



Mammha

Incorporating Perinatal Mental Health into Primary Care

Mammha Makes Universal Screening,
Referral and Care Coordination Possible





Mammha is a mobile and web-based platform that provides seamless, streamlined, in-office and remote perinatal mental health screening and referral delivery, along with brief care coordination for at-risk patients.

Introduction

Mental illnesses like depression and anxiety are the most common complications of pregnancy and childbirth. ¹ However, most pregnant and postpartum people are not educated about or screened for these illnesses. We have known about this disconnect for decades but progress has been slow, allowing millions of parents to fall through the cracks. In addition, the COVID-19 pandemic has fueled a reported three-fold increase in the number of women reporting symptoms of anxiety during pregnancy and depression following childbirth. ²

Fortunately, new screening, referral and care coordination technologies are primed to have a direct and immediate impact on the ability of providers to screen and of perinatal people to connect with the care they need. The pandemic has demonstrated that **online and mobile technologies can facilitate healthcare delivery in ways never before imagined**, and patients are increasingly comfortable using such technologies to access education, resources, and direct care, opening up a world of possibilities. ^{3,4}

What exactly are we talking about?

"Postpartum depression" has long been used as an umbrella term for mental health conditions affecting women during pregnancy and the first year postpartum. Perinatal mental health (PMH) conditions include not only depression and various anxiety disorders, but also posttraumatic stress disorder, obsessive-compulsive disorder, bipolar disorder and, rarely, psychosis.⁵ PMH conditions can occur anytime in pregnancy or the first postpartum year; in fact, recent research has shown that the majority of episodes of "postpartum" depression actually begin during pregnancy.^{5,6}

PMH conditions are alarmingly common, affecting 1 in 5 women in the general population and as many as 1 in 3 women in high-risk populations including immigrants, marginalized groups, and those who live in poverty or have a baby in the neonatal intensive care unit.^{1,7} With almost 4 million births in the United States annually, **approximately 1 million families are impacted each year.**

Untreated PMH conditions can have long-term negative effects on mother, baby, family, and society, and their cost is estimated at \$14 billion each year.^{8,9,10} Tragically, the majority of cases go undetected, undiagnosed and untreated.¹¹ In comparison, there is almost universal screening for gestational diabetes and preeclampsia, each of which affects less than 10% of pregnant people.^{12,13}

Why do PMH conditions go untreated?

A robust body of literature points to why PMH conditions are not detected, diagnosed, and treated as they should be. Within the healthcare community, reasons include lack of ownership of a patient's mental health, with obstetricians and midwives focused on delivering a full-term, healthy baby, and pediatricians focused on caring for that baby. Doctors also hesitate to ask about mental health for fear of revealing a complicated problem they do not

feel capable of addressing. ¹⁴ Most maternal-child healthcare providers are not educated about PMH, even in obstetrics. ¹⁵ Effective screening requires patient education, initiating treatment, and/or providing referrals, all tasks requiring significant time that may not be adequately reimbursed. ¹⁴

Barriers to detection on the patient side are different, if no less difficult to overcome. PMH conditions carry significant stigma, particularly in the communities with the higher rates mentioned above. Interactions with the healthcare system also cost patients money, and treatment for PMH conditions is not covered as part of maternity care despite being a complication of pregnancy. Logistical challenges including transportation, childcare, and lack of paid leave from work also affect a patient's ability to access and follow up with care. ^{16,17} Finally, many pregnant and new parents may simply believe that what they are feeling is "normal", due to an absence of education about perinatal mental health in any of their childbirth preparation.

Are healthcare providers supposed to screen?

Only a handful of states require screening for PMH conditions, and even where screening is required it is far from universally implemented. ¹⁵ Several healthcare professional governing bodies have endorsed screening in the past few years, including the American Academy of Family Physicians, the American Academy of Pediatrics, and the American College of Obstetrics and Gynecology. ^{18,19,20} Despite these recommendations, **screening rates typically range from low to abysmal**. National studies have revealed rates as low as 4% for family physicians and 3-6% for obstetricians. ²¹⁻²³ Unfortunately, the only figure that could remotely be described as "universal" among these various studies is the 95% of obstetric providers who *overestimated* their own screening rates.

What happens when providers do screen?

Of course, some providers do screen for PMH conditions regularly. However, **screening alone does not improve outcomes for patients.** ²³ Cutoff scores are sometimes set unacceptably high, due in part to the healthcare system's lack of ability to absorb additional referrals. Such high cutoffs can result in a significant missed opportunity to provide at-risk patients with preventative interventions, which can prevent or mitigate PMH conditions. ²⁴ Healthcare providers also report feeling overwhelmed by the responsibility of keeping current with PMH-specific resources and referrals, and keeping track of their patients' engagement with various treatment and intervention options. ¹⁸



COVID-19 has fueled a three-fold increase in the number of women reporting symptoms of anxiety and depression.

Are PMH conditions difficult to treat?

Treatment needs vary for each person experiencing a PMH condition. There are accessible and inexpensive steps that can help patients start feeling better quickly, including prioritizing sleep, focusing on good nutrition, and bringing in outside help. If more intervention is needed, virtual and in-person support groups are available throughout the country. The next step is often psychotherapy, now much more widely available online than it was prior to the Covid-19 pandemic, and the new PMH-C certification helps people find perinatal expert providers more quickly and easily. ²⁵⁻²⁶ Psychotropic medication is sometimes indicated during pregnancy and/or lactation, and

many antidepressant and anti-anxiety medications are considered safe to use in the perinatal period. ²⁶

In short, **people experiencing PMH conditions have many options when it comes to treatment and intervention.** But in order to benefit from intervention, patients first need to know that something is wrong and then be connected with resources and services that are culturally, linguistically, logistically and financially appropriate for them. That is precisely where Mammha comes in.

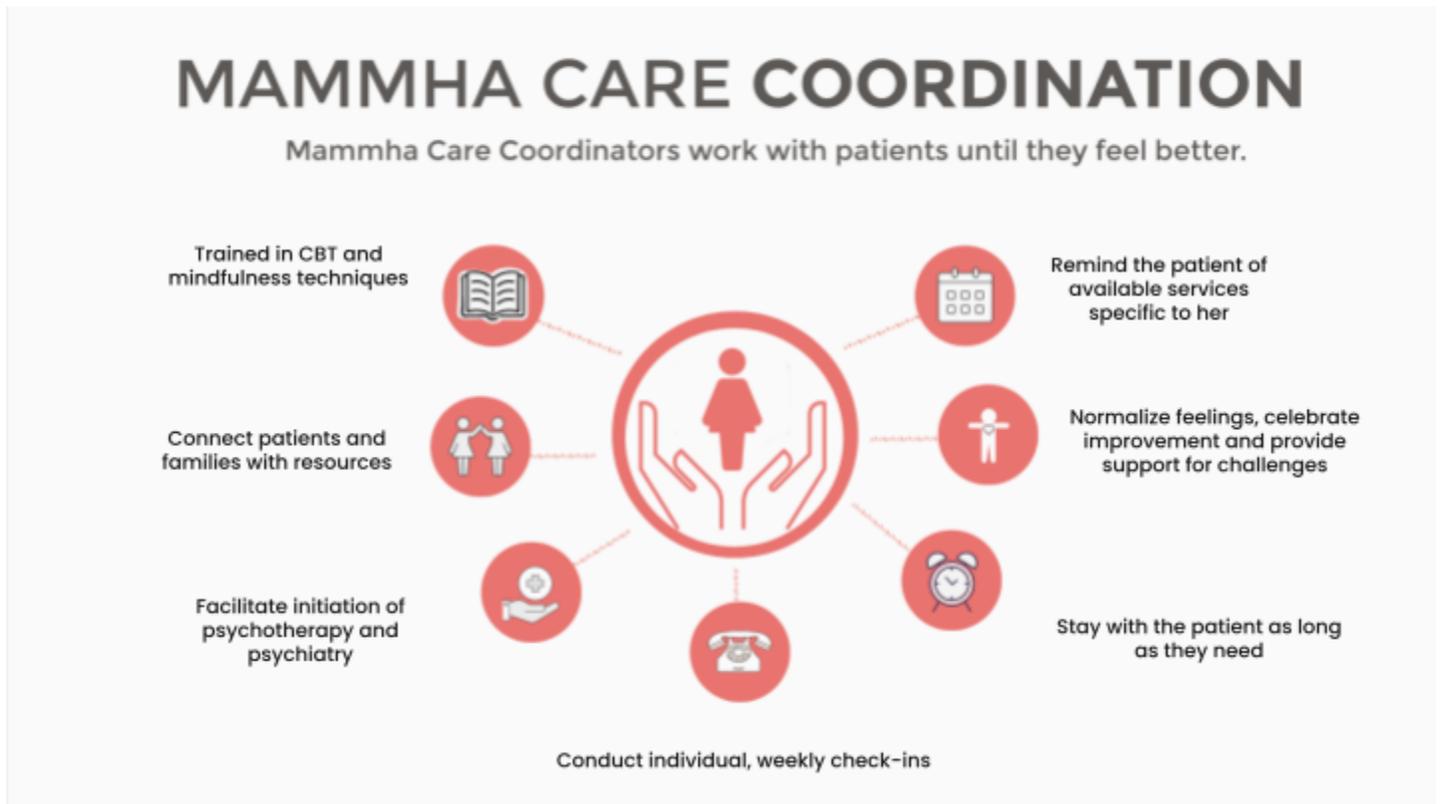
What is Mammha?

Mammha is a complete, mobile, screening, referral and care coordination tool, designed to take the uncertainty out of detection and treatment of PMH conditions for healthcare providers and the patients they serve. Mammha was developed by a team of professionals who also have lived experiences with PMH conditions. The technology is web-based, easy to use, and does not require any special software installation. Mammha is inexpensive and has the potential to help healthcare providers capture revenue that they have, until now, been leaving on the table.

How does Mammha work?

Mammha provides interfaces for both patients and providers. Patients engage with Mammha directly from their own smartphones for everything from initial screening to psychoeducation, referrals and care coordination. They receive a personalized portal and can easily opt out of communication with Mammha at any time. Providers can interact with Mammha where they prefer; for example, they can choose to receive scores and alerts on their phones, and review follow-up information on their computer using their individual dashboard. Screening scores, follow-ups and interventions are easily uploaded to

electronic health records. And, with Mammha in charge of connecting patients with appropriate care, providers no longer have to worry about anyone falling through the cracks.



Mammha began pilots in early 2021 in three distinct healthcare environments: outpatient obstetric/midwifery practices, outpatient pediatric practices, and neonatal intensive care units. This paper focuses on the experience at three private obstetric and midwifery practices in south Florida, where Mammha is being used by nine obstetrician-gynecologists, two advanced practice registered nurses, and one midwife. The population is ethnically and socioeconomically diverse, with patients from the U.S., Europe, Eurasia, Central and South America.

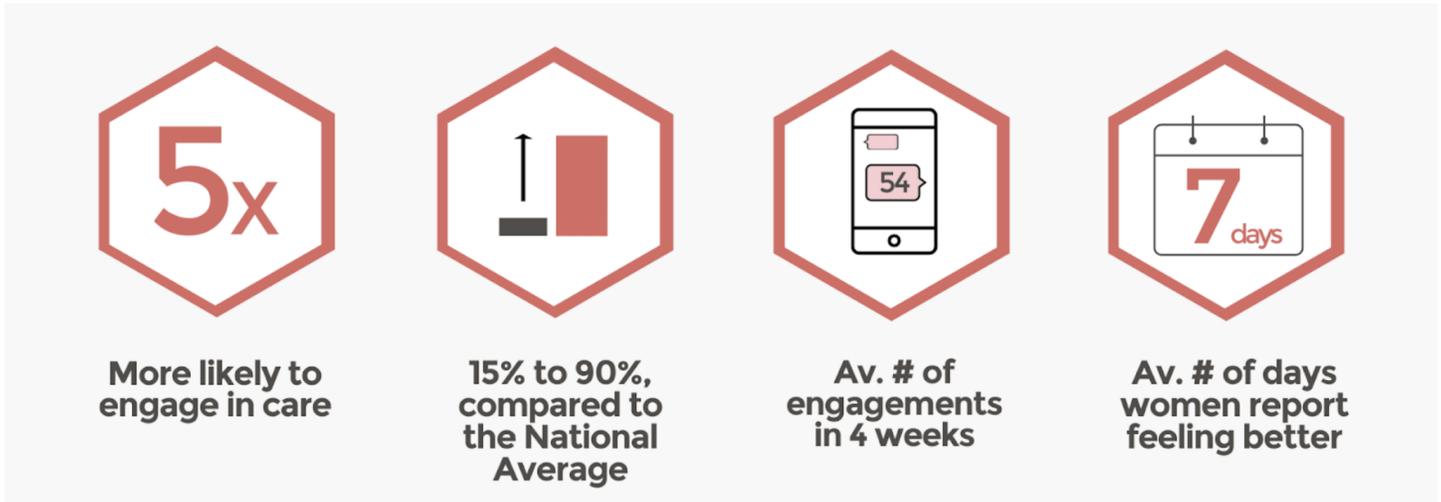
What does Mammha find?

From March to September of this year, 206 individual patients were screened with Mammha using the Edinburgh Postnatal Depression Scale (EPDS), a validated screening tool that assesses for anxiety, depression, and suicidality. The screening rate using Mammha was significantly higher than the top of the range of national averages referenced above.²⁷ Nearly 11% (22) of patients screened positive, in line with published estimates. Of those patients, 8% (7) were pregnant and 13% (15) were postpartum.

Three patients responded affirmatively to thoughts of self-harm which, according to the EPDS protocol, triggers an automatic referral regardless of overall score. The mean score among all of the screens was 4, while the mean score among the positive screens was 14, and the full range of scores was from 0 to 23.

How does Mammha help?

100% of patients who screened positive using Mammha received follow-up, including access to an online portal with psychoeducation modules, and virtual, local, and national resources and referrals. All patients also received 90 days of supportive text messages, and each woman was personally contacted by a Mammha Care Coordinator within a maximum of 20 hours of being screened.



From the total number who screened positive, 73% (16) engaged with Mammha's Care Coordination service at least once, while 64% (14) engaged two or more times. (Engagement is defined as responding to a communication from the Care Coordinator). Notably, 100% of patients with high-positive scores (≥ 15) engaged with Care Coordination. Once engagement with Mammha was initiated, patients stayed connected for an average of 38 days, or almost 6 weeks. The longest engagement Mammha has had with a patient to date was 112 days (16 weeks); that engagement is ongoing, as the patient is pregnant and will be followed through the postpartum period.

Care Coordination was provided in English and Spanish, and there were an average of 63 interactions between Care Coordinator and patient. The content of interactions included check-ins about sleep, eating, anxiety levels and mood; support accessing appropriate resources; and provision of mood regulating and anxiety lowering tools and techniques. The largest number of interactions a Care Coordinator had with a patient was 273, which took place over a span of 43 days. Overall, the majority of interactions (99.7%) were through text while less than 1% took place via telephone. The phone conversations were in addition to text messaging with mothers, and occasionally included conversations between the Care Coordinator and members of a patient's family.

Among the women who engaged with care coordination, 50% (11) received supportive counseling, 18% (4) attended at least one Mammha support group, and 36% (8) saw a therapist. Of those who engaged in therapy, Mammha was the direct conduit to therapy for 68% (5) of them, 25% (2) already had an existing therapy relationship, and about 13% (1) found a therapist on their own). Mammha Care Coordinators facilitated connection to therapy by finding and, if the patient requested, contacting good cultural, geographic, and linguistic matches; verifying availability and insurance coverage; and following up with the patient after the first appointments to confirm that a positive therapeutic relationship has been established.

Mammha's care coordination extends far beyond these numbers. Coordinators have connected patients with new psychotherapists when initial referrals did not work out. They have also supported patient's decision-making processes regarding medication treatment, and have helped patients communicate with their psychiatrists about medication efficacy and side effects, when doing so was proving a significant obstacle for the patient. Moreover, **it only takes Mammha's care coordinators an average of 4 days to get patients in to see a psychotherapist and 3 days for a psychiatry appointment**, both well below the national average. Finally, Mammha's care coordinators communicate with patients before and after normal business hours and on weekends, providing an essential bridge of support between the patient and their healthcare team.

What do users say about Mammha?

Numbers can only say so much, and Mammha's users say it so much better! Healthcare providers using Mammha say:

"You literally make me a better doctor."

"You make me the kind of doctor my patients deserve."

"Mammha is easy and intuitive."

Patients using Mammha also feel much safer and more supported throughout their journey to parenthood. Here is just some of what they have said:

"I never thought I'd be the kind of person that would have had PPD or felt so low but you helped pull me out of it and gave me resources."

"I want to thank you for all your support, texts and setting me up with my therapist. She was awesome! I truly felt supported and not as alone being able to communicate with you and speak to my therapist weekly."

"Thank you for all your help. I feel like it's almost unreal how helpful and supportive you are."

"Thanks so much for being available. You'll never know how much I appreciate you."

Mammha is not only committed to ensuring that every single perinatal person gets screened for PMADs. Mammha also pledges to connect patients who need it with individualized, accessible and appropriate care, quickly and efficiently, so that they can confidently embark on their path back to wellness.

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