
West Virginia	• In February 2015, the West Virginia Department of Health and Human Resources planned to use $1.8 million to help fund the private comprehensive behavioral health centers that partnered with the state to provide community integration services for state psychiatric patients.

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