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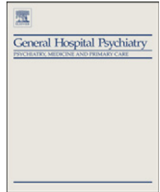

# Improving perinatal depression care: the Massachusetts Child Psychiatry Access Project for Moms

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ABSTRACT

*Objective:* Perinatal depression is common and associated with poor birth, infant and child outcomes. Screening for perinatal depression alone does not improve treatment rates or patient outcomes. This paper describes the development, implementation and outcomes of a new and low-cost population-based program to help providers address perinatal depression, the Massachusetts Child Psychiatry Access Project (MCPAP) for Moms.

*Method:* MCPAP for Moms builds providers' capacity to address perinatal depression through (1) trainings and toolkits on depression screening, assessment and treatment; (2) telephonic access to perinatal psychiatric consultation for providers serving pregnant and postpartum women; and (3) care coordination to link women with individual psychotherapy and support groups.

*Results:* In the first 18 months, MCPAP for Moms enrolled 87 Ob/Gyn practices, conducted 100 trainings and served 1123 women. Of telephone consultations provided, 64% were with obstetric providers/midwives and 16% were with psychiatrists. MCPAP for Moms costs $8.38 per perinatal woman per year ($0.70 per month) or $600,000 for 71,618 deliveries annually in Massachusetts.

*Conclusion:* The volume of encounters, number of women served and low cost suggest that MCPAP for Moms is a feasible, acceptable and sustainable approach that can help frontline providers effectively identify and manage perinatal depression.

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## 1. Introduction

Perinatal depression is a widespread problem that may complicate birth [1], infant [2] and child outcomes [3–5]. While 1 in 7 women suffers from perinatal depression [6], the vast majority go untreated [7–10]. Because pregnant and postpartum women have frequent contact with perinatal health care professionals, the perinatal period is an ideal time to screen for, assess and treat perinatal depression [7]. However, screening alone does not improve treatment rates or patient outcomes [11–15].

Recommendations and legislation supporting screening for perinatal depression are increasing. The American College of Obstetricians and Gynecologists recently changed their committee opinion from insufficient evidence to support for universal antepartum or postpartum screening [16] to recommend screening at least once during the perinatal period [17]. The United States Preventative Services Task Force also recently made a Grade B recommendation to screen pregnant and postpartum women for depression when supports are in place to assure accurate diagnosis, effective treatment and follow-up [18]. To help pregnant and postpartum women enter mental health treatment, screening must be coupled with strategies that build patient, provider and practice-level capacity to address depression [15,19–21].

Addressing perinatal depression will ultimately require a practical and sustainable platform. Such a model is offered by the Massachusetts Child Psychiatry Access Project (MCPAP), a successful population-based model for delivering psychiatric care in pediatric settings that has been widely disseminated and implemented across the U.S. [22,23]. MCPAP is recognized by the Agency for Healthcare Research and Quality as an

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exemplary model of integrated care [24]. We recently adapted this model to create MCPAP for Moms, a new, statewide program to support obstetric, primary care, psychiatric and pediatric care providers in addressing perinatal depression. The objective of this article is to describe the development, implementation and utilization outcomes of MCPAP for Moms, with an initial focus on obstetric providers and settings.

## 2. Methods

### *2.1. The MCPAP for Moms Project overview*

MCPAP for Moms was developed and implemented in Massachusetts to respond to the critical public health issue of perinatal depression. MCPAP for Moms aims to improve perinatal depression treatment participation by building the capacity of frontline medical providers serving pregnant and postpartum women. MCPAP for Moms focuses on depression during pregnancy as well as in the postpartum period because >50% of women with postpartum depression enter pregnancy depressed or have an onset during pregnancy [25]. Active outreach, engagement and enrollment are targeted to obstetric providers as they have the most contact with pregnant and postpartum women. Pediatric, adult psychiatric, adult primary care providers or any other provider serving pregnant or postpartum women are also encouraged to use MCPAP for Moms for consultation regarding any mental health concern. For example, general psychiatrists can obtain consultations to build their capacity to provide evidence-based treatment for pregnant and postpartum women. Additional consultation and care coordination services are available to family medicine and pediatric providers screening for depression during well-child visits in the first year of life.

### *2.2. Funding and legislation*

In July 2013, Massachusetts passed legislation to develop and implement MCPAP for Moms. By July 2015, the legislative budget included a specific appropriation for MCPAP for Moms. MCPAP for Moms is funded by the Massachusetts Department of Mental Health. In 2014, the Massachusetts legislature added budgetary language stating that commercial insurers will be surcharged proportionately for their utilization of the MCPAP programs [22]. For fiscal year 2014–2015, 50% of the women served by MCPAP for Moms were commercially insured; thus, the surcharge covers this population. The political will and funding for the program is the result of long-term advocacy by several broad-based coalitions of professional and consumer stakeholders working with public policy makers committed to finding systemic solutions to address perinatal depression.

Central planning, administration and coordination of the program are provided by a managed behavioral health organization (Massachusetts Behavioral Health Partnership, a subsidiary of Beacon Health Options). MCPAP for Moms serves all pregnant and postpartum women in the state regardless of a mother's or family's insurance status and is available to all providers caring for these women.

### *2.3. Development*

MCPAP for Moms was conceptualized and developed between November 1, 2013 and June 30, 2014. MCPAP for Moms has three teams hosted within Psychiatry Departments at academic medical centers in three distinct geographic regions. Each team is reimbursed for direct and indirect expenses through annual contracts with the Massachusetts Behavioral Health Partnership. Total operating cost of the program, excluding start-up administrative expenses and community capacity building, is $8.38 per pregnant and postpartum woman per year ($0.70 per month) or $600,000 for 71,618 deliveries [26] annually in Massachusetts.

MCPAP for Moms provides (1) trainings and toolkits for providers and staff on depression screening, assessment and treatment; (2) telephonic access to real-time perinatal psychiatric consultation for providers; and (3) care coordination to provide linkages with community-based resources including individual psychotherapy and support groups. Massachusetts' providers call a statewide toll-free number to access consultation with a perinatal psychiatrist and care coordinator during business hours, Monday through Friday. MCPAP for Moms also offers preconception consultation and encourages screening for fathers and adoptive parents.

### *2.4. Practice engagement*

During development and initial implementation, obstetric practices were engaged through presentations at regional medical conferences, grand rounds, practice level trainings and other personal and professional networks. MCPAP for Moms leadership developed relationships with individual stakeholders and professional societies to facilitate broad engagement. Two obstetric liaisons (one being TMS) were designated to help develop and maintain relationships with professional societies, individual providers and leaders at birthing hospitals and practices throughout the state. Several professional societies included introductions to and information about MCPAP for Moms in their newsletters, email blasts and other communications. MCPAP for Moms consulting psychiatrists proactively called individual practices, described the program and offered to visit the practice to conduct a training. In order to facilitate engagement, MCPAP for Moms also developed and distributed brochures for patients and providers, psychoeducational handouts, magnets, pens, lanyards and notepads.

### *2.5. Partnerships*

MCPAP for Moms partners with two organizations in Massachusetts to support the work of the program. The first, William James College INTERFACE, developed and maintains a customized database of targeted, perinatal community mental health supports and providers for use by MCPAP for Moms care coordinators. The second, MotherWoman, is a grass roots nonprofit organization. MCPAP for Moms funds MotherWoman to develop community capacity to address depression in addition to support groups for postpartum women using their community-based perinatal support model. William James College INTERFACE and MotherWoman each have contracts for service and function completely independently of MCPAP for Moms.

### *2.6. MCPAP for Moms operations*

#### *2.6.1. Staffing*

MCPAP for Moms serves all of Massachusetts with 1 full-time equivalent (FTE) perinatal psychiatrist and 2.3 FTE care coordinators divided between three MCPAP for Moms regions. The leadership team consists of a medical director (NB), a program director (KB), a lead care coordinator and a project assistant who are devoted to program development, operations and implementation. Before the program was launched, efforts focused on (1) developing the MCPAP for Moms toolkit, trainings and website; (2) identifying contacts with obstetric practices and delivering hospitals; and (3) operationalizing day-to-day implementation of the program. Post launch, the focus shifted to scheduling trainings, enrolling obstetric practices, creating tracking databases for care coordination resources, educating community mental health providers and creating an operations manual.

#### *2.6.2. Training, enrollment and clinical services*

MCPAP for Moms recommends that obstetric providers screen for depression at three time points: the first prenatal visit, at 24–28 weeks gestational age and at 6 weeks postpartum. High-risk women with a positive depression screen during pregnancy or a history

of depression should also be screened at 2 weeks postpartum. The goal of MCPAP for Moms is to enroll all Massachusetts obstetric practices such that all 71,618 women who give birth each year [26] have access to mental health care through their obstetric providers who will be equipped to manage depression and other mental health concerns. The MCPAP for Moms team establishes relationships with obstetric providers through 1-h on-site trainings conducted by a MCPAP for Moms consulting perinatal psychiatrist. The training provides an orientation to the program and didactics in how to detect, assess and manage perinatal depression and other mental health concerns (training PowerPoint and all MCPAP for Moms materials available at www.mcpapformoms.org). Before the MCPAP for Moms launch, training materials and toolkits were developed and refined based on iterative feedback from obstetric providers and staff. The training materials and toolkit was then beta tested at an obstetric practice [27]. After MCPAP was launched, qualitative and quantitative feedback was elicited via surveys and informal discussions, and training materials and toolkits were revised based on feedback received. Practices must participate in a training prior to enrollment. Booster sessions are conducted upon request.

All MCPAP for Moms calls are first answered by a care coordinator who gathers basic information to assess the nature and urgency of the need. This information is shared securely with the on-call MCPAP for Moms psychiatrist who then calls the provider to initiate the consultation. Telephone consultations are intended to occur within 30 min of initiation, while the patient is still in the providers' office.

Consultations are intended to serve as individualized, case-based education for providers. The knowledge, skills and comfort level of providers are taken into account by the MCPAP for Moms psychiatrist during each consultation and the teaching and case-based education is tailored to the provider seeking consultation. The consulting MCPAP for Moms psychiatrist also asks providers questions in order to understand whether evidence-based treatment is being offered to the patient being discussed. Available evidence-based treatment options for each case are discussed as well as education by MCPAP for Moms psychiatric consultant to the provider.

When telephone consultations are not sufficient to answer providers' clinical questions, MCPAP for Moms psychiatrists can provide a one-time, face-to-face consultation with the patient. Outpatient consultations are scheduled as soon as possible, generally within 2 weeks from initial contact. Face-to-face consultations last approximately 1 h and are followed by consultation letters with recommendations for the provider and referred patient, within 48 h of the appointment. The MCPAP for Moms psychiatrist does not initiate treatment; a recommendation is made for treatment to be managed by the obstetrician or for a referral to a psychiatrist. Recommendations for and referrals to support groups or individual therapists are also often made.

Care coordinators are responsible for the identification, referral and coordination of mental health services. Care coordinators use the INTERFACE database of community mental health supports and providers with expertise in perinatal mental health to match patient needs (e.g., location, insurance) to available resources. Resources and referrals are shared with the calling provider via secure email, fax or telephone. If clinically indicated during the telephone or face-to-face consultation, the care coordinator can call the patient directly to help them identify and schedule community mental health services. For example, if during the telephone or face-to-face consultation it becomes clear that the patient needs a psychiatrist, patients can be referred to the care coordinator for assistance in establishing care with a psychiatric provider. Results of care coordination are reported back to the referring provider. For all cases in which the care coordinator is in contact with a patient, there is a follow-up call approximately 1 month after care is scheduled, to check on progress and determine if more supports are indicated. The care coordinator documents outcomes in the MCPAP for Moms database and updates the referring provider within the next business day.

Care coordinators maintain close relationships with community mental health agencies and keep up with changes in wait times and availability of clinicians. If the wait time for an outpatient psychiatrist is deemed unacceptably long, depending on the clinical situation, the MCPAP for Moms psychiatrist can see the patient for follow-up and continue to make recommendations to the referring provider until an outpatient appointment with a psychiatrist can be secured.

### *2.7. Data collection*

#### *2.7.1. Setting*

Data were collected from all providers who utilized MCPAP for Moms from June 30, 2014 (start of program) through February 29, 2016. Each discrete activity (e.g., telephonic perinatal psychiatric consultation, face-to-face assessment, care coordination event, follow-up inquiry) is considered an encounter. Each encounter is entered into a secure, web-based, Health Insurance Portability and Accountability Act-compliant structured-query language database. Data are transmitted securely to the central server with identifying information accessible only to the members of the MCPAP for Moms team. This work did not meet criteria for human subject research by the institutional review board at the University of Massachusetts Medical School.

#### *2.7.2. Utilization measures*

MCPAP for Moms utilization was assessed by the number of provider calls, care coordination encounters and telephone and face-face consultations with MCPAP for Moms psychiatrists. Data were also collected for encounter outcomes. To describe providers and patients participating in the program, the clinical setting, provider type and patient insurance coverage were assessed.

#### *2.7.3. Patient outcome measures*

*2.7.3.1. Edinburgh Postnatal Depression Scale (EPDS).* EPDS scores were collected during MCPAP for Moms psychiatrists' telephone and/or face-to-face consultations with providers. The EPDS is a validated, self-administered questionnaire that is most commonly used to screen for depression during pregnancy and the postpartum period [28]. The intensity of depression symptoms is rated for the preceding 7 days by answering 10 multiple-choice items [28]. Each item is scored on a 4-point scale for a total score range of 0–30 with higher scores reflecting a greater severity of symptoms [28]. Scores that indicate depression begin from 9 to 13 [29]. EPDS scores ≥9 indicate “possible” depression and those ≥12 indicate “probable” depression with a sensitivity of 86% and a specificity of 78% [28]. Based on prior studies [28,29], EPDS data were categorized into not depressed (EPDS score 0–8), mild depression (EPDS 9–12), moderate depression (EPDS 13–18) and severe depression (EPDS ≥19).

*2.7.3.2. Patient Health Questionnaire (PHQ-9).* If the PHQ-9 was used by the providers, scores were collected during MCPAP for Moms psychiatrists' telephone consultations with providers. The PHQ-9 is a nine-item self-report questionnaire that has been widely validated for use in primary care settings [30]. In general adult populations, PHQ-9 scores ≥10 indicate depression with a sensitivity of 74–88% and a specificity of 88–91% [30]. In pregnant populations, its sensitivity and specificity [30] are comparable to the EPDS [31]. The PHQ-9 data were categorized into not depressed (PHQ-9 0–9), mild depression (PHQ-9 10–14), moderate depression (PHQ-9 15–19) and severe depression (PHQ-9≥20).

## 3. Results

During the first 18 months of implementation, 100 obstetric practices with 350 obstetric providers were trained. MCPAP for Moms has enrolled 47% of all Massachusetts obstetric practices ($n = 87$) and served 1123 women since inception (Fig. 1). MCPAP for Moms also

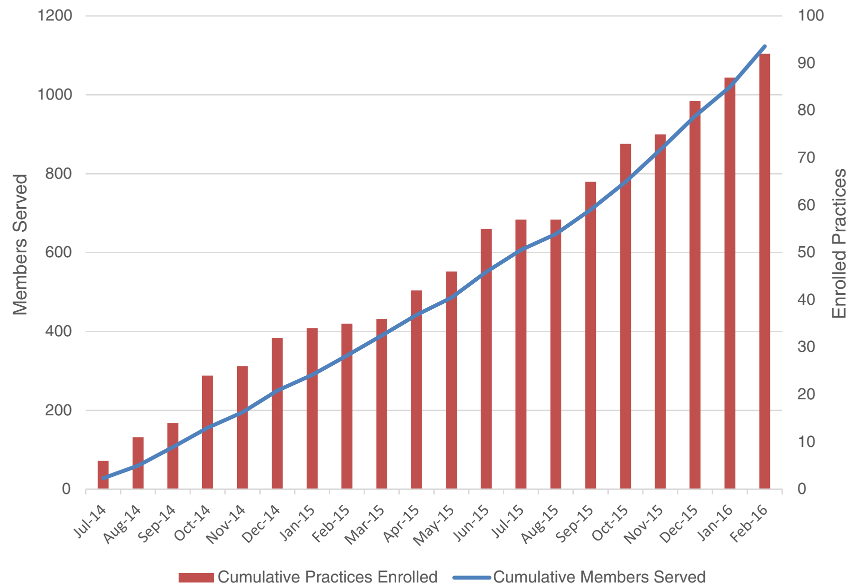


**Fig. 1.** Enrolled practices and members served since inception.

developed a website with 25 pages of content that has received an average of 1290 page views per month since the program's launch. The total number of encounters according to services provided and provider type from June 30, 2014 until February 29, 2016 are listed in Table 1.

Barriers to engagement were encountered when approaching busy practices in which there were no preexisting relationships. Barriers were also encountered in practices with preexisting mental health resources. MCPAP for Moms leadership worked with these practices to build on and enhance their existing mental health supports. Building on existing relationships and professional networks facilitated engagement. Presentations at statewide conferences held by professional societies often garnered interest and engagement. Additionally, presentations at numerous other venues (e.g., grand rounds) allowed for piqued interest and a catalyst for further discussions and engagement.

Of the 1123 patients served, 217 (23%) were in the first trimester, 158 (16%) were in the second trimester, 135 (14%) were in the third trimester and 367 (40%) were postpartum. Of postpartum patients, 162 (17%) were lactating. Of remaining encounters, 18 (2%) addressed preconception, 18 (2%) focused on perinatal loss and 3 (1%) on miscarriage. There were a wide range of reasons for consultations (Table 2).

Of the 297 women whose providers reported an EPDS score, 35 (12%) were <8, 53 (18%) were 9–12, 111 (37%) were 13–18 and 98 (33%) were ≥19. Of the 41 women whose providers reported a PHQ-9 score, 24 (59%) were ≤9, 6 (15%) were 10–14, 8 (20%) were 15–19 and 3 (1%) were ≥20. Thus, 279 (83%) of women whose providers reported an EPDS score had a depression score indicative of depression (EPDS ≥9 or and PHQ-9 ≥10). Of women with a EPDS screen, 184 (62%) reported never having thoughts of harming themselves, 37 (12%) reported hardly ever having thoughts of harming themselves, 20 (7%) reported sometimes having thoughts of harming themselves and 6 (2%) reported quite often having thoughts of harming themselves.

During the 976 telephone encounters with providers, a wide range of diagnoses were discussed during the consultations. Of the total patients served, more than one psychiatric diagnosis was discussed among 623 (55%) of the patients, more than two diagnoses were discussed among 245 (22%) and more than three diagnoses were discussed among 103 (9%) patients. Frequently discussed disorders included, in descending order, unspecified depressive disorder (46% of encounters; $n=446$), unspecified anxiety disorder (36%; $n=342$) and major depressive disorder (15%; $n=139$). Other nonspecified diagnoses ($n=101$) were discussed during 11% of calls. Less commonly discussed diagnoses included posttraumatic stress disorder ($n=47$), opioid use disorder ($n=45$), panic disorder ($n=28$), adjustment disorder ($n=22$), bipolar I ($n=22$), unspecified trauma/stress-related disorders ($n=22$), obsessive compulsive disorder ($n=15$), attention deficit hyperactivity disorder ($n=20$), schizophrenia ($n=11$), alcohol use disorder ($n=10$), borderline personality disorder ($n=9$), cocaine use disorder ($n=7$), schizoaffective disorder ($n=13$), bipolar II ($n=6$), cannabis use disorder ($n=9$), bipolar I with psychotic features ($n=8$), generalized anxiety disorder ($n=6$), complicated grief disorder ($n=3$), persistent depression (dysthymia) ($n=1$) and substance/medication-induced depressive disorder ($n=1$).

Resources-Community Access was discussed in 55% of the consultations and medication changes in 55% (Table 2). Medication changes were discussed in 529 (55%) of the telephone encounters. Medications

**Table 1**
Encounters according to services provided and provider types from June 30, 2014 to February 29, 2016 for 1123 women served

| Provider Type | Total Number of Encounters | Consult Encounters[a] | Face-to-Face Encounters | Care Coordination Encounters with Providers |
|---|---|---|---|---|
| Obstetrician | 1479 (57%) | 497 (50%) | 34 (42%) | 890 (63%) |
| Midwife | 395 (15%) | 141 (14%) | 15 (19%) | 237 (17%) |
| Psychiatrist | 198 (8%) | 156 (16%) | 9 (11%) | 21 (2%) |
| Family Physician | 187 (7%) | 84 (8%) | 9 (11%) | 86 (6%) |
| Physician Assistants/Nurse Practitioner | 181 (7%) | 54 (5%) | 4 (5%) | 123 (9%) |
| Internal Medicine Physician | 71 (3%) | 28 (3%) | 8 (10%) | 33 (2%) |
| Pediatrician | 67 (3%) | 32 (3%) | 2 (2%) | 29 (2%) |
| Other | 5 (0%) | 4 (0%) | 0 (0%) | 1 (0%) |
| **Total** | 2583 | 996 | 81 | 1420 |

Each provider and women served can have multiple encounter types.
[a] Includes encounters with nonproviders and hallway, email and follow-up consultations.

**Table 2**
Reason for telephone encounter from June 30, 2014 to February 29, 2016 for all for the 976 telephone consult encounters with providers

| Contact Reason | Reason for Telephone Consult Encounters | % of Total Initial Encounters |
|---|---|---|
| Medication Question(s) | 529 | 55% |
| Resources-Community Access | 525 | 55% |
| Risk/Benefits of Medication Use in Pregnancy | 315 | 33% |
| Positive Screen | 188 | 20% |
| Diagnostic Question(s) | 135 | 14% |
| Lactation Question(s) | 126 | 13% |
| Safety Concerns | 62 | 6% |
| Screening Tool Question | 18 | 2% |
| Other | 14 | 1% |
| Preconception Question(s) | 11 | 1% |
| Nonmember Specific | 5 | 1% |

There may be more than one reason for each telephone encounter.

were initiated in 98 (10%), increased in 88 (9%), changed in 61 (6%), tapered in 26 (3%) and decreased in 18 (2%). During 119 (12%) of the encounters, medications were added. Referrals were made for initiation of psychiatric medication treatment in 83 (9%) of encounters.

Specific medications discussed during telephone encounters also varied and ordered most to least frequent for overall encounters were selective serotonin reuptake inhibitors (53%), benzodiazepines (16%), other antidepressants (10%), atypical antipsychotics (9%), lamotrigine (6%), other sleep/anxiety agents (6%) and mood stabilizers (5%), including serotonin–norepinephrine reuptake inhibitors (4%), lithium (2%), typical antipsychotics (2%), haloperidol (1%) and perphenazine (1%).

There were a wide range of outcomes of the initial telephone encounters (Table 3).

## 4. Discussion

MCPAP for Moms is a new population-based program that addresses perinatal mental health in obstetric, primary care and psychiatry settings statewide. Unlike much of the legislation, task force and professional society recommendations, MCPAP for Moms goes beyond promoting postpartum depression screening; it seeks to detect maternal mental health concerns in pregnancy and the postpartum period. It builds the capacity of frontline providers to not only screen for maternal mental health but also provide treatment when needed. The volume of encounters, number of women served and low cost suggest that MCPAP for Moms is a feasible approach to help frontline providers prevent, identify and manage perinatal depression and other mental health concerns.

**Table 3**
Outcomes of initial telephone encounter from June 30, 2014 to February 29, 2016 for 976 telephone consult encounters with providers

| Outcome | *n* | % |
|---|---|---|
| Back to Provider | 749 | 78% |
| Refer to Outpatient Therapist | 365 | 38% |
| Care Coordination: Contact Patient | 341 | 36% |
| Refer to a New Psychiatrist | 172 | 18% |
| Face-to-Face Visit | 108 | 11% |
| Care Coordination: Resources to Provider | 74 | 8% |
| Refer to Support Group | 45 | 5% |
| None | 32 | 3% |
| Refer to an Existing Psychiatrist | 23 | 2% |
| Bridge Treatment with PCP | 13 | 1% |
| Refer to Psychiatric Emergency Services | 7 | 1% |
| Refer to Parent/Infant Therapy | 5 | 1% |
| Refer to Mobile Crisis Services | 2 | 0% |
| Refer to Partial Hospital | 2 | 0% |

There may be more than one outcome for each telephone encounter.

MCPAP for Moms facilitates access to psychiatric treatment for pregnant women. Despite the negative impact of untreated depression during pregnancy, psychiatric providers can be reluctant to treat pregnant women [32–35], which can leave the burden of mental health care to Ob/Gyn providers. Ob/Gyn providers perceive community mental health clinicians' reluctance to provide pharmacotherapy for pregnant women as a major barrier to mental health care during pregnancy [32]. For example, women may be dropped from treatment upon telling their psychiatric provider that they are pregnant and thus unable to access ongoing mental health care [33]. The training and consultation for general psychiatrists provided by MCPAP for Moms may mitigate this barrier and enhance access to mental health care, which in turn may help prevent relapse into illness that can occur [36–38] when women's psychiatric medications are discontinued precipitously during pregnancy.

Perinatal psychiatrists are an extremely limited resource, and too few exist to provide direct care to all women in need. MCPAP for Moms dramatically expands the capacity of this clinical workforce by leveraging expert perinatal psychiatry consultation and care coordination to help frontline obstetric providers detect, assess and manage perinatal depression. Frontline obstetric and pediatric providers may choose not to screen for perinatal depression because they do not have a referral or treatment source [19,20]. MCPAP for Moms addresses this barrier. Managing the majority of pregnant and postpartum women with mental health concerns in obstetric or primary care settings can also allow women with more complicated or refractory illness to be referred to psychiatric providers for ongoing treatment. This is particularly relevant in an era of changing health care and movement toward integrated care.

There are several limitations to our utilization and program evaluation. Our evaluation is vulnerable to selection bias because we do not have information for practices that are not yet engaged in the program nor do we have information on women with perinatal depression whose providers did not outreach to MCPAP for Moms. Outcomes for women whose providers utilize MCPAP for Moms could also be influenced by other contextual factors. Reporting bias may also be present because the person collecting the evaluation data is also delivering the intervention or coordinating care. While we have information regarding which treatments were discussed during telephone encounters, we do not have data on the treatment women received or how long did it took for a woman to be assessed and receive depression care. We also do not yet have data on adequacy of medication dosing, attendance at therapy treatment, adherence to recommended depression care and improvement in depression symptoms. Thus, we are unable to link improved access through program utilization with patient treatment participation and depression outcomes. However, the efficacy of perinatal depression care, when evidence-based treatments are provided, is well-established [39–41]; MCPAP for Moms provides a model for improving access to effective treatments. Thus, this paper provides critical information about the feasibility, acceptability and uptake by providers of a program that aims to help access evidence-based treatments on a population-based level.

Understanding the impact of the MCPAP for Moms program on mental health clinical outcomes is essential and requires further study. Future resources and research efforts should also focus on proactively working with perinatal care providers to develop systematic stepped care approaches to ensure that their patients do not fall through cracks in the depression care pathway. Examples of such approaches could include clinic-specific implementation of proactive treatment engagement, patient monitoring and stepped treatment response to depression screening and assessment. Investigators (NB, TMS, KB and JA) were recently awarded funding from the Centers for Disease Control and Prevention (Grant Number: 1U01 DP006093) to conduct a cluster randomized-controlled trial to compare the effectiveness of MCPAP for Moms versus MCPAP for Moms plus clinic-specific implementation of stepped care and proactive treatment engagement, on patient outcomes. This new grant opportunity will assess improvement in

depression severity and treatment participation in pregnancy through 12 months postpartum and will allow for the testing of a more intensive program while also conducting a naturalistic study of the existing MCPAP for Moms program.

The ongoing and critical problem of insufficient access to psychiatric care for the general population is accentuated for the perinatal population. MCPAP for Moms may be sustainable as it is modeled on MCPAP, a successful, sustainable, evidence-based model that has been replicated in 32 states for support of pediatricians as they address the psychiatric needs of their patients [22,23]. Several states with an existing MCPAP are actively working to start MCPAP for Moms type programs, including Washington, Wisconsin, Maryland and Illinois. States considering adopting a similar program should consider their geographic and population density and unique characteristics (e.g., telemedicine technology for states with lower population density and greater geographic area). MCPAP for Moms may be within grasp of most Ob/Gyn clinics/practices and health systems because it leverages limited resources to provide a population-based approach to address perinatal depression at a lower cost than providing direct care.

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