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New Jersey's Efforts To Improve Postpartum Depression Care Did not Change Treatment Patterns for Women on Medicaid

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Abstract

Identification and treatment of postpartum depression are the increasing focus of state and national legislation, including portions of the Affordable Care Act. Some state policies and proposals are modeled directly on programs in New Jersey, the first state to require universal screening of mothers who recently delivered babies for postpartum depression. We examined the impact of these policies on a particularly vulnerable population, Medicaid recipients, and found that neither the required screening, nor the educational campaign that preceded it, was associated with improved treatment initiation, follow-up, or continued care. We argue that New Jersey's policies, although well intentioned, were predicated on an inadequate base of evidence, and that efforts should now be undertaken to build that base. We also argue that, to improve detection and treatment, policy makers contemplating or implementing postpartum depression mandates should consider additional measures. These could include requiring mechanisms to monitor and enforce the screening requirement; payment of providers to execute screening and follow up; and preliminary testing of interventions before policy changes are enacted.

Depression, an illness characterized by periods of low mood, fatigue, and changes in appetite, body weight and sleeping patterns, is a leading cause of disability, particularly among women.[1] An estimated 19 percent of new mothers experience depression during the first three months following childbirth.[2] Low-income women enrolled in state Medicaid programs may be at increased risk for developing postpartum depression, which can occur up to a year after giving birth.[3–6]

Screening helps to detect postpartum depression, and efficacious treatments such as psychotherapies and antidepressant medications are available.[7–15] Left untreated, postpartum depression can have severe negative affects on the mother's health and well-being; her relationships with family members; the baby's subsequent cognitive, behavioral, and emotional development; and greater long-term health care and social costs.[16–20] The health effects and potential costs of untreated postpartum depression underscore the need for evidence-based policy.

Recent national and state legislative efforts aim to improve detection of and treatment for postpartum depression. The Affordable Care Act contains two sections with implications for postpartum depression. The first, pertaining to women's preventive services, requires all new health plans to cover comprehensive women's preventive care, including screening for postpartum depression.[CITATION 21 HERE] The second section of the health reform law previously introduced as the Melanie Blocker Stokes MOTHERS Act [22A], authorizes \$3 million annually to support a national public awareness campaign on postpartum mental health as well as research into maternal mental health, postpartum depression, and the benefits of postpartum depression screening.

The research provides an important opportunity to build on the existing evidence base to inform policy making at the state level, which is already moving forward. As of late December 2010, ten states had active legislation related to postpartum depression; another two states had legislation pending. Key provisions of the MOTHERS Act and the state-level efforts are described in detail in the Appendix.[22]

Portions of both enacted legislation and additional proposals are modeled on seminal efforts by the state of New Jersey. These have unfolded in several stages.

First, the New Jersey Postpartum Wellness Initiative was established in July 2005 by Governor Richard Codey to raise awareness about postpartum depression and to increase access to appropriate clinical services. This continuing initiative targets health care providers and the public, and provides information about symptoms, screening, diagnosis, and treatment.[23,24] Outreach to women and their families consists of a toll-free hotline, brochures, and online resources, coupled with state-sponsored television commercials and public service announcements.[25]

During the program's initial scale-up (July 2005 through April 2006), the Postpartum Wellness Initiative trained more than 4,500 clinicians to provide screening, referrals, and treatment for postpartum depression. These early efforts reached approximately 58 percent of obstetricians, 13 percent of pediatricians, and up to 12 percent of internal medicine and family practice providers in the state.[24] Targeted trainings continue to take place in hospitals, clinicians' offices, conferences, and continuing medical education programs, with the goal of reaching all clinicians who may be able to identify or treat women who suffer from postpartum depression.[24]

Second, on October 10, 2006, New Jersey also became the first state to require postpartum depression screening of women who had recently given birth. The New Jersey Postpartum Depression Act requires that health care professionals educate women and their families about postpartum depression, both before and after delivery. The law also instructs all licensed health care professionals providing postnatal care including physicians and midwives, to screen women for symptoms before they are discharged from the hospital, and again at "the first few" postpartum follow-up visits.[26]

Although clinicians are charged with screening, there are no specified consequences for failure to do so. Furthermore, the law stipulates no specific mechanisms for monitoring or enforcing clinician compliance, or to cover the cost of screening services.

The purpose of this study was to measure the effects of New Jersey's outreach and education campaign, as well as its law requiring postpartum depression screening, on post-delivery use of mental health services in a particularly vulnerable group: Medicaid enrollees.

Methods

Levels and trends in postpartum depression treatment were measured over time to identify changes in initiation and continuation of care that were associated with implementation of New Jersey's Postpartum Wellness Initiative and the Postpartum Depression Act. Post-policy outcomes were compared to what would have been expected, given prior trends, in the absence of these policy changes. The study was reviewed and designated as exempt by the Institutional Review Board of Harvard Pilgrim Health Care Institute.

Data

Data for this study came from the administrative database for New Jersey's Medicaid program and included eligibility and enrollment information, as well as claims for doctor visits, procedures, and prescription medications. This dataset includes complete service use and prescription data on all Medicaid-financed services. However, there are limitations to administrative data. Information such as symptom severity and personal history of depression (prior to the study period) are not available. Structured clinical interviews or chart reviews are the gold-standard for establishing psychiatric diagnoses in study populations; claims data can be less accurate for these purposes.

Study population

The study population included women who gave birth between July 1, 2004, and October 31, 2007, and met two criteria: the delivery of their babies was covered by New Jersey's Medicaid program, and the mothers had continuous enrollment in Medicaid for at least six months prior to and one year following delivery. We received data for 103,414 women who had Medicaid coverage at the time of their delivery. Medicaid coverage for mothers above a specific income threshold (\$23,800 for a family of four in 2007) ends sixty days after delivery, so many women ($n = 70,415$) were excluded from the study based on the continuous Medicaid coverage requirement. This inclusion criterion was necessary in order to examine care received beyond sixty days postpartum. As such, women whose Medicaid eligibility resulted solely from pregnancy were excluded from this analysis.

Although people with bipolar disorder or schizophrenia may also suffer with depressive symptoms, we excluded 841 women who had claims with these diagnoses during the study period due to different treatment requirements for these illnesses.[27 28] In order to distinguish new cases of depression from ongoing illness, we also excluded 1,193 women who received antidepressant medication during pregnancy or who had prenatal diagnoses of depression or anxiety (anxiety is often a feature of depressive episodes and may be prone to misclassification in claims).[29] The final study population comprised 30,955 women.

Measurement of variables

Initiation of treatment was defined as having filled a prescription for an antidepressant medication or having had an outpatient mental health visit in the six months following delivery. The first three months after giving birth present the highest risk for developing postpartum depression;[12] however, we measured initiation within a six-month window to allow for potential delays in clinicians' recognition of the symptoms and in patients gaining access to treatment. Because depression diagnoses are generally underreported in claims data,[30,31] and diagnosis codes are not required for payment of claims by New Jersey's Medicaid program, this study did not require a documented diagnosis to indicate treatment initiation.

For those women who initiated treatment, we measured follow-up and continued care. Follow-up was defined as either filling a second antidepressant prescription or receiving a

second outpatient mental health visit. We defined continued care as three or more antidepressant prescriptions or outpatient mental health visits. Both follow-up and continued care were measured within 120 days of treatment initiation (the "acute phase" during which patients have the greatest treatment needs).[32]

We also included measures of age at delivery and race/ethnicity, which were both self-reported, as well as drug dependency, diabetes, preterm delivery, caesarean delivery, and high-risk pregnancy, all based on diagnosis and payment codes.

Additional information on doctor visit, procedure, diagnosis, and medication codes used to identify analytic variables is provided in the Appendix.[22] All variables were assessed between six months prior to and one year following delivery. As such, we were not able to control for pre-existing clinical factors or mental health services use before pregnancy.

Statistical analysis

We conducted a population-level analysis to measure changes in the level and trend in monthly rates of treatment initiation associated with implementation of the Postpartum Wellness Initiative and the Postpartum Depression Act.[33] We then conducted patient-level analyses that allowed us to control for characteristics of individual women by examining the effect of the educational campaign and screening law on the probability of treatment initiation, follow-up, and receipt of continued care. Additionally, we conducted several sensitivity tests,[23] and found the results of our analyses unchanged by alternate specifications. A complete description of all statistical methods is provided in the Appendix.[22]

Results

Exhibit 1 presents characteristics of women who delivered babies prior to the educational campaign, during the campaign but before implementation of the screening law, and after the implementation of the law. The groups were similar in terms of age at delivery (average 25 years) and rates of drug dependency (5 percent), diabetes (7 percent), preterm delivery (10 percent), and high-risk pregnancy (36 percent). The rate of cesarean delivery increased over time, and the racial composition of the population changed slightly across the three study groups.

Both before and after the policy interventions, fewer than 7 percent of women initiated mental health care in the six months following delivery. Of those who initiated care, about 90 percent used both an antidepressant medication and outpatient mental health services. In all three study groups, about 60 percent of those who initiated care filled at least one additional antidepressant prescription or had one additional outpatient mental health visit during the acute treatment phase, and approximately one-third received continued care beyond that.

Results from the population-level model indicated that neither the Postpartum Wellness Initiative nor the Postpartum Depression Act were associated with any change in the trend of treatment initiation in the six months following delivery (Exhibit 2). Moreover, additional analyses indicated there were no significant changes in receipt of either follow-up or continued care associated with the policies (results shown in Appendix).[22]

In the patient-level models (Exhibit 3), neither the initiative nor the law was associated with a change in the odds of initiating treatment. Certain clinical factors were associated with initiating care: Women who had a preterm delivery, cesarean delivery, high-risk pregnancy, diabetes, or a substance use disorder had higher odds of treatment initiation. Also, compared

to whites, blacks and other non-whites had lower odds of treatment initiation. For those who initiated treatment in the six months following delivery, neither the campaign nor the law significantly affected the odds of receiving follow-up or continued care (Exhibit 3).

Discussion

Lack of policy impacts

Our findings indicate that New Jersey's policies to improve the detection and treatment of postpartum depression, which have been used as models for state and national legislative efforts, were not effective in a particularly vulnerable group of mothers: Medicaid recipients. Because our study was limited to Medicaid enrollees in only one state, they may not be generalizable to other populations, or across policies with different features. Nevertheless, they indicate a worrying lack of effect, and raise potential issues that policy makers elsewhere should consider when forging and enacting their own measures.

Among the continuously enrolled Medicaid recipients in this study, rates of treatment initiation for postpartum depression fell well below prevalence rates reported in clinical studies (10–24 percent)[2,34]. These rates did not change after implementation of the education and outreach initiative, or after the enactment of legislation requiring universal screening for postpartum depression. Furthermore, among those who initiated care after delivery, there were no policy-associated changes in receipt of follow-up or continued care.

There are several potential explanations for our findings. First and foremost, both clinical and policy evidence are critical inputs to effective policy making, and New Jersey had a limited policy research base to guide its decision making. The Postpartum Wellness Initiative and Postpartum Depression Act were consistent with available clinical research indicating that postpartum depression screening improves detection and treatment [13,14]. However, implementation and operational research that might have alerted policymakers to potential obstacles or facilitating factors was lacking, as no other state had ever attempted universal screening. Moreover, statewide action was taken without undertaking demonstration projects that could have provided early evidence of challenges to successful policy implementation.

Second, to the extent that relevant data existed for our use, they were not always compatible enough with the policies we studied to answer important questions. The current study examined postpartum depression treatment patterns but could not determine whether the campaign or the law had an impact on screening rates for postpartum depression, as policy makers intended. Nor could it identify system, provider, or patient factors -- some of which will be discussed below -- that might have influenced the lack of intended policy impact among Medicaid recipients.

Nevertheless, the literature provides insights into potential barriers that were encountered, and that therefore should be considered when crafting new legislation or deciding how to best implement existing policy.

Health care system and provider factors

Health care delivery systems, as well as clinician knowledge and experience, may influence the patterns of screening and treatment for postpartum depression.[10,35] Quality improvement in depression care has often required substantial investment of resources as well as direct incentives for change for both clinicians and patients.[27,36,37]

The Postpartum Wellness Initiative and the Postpartum Depression Act provided funding for outreach and education to health care providers and the general public. However, these

policy measures did not include specific payments for the provision of screening services, nor did they specify mechanisms for compliance monitoring or enforcement. It may be unrealistic to expect time-constrained clinicians to provide an additional service without financial compensation or incentive; moreover, without monitoring, it is impossible to ascertain whether screening patterns changed. Additional system and provider-level factors may have influenced treatment patterns among continuously enrolled Medicaid recipients, including low Medicaid reimbursement rates and payment delays.[38,39]

Patient-level factors

For new mothers, both stigma and logistical challenges such as insurance coverage, time constraints, child care arrangements, and transportation may present barriers to accessing postpartum mental health care.[35,40] However, the full range of reasons underlying low rates of mental health treatment among new mothers who suffer depression remains poorly understood.[41] The Postpartum Wellness Initiative and Postpartum Depression Act focused on raising awareness and reducing stigma, but not on patient-oriented incentives that may help overcome known barriers.[42]

Also, both policies were statewide efforts aimed at the general population, not specifically targeted at mothers insured by the state's Medicaid program. For women with low income, competing demands, high stress levels, and limited financial, social, and emotional support may be barriers to seeking care.[42,43] These potential barriers were not explicitly addressed by New Jersey's efforts, and remain largely unaddressed in other enacted and pending legislation (see Appendix Exhibit 1). [22]

Improving the policy strategy for addressing postpartum depression

To strengthen the policy response to postpartum mental illness, legislative provisions must be consistent with available evidence. Before enacting new policy or refining existing policy, it is necessary to build upon the evidence base, with rigorous research, demonstration projects, and data collection requirements for monitoring and evaluation purposes.[44,45]

Policy to improve postpartum depression care must account for known challenges and barriers. When developing postpartum depression-related policies, policy makers should consider three key issues that address health systems and provider factors: challenges in ensuring continuity of care during pregnancy, delivery, and the postpartum period; the variety of clinicians that interact with women during this time (such as obstetricians, midwives, primary care providers, and pediatricians); and the lack of integration of mental health services and support into prenatal, postpartum, and pediatric care.

For example, consideration could be given to alternative prenatal and postpartum care delivery models, such as the use of home visits, which has effectively improved postpartum depression detection in the United Kingdom.[46 47] Special attention should be given to prenatal care visits as an opportunity to screen for depression during pregnancy, which is a risk factor for postpartum depression.[48,49] Additionally, patient provisions such as child care, transportation, and culturally competent outreach services, which have proven effective in previous research, may be helpful for improving treatment patterns, especially among diverse, low-income women.[42]

Implementation of the MOTHERS Act and the broader Affordable Care Act will provide opportunities to build on existing knowledge at the federal and state levels, by conducting research into new community, clinical, and policy efforts to address maternal mental health—for example, insurance coverage of postpartum depression screening.

The same opportunities may also be used to study and evaluate innovative state-level strategies. Among these are provisions in existing state-level legislation that address factors that we note may have impeded success in New Jersey: Medicaid reimbursement for postpartum depression screening and integration of screening requirements into Medicaid Managed Care contracts in Illinois (Perinatal Mood Disorders and Prevention Act); and a multi-stakeholder advisory commission to formulate screening guidelines and data collection requirements in Massachusetts (Chapter 313, An Act Relative to Postpartum Depression).

Conclusions

The state of New Jersey enacted unprecedented legislation to support patient education and clinician-led universal screening for postpartum depression, and made a substantial financial investment in raising awareness about, and training for recognition and care of postpartum depression. Although laudable in intent, these efforts had no measurable effect on the initiation of mental health treatment after childbirth, or on receipt of follow-up or continued care, among continuously enrolled Medicaid recipients.

Given heightened interest in addressing postpartum depression at both the state and national levels, it is important to recognize that education, outreach, and screening requirements—absent monitoring, enforcement, and coverage provisions—may not suffice to improve detection and treatment among Medicaid enrollees. Additional provider- or patient-level factors may need to be considered in order to achieve desired outcomes. The health risks and potential financial waste of policies that are not sufficiently evidence-based should be avoided. Any new policy strategy to address the negative affects of postpartum depression should be premised upon a sound research base, then rigorously and comprehensively studied in order to ensure effectiveness.[45]

Improving detection and treatment of postpartum depression is a worthy goal. New Jersey's recent experience provides important insights that can help inform implementation of existing legislation and the development of future policies.

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EXHIBIT 2.

Trend Over Time (2004–07) In The Percentage Of Women Who Initiate Treatment In The Six Months After Delivery (N = 30,955)

SOURCE Authors' analysis.

NOTE Treatment initiation is indicated by receipt of an antidepressant medication or mental health outpatient visit in the six months following delivery.

Exhibit 1
Descriptive Statistics For Women In The Study Population (2004–2007) (N = 30,955)

	Group 1 Pre-policy changes (gave birth before 7/18/05)		Group 2 After initiative before act (gave birth 7/19/05- 10/9/06)		Group 3 After act (gave birth on or after 10/10/06)	
	n	Mean	n	Mean	n	Mean
Covariates						
Age at delivery		25.16		25.27		25.56
White	3,124	40.68%	5,041	42.67%	4,836	42.20%
Black	3,699	48.17%	5,103	43.19%	4,614	40.26%
Other race	855	11.13%	1,671	14.14%	2,011	17.55%
Drug dependency diagnosis	443	5.77%	602	5.10%	511	4.46%
Diabetes (diagnosis or medication)	525	6.84%	857	7.25%	788	6.88%
Preterm delivery (< 37 weeks gestation)	859	11.19%	1,238	10.48%	1,119	9.76%
Cesarean delivery	992	12.92%	2,456	20.79%	3,668	32.00%
High risk pregnancy diagnosis	2,811	36.61%	4,280	36.23%	4,157	36.27%
Outcomes						
Initiation	486	6.33%	708	5.99%	714	6.23%
Of those who initiate care (n = 1908)						
Any antidepressant ^a	459	94.44%	682	96.33%	683	96.50%
Any mental health outpatient visit ^a	459	94.44%	679	95.90%	679	95.94%
Combination treatment ^a	432	88.89%	653	92.23%	654	92.44%
Follow-up ^a	298	61.32%	446	62.99%	424	59.94%
Continued care ^a	157	32.30%	230	32.49%	236	33.33%

SOURCE Authors' analysis.

NOTES

^dIndicates that the study outcome is evaluated within an acute treatment phase of 120 outpatient days following initiation. Initiation is indicated by receipt of an antidepressant medication or depression-related mental health outpatient visit in the six months following delivery. Combination treatment includes both antidepressant medication and outpatient care. Follow-up is attained by either a second outpatient visit or a second antidepressant medication. Continued care consists of at least three antidepressant prescriptions or three outpatient visits during the acute treatment phase.

Exhibit 3

Odds Ratios From Controlled Logistic Regression Models For Postpartum Depression Treatment Initiation, Follow-up, And Continued Care (N = 30,955)

	Conditional on initiation of treatment within six months of delivery (n=1,908)	
	Initiation	Follow-up Continued care
Change at the time of the Postpartum Wellness Initiative	0.99	0.89 0.76
Monthly post-initiative trend	1.01	0.98 0.99
Change at the time of the Postpartum Depression Act	0.99	0.98 0.78
Monthly post-act trend	1.00	0.97 0.98
Age at delivery, in years	1.01 *	1.01 1.01
Black (vs.white)	0.43 ****	0.68 **** 0.85
Other race (vs.white)	0.55 ****	0.75 * 0.74 *
Drug dependence	4.23 ****	2.51 **** 2.83 ****
High-risk pregnancy	1.11 **	0.87 1.11
Cesarean delivery	1.24 ****	0.93 1.07
Preterm delivery	1.28 ****	0.89 0.95
Diabetes	1.29 ***	0.86 0.75

SOURCE Authors' analysis

NOTES Cell entries are odds ratios. All models also include an intercept term and control for county of delivery and for pre-existing levels and trends in study outcomes. Initiation is indicated by receipt of an antidepressant medication or depression-related mental health outpatient visit in the six months following delivery. Follow-up and continued care are evaluated within an acute treatment phase of 120 days following initiation. Follow-up is indicated by either a second outpatient visit or a second antidepressant medication. Continued care consists of at least three antidepressant prescriptions or three outpatient visits during the acute treatment phase.

* p<0.10

** p<0.05

*** p<0.01

**** p<0.001