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Pediatric Primary Care Providers and Postpartum Depression: Educating Providers About the
Importance of Regular Screening, Referrals and Follow-up

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Abstract

Postpartum depression affects approximately 10-20% of women in the first year after giving birth. Postpartum depression can be difficult to assess, as many symptoms mimic that of “normal” postpartum activity, including insomnia, changes in appetite and anxiety. Lack of education about postpartum depression, or fear of discussing these concerns with their providers, can cause postpartum depression to go undiagnosed and untreated. Additionally, women who *are* diagnosed with some level of postpartum depression may not ever receive treatment for it. Undiagnosed and untreated postpartum depression can have serious health implications for mothers and their babies, causing permanent effects on child developmental. Pediatric primary care providers have the most access to new mothers after delivery, and are in a unique position to educate about and screen for postpartum depression during the numerous newborn/infant well exams; they are also capable of facilitating any necessary care for mothers who screen positive via referrals and following up, which is crucial for improving outcomes. Not all pediatric primary care providers screen for post postpartum depression; some screen but do not refer or assist with follow up, for reasons that include lack of education and lack of awareness. This quality improvement project aimed to educate pediatric providers about the importance of screening regularly and how to facilitate follow-up care for those who screen positive for postpartum depression. Outcomes, as measured by self-report Likert survey showed that 88% of participants reported more awareness of available resources for women with postpartum depression and 44% reported improved sense of responsibility for screening for postpartum depression in the pediatric setting.

Keywords: postpartum depression, maternal depression, screening, education, pediatric/pediatrician, primary care

Introduction

Postpartum depression (PPD) is a serious mental health and public health concern, as it is estimated to affect 13% of women within the first year after delivery (Gaillard, Le Strat, Mandelbrot, Keita & Dubertret, 2014). The actual number may be even higher, as not all women are screened routinely and regularly in the postpartum period, despite it being considered standard of care by the U.S. Preventive Services Task Force (USPSTF), The American College of Obstetricians and Gynecologists (ACOG), and the American Academy of Pediatrics (AAP).

Background

Inadequate screening of and treatment for PPD can have serious health ramifications for both mothers and their babies, including poor/delayed bonding, poor breastfeeding habits and infant development disorders (Ko, Rockhill, Tong, Morrow & Farr, 2017). Additionally, it can lead to compromised judgment and impaired parenting skills (Earls, 2010). Pediatricians are commonly the healthcare provider that new mothers see most often in the first year after delivery, due to the frequency of well-baby exams (Earls, 2010). Screening for PPD is within the scope of practice for pediatric providers, as pediatric providers aim to deliver family-centered well-child care (Ko, Rockhill, Tong, Morrow & Farr, 2017). However, the involvement cannot stop at screening; it is not enough to diagnose a new mother with PPD and then hope she seeks treatment. Simply screening, without referral, will not reduce depressive symptoms or assist with health development (Ward-Zimmerman & Vendetti, 2014). Facilitating referrals and treatment and ensuring adequate follow up is crucial to addressing PPD.

Problem Statement

PPD can result in poor maternal-infant bonding and delayed/impaired cognitive and emotional development (Ko, Rockhill, Tong, Morrow & Farr, 2017). Pediatric primary care providers are in a unique position to screen for PPD during routine well-baby exams, initiate follow up and coordinate referrals for those who screen positive (Earls, 2010).

Gap Analysis

Prior to this quality improvement project, the providers at a pediatric primary care office had gaps in practice that included inconsistent screening for PPD and the failure to facilitate further care for those who screen positive for PPD. This was the result of a lack of education of the providers, perceived lack of time, perceived lack of responsibility and lack of awareness of available resources within the community.

Review of the Literature

Methods

PubMed, CINAHL, Cochrane Library and UpToDate were searched for articles from 2006-2016 using key search terms: postpartum depression, maternal depression, screening, education, pediatric/pediatrician and primary care. Results were limited to clinical trials, meta-analyses and systematic reviews. Sources were then selected based on their focus on standardized screening and/or referral for positive screens, and studies that discussed the use of distance screening (i.e. phone or email) if they involved primary care practices. Similarly, articles that discussed maternal depression as a whole (including prenatal and perinatal depression) were included if they discussed primary care involvement. Articles were excluded if they focused on treatment, rather than screening/referrals. In total, forty-six (46) articles were identified: twenty-two (22) were read in their entirety (the other 24 were excluded based on their

abstracts); 12 were selected based on the aforementioned criteria and 10 were excluded, as they did not meet the inclusion criteria.

Results

O'Connor, Rossom, Henninger, Groom and Burda (2016) reviewed the benefits of screening for PPD in the primary care setting. Based on the studies evaluated, the authors found that screening for PPD in the primary care setting resulted in reduced depressive symptoms and reduced prevalence of depression (O'Connor et al., 2016).

Gjerdingen and Yawn (2007) reviewed the literature in regard to methods for, and barriers to screening for PPD, as well as recommendations based on these data. Screening during well child visits was found to be the most convenient, but the authors emphasize that facilitating treatment and follow up as crucial; simply identifying PPD does not improve outcomes (Gjerdingen & Yawn, 2007). Similarly, Weiss et al. (2016) found that outcomes of identifying PPD do not improve unless there is a follow-up component, whether it be via referral, consultation or coordination of care. Additionally, Weiss et al. (2016) found that education for pediatric providers is critical to this intervention, both in screening and recognizing the importance of follow up.

Byatt, Levin, Ziedonis, Simas and Allison (2016) found that screening for PPD alone was associated with 22% use of mental health services by women with positive screens, but that additional interventions (i.e., referral and follow up) increased this 2-4 fold. Screening *and* interventions improve rates of PPD detection, assessment, diagnosis and treatment (Byatt et al., 2016).

Yawn et al. (2012) designed a randomized trial to study the benefits of screening and managing PPD in the pediatric primary care setting. Patients who were exposed to the

intervention arm—which consisted of educating providers and providing tools, resources and materials about screening, diagnosing and initiating follow up care for PPD— were more likely to be diagnosed and initiate therapy than the usual-care group, with positive impact of these measures seen at 12 months (Yawn et al., 2012). Of note, Yawn et al. (2012) provided extensive education to practices that utilized the intervention, including training to use and interpret the screening tool, as well as resources to facilitate with follow-up and further management. Ben-David, Hunker and Spadaro (2016) designed an intervention that used telephone screening for postpartum patients of a large medical center that provided primary care, well-women care and family planning. If any patient screened positive, an appointment was made for the patient’s primary care provider by the screener (unless the patient refused), and a follow up call was made in two weeks; 51.9% screened positive, 64.3% accepted provider referrals and 64.3% accepted support referrals (Ben-David, et al., 2016).

Garcia et al. (2015) designed a randomized control trial that provided a follow up intervention for mothers who screened positive for PPD. The intervention group received targeted material and follow up phone calls focusing on maternal depression specifically, and emphasizing that PPD is common and that further care was for the health of both the mother and her baby. The control group received generic education and information about depression in general and non-targeted follow up phone calls and messages within a few days of the visit, without mention of maternal depression or the welfare of their child. Each group received a list of resources available to them in the community. Garcia et al. (2015) found that mothers in the intervention group were 20.3% more likely to connect with a resource than mothers in the control group, suggesting that PPD education and follow up needs to be tailored to new mothers, as opposed to generic depression education, follow up and referral. Yawn et al. (2012) Ben-

David et al. (2016) and Garcia et al. (2015) all implemented universal screening and interventions at the primary care level, removing the need for postpartum women to initiate care with an outside provider.

Earls (2010) recognized communication between pediatric providers who identify PPD and the mother's care provider as an important component to managing PPD. For obstacles such as lack of insurance, lack of primary care provider or lack of support (i.e. hardships involving childcare or transportation), referrals should be made and facilitated through community-based resources (Earls, 2010). It is crucial for providers to be aware of risk factors such as lack of support and/or childcare as obstacles for receiving treatment, but also as risk factors for developing PPD. Similarly, Gauthreaux et al. (2016) found in their study that women with unintended pregnancies, or mistimed pregnancies were more likely to experience PPD or symptoms of PPD. The provider should assess for and be aware of these risk factors.

Summary

There are several obstacles to diagnosing and treating PPD: fear of judgment, lack of education, lack of resources, inconsistent screening and lack of referral and coordination of care. By screening universally in a setting such as pediatric primary care, frequent assessments can be made due to the frequent intervals of infant well exams. The studies by Yawn et al. (2012) and Ben-David et al. (2016) demonstrate that PPD can be identified and initially managed at the primary care level. This not only allows for the screening to take place in an environment with which the new mother is already familiar, it also prevents the need for a separate appointment with an additional provider, increasing the likelihood that new mothers will be screened (especially for those who lack support and resources such as childcare and transportation, for whom an additional visit to a provider's office is less convenient or feasible). Gjerdingen &

Yawn (2007), Garcia et al. (2015), Byatt et al. (2016) and Weiss et al. (2016) posit that follow up, referral and coordination of care is critical to improving outcomes of a PPD diagnosis. The evaluation of evidence by O'Connor et al. (2016) suggests that screening for PPD in the primary care setting is beneficial in both reducing depression and depressive symptoms. Failure to screen, diagnose and treat PPD can lead to increased healthcare costs, inappropriate childcare, abuse/neglect, family dysfunction and decreased infant brain development (Earls, 2010).

Evidence Based Practice

The United States Preventive Services Task Force (USPSTF) currently recommends screening women for postpartum depression as a subset of its recommendations for routinely screening the general adult population (Sui & USPSTF, 2016). This recommendation specifies that screening should take place with established resources for confirmation of diagnosis, treatment and follow-up (Sui & USPSTF, 2016). Furthermore, screening in the primary care setting—including the pediatric primary care setting—has been found to improve appropriate identification of patients with depression (Sui & USPSTF, 2016). The American Academy of Pediatrics (AAP) recommends that pediatric providers screen postpartum mothers for depression at well child exams (Sui & USPSTF, 2016). The AAP emphasizes the unique role of the pediatric provider, including early access to the infant and mother, continuity of care provision and the inherent “family focus” of the specialty (Earls, 2010). The AAP clarifies the role of the pediatric provider, in that he or she is not responsible for *treating* PPD, but *is* responsible for facilitating access to additional resources, care and follow-up (Earls, 2010). These recommendations, originally published in 2010, were reaffirmed by the AAP in 2015.

Theoretical Framework

The Care Model (IHI, 2016) was utilized as a guide for the design and implementation of this project due to its focus on collaboration between health care providers and patients. The Care Model, while designed to address chronic conditions, incorporates self-management support for patients, care delivery, decision support, organization and community resources (IHI, 2016). The Care Model focuses on six facets that, together, work towards improved disease management: self-management support, delivery system design, decision support, clinical information systems, organization of health care and community (IHI, 2016). Since postpartum depression can evolve into a chronic condition (lasting more than three months), this model provides a non-acute approach to assessment and referral; it allows for an ongoing collaborative process within the primary care setting that also integrates patient-focused education and decision making, coordination of specialty care and collaboration with community resources and support. This model is in line with the current recommendation of the AAP, which calls for the pediatric primary care provider to be a source of referral, follow-up, guidance and support for the postpartum mother and her family (Earls, 2010). The pediatric provider is forming a long-term relationship with the infant and mother, and is responsible for providing anticipatory guidance as well as surveying risks within the maternal-child bond (Earls, 2010).

Goals and Outcomes

There were three goals for this project: (1) improve provider knowledge and understanding about PPD screening and initial management; (2) improve provider beliefs about the importance and ease of screening for PPD and initiating referral/follow up; and (3) improve knowledge of available community resources. The three goals listed above were addressed by providing education about current PPD prevalence, obstacles to reporting/identification of PPD,

current recommendations from organizations such as the AAP, and a list of community resources available for those in their practice that screen positive for PPD.

Improvements in these three areas were measured using pre- and post- education surveys to determine if/how provider knowledge, beliefs and attitudes improved as a result of the educational intervention. For improvement in provider knowledge about screening for PPD and facilitating follow up thereafter, the goal was to see improved survey scores in at least 75% of participants. For improvement in provider beliefs about the importance of screening and referral, the goal was to see improved survey scores in at least 50% of participants. For improvement in knowledge of available community resources, the goal was to see improved survey scores in 75% of participants.

The goals for this project were specific, measurable, assignable, realistic and time-specific:

- Specific: improve PPD screening and initial management by educating providers about the importance of screening for PPD in the pediatric setting; the crucial importance of facilitating referrals and follow up; and educating providers about community resources available.
- Measurable: improved provider knowledge, beliefs and attitudes will be evidenced by self-reported surveys
- Assignable: the DNP student was responsible for coordinating and leading the educational session, providing supplemental handouts to providers and collecting and analyzing surveys.
- Realistic: This project aimed to improve provider knowledge and attitudes during an established, existing lunch hour. Surveys were user-friendly and quick to complete.

Improving PPD screening/ referral does not involve a drastic change in workflow, new expenses or new technology.

- Time-specific: The pre-survey and educational intervention itself was limited to the established lunch hour. The DNP student facilitated follow up post-survey 3 weeks after the education.

Project Design

This was a Quality Improvement project, aimed at increasing provider knowledge of, confidence in, and motivation to improve PPD identification and care. The goal was to measure provider attitudes, beliefs and knowledge about the importance of PPD screening and referral/follow up before and after an educational intervention.

Project Site and Population

This project was conducted at a pediatric primary care practice in the northeastern United States. Prior to this project, the providers at this practice did not consistently screen for PPD, and when they did screen, did not facilitate referral and/or follow up. This practice provides primary care services to both urban and suburban families living in the northeastern United States. Low-income women are at a higher risk for PPD; according to the latest census data, the patients this practice serve live primarily in three towns, with poverty rates ranging from 4.3% to 15.4% (U.S. Census Bureau, 2017). The median household of these towns range from \$48,369 to \$97,389 (U.S. Census Bureau, 2017). Taking into consideration the practice's patient population and their respective hometowns was necessary in addressing prior knowledge and experience of care providers and emphasizing the implications of their future practice.

The participants in this project included two nurse practitioners, one physician, three nurses and three medical assistants; one of the practice physicians was not available on the day

of the intervention. The site is a full-service pediatric primary care office, from establishing care in the prenatal period (when able) to providing routine well and urgent/sick child visits from birth to young adulthood. The office itself has an established lunch hour, which provided the opportunity for the survey, education and assessment of providers/stakeholders to be performed.

Setting facilitators and barriers. Main barriers to improving provider perception, beliefs and attitudes about PPD screening included perceived responsibility and perceived time constraints. Specifically, well baby exams may be scheduled for 15-minute appointments, and addressing PPD may be considered low-priority. Providers may have felt it is not within their scope of practice to manage PPD, even initially. Facilitators included an acknowledgement that they (the practice site) were lacking knowledge about PPD screening and referral and had shown an eagerness to learn by agreeing to this project. Having the support of the office manager (the main contact with the practice site for this project) was also a facilitator, as she offered the designated lunch hour and coordination of all staff to attend the educational session. Additionally, emphasizing to providers that it is not necessary to assume full ownership of a mother's PPD was a critical step to overcoming barriers to change; after a positive screen, referral and follow up can be facilitated via support staff (i.e., phone nurse and administrative staff).

Implementation Plan

A date was selected by the DNP student and practice site to hold the educational session during the established lunch hour. Prior to initiating the presentation, all attendees received an anonymous survey to fill out that assessed existing knowledge, beliefs, and confidence in regard to PPD screening and referrals (see *Appendix A*). The PowerPoint presentation began with

current data about PPD: incidence and prevalence, obstacles to identification of PPD and support for screening and initial management in the pediatric primary care setting. It then pivoted to an introduction of the Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden & Sagovsky, 1987) (see *Appendix B*), and an explanation of its benefits. The EPDS is user-friendly, quick to administer and review, and provides scores that can be tracked over time. The presentation also discussed how to approach next steps for mothers whose EPDS scores suggest PPD. The presentation then utilized the algorithm provided by Massachusetts Child Psychiatry Access Project (MCPAP), specifically for pediatric providers (see *Appendix C*) (Massachusetts Child Psychiatry Access Project, 2016). The presentation also included discussion of how to bill for administering and reviewing the EPDS (including CPD codes) and an interactive portion where participants identified risk factors for PPD using three fictional cases. The presentation ended with a review of resources within the community that are available for mothers with PPD (see *Appendix D*), and the request for providers to utilize this information during well baby exams.

Measurement Instruments and Data Collection

The DNP student developed an anonymous, individual, self-reported paper survey for all participating providers prior to the presentation (see *Appendix A*). This survey was anonymous, self-reported and filled out on paper individually. This six-question survey was a Likert-type survey and measured the following: initial knowledge about PPD; comfort level in discussing and screening for PPD; beliefs about responsibility for screening for PPD; beliefs about referring those who screen positive; beliefs about time constraints; knowledge of barriers to screening for PPD; and knowledge of available resources for PPD. Three weeks later the DNP student returned to the clinical practice to provide the identical survey to re-measure provider

beliefs, knowledge and attitudes regarding their approach to and management of PPD. This post survey also included two additional questions asking about the usefulness of the project and the need for further education. All materials reviewed were provided via individual handouts, including current data, the EPDS, the MCPAP algorithm, and the list of community resources.

Data Analysis

For each question, the available responses were given a value of one through five, with one corresponding to the most negative response and five corresponding to the most positive response. The mean score for each question was calculated after administering the pre-survey, resulting in a value between one and five for all six questions. This was repeated with the post-surveys, using identical questions and calculating a mean score for each of the six questions; these were then compared to the pre-surveys. Improved mean scores indicated an improvement in perceived/self-reported knowledge, beliefs, and attitudes in screening and facilitating follow up for PPD by the pediatric provider. Declining average scores and unchanged scores indicated diminished or lack of change in perceived/self-reported knowledge, beliefs and attitudes. The percentage of participants that demonstrated improvement in scores on each question was also calculated.

Results

There were improved mean scores for five out of the six questions; however there was no change in score for the question that stated, “the pediatric care provider should be screening for postpartum depression during routine well-child visits” (see *Appendix E, Table 1*).

In regard to improved scores of individual participants, the initial goal was to see improved scores in at least 75% of participants in regards to knowledge about screening and referring for PPD and awareness of available resources, and improved scores in at least 50% of

participants in regards to their beliefs about the importance of screening and referral (see *Appendix E, Table 2*). There were improved scores for only 11% of participants in regard to feeling knowledgeable about PPD, but 88% of participants showed improved scores in regards to awareness of available resources. Forty-four percent of participants showed improved scores in regards to feeling responsible for screening for PPD. There were overall improved scores for all questions in 77% of participants.

The post-education survey had two additional questions measuring usefulness of the education session itself, and participants' beliefs about additional education and training. For the question that stated, "this education session was helpful to me", the mean score was 4.3; for the question that stated, "I could benefit from further education regarding postpartum depression screening and referral," the mean score was 3.4. These scores suggest that this education session was helpful to the majority of participants, and that further education might be beneficial for these providers.

Discussion

This education session, which aimed to improve providers' beliefs and knowledge about PPD screening and referral, showed that there continue to be gaps in provider knowledge of PPD, and comfort discussing PPD with postpartum mothers. It also showed that there is opportunity to improve provider sense of responsibility for screening for PPD in the pediatric setting. Awareness of community resources improved dramatically after the education session, suggesting that providers simply may not be aware of who/where to refer postpartum mothers to. Finally, there was evidence to suggest that further education would be beneficial to providers regarding PPD.

Cost-Benefit Analysis and Budget

No significant travel costs were incurred and staff at the clinical practice were not required to stay after-hours for this educational project (which could have potentially required paying overtime costs). Cost of color printed handouts was \$120.87. Other financial costs associated with this project included providing lunch for all nine participants, which cost \$113.96. Cost of time for the attendees was as follows: (1) a one-hour session for the educational in-service, which included time for taking the pre-survey, and (2) taking the post-survey.

Timeline

The timeline was estimated that the project would take six months from the development of educational materials to completion of analysis and interpretation. The educational session had to be rescheduled twice due to inclement weather that caused the office to close early. The education session took place in February, analysis and interpretation of the results took place in March and April, and final submission occurred in late April.

Ethics and Human Subjects Protection

There was no direct patient contact during this project; the human subjects concerned were the clinical practice personnel, including physicians, nurse practitioners, nurses and medical assistants. There was no anticipated risk to clinical personnel or the DNP student at any point during the project. The DNP student did not have access to patient records or information, nor was either of those required for discussion. The surveys did not have any identifying data other than clinical title (i.e. physician, APRN, RN, or MA). Any and all data collected were analyzed, evaluated and stored at the DNP student's home and only on the student's personal computer. Based on the design of this quality improvement project, the Institutional Review

Board determined that the project did not meet criteria for human subjects research and therefore approval was not required (see *Appendix F*).

Conclusion

PPD is a mental health and public health concern, with negative implications for both the mother and her child when left undetected and untreated. The pediatric primary care provider has the most contact with the postpartum mother during the first year after childbirth, and has a unique opportunity to screen, identify and facilitate further care for PPD. Regular screening for PPD is important, but without assisting with referral for further care and follow up, outcomes will not meaningfully improve. By educating providers on how they can positively impact mothers with PPD without incurring new costs, technology or workflow, this project aimed to demonstrate that PPD care can and should be initially managed in the pediatric primary care setting. This project suggests that educating providers can have positive effects on their awareness of PPD and the importance of regular screening and facilitating referral.

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Appendix A

Provider Survey

Please circle your role: MD APRN RN MA

Please place an 'x' in the box to indicate your answer.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I feel knowledgeable when it comes to post partum depression					
I feel comfortable discussing postpartum depression with mothers during clinical visits					
The pediatric care provider should be screening for postpartum depression during routine well-child visits					
Time constraints during visits is a major barrier to screening and discussing postpartum depression (i.e. appointments are short, there's not enough time, there's so much else to discuss)					
Initiating referral for PPD support/care and follow-up is the responsibility of the pediatric provider.					
I am aware of available resources for women with postpartum depression					
This education session was helpful to me*					
I could benefit from further education regarding postpartum depression screening and referral*					

*Included only on the post interventions survey

Appendix B

Edinburgh Postnatal Depression Scale (EPDS)

Date: _____ Clinic Name/Number: _____

Your Age: _____ Weeks of Pregnancy/Age of Baby: _____

Since you are either pregnant or have recently had a baby, we want to know how you feel. Please place a **CHECK MARK (✓)** on the blank by the answer that comes closest to how you have felt **IN THE PAST 7 DAYS**—*not just how you feel today*. Complete all 10 items and find your score by adding each number that appears in parentheses (#) by your checked answer. This is a screening test; not a medical diagnosis. If something doesn't seem right, *call your health care provider regardless of your score*.

Below is an example already completed.

I have felt happy:
 Yes, all of the time _____ (0)
 Yes, most of the time (1)
 No, not very often _____ (2)
 No, not at all _____ (3)

This would mean: "I have felt happy most of the time" in the past week. Please complete the other questions in the same way.

1. I have been able to laugh and see the funny side of things:
 As much as I always could _____ (0)
 Not quite so much now _____ (1)
 Definitely not so much now _____ (2)
 Not at all _____ (3)
2. I have looked forward with enjoyment to things:
 As much as I ever did _____ (0)
 Rather less than I used to _____ (1)
 Definitely less than I used to _____ (2)
 Hardly at all _____ (3)
3. I have blamed myself unnecessarily when things went wrong:
 Yes, most of the time _____ (3)
 Yes, some of the time _____ (2)
 Not very often _____ (1)
 No, never _____ (0)
4. I have been anxious or worried for no good reason:
 No, not at all _____ (0)
 Hardly ever _____ (1)
 Yes, sometimes _____ (2)
 Yes, very often _____ (3)
5. I have felt scared or panicky for no good reason:
 Yes, quite a lot _____ (3)
 Yes, sometimes _____ (2)
 No, not much _____ (1)
 No, not at all _____ (0)
6. Things have been getting to me:
 Yes, most of the time I haven't been able to cope at all _____ (3)
 Yes, sometimes I haven't been coping as well as usual _____ (2)
 No, most of the time I have coped quite well _____ (1)
 No, I have been coping as well as ever _____ (0)

7. I have been so unhappy that I have had difficulty sleeping:
 Yes, most of the time _____ (3)
 Yes, sometimes _____ (2)
 No, not very often _____ (1)
 No, not at all _____ (0)
8. I have felt sad or miserable:
 Yes, most of the time _____ (3)
 Yes, quite often _____ (2)
 Not very often _____ (1)
 No, not at all _____ (0)
9. I have been so unhappy that I have been crying:
 Yes, most of the time _____ (3)
 Yes, quite often _____ (2)
 Only occasionally _____ (1)
 No, never _____ (0)
10. The thought of harming myself has occurred to me: *
 Yes, quite often _____ (3)
 Sometimes _____ (2)
 Hardly ever _____ (1)
 Never _____ (0)

TOTAL YOUR SCORE HERE ► _____

*** If you scored a 1, 2 or 3 on question 10, PLEASE CALL YOUR HEALTH CARE PROVIDER (OB/Gyn, family doctor or nurse-midwife) OR GO TO THE EMERGENCY ROOM NOW** to ensure your own safety and that of your baby.

If your total score is 11 or more, you could be experiencing postpartum depression (PPD) or anxiety. **PLEASE CALL YOUR HEALTH CARE PROVIDER (OB/Gyn, family doctor or nurse-midwife) now** to keep you and your baby safe.

If your total score is 9-10, we suggest you **repeat this test in one week or call your health care provider** (OB/Gyn, family doctor or nurse-midwife).

If your total score is 1-8, new mothers often have mood swings that make them cry or get angry easily. Your feelings may be normal. However, if they worsen or continue for more than a week or two, call your health care provider (OB/Gyn, family doctor or nurse-midwife). Being a mother can be a new and stressful experience. Take care of yourself by:

- Getting sleep—nap when the baby naps.
- Asking friends and family for help.
- Drinking plenty of fluids.
- Eating a good diet.
- Getting exercise, even if it's just walking outside.

Regardless of your score, if you have concerns about depression or anxiety, please contact your health care provider.

Please note: The Edinburgh Postnatal Depression Scale (EPDS) is a screening tool that does not diagnose postpartum depression (PPD) or anxiety.

See more information on reverse. ►

Edinburgh Postnatal Depression Scale (EPDS) Scoring & Other Information

ABOUT THE EPDS

Studies show that postpartum depression (PPD) affects at least 10 percent of women and that many depressed mothers do not get proper treatment. These mothers might cope with their baby and with household tasks, but their enjoyment of life is seriously affected, and it is possible that there are long term effects on the family.

The Edinburgh Postnatal Depression Scale (EPDS) was developed to assist health professionals in detecting mothers suffering from PPD; a distressing disorder more prolonged than the “blues” (which can occur in the first week after delivery).

The scale consists of 10 short statements. A mother checks off one of four possible answers that is closest to how she has felt during the past week. Most mothers easily complete the scale in less than five minutes.

Responses are scored 0, 1, 2 and 3 based on the seriousness of the symptom. Items 3, 5 to 10 are reverse scored (i.e., 3, 2, 1, and 0). The total score is found by adding together the scores for each of the 10 items.

Mothers scoring above 12 or 13 are likely to be suffering from depression and should seek medical attention. A careful clinical evaluation by a health care professional is needed to confirm a diagnosis and establish a treatment plan. The scale indicates how the mother felt during the previous week, and it may be useful to repeat the scale after two weeks.

INSTRUCTIONS FOR USERS

1. The mother checks off the response that comes closest to how she has felt during the previous seven days.
2. All 10 items must be completed.
3. Care should be taken to avoid the possibility of the mother discussing her answers with others.
4. The mother should complete the scale herself, unless she has limited English or reading difficulties.
5. The scale can be used at six to eight weeks after birth or during pregnancy.

Please note: Users may reproduce this scale without further permission providing they respect the copyright (which remains with the *British Journal of Psychiatry*), quote the names of the authors and include the title and the source of the paper in all reproduced copies. Cox, J.L., Holden, J.M. and Sagovsky, R. (1987). Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry*, 150, 782-786.

Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry*, 150, 782-786. The Spanish version was developed at the University of Iowa based on earlier Spanish versions of the instrument. For further information, please contact Michael W. O'Hara, Department of Psychology, University of Iowa, Iowa City, IA 52245, e-mail: mikeohara@uiowa.edu.

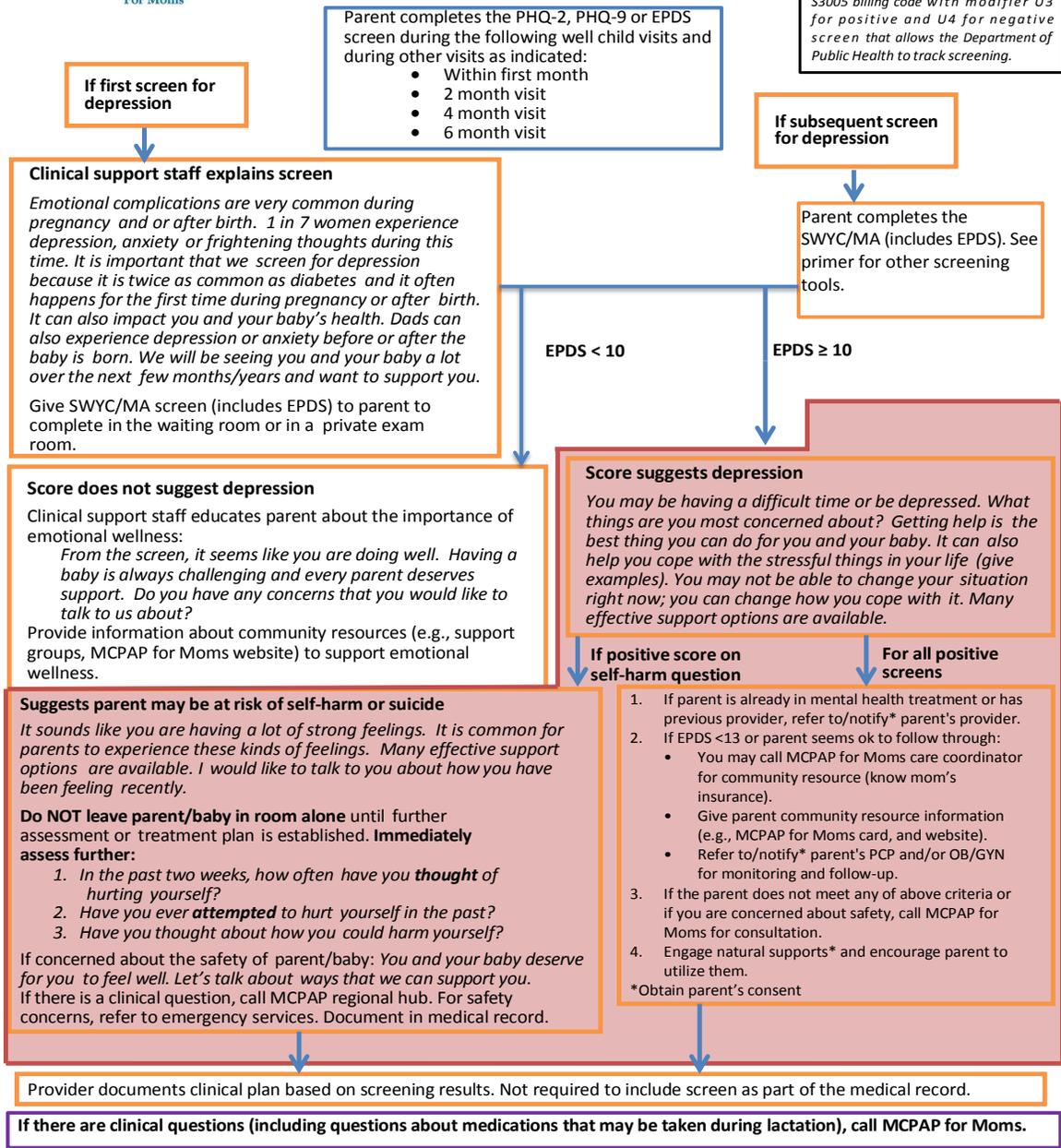
Appendix C

Massachusetts Child Psychiatry Access Program



Postpartum Depression Screening Algorithm for Pediatric Providers During Well-Child Visits (with suggested talking points)

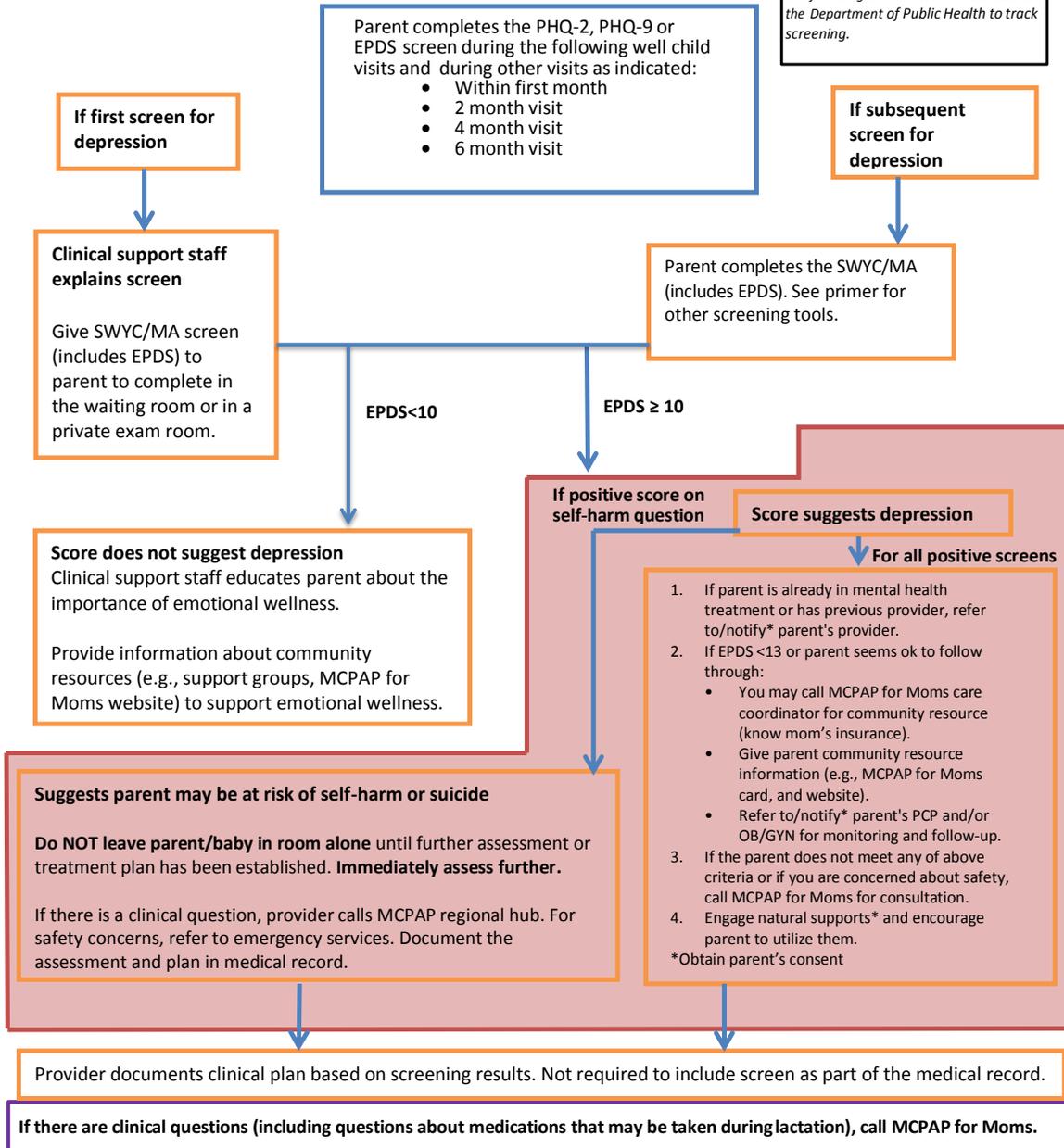
In addition to billing 96110, we encourage all providers to use the S3005 billing code with modifier U3 for positive and U4 for negative screen that allows the Department of Public Health to track screening.





Postpartum Depression Screening Algorithm for Pediatric Providers During Well-Child Visits

In addition to billing 96110, we encourage all providers to use the S3005 billing code with modifier U3 for positive and U4 for negative screen that allows the Department of Public Health to track screening.



Appendix D

Resources for women with postpartum depression in Hartford County, Connecticut

Postpartum Support International- Connecticut Chapter

State Coordinator: Jaleen Aduma

<https://psictchapter.com/>

Telephone: 347-737-5354

ABC (Adjustment to Baby Challenges Support Circle)

45 North Main Street, Suite 311C, West Hartford CT

203-558-1170

Adjusting to Pregnancy & Postpartum Support Group:

Compass Wellness Center

14 Vine Street, New Britain, CT

It's Hard to Mom

Mass Cottage, 1st Floor Group Room

Institute of Living, 200 Retreat Ave. Hartford

860-545-7324

Moms Offering Moms Support: MOMS Group

Hockanum Early Childhood Learning Center (Room 11 or Family Resource Center)

191 Main St. East Hartford, CT.

860-291-7179

Appendix E

Table 1

Mean scores for pre- and post- education session

	Pre survey mean score	Post survey mean score	% change
I feel knowledgeable when it comes to post partum depression	3.33	3.44	3.3%
I feel comfortable discussing postpartum depression with mothers during clinical visits	2.77	2.88	3.9%
The pediatric care provider should be screening for postpartum depression during routine well-child visits	4.22	4.22	0%
Time constraints during visits is a major barrier to screening and discussing postpartum depression	4.22	3.66	13%
Initiating referral for PPD support/care and follow-up is the responsibility of the pediatric provider.	3.44	3.66	6.45%
I am aware of available resources for women with postpartum depression.	3	3.77	25.9%

Table 2

Individual improvement in scores

	Percentage of participants with improved scores
I feel knowledgeable when it comes to postpartum depression	11%
I feel comfortable discussing postpartum depression with mothers during clinical visits	44%
The pediatric care provider should be screening for postpartum depression during routine well-child visits	33%
Time constraints during visits is a major barrier to screening and discussing postpartum depression	55%
Initiating referral for PPD support/care and follow-up is the responsibility of the pediatric provider.	44%
I am aware of available resources for women with postpartum depression.	88%

Appendix F

Human Subject Research Determination Form



University of Massachusetts Amherst
Human Research Protection Office
Mass Venture Center
100 Venture Way, Suite 116
Hadley, MA 01035

Office of Research Compliance
voice: (413) 545-3428
fax: (413) 577-1728

MEMORANDUM – Not Human Subject Research Determination

Date: December 18, 2017
To: Tara Boyd, Nursing

Project Title: *Pediatric Primary Care Providers and Postpartum Depression: Educating Providers about the Importance of Regular Screening, Referrals and Follow-Up*

IRB Number: 17-221

The Human Research Protection Office (HRPO) has evaluated the above named project and has made the following determination based on the information provided to our office:

- The proposed project does not involve research that obtains information about living individuals.
- The proposed project does not involve intervention or interaction with individuals OR does not use identifiable private information.
- The proposed project does not meet the definition of human subject research under federal regulations (45 CFR 46).

Submission of an IRB application to University of Massachusetts Amherst is not required.

Note: This determination applies only to the activities described in the submission. If there are changes to the activities described in this submission, please submit a new determination form to the HRPO.

Please do not hesitate to call us at 413-545-3428 or email humansubjects@ora.umass.edu if you have any questions.

A handwritten signature in cursive script that reads "Iris L. Jenkins".

Iris L. Jenkins, Assistant Director
Human Research Protection Office