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Provider Perceptions on the Outcome of Postpartum Depression Screening During Well-Child Visits

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Date Due: May 2021

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Abstract

The US Preventative Task Force and Centers for Medicare and Medicaid Services recommend screening for perinatal and postpartum depression (PPD) during well-child visits that occur during the first year of the baby's life. Postpartum means the time after childbirth, and postpartum depression is defined as a variant of major depressive disorder that occur during pregnancy or within 4 weeks of delivery. Current pediatric guidelines recommend that PPD screening occur at three to five days after birth and at one, two, four, six, nine and twelve month well-child evaluations during the first year of life. This DNP clinical inquiry project brought to light an of understand primary care providers' (PCP) perceptions of PPD screening practices during well-child checks by surveying the providers about their PPD practices. The participants took a survey to measure understanding of PPD in their practice, and frequency of PPD screening during the well child visits. This DNP clinical inquiry project measured providers reported wide-ranging (PPD) screening practices and use of various validated PPD screening tools during well child visits. Screening practices have improved among PCP's, according to the AAP, but still less than half of providers screen mothers for PPD.

Keywords: primary care providers, postpartum depression screening, postpartum depression

Primary Care Provider Perceptions of the practice of Postpartum Depression Screening During Well-Child Visits

The purpose of this DNP project was to assess primary care providers' (PCP) perception of screening mothers for postpartum depression (PPD) during well-child visits. Assessing PCP understanding of PPD screening can highlight practice barriers preventing providers from including PPD screening in their well-child evaluations. It is also essential to assess PCP attitude of the efficacy of using PPD screening within the providers' practice as well. Little evidence exists exploring PCP perceptions of PPD, leaving a gap in the literature. This clinical inquiry DNP project sought to illuminate PCP understanding of PPD screening in well-child evaluations and provide insight into current practice behavior.

Background and Significance Prevalence

This clinical inquiry project builds upon a previous project whose purpose was to detail a program development and evaluation project designed to improve early identification of postpartum depression (PPD) and facilitate appropriate mental health referrals for mothers who are attending well-child visits. PPD is a maternal psychiatric disturbance that can negatively affect the health outcomes of both the mother and the infant (Papadopoulou et al., 2019). The following conditions predispose women to PPD during pregnancy; anxiety, experiencing stressful events during pregnancy, early puerperium, history of depression and low levels of social support during pregnancy (Stewart et al., 2003). Women that present to providers with the above symptoms of postpartum depression should be screened for postpartum depression. Each year approximately half a million babies are born to mothers who have general depression, with PPD being the most undiagnosed obstetric complication in the United States (Russomagno et al., 2019). Out of the four million births in the U.S each year, an estimated 520,000 women will experience PPD (Loudon et al., 2015). Loudon (2016) surveyed women and noted that PPD is one of the most common medical complications, affecting 25% of mothers, subsequently Bauer

and colleagues (2017) found that 15% of women are affected with PPD after childbirth. General depression in the prenatal period occurs in 7% to 13% of women in the first year after birth, and 19.2% in the first 3 months after birth, disrupting maternal attachment (Albaugh et al., 2018, p. 3). The percentage of new mothers with postpartum depression in Arkansas in 2012 was 20.1% (Ko et al., 2017). PPD affects 10% to 20% of new mothers and early diagnosis including screening can reduce its negative impact by 7%, 31%, and 31% respectively among pediatricians, obstetricians-gynecologist, family practitioners respectively (Waldrop et al., 2018). The percentage of PPD among new mothers justifies ongoing surveillance to better recognize and screen for PPD, which means that ongoing surveillance is required to better recognize and screen for PPD (Albaugh et al., 2018; Waldrop et al., 2018). Selix et al. (2017) explain that maternal mental health disorders, such as depression and anxiety, affect 15% to 20% of postpartum women. Additionally, Duffecy and colleagues (2019) explain that the prevalence rate for PPD at 3 months after birth is 20%.

PPD usually occurs between 6 weeks and 6 months of life, and can occur any time in 1st year post-partum. Goldin et al. (2015) explain that PPD is an affective mood disorder occurring within the first year after childbirth. Albaugh et al. (2018) explained the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorder, 5th ed, allows for a specifier in the PPD diagnosis denoting that depression may begin with peripartum onset only if mood disruption begins during pregnancy, or within the first 4 weeks after birth. This understanding may give providers a headstart in diagnosing and treating women who exhibit post-partum depressive symptoms. It has also been shown that new mothers' vulnerability extends to at least the first 6 months after birth. New mothers, while pregnant and up to 1-year postpartum, may experience perinatal mood and anxiety disorders (PMAD) which include psychopathology or distress dimensions that should be included in part of a psychological evaluation in which the outcome may be a diagnosis of major depressive disorder (Long et al., 2019).

PPD Risk Factors

Comorbid risk factors for PPD include pregestational or gestational diabetes, past history of depression, history of physical or sexual abuse, unplanned or unwanted pregnancy, and lack of social and financial support (O'Connor et al., 2019). Poor maternal mental health is associated with poor infant cognitive, and behavioral development, which may lead to suicide of the mother or infanticide indicating the importance of screening and treatment interventions (Jaronski et al., 2016; Roberts et al., 2019).

Ethnicity, maternal age, level of education parity and gender of child were not predictors of PPD in western societies detail “that 10% of pregnant women worldwide and 13% of women who have just given birth experience some type of mental health disorder” (Roberts et al., 2019, p. 2).

Logsdon et al. (2018) explain that 50% of adolescent mothers have high rates of depressive symptoms. Women with increased comorbidities and complications, such as preeclampsia and gestational HTN, should be screened as they have a higher incidence of depression (Roberts et al., 2019). Noonan et al. (2018) explained mental health problems may relapse from the perinatal period to the first year after birth. To reduce the exacerbation of adverse maternal outcomes recognition of mental health problems early treatment of PPD is required. Additionally, stressful obstetrical complications during pregnancy have been shown to affect the relationship between mother and baby (Roberts et al., 2019).

Practice Recommendations

According to Chaudron et al. (2004), a standardized postpartum depression screening tool is useful in primary care clinical practice to improve the detection of depression during high-risk postpartum time. The scope of this project is focused on obstetricians, primary care nurse practitioners, clinical nurse specialists, primary care physicians, and pediatricians in Arkansas which is a realistic and appropriate way to understand how providers in Arkansas think about the postpartum depression screening. The World Health Organization reports 10% to 13% of

postpartum women develop a mental health disorder during the prenatal and postpartum period (Booth et al., 2018).

Effect of PPD on Maternal Health Outcomes

The range of psychosocial risks to the mother and infant include domestic violence, substance abuse, harm to the infant, and deterioration of family support dynamics; if PPD is not evaluated and treated in a timely manner (Emerson et al., 2018). Moore et al. (2019) noted that PPD effects the entire family in a negative matter. PPD has significant effects on the mother-infant relationship, child growth and development, which manifest as greater cognitive, behavioral and interpersonal problems (Stewart et al., 2003). If PPD can be treated the symptoms and manifestations can be averted by enabling new mothers with mental health resources. When new mothers have a carefully constructed, adapted and customized mental health program specific to their lifestyle from their providers after PPD screening, new mothers have a toolkit to combat PPD with the the knowledge, proper support, behavioral health adaption skills (Stewart et al., 2003).

Effect of PPD on Infant Health Outcomes

PPD effects more than just the mother; it can complicate infant recovery after childbirth and contribute to the risk of long lasting physical and emotional health of the parents (Emerson et al., 2018). Ogbo et al. (2018) explain that maternal depressive symptoms have long and short term consequences for the child, family, and mother, which include low birth weight, psychological issues, increased risk of diarrhea, stress, poor social interaction and suboptimal feeding patterns for the baby. Maternal depressive symptoms are partly associated with child cognitive development via family process and parenting practices, which means untreated maternal depressive symptoms effect the bonding therapeutic family processes which impedes the childs ability to cultivate cognitive skills during this period (Ahun & Cote, 2018). Maternal psychological wellbeing, stress anxiety and depression are associated with an increase in the

maternal hypothalamus-pituitary-adrenal axis activity, increasing cortisol release may negatively affect fetal neurodevelopment leading to bilateral thinning of the prefrontal cortices in 6-9 year old children (Marroun et al., 2016). Maternal depression is associated with behavior problems in offspring because mother-child interaction influence the relationship of the child's development due to the fact that negative motherly parenting behaviors inhibit a child's emotional development (Kudinova et al., 2019). PPD may potentially interfere with the early parent-infant interaction, delaying infant development and leading to disturbances in the child's attachment, interactions, social and emotional development (Rafferty et al., 2019). Evidence-based treatment for PPD is cost effective and will add additional well-being benefit for the provider and patient. The provider gains satisfaction by being able to provide the screening for a potential devastating mental health issues that has long term effects on the infant and mother. The mother gains fulfillment by gaining access to the mental health resources required potentially needed during a mentally and physically demanding perinatal period.

Financial Implications of PPD

In 2016, the economic costs, social and economic, for untreated maternal depression was 5.7 billion dollars (Selix et al., 2017). Luca et al. (2020) explain that untreated perinatal mood and anxiety disorders lead to healthcare costs estimated at \$14 billion over a 5 year period, with the average cost of \$31,800 per mother and child. Dagher and colleagues (2012) note that employed women with PPD exhibit 90% higher health care expenditures than women without PPD, with emergency room services accounting for most of the expenses compared to women without PPD, women with PPD increased their utilization of emergency room services and mental health counseling (Dagher et al., 2012).

PPD Screening Recommendations

The National Association of Pediatric Nurse Practitioners recommends screening women for PPD in the first year of a child's life, but currently there is not a specific tool recommended

for PPD screening (Russomungo & Waldrop, 2019). The American College of Obstetricians and Gynecologists and US Preventative task Force recommend universal screening for perinatal depression at least once with a validated standardized tool (Russomungo et al., 2019). Women are four times more likely to attend mental health visits when the services were integrated and located in the same health center as the prenatal and postpartum visits (Albaugh et al., 2018). This engagement dropped when providers were required to refer patients to offsite mental health services. In addition, at home cognitive behavioral intervention had a 67% rate of retention for women who were referred for PPD treatment therapy, as did home health nursing visits that met women in their home environments (Van Lieshout et al., 2020). The American Academy of Pediatrics state that PPD can be treated effectively and reduce stress on the infant with PPD screening at the one, two, four, and six month well-child visits in the pediatric primary care setting (Earls et al., 2018, 2019).

Increase in PPD screening was noted when the Edinburgh postnatal depression scale (EPDS) screening tool was added to the Electronic Medical Record (EMR) (Long et al., 2019). Ninety-eight percent of providers used the EPDS tool when it was added to the EMR and 100% of the mothers identified at-risk for PPD were 100% referred (Long et al., 2019).

When PPD screening is implemented in the provider clinical setting, PPD screening can be effective in preventing long term psychosocial consequences related to maternal distress in the postpartum period (Duffecy et al., 2019). The high economic costs of managing the poor health outcomes of PPD are directly related to the inconsistent PPD screening practices of PCPs (Luca et al., 2020). There is a need to evaluate PCPs' perceptions in order to understand their clinical practice choices as it relates to PPD screening in new mothers.

Problem Statement

The problem statement for this DNP clinical inquiry (CI) project is that most primary care providers are not screening for PPD in well-child evaluations as recommended by the AAP. The

prevalence of postpartum depression in new mothers reveals that there is a need to understand how providers feel about postpartum depression screening of new mothers during well child visits.

Purpose Statement

The purpose statement for this DNP CI project is to evaluate primary care providers' perceptions on screening new mothers for postpartum depression during well-child visits. This was accomplished by a survey that was sent to Arkansas Providers that provided an overview of providers that screen for PPD in Arkansas.

PICOT Question

The PICOT Question for this DNP CI project is how do primary care providers (P) perceive PPD screening in the first year of childbirth (I) compared to current practice (C) for detecting new mothers with PPD during well-child evaluations.

Needs Assessment

This DNP clinical inquiry project builds on the DNP project of University of Arkansas (UARK) DNP Graduate student Katlyn Steimel. Dr. Steimel found a need for improved screening for PPD of mothers during the well child visit at her clinical site (Steimel, 2020). Steimel (2020) recommended that future research focus on improving the PPD screening and referral process for new mothers attending well-child visits.

A thorough review of literature about the PPD screening practice in primary care clinics uncovered a gap in care revealing inconsistent screening practice for PPD, agreeing with Dr. Steimel's findings. The literature review also revealed a need to understand providers' thoughts about postpartum depression screening in well-child evaluations.

Evans et al. (2014) explain that majority of physician groups report low use of PPD screening, and the lowest rate of screening was with the pediatric specialty. This paradox was attributed to many providers lacking the knowledge and skills necessary to routinely screen for

PPD (Evans et al., 2014). Pediatricians were identified as the provider with the most interactions with the postpartum mother, however, they are the least likely to report they have received training about PPD management (Evans et al., 2014). It was found that pediatricians often rely on their clinical judgement for PPD detection rather than using a standardized tool to screen for PPD (Evans et al., 2014).

Another recommendation from Dr. Steimel's DNP Project, was to have the state of Arkansas require universal PPD screenings and have Centers for Medicare and Medicare Services reimburse providers for this service to increase the support for the evidenced-based screening recommendations and close a gap in Arkansas state healthcare policy regarding PPD screenings (Steimel, 2020). According to IRS Publication 969, Arkansas screening tests, backed by a medical diagnosis, are reimbursable from a Health Savings account (HSA) and flexible spending account (FSA) according to IRS rules (IRS Publication 969, 2019). This allows screening to be reimbursed if a patient has a HSA or FSA in Arkansas. CMS at this time does not reimburse Arkansas' providers for PPD screening (National Academy for State Health Policy [NASHP], 2020). CMS reimburses 42 states and the District of Columbia that reimbursement providers in the well child visit for PPD screening, and this further indicates the need for seven more states Alaska, Arizona, Arkansas, Florida, Kansas, New Hampshire, and New Jersey to implement PPD reimbursement in the well child visit (NASHP, 2020). Code 96161 can be used to bill the patients health plan in states other than Arkansas Medicaid, which mean that a reimbursable PPD screening can take place at the well-child visit if the patient does not have Medicaid insurance in Arkansas (AAP Division of Health Care Finance, 2016).

Aim and Objectives

The goal of this DNP clinical inquiry project was to understand providers' behavior of PPD management practice by using the Theory of Planned Behavior to survey Arkansas' pediatric and primary care medical providers and Advanced Practice Registered Nurses (ARNP)

providers. Providers' responses illuminated their behavior motivation to elucidate the uptake of new behaviors related to practice of PPD screening. The aim of this project was to understand the PPD screening perceptions of PCPs. The objectives of this project were:

1. To develop a survey assessing primary care providers' perception of screening mothers for PPD during the well-child evaluations during the first year of life.
2. To understand primary care providers' understanding of the efficacy of the EPDS screening tool.

Review of Literature

The literature was examined utilizing the University of Arkansas library databases using the keywords *post-partum depression*, *perinatal depression* and *provider screening*. The topic searched was PPD screening, and the databased used was the Arkansas libraries journal article database. Inclusion criteria included studies that were focused on the topic of the prevalence of provider screening practices, full text online, within the last 5 years, and studies that included US data, research participants, English language and peer reviewed. Exclusion criteria included studies outside of the US, studies specific to managing a specific comorbid obstetric health condition, studies that did not include explanation of PPD. In general literature was searched using a 5 year span from 2015-2020. A total of 41 articles were selected that had all search word criteria keywords inclusion and exclusion criteria.

Economic cost of postpartum depression

Luca et al. (2020) estimated the economic burden of postpartum mood disorders felt by mothers and babies born in 2017 from conception through 5 years of life cost \$14 billion, and the average cost per mother is about \$31,800. "Reimbursement is essential to recapture and recover the costs of untreated postpartum mood disorders cause both indirect and direct costs that include 1) income loss because of reduced maternal productivity, 2) greater use of the public health services such as Medicaid 3) and higher healthcare costs due to decline in maternal and child

health” (Luca et al., 2020, p. 6).

Postpartum Screening Tools

The American College of Obstetrics and Gynecologists (ACOG) recommends that PCPs screen mothers with a validated standardized tool at least once during the perinatal period (Russumango et al., 2019). The American College of Nurse-Midwives supports universal screening and treatment referral for depression in women as part of routine health care (Russumango et al., 2019). There are many additional organizations that recommend screening and treatment of perinatal depression, American Academy of Family Physicians (AAFP), American Academy of Pediatrics (AAP), The US Preventative Services Task Force (USPSTF), Centers for Medicare and Medicaid Service also recommend routine universal screening for perinatal depression in women (Rafferty et al., 2019). The AAP recommends screening for postpartum depression at four well-child visits in the first six months of life and refer the mother to treatment when needed.

The Edinburgh Postnatal Scale

The American Academy of Pediatrics recommends the Edinburgh Postnatal Scale (EPDS) to assess for maternal PPD at the 1, 2, 4 and 6-month well-childvisits (AAP Division of Healthcare Finance, 2016). The EPDS is the most widely accepted screening tool for women worldwide and has a sensitivity of 68-86% and specificity of 78-96%. A score of 10 indicates depression is present (AAP Division of Healthcare Finance, 2016). The USPSTF notes that the use of the EPDS is an effective screening tool for depression in pregnant and postpartum women as the tool has been validated in many populations and in spanish (Rafferty et al., 2019). Developed in 1987 the EDPS is a 10 item questionnaire is a validated tool that focus on maternal and child health and helps detect depression in postpartum women (Booth et al., 2018). The EPDS is a validated tool that is effective in identifying PPD and provides a consistent way for providers to identify and refer or treat to new mothers with PPD (Emerson et al., 2018).

Barriers to PPD Screening in Primary Care Clinics

Even though the relationship between depression and the postpartum period has been documented since the time of Hippocrates-Classical Greece, screening for PPD remains difficult due to varying clinical practice approaches among PCPs (Loudon et al., 2016). In 2018, the Centers for Disease Control and Prevention (CDC) reported that 1 in 8 women with live births were not assessed for depression during post-partum visits, and 1 in 5 women were not assessed at prenatal visits (Bauman et al., 2020). More than 50% of women are not assessed for PPD in provider settings, and would benefit from mental health support as a new mother (Rafferty et al., 2019). Standardized screening in the provider setting would yield the support needed for new mothers. Half of all cases are not recognized, even with a documented correlation of PPD and the postpartum period (Loudon et al., 2016). Variation in site-based estimates of the percentage of health care providers who reported screening for PPD depression might be related to differences in state initiatives to increase provider capacity and link women to care (Bauman et al., 2020).

Additional barriers to PPD screening include women who use their obstetrician/gynecologist as their PCP, previously used mental health (MH) care, or chronic health conditions, such as diabetes, hypertension, hyper or hypothyroidism (Leddy et al., 2011). Mothers may feel that the pediatric setting is not the place for the mother to discuss their own health concerns, so they may defer in talking about their mental health with pediatric providers. The capacity to deal with the mother's chronic health conditions, may reduce the capacity of the mother to also manage any mental health conditions, and she may not mention any symptoms or issues with providers. Provider barriers include lack of training, lower confidence, and lack of readily accessible mental health referral treatment (Russomagno et al., 2019). Other perceived barriers include a lack of available mental health services for patients, lack of financial incentives, and the fact that some mothers did not want to discuss PPD (Waldrop et al., 2018).

There is a concern for lack of engagement of mothers after screening. Albaugh et al.

(2018) noted that only 30% of pregnant women with positive screening for depression results agreed to be contacted by a mental health professional, and 38% of women referred attended one visit, and only 6% remained in the program to be contacted after 6 months. Right now, “the rates of PPD screening are inconsistent as 80% of pediatricians and 60% of obstetricians use clinical judgement rather than a validated screening tool” (Earls et al., 2018, 2019). Five barriers to adequate postpartum mental health exist which include:

1. Women do not follow up as scheduled.
2. Are not always screened for changes in mood.
3. Screening to detect PPD lack standardization.
4. PPD may be discounted or denied by patient and healthcare provider-attributing to normal factors of child birth.
5. Cost associated with implementing universal screening in clinical setting is difficult, due to cost of administrative support and changing clinical protocols (Loudon et al., 2016, p. 501-502).

Some of the biggest barriers to PPD screening are PCP lack of time and training, as well as inefficient referral sources for pediatric providers. Around 66% of pediatricians report that main barriers for screening for PPD is time constraints, and 60% of barriers are related to inadequate training, skills or knowledge (Russomango et al., 2019). There was not a consistent approach to screening among family practitioners, MD and FNPs, and they also showed reluctance to change their practice to incorporate PPD screening (Noonan et al., 2018).

Approximately 99% of Family Physicians’ reported a willingness to use a questionnaire to evaluate for PPD, but that they did not screen if there was not a referral pathway, and General Practitioners/Primary care providers felt women would recover from depression without formal interventions (Noonan et al., 2018). Additional barriers include lack of standardized guidelines, ability to combine family practitioner clinical judgement and screening tools, and the stigma

associated with PPD symptoms (Noonan et al., 2018).

Family practitioners require training, access to psychosocial and health treatment options for patients to effectively refer patients to mental health services if needed (Noonan et al., 2018). If and when providers adopt a universal screening method such as the EPDS in screening for PPD, providers need background understanding on how the EPDS is validated to diagnose PPD symptoms.

Long et al. (2019) noted that one percent of new mothers are affected by postpartum depression. It is known that the clinical evaluation of screening for PPD also provides the new mother with education on how to recognize PPD symptoms in her own daily life. If she experiences any depressive symptoms she is now aware of mental health resources for referral because the mental health resources are addressed after the screening if the mother is positive for PPD (Rosenbaum et al., 2018). Osborne et al. (2010) explain competing medical demands require that providers prioritize services and defer other services to other visits, so understanding how and what competing demands may be apparent in pediatric practices will help inform this clinical inquiry.

To implement a successful change in clinical practice it is important to know the providers thoughts guiding their behavior, which can be achieved through a survey assessing the attitudes, confidence, and behaviors regarding the management of a particular target behavior, and in this clinical inquiry PPD (Osborn et al., 2010). The barriers to implementing PPD screening in practice was not the willingness of providers to clinically assess women with PPD symptoms but also the administrative barriers such as electronic medical record, standardization of clinical evaluation in the practice setting, and intentions of the providers to make a change in how they evaluated new mothers in their clinical setting (Osborn et al., 2010).

PPD Survey

Survey Components

The elements of the survey evaluated include a baseline clinical inquiry survey to understand the following: providers knowledge of PPD screening, age, demographic, type of clinical provider, county of practice within Arkansas, what type of patients the provider sees in their clinical practice, and the barriers encountered when addressing PPD in clinical practice. The survey was developed based on the components of the theory of planned behavior (TPB) which is a framework for understanding human behavior, and it consists of three components (Kortteisto et al., 2010). The first component is the attitude toward the behavior, which is assessed in the survey questions about the providers understanding of PPD. The second component of TPB is the behavior toward the subjective norm, the survey questions about the providers understanding of PPD. The third component of TPB is the perceived behavior and the questions focused on the providers clinical practice and personal demographics such as age, length of practice, and location of practice. The survey will include the providers demographic information using closed, open ended questions to assess providers understanding of PPD. The purpose of assessing provider barriers to practice questions is to understand the interrelated processes, framework, attributes and connections related to provider compliance with PPD screening recommendations (Russomagno et al., 2019). The survey components were also adapted from a survey developed by Appleby, based on the TPB which was evaluating physicians intentions to standardize care delivery implementation (2018). Evaluated areas included demographics of the providers, providers understanding of evidenced based practice PPD evaluation methods and intervals. The project utilized a 31-item survey questionnaire linked via email to Qualtrics.com and sent to the recipients, included the following styled questions: Likert, list, and commentary. These items assessed participants' perception of their familiarity with PPD screening, the importance of PPD assessment in their clinical practice, the current county location in Arkansas of practice, and whether they can identify PPD screening barriers in practice.

Survey Distribution and Collection Methods

The American Academy of Pediatrics highlights the importance of screening for PPD in the obstetrics and pediatric setting if indicated (Luca et al., 2020). The recruitment email included the invitation to potentially improve clinical practice by providing provider information about screening importance, to encourage survey completion and potentially improve clinical practice. Surveys were distributed to the Arkansas Nurse Practitioner Association members after approval from managing board members, also by the ANCC email distribution list to Arkansas Advanced Practice Providers, and surveys were sent via administrator to the American College of Pediatrics members. A total of 60 advanced practice providers and medical doctors answered the survey data. After cleaning data, a total of 58 survey responses was used in this analysis.

Munn & Jones (2020) explain that to maximize survey response it is important to obtain buy in of a well respected provider in the community to be surveyed to help facilitate recruitment of study participants and garner organizational support. It is recommended that the the survey recruitment information must also state practice benefit that may be inherently interesting to the provider completing the survey. Identifying a key stakeholder in the organization to support the project and having two methods of ways to obtain the survey: paper and online, will maximize survey response. Brnikova et al. (2018) explain that physicians response rates to surveys increased when they were given a choice of online vs mailed survey, and online survey response is always higher than mailed responses.

Theoretical Framework

This clinical inquiry project provided understanding towards practitioners attitudes toward PPD screening and their perception of their ability to implement a practice change of screening for PPD in a clinical setting (Kortteisto et al., 2010). The theory of planned behavior (TPB) is a conceptual framework for understanding human social behavior. The TPB Theoretical Framework is a measure for understanding providers' intentions on using evidenced based

guidelines in clinical care (Kortteisto et al., 2010). The TPB consists of three components: the attitude toward the behavior, the subjective norm, and perceived behavior control (Kortteisto et al., 2010).

Attitude Toward the Behavior

The first component of the TPB is described as the attitude toward the behavior, composed of human beliefs about consequences of the behavior. Understanding why the provider is or isn't completing screening in practice and understanding the clinical financial implications, such as patient health insurance coverage for PPD services reimbursement for PPD screening will help inform perceived behavior. The TPB has predicted the uptake of new techniques by health care providers by identifying the beliefs behind the target behavior where one wishes to see change (Kortteiso et al., 2010).

Subjective Norm

The second component of TPB is the subjective norm which is composed of human beliefs about the consequence of behavior. The providers' understanding of how their behavior is perceived in clinical practice, i.e. their reputation helps motivate behavior change. Also understanding the providers current communication strategies, vision plans with outside providers, current practice colleagues and staff would help inform the subjective norm of portion of the theory of planned behavior.

Perceived Behavior Control

The third component is the perceived behavior control, which explains how the person understands their capability of control of performing the behavior in question. The central determinant of behavior is intention to perform the action (Kortteisto et al., 2010). Theory of planned behavior is related to this clinical inquiry project because the focus of the project is to understand how the providers perceive PPD screening within their practice setting. The TPB is used to predict health behavior, and TPD states that an individuals behavior is determined by

behavioral intention, an individual engages in behavior that is determined to be positive (attitude), where there may be peer pressure or social acceptance (subjective norms), and where it is achievable (subjective norms) (Logsdon et al., 2017, p. 274).

The theory of planned behavior provides a framework to better understand how providers change their behavior in the clinical setting. The central tenants of the theory of planned behavior (TPB) include the following components: the intention to perform the behavior, then the three latent components of planned behavior include, the attitude toward the behavior, subjective norm, perceived behavior control (Kortteiso et al., 2010). Exploring the providers complex behavior constructs using the TPB will help explain and provide a framework of current PPD screening behavior in practice.

One way to improve healthcare to improve the screening and treatment of PPD, is to evaluate providers behaviors and understanding toward PPD screening (attitude). Which is a central element of TPB. This clinical inquiry survey helps with educating health professionals to understand their behaviors as it relates to how providers approach PPD in practice.

The clinical inquiry survey is based on the theory of planned behavior and the questions in the survey will help determine the understanding of PPD and how PPD screening is considered for patients in clinical practice (Kortteiso et al. 2010). Understanding the providers' current communication strategies, vision plans with outside providers, and current practice colleagues, helps provide a framework on what helps a provider complete their clinical work.

Methodology

Project Design

An exploratory research design was utilized for this CI project by identifying factors that contribute to the providers' ability and willingness to incorporate PPD screening during well-child visits. Patients' fear and the stigma of PPD inhibit patients from presenting their symptoms to their medical provider (Drake et al., 2014). This design is appropriate for the project because

it helps answer how the providers approach PPD screening in their clinical practice. This project utilized a cross-sectional study collecting data at one point in time. The analysis included a crosstabulation with Chi-Square analysis with the dependent variable being the decision to recommend PPD screening and treatment if indicated. The selected design for the project was a clinical inquiry research design, and the approach was structured surveys with questions about the providers demographic information, perceived practice barriers to PPD screening, and synthesizing of practice guidelines to understand and measure the overall perceived need of PPD in clinical practice.

Project Description

The information in this clinical inquiry project highlighted the clinical practice barriers and PCP perceptions of implementing PPD screening on new mothers during well-child evaluations. Information from this clinical inquiry project may be disseminated as a means of increasing PPD screening and help enhance clinic workflows conducive to prompt providers to address PPD screening.

Setting

The setting of this clinical inquiry project was an online survey that was housed in the online survey capture system called Qualtrics, and obstetricians, primary care nurse practitioners, clinical nurse specialists, primary care physicians, pediatricians, in Arkansas that performs well child care were invited to complete the survey.

Study Population

The provider survey was a pilot study survey sent to practitioners in Arkansas that see pediatric patients. The study participants are practicing PCPs in Arkansas, including nurse practitioners, physicians, who manage the care of pediatric patients in primary care clinics.

Study Interventions

As a clinical inquiry project the study intervention was an online survey consisting of

provider demographical data, clinical practice guidelines questions, and questions on gender age, profession. The survey aimed to better comprehend provider practice barriers, and their understanding of PPD, by using the tenets of theory of planned behavior: the attitude toward the behavior, the subjective norm, and perceived behavior control to understanding the associated competing barriers to implementing PPD in the clinical setting (Kortteisto et al., 2010).

Pre-Implementation Phase. The sample population was recruited using the Arkansas Nurse Practitioner Association members after approval from managing board members, the Arkansas Nurse Practitioners social media group, and also by the ANCC email distribution list to Arkansas Advanced Practice Providers, and surveys were sent via administrator to the American College of Pediatrics members. The research project was approved by UARK IRB 2-10-2021, and the survey was completed in Qualtrics and link added to the recruitment letter 2-17-2021.

Implementation Phase. As this is a clinical practice inquiry project there was not an innovation or implementation but rather a gathering of information. The survey took an average of 10 minutes to complete. When the provider signed into the Qualtrics platform for the survey the option was provided to either accept or decline the informed consent to start the survey. A total of 60 advanced practice providers and medical doctors answered the survey data. After cleaning data, a total of 58 survey responses was used in this analysis. Consent was obtained at the beginning of the survey administered through the Qualtrics website. During the implementation phase the survey was sent to the four concentrated methods which included the Arkansas Nurse Practitioner Association, ANCC email distribution list to Arkansas Advanced Practice Providers, the American College of Pediatric Members, and email contacts detailed further below. Initially mailed survey responses were going to be used for survey response but for effective use of time, the survey was emailed for immediate response and implementation. The survey was sent via the ANCC email distribution list to Arkansas Advanced Practice Providers, and sent via administrator to the American College of Pediatric Members. Arkansas

Nurse Practitioner Association (ANPA) members received the survey after approval from managing ANPA board members. Additionally Arkansas Advanced Practice Providers were contacted via email through the DNP professor advisor email contacts to increase response rate. The private social media account for the Arkansas Advanced Practice providers was utilized to increase provider response. The first inquiry for survey was delayed due to awaiting approval from the ANPA to post on the the Association social media website, so the first survey inquiry was sent 2-28-2021 after getting approval from the Arkansas Advanced Practice private Facebook social media website, and the Arkansas Nurse Practitioner Association to send the surveys to its members. Obtaining approval for emails from ANCC added additional wait time to distribute the survey. The survey had a slow response rate, and as of the March, 5, 2021 date there were zero responses. On March 21, 2021 eight responses had been received, April 5, 2021 there were 36 responses, and April 11, 2021, 50 responses were obtained. My response rates were slow with the listservs from ANCC so additional strategy was employed. This strategy included sending out the survey different times of the day. It was determined that response rates were slow and the recruiting options were expanded by posting-the survey to social media. The responses kept increasing with this new recruiting method and the number of times the survey inquiry was sent daily were increased to twice a day, morning and evening, to the Arkansas providers. After I obtained approval from the ANPA board March, 29 2021, I realized that my survey could be distributed to their members and survey was posted to their website the same day for additional responses. A successful strategy to increase responses was to send inquiries for the survey in the morning and evening for all four directed survey distribution channels daily. In addition I found that actually adding the goal of how many responses I already obtained and my goal of how many I needed in the recruitment email increased my survey responses with the Arkansas provider population.

Post-Implementation Phase. The analysis of the data included using the SPSS statistical

analysis platform to parse the data of the survey. The data was analyzed via frequency distributions to understand the number of times they occurred in the data. This provides an initial overview of the background of the providers that submitted information to the survey. In addition cross-tabulation with chi-square analysis was used to test statistical significance at p value less than or equal to < 0.05 , if there is a statistical significant between the relationship of the variables. A P value higher than 0.05 is not statistically significant and indicates weak relationship between the variables compared.

Study Measures

Conceptual Definitions. The conceptual definition of this clinical inquiry project is behavioral framework of provider practice. The term “Pediatric Primary Care Providers” is defined as medical providers who administer care to children from the age of 0 to about 21 years of age. PPD is defined by Goldin et al. (2015) as an affective mood disorder occurring within the first year after childbirth. This clinical inquiry project gathered information related to the providers practice, to understand how they perceive PPD screening. The clinical inquiry survey helps inform the subjective norm of theory of planned behavior (TPB), to realize how the providers disseminate the resources to all team members to support a unified message of mental health awareness. The TPB is a concept that explained how providers intentionally change their behaviors based on the norms of the job which is defined as perceived behavioral control. Attitude is defined as how the provider evaluates the behaviors that are presented. Subjective norms are defined as the norms of their peers and the survey is hoping to understand the environmental and clinical norms of the providers that may influence their thinking of why or why not to screen for PPD in the clinical setting (Logdon et al., 2017).

Operational Definitions. Definitions of the variables in the survey showed how providers think about creating a core coalition-with other mental health providers, what they thought about their ability discover and enhance practice reimbursement in mental health

screening and referral, which is a component of the subjective norm from the theory of planned behavior. To realize the providers' understanding of how they disseminate the resources to all team members to support a unified message of mental health awareness as it relates to PPD screening. The clinical inquiry items that were focused on in the survey was the providers behavioral intention of PPD, by delving into the providers' understanding of PPD, which helped realize what informs the providers current standard of practice with PPD screening. The survey measured the concepts of the theory of planned behavior by the following questions that measured (perceived behavior control) included the providers demographic information using closed, open ended questions to assess providers understanding of PPD. Subjective norms were assessed by the following questions 12, 13, 16, 17-18, and 26 in the survey that assessed:

- the provider barriers to practice questions is to understand the interrelated processes
- framework of the clinical guidelines of PPD evidenced based practice
- attributes and connections related to provider compliance with PPD screening recommendations.
- Understanding of the peers understanding of PPD screening and patients symptoms

The survey asked participants to rate their willingness to learn more and participate in professional development to PPD screening in the clinical setting. Attitude was evaluated by question 8-9, 11, 14-15, 19, 20, 22, 27, 28 in the areas that included:

- providers understanding of evidenced based practice PPD evaluation methods and intervals
- if reimbursement is a barrier to PPD screening
- if time is a barrier to PPD screening
- if a survey is used for PPD screening

- current provider response to PPD identification in practice
- if administrative cost is a barrier to PPD screening

Perceived behavior control which are the norms of the job will be evaluated by questions 1-3, 5-7, 10 and 23 and include:

- demographic questions
- location of provider practice
- if time is a factor of PPD screening
- barriers in practice that prohibit PPD practice
- and if the postpartum depression guidelines are understandable in practice settings.

These items assessed participants' perception of their familiarity with PPD screening, the importance of PPD assessment in their clinical practice, the current county location in Arkansas of practice, and whether they can identify PPD screening barriers in practice.

Outcome Measures. Outcome measures are metrics that a health system tracks to formulate the expected desired outcomes. The outcome measures of this clinical inquiry project include increased understanding of the mindset of the providers responsibilities, and their understanding of perceived PPD screening practices related to the evidenced based practice and what is known and what is not known, and attitude toward the behavior of PPD screening. Expected outcomes are to understand providers approach to PPD screening, in their practice setting. Outcome measures assessed based on the survey were reported as follows:

- percentage of providers who express their understanding the EDPS screening tool-35.29% of providers use a screening tool in practice and half use EDPS, and over 64% of providers do not use a screening tool in practice.
- Percentage of providers who expressed the following decisional barriers to PPD screening in their current practice regarding tools to calculate PPD-33.33%, time,

37.25%, resources 25.49%, Referral options 37.25%, lack of knowledge of published recommendation 17.65%, desensitization of the issue of PPD 13.73%, 17.65% of practitioners responded with other barrier which were the following: responses lack of patient follow up, new mothers perceptions and implications of having PPD, time and reimbursement, patient willingness to discuss, family members present in the room, lack of insurance for mother, distraction from the patients other children, parents not wanting to discuss at child's visit, openness of the mother to discuss, stigma among patients.

- percentage of providers who express an understanding of PPD screening was 75.93%
- percentage of providers who express their intentions to implement PPD screening into their clinical practice were 58%.
- what instruments the providers feel are useful or used in practice are EPDS, PHQ2 and PHQ9 are the noted surveys currently used in practice.

Process Measures. A total of 60 advanced practice providers and medical doctors answered the survey data. A total of 60 advanced practice providers and medical doctors answered the survey data. After cleaning data, a total of 58 survey responses was used in this analysis. The survey was sent by email to 1300 arkansas providers, and 60 was returned, the response rate was 4.6% ($\text{response rate} = (\text{responses returned} / \text{surveys sent out}) \times 100$). My process measure initially was a 37.5% response rate with an estimated 800 surveys sent and 300 survey responses returned. The process measure was not met. Additional number of surveys were sent, but only 60 returned in the time frame of 2-28-2021 to 4-30-2021 in which the survey was active in Qualtrics.

Balancing Measures. The balancing measures for this clinical inquiry show how the action affects the system, evaluate how an improvement or change in one area impacts other

areas. For this clinical inquiry project it was an evaluation of the providers understanding of PPD screening, no unintended consequences introduced in the system as a result of this clinical inquiry, and sending the survey to Arkansas practitioners. If there was any surprising results based on sending the survey to providers in Arkansas it was that there was more awareness of PPD practices, than previously estimated in the literature review before starting the research. As Goldin Evan et al., (2010) states that postpartum depression is the most common complication of childbirth, and largely undetected by providers

Benefits and Risks

There were no risks to the providers for undergoing the online survey. Data obtained was private and deidentified. Benefits to the provider are additional insights into PPD screening in during well-child evaluations in primary care clinics, which include increased knowledge and PPD screening.

Subject Recruitment

Subject recruitment was completed by contacting Arkansas Nurse Practitioner Association members after approval from managing board members, the Arkansas Nurse Practitioners social media group, and also by the ANCC email distribution list to Arkansas Advanced Practice Providers-Surveys were sent via administrator to the American College of Pediatrics members contacting them by email. Recruitment was focused on primary care providers in Arkansas. The sampling strategy included emailing all the pediatric providers available through the email lists provided which is a non-random sampling method.

Consent Procedures

Consent was obtained when the providers logged into the Qualtrics website where the survey was securely located. Before being directed to the survey, practitioners encountered the informed consent form detailing the contact information for the primary investigator, ability to opt out of the survey, and information on where the results of the survey will be disseminated.

The participants were able to access and accept the consent at that time.

Subject Costs and Compensation

There were no associated costs for participating in the project ;practitioners and medical doctors completing the survey did not receive compensation for participating in this project.

Project Timeline

Initially it was estimated that a total of nine months from September 2020 to May 2021 will be included for project completion, which was a true estimation (Appendix A Gantt Chart p.52) (Appendix B-IRB approval letter and Email p. 52). Detailed activities that were completed during the following months include; Draft Project Presentation to DNP class-December 2020; Chair Approval-December 2020; Survey Development was estimated to be completed in November 2020, but actual survey development included consultation with UARK SMSS 2-17-2021 and first email blast was sent February 28, 2021; initially it was thought that IRB was going to be December 2020, but IRB approval occurred January 10, 2021 due to finalization of project survey completion in February 2021). Provider Survey Dissemination January 2021; Analysis of Survey Results was estimated to start March 2021, April 2021, May 2021, and the actual analysis of survey results started April 12, 2021 due to the fact that the fifty survey threshold to complete the analysis occurred April 11, 2021(Appendix C PDSA Cycle p. 54). Dissemination of finished DNP Project May 2021. Timeline for the project was estimated to be thirty to thirty one days from survey dissemination to providers , the actual timeline for survey inquiry to the practitioners to survey analysis was 57 days, due to the slow initial response to the email survey inquiry. Dissemination of the project to DNP committee was May 2021.

Resources Needed

Economic Cost and Benefit

Budget costs for the emails in this project were \$950 due to the fact that the emails were sent via Arkansas Nurse Practitioner social media which were free, ANCC email listserv which

cost \$500, the Arkansas Nursing Board listserv was \$200 and Arkansas Medical Board Listserv was \$250. The Arkansas Nursing Board Listserv and Arkansas Medical Board Listserv did not provide email for the providers so this option was not utilized for survey distribution. Time spent developing the survey, and sending were estimated as opportunity costs all gains due to the fact this was a invaluable learning experience. The email blasts to Arkansas Nurse Practitioner Association were free, as were individual email contact to the Arkansas Nurse Practitioner Association members after approval from managing board members, the Arkansas Nurse Practitioners social media group, and surveys were sent via administrator to the American College of Pediatrics members. As previously noted, it is estimated that the total US cost of undiagnosed mothers with PPD is \$14 billion US dollars in the first five years of life, with an expected economic cost of \$2.9 billion one year after childbirth if PPD is not evaluated and treated. On average \$31,800 is the cost for not treating new mother for PPD over a 5 year period (Luca et al., 2020). A direct benefit analysis was applied to this project as cost of project minus benefits of completing one additional screening survey for mother with PPD was \$5,410 (cost of this project minus cost of one year of undiagnosed PPD for new mother \$940-\$6,360=\$5,410). Cost saving of the treating just one new mother for PPD . Which after subtracting cost of this project, helped elucidate the reason that providers are not screening for PPD, Policy implications are that consistent screening practices of postpartum depression benefit governments, employers and health insurance payors (Luca et al., 2020) (Appendix D Concept map p. 56). Benefit of this project is immediately realized if just one additional mother who has PPD is screened for PPD (Appendix E Global Aims Statement p. 57).

Evaluation Plan

Data Maintenance and Security

The data for this DNP Project was stored in the Qualtrics database. All information was confidential, anonymous and deidentified in the dissemination of research and analysis.

Data Analysis

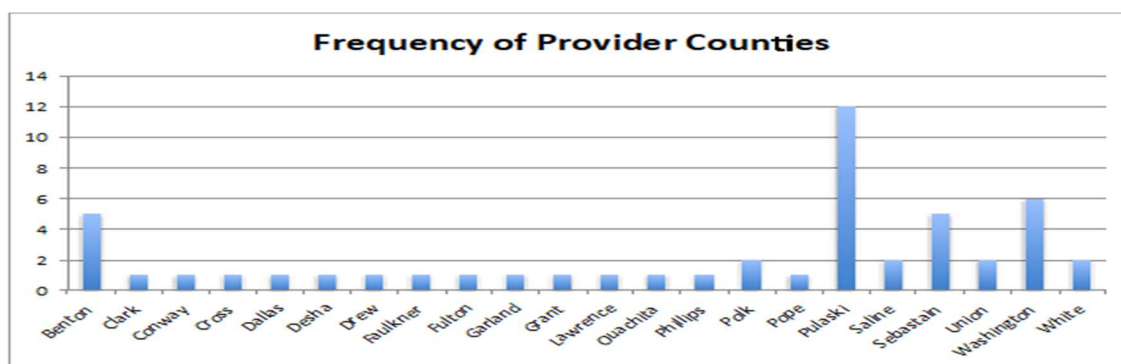
The survey sent to providers comprised 31 questions to assess the providers understanding about PPD screening, included a separate recruitment script, consent form that lead to the survey in Qualtrics (Appendix F, Informed Consent p. 58) (Appendix G-Recruitment Script p. 60) (Appendix H-Survey p. 61). Descriptive statistics were utilized to generate a mean measure of the individual provider practice questions, like age, demographics, provider practice locations, using means and standard deviation. The data was analyzed via frequency distributions was analyzed to understand the number of times they occurred in the data. This provides an initial overview of the background of the providers that submitted information to the survey. In addition cross-tabulation with chi-square analysis was used to test statistical significance at p value less than or equal to < 0.05 , if there is a statistical significant between the relationship of the variables. A p value higher than 0.05 is not statistically significant and indicates weak relationship between the variables compared. This evaluation plan was consistent with the objective of this pilot study clinical inquiry project which was to understand PCPs' perspective of PPD screening during well-child evaluations during the first year of life. The research design was a clinical inquiry cross sectional survey encompassing questions to evaluate the strongest predictor of providers understanding of PPD screening behaviors in practice.

This clinical inquiry sought to illuminate PCP understanding of PPD screening in well-child evaluation and provide insight into current practice behavior. The questions that were answered in this analysis what when the screening practice is implemented, what instruments of screening are useful in practice, provider demographics, recognize providers perception of screening mothers for PPD during the well-child evaluations during the first year of life, and PPD prevalence in practice, and comprehend providers efficacy of the EPDS screening tool. Providers' responses eliminated their behavior motivation to elucidate the uptake of new behaviors related to PPD screening.

The data analyzed via frequency distributions was analyzed to understand the number of times they occurred in the data. This provides an initial overview of the background of the providers that submitted information to the survey. In addition, cross-tabulation with chi-square analysis was used to test statistical significance at p value less than or equal to < 0.05 , if there is a statistical significant between the relationship of the variables. A p value higher than 0.05 is not statistically significant and indicates weak relationship between the variables compared. Pulaski county was the county in Arkansas where most of the providers practice at 24% responding Washington county was 12% and Benton and Sebastian counties at 10%. (Figure 1). It is noted according to the 2010 census, that Pulaski county is a metropolitan city, one of the most populous counties in Arkansas; Benton County population is 221, 339 and where Walmart Headquarters is located; Washington county has a population of 203,065 and includes Fayetteville and Springdale and Sebastain county population is 125,744 (Association of Arkansas Counties, 2021). Additionally most survey respondents were from the most populous counties in Arkansas, which represent the majority Arkansas population.

Figure 1

Frequency of Provider Counties

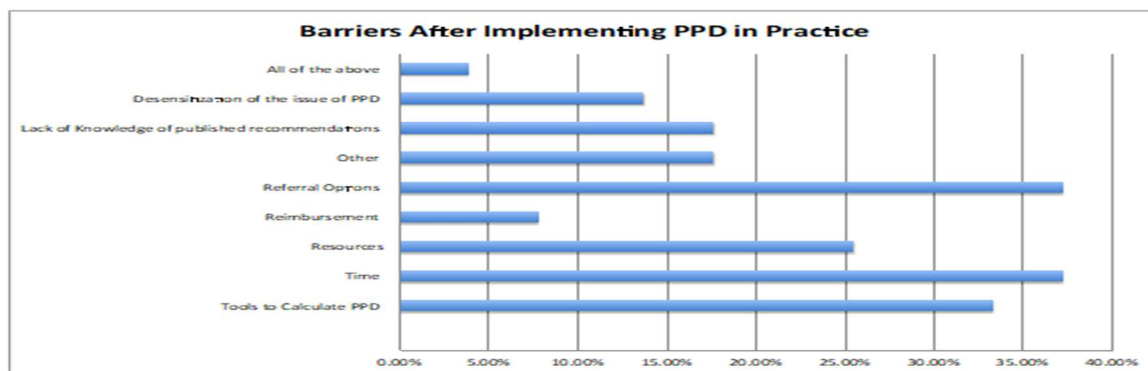


The leading practice setting of providers were family practice at 44.83%, and the nurse practitioner credential was the most widely held license at 82.76%. Over 75% of providers saw patients from the age of birth to 20 years of age, with the majority of patients being of the age

11-18yrs.- Forty-four percent of respondents were of the age 40-49 year of age, with over 90% being female and the average year of provider in practice was 10.3 years. Of the providers that screen for PPD in practice the following barriers of time and referral options were seen as barriers to fully implementing PPD in practice at 37.25% respectively (Figure2).

Figure 2

Barriers After Implementing PPD in Practice



To understand the relationship of providers that currently screen for PPD in practice and if time is a factor to screen or not to screen cross tabulation with chi-square was used, there is no relationship between currently screening for PPD and time being a factor for screening Chi-Square($X^2(2) > 7.849$, $p = .448$) (Figure 3). Time and Reimbursement are not primary barriers to implementing screening for PPD. Of the providers that screen for PPD in practice, the majority find when they receive a positive screen, a barrier that exists is lack of referral options and the length of time during a visit to screen for PPD is limited, providers need additional time for screening during a visit (Figure 4) this means that Arkansas Providers are screening for PPD, but they find that if the patients are positive for PPD they do not have available mental health care providers in the community to refer mothers for follow up treatment. Per the data forty-one of providers screen for PPD and find that time is a factor, which means that when providers screen they feel that they are pressed for time during their screening, but time is not a barrier to screening, because they actually screen for PPD (Figure 4). Only twelve providers out of the

total fifty-six providers do not screen for PPD in clinical practice, and state time is a barrier.

Time is not a clinically significant barrier to PPD screening, due to only twelve providers who do not screen at all due to time, but when providers do not screen it is due to time being a barrier to screening (Figure 4).

Figure 3

Relationship Between time and Provider that Screen for PPD in practice

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.849 ^a	8	.448
Likelihood Ratio	9.489	8	.303
Linear-by-Linear Association	.091	1	.763
N of Valid Cases	53		

a. 12 cells (80.0%) have expected count less than 5. The minimum expected count is 1.13.

Figure 4

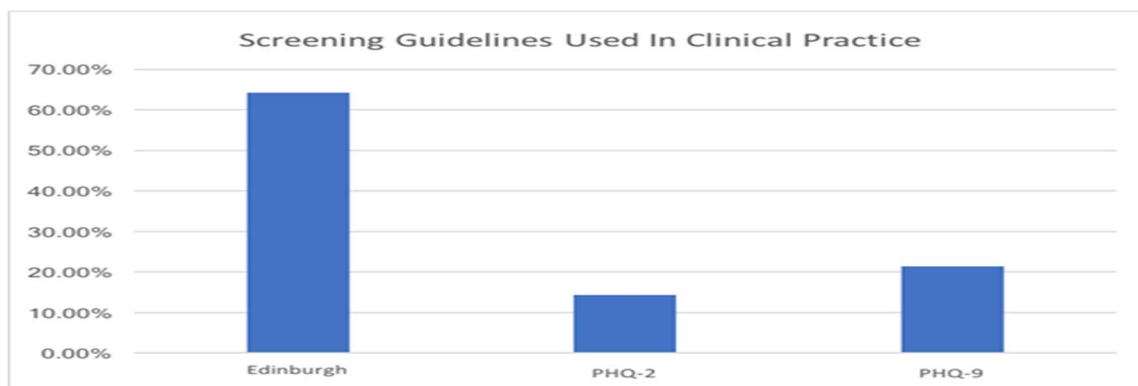
Crosstabs table of Relationship Between time Providers that Screen and Do not Screen to PPD in practice

Do you Currently Screen for PPD in your Clinical Practice?	All of the time	Sometimes	Occasionally	Sometimes	Never	Total
Yes, Always	2	1	3	3	7	15
Yes, Sometimes	1	7	4	4	10	26
No, Never	2	0	1	2	7	12
Total	5	8	7	9	24	53

Lack of reimbursement is not related to currently screening or not screening for PPD in clinical practice Chi-Square($X^2(2) > 65.552$, $p = .231$); the screening tool that most providers use is Edinburgh Postpartum Depression scale at 64.29% (Figure 5).

Figure 5

Screening Guidelines Used in Clinical Practice



Also even though there was no statistical significance between providers that screen for PPD and providers that are willing to learn about PPD, Chi-Square($X^2(2) > 13.913$, $p = .084$), all providers that said they do not screen for PPD 22% stated that they were willing to learn PPD screening. There was no statistical significance between providers that know about the PPD guideline and use of the PPD screening tool in practice Chi-Square($X^2(2) > 3.97$, $p = .137$), but knowing about the guideline guarantees that the screening tool is used in practice, because 78% of providers that screen for PPD know about the PPD guidelines.

There is a significant relationship between providers that screen in clinical practice and there being a survey in practice Chi-Square($X^2(2) > 9.038$, $p = .011$) (Figure 6).

Figure 6

Relationship between providers that use a survey and screen in clinical practice

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.038 ^a	2	.011
Likelihood Ratio	9.841	2	.007
Linear-by-Linear Association	8.843	1	.003
N of Valid Cases	51		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.31.

Over 90% of people who are advanced practice providers who screen do have a clinical

tool in practice to use. So to understand is the relationship between providers that stated that they felt postpartum depression screening was important and also have a PPD screening tool currently used in practice a cross-tabulation and chi-square analysis was run. Based on the results there is an association from a provider feeling that it was important to screen for PPD and having a clinical tool used in practice-Chi-Square was $\chi^2(2) = 9.038$, p value was 0.011.

Arkansas Primary Care Professionals are in agreement that it is important for pediatricians/practitioners to recognize the signs of PPD. Sixty-four percent of providers report no clinical practice guideline for Postpartum depression screening currently implemented in clinical practice. The research data shows that when a professional uses a clinical practice guideline for PPD screening than the Edinburgh Postnatal depression scale is used. Fifty-eight percent of practitioners would be willing to use a survey to identify the signs of PPD. Sixty-five percent of providers did not know that the American Academy of Pediatrics Postpartum depression guidelines include practice guidelines for patient that exhibit symptoms of postpartum depression.

The survey found that of the providers that do not screen for PPD are willing to learn about the guidelines for PPD in clinical practice. Time and Reimbursement are not barriers to screening for PPD. Lack of knowledge of postpartum depression guidelines are the main reason for not screening for PPD. Of the providers that screen for PPD in practice the majority use the Edinburgh Postnatal Depression Screening tool, and most find when they screen a barrier that arises is no referral options and the length of time during a visit to screen for PPD; providers need additional time for screening during a visit. The survey found that future implications for practice may include a seminar or teaching for the providers in Arkansas so that they are aware of the Postpartum depression screening guidelines and can implement the PPD screening in clinical practice. The survey analysis results reflect the current literature finding that providers do not screen for PPD because there is a lack of clinical pathways, inadequate training or

knowledge regarding PPD, but they are willing to screen when provided with evidenced based guidelines and funding for introducing a new healthcare intervention (Russomango et al., 2019). This finding was supported by the literature review that found that providers are willing to use a questionnaire to screen for PPD but did not screen if there was not a referral pathway, or stigma associated with PPD symptoms (Noonan et al., 2018).

Recommendations and Discussion

Dissemination

The information in the study will be sustainable if the information is disseminated to provider professional organization, in the form of knowledge applicable to PPD implementation in practice. This pilot data can serve as a baseline or guide for other seven states that currently do not reimburse for PPD in the well child visit to understand the economic and health implications for new mothers. In addition this clinical inquiry project was disseminated to the EMSON faculty and committee on May 12th.

Translation

This clinical inquiry is applicable to provider practices because it provides an understanding of various behavioral barriers to implementing PPD in the clinical practice. This study provides a baseline of data for the providers practices in Arkansas of an additional understanding how their peers approach PPD practice, and what barriers may be present in the clinical setting to evaluate PPD.

Policy Implications

The information will be meaningful to inform current providers and may increase motivation to provide PPD services to new mothers. This clinical inquiry project could be used to present to this information to applicable state legislators to change the reimbursement measures of PPD in clinical practice. In addition this project can be used to substantiate a clinical seminar guided to providers to inform providers on the guidelines for PPD screening in clinical

practice. This will only be realized when providers have the knowledge and resources to help the new mothers at the point of care.

Healthcare Quality Impact

This clinical inquiry will help understand clinicians' behavioral intention to PPD implementation screening. Deconstructing the providers complex behavior constructs that surround the clinical practice of PPD screening will lead to information that can explain the current behavior in practice. Plans to share this project will include dissemination of results of this project with a scholarly publication directed at pediatric providers.

Limitations

Some limitations for generalizability are that most of the respondents were from the most populous Arkansas counties, so additional recruiting to counties with less people would have made the survey represent a combination of rural and metropolitan provider populations. More hospitals and clinical providers are available in the more urban Arkansas counties versus rural counties so the relationship of available providers that screen for PPD for new mothers are even more scarce. Internal validity could be strengthened in this study by including more respondents from the rural counties of Arkansas, because the study is biased toward the more populous counties where most of the providers reside, and rural providers may need different resources than the urban areas. Expanding the survey responses in rural counties would increase the generalizability of this study to other populations. Additionally as noted most survey respondents were from the most populous counties in Arkansas, so there is additional opportunity to recruit respondents from the less populous rural counties to gain further perspective on their understanding of PPD in clinical practice.

Sustainability

Advanced practice providers have the unique opportunity to reduce adverse symptoms in new mothers by providing timely post-partum depression screening and to enhance the postpartum depression treatment programs of provider practices. New mothers are more likely to use mental health resources when they have the knowledge, proper support, behavioral health adaption skills, and have a carefully constructed, adapted and customized mental health program adapted to their lifestyle. The project results are sustainable because the survey can be reproduced and sent to providers not only in Arkansas but around the country. Plans for dissemination of results of this clinical inquiry project include submitting for publication in the Journal of Pediatric Health Care (JPHC) as it is the official journal of the National Association of Pediatric Nurse Practitioners, and sending an executive summary of the study to the board of ANPA detailing the findings, particularly that the implementation of PPD is based on provider knowledge, so that a recommendation can be made for development of a CEU for PPD screening guidelines. Sharing the results with advanced practice providers, and medical doctors during clinical practice Grand Rounds, will help pass the information to providers that can made use of the information results of the research. This form of dissemination will expand discussion of research with providers who work directly with new mothers.

Conclusion

This study revealed that to improve PPD screening in Arkansas several actions should be implemented such as an educational seminar about PPD evidenced based guidelines which includes information on how to perform the PPD screening in a private setting, away from her children or other family members or providers. Furthermore, topics to include in the seminar are how to administer the Edinburgh Postnatal Depression Scale to new mothers while protecting the mother from feeling there is a stigma of PPD diagnosis. Additionally an increase in the PPD mental health referral resources in the metropolitan and rural Arkansas locations, would increase PPD screening in Arkansas. If providers feel that they have control over the outcomes of PPD,

which includes reimbursement for the service, then the provider may intentionally screen for PPD in new mothers. Advanced Practice Practitioners, and medical doctors require training, access to psychosocial and health treatment options for patients to effectively refer patients to mental health services if needed (Noonan et al., 2018)(Appendix I-EMSON Evidence Table p.66). An overarching fact is that changes in policy reimbursement at the federal and state level in Arkansas can assist with the administrative expenditures required of a sustainable PPD healthcare intervention, such as provider training, establishing referral resources necessary to support PPD screening in Arkansas rural communit

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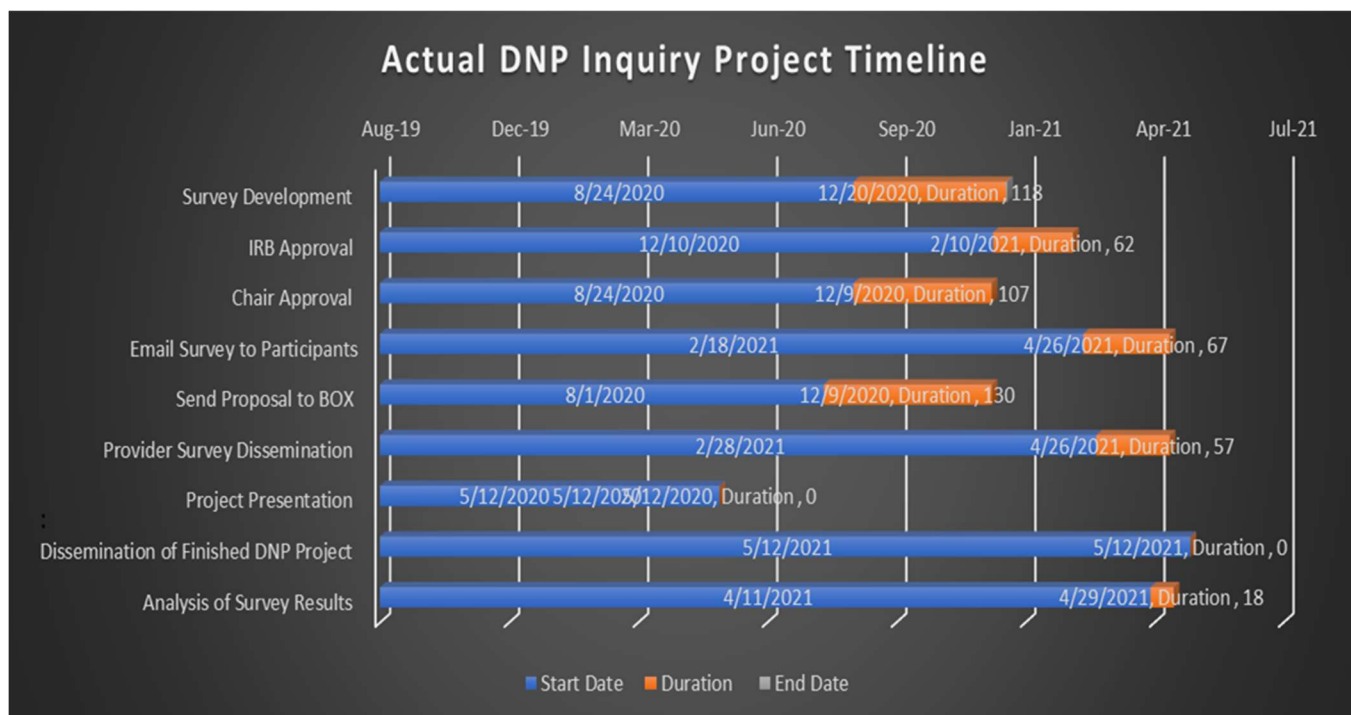
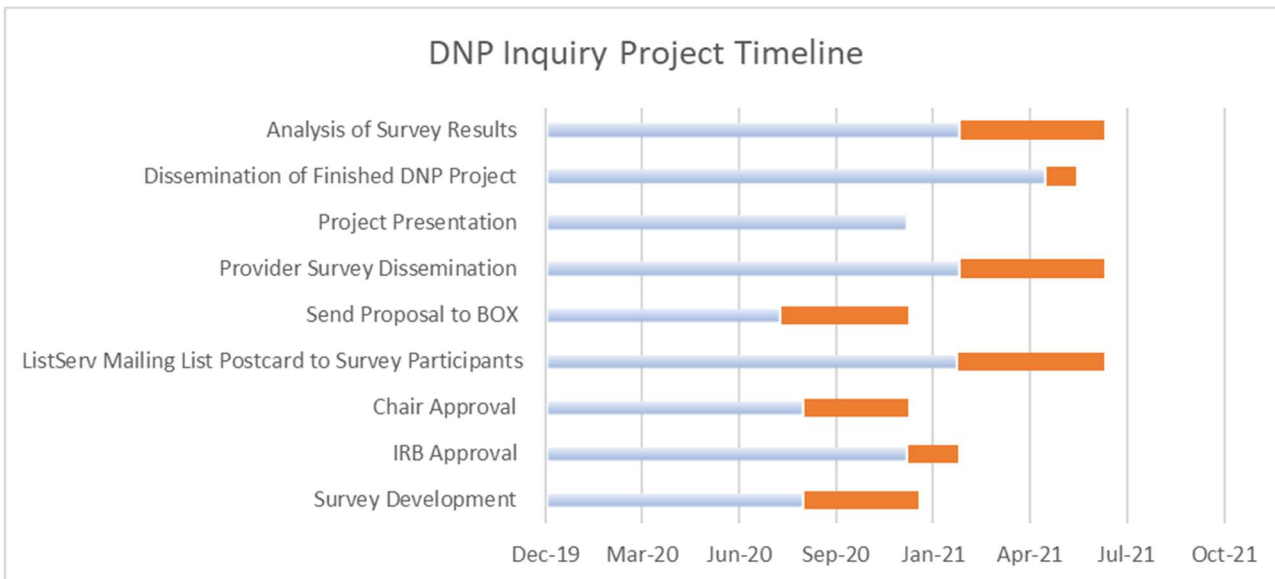
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Appendices

- A. Gantt Chart
- B. IRB Approval Letter and Email
- C. PDSA Cycle
- D. Concept Map
- E. Global Aims Statement
- F. Consent form for Participation in Pilot Research for Post-Partum Depression Provider Survey
- G. Recruitment Script
- H. Provider Survey
- I. Evidence Table

Appendix A Gantt Chart



Appendix B

IRB Approval Letter



To: Natasha Vernice Patterson
From: Douglas J Adams, Chair
 IRB Expedited Review
Date: 02/10/2021
Action: **Exemption Granted**
Action Date: 02/10/2021
Protocol #: 2101308727
Study Title: Provider Perceptions on the Outcome of Postpartum Depression Screening During Well-Child Visits

The above-referenced protocol has been determined to be exempt.

If you wish to make any modifications in the approved protocol that may affect the level of risk to your participants, you must seek approval prior to implementing those changes. All modifications must provide sufficient detail to assess the impact of the change.

If you have any questions or need any assistance from the IRB, please contact the IRB Coordinator at 109 MLKG Building, 5-2208, or irb@uark.edu.

cc: Allison L Scott, Investigator
 Callie M Bradley, Investigator

IRB Approval Email

Protocol 2101308727 is Approved as Exempt

Streamlyne Research <production-research@uasys.streamlyne.org>

Wed 2/10/2021 8:02 AM

To: Natasha Patterson <njaramil@uark.edu>; Heather A. Frankenberger <hfranken@uark.edu>; Callie M. Bradley <cmbradle@uark.edu>; Michael A. Senkevech <masenkev@uark.edu>; Allison L. Scott <als002@uark.edu>

The IRB protocol number [2101308727](#), Principal Investigator Natasha Vernice Patterson, has had the action "Protocol Exempt Approval" performed on it.

The approval action was executed by Windwalker, Ro. Additional information and further actions can be accessed through the system. You can click the [view correspondence](#) link to view your approval letter.

Appendix C

PDSA CYCLES

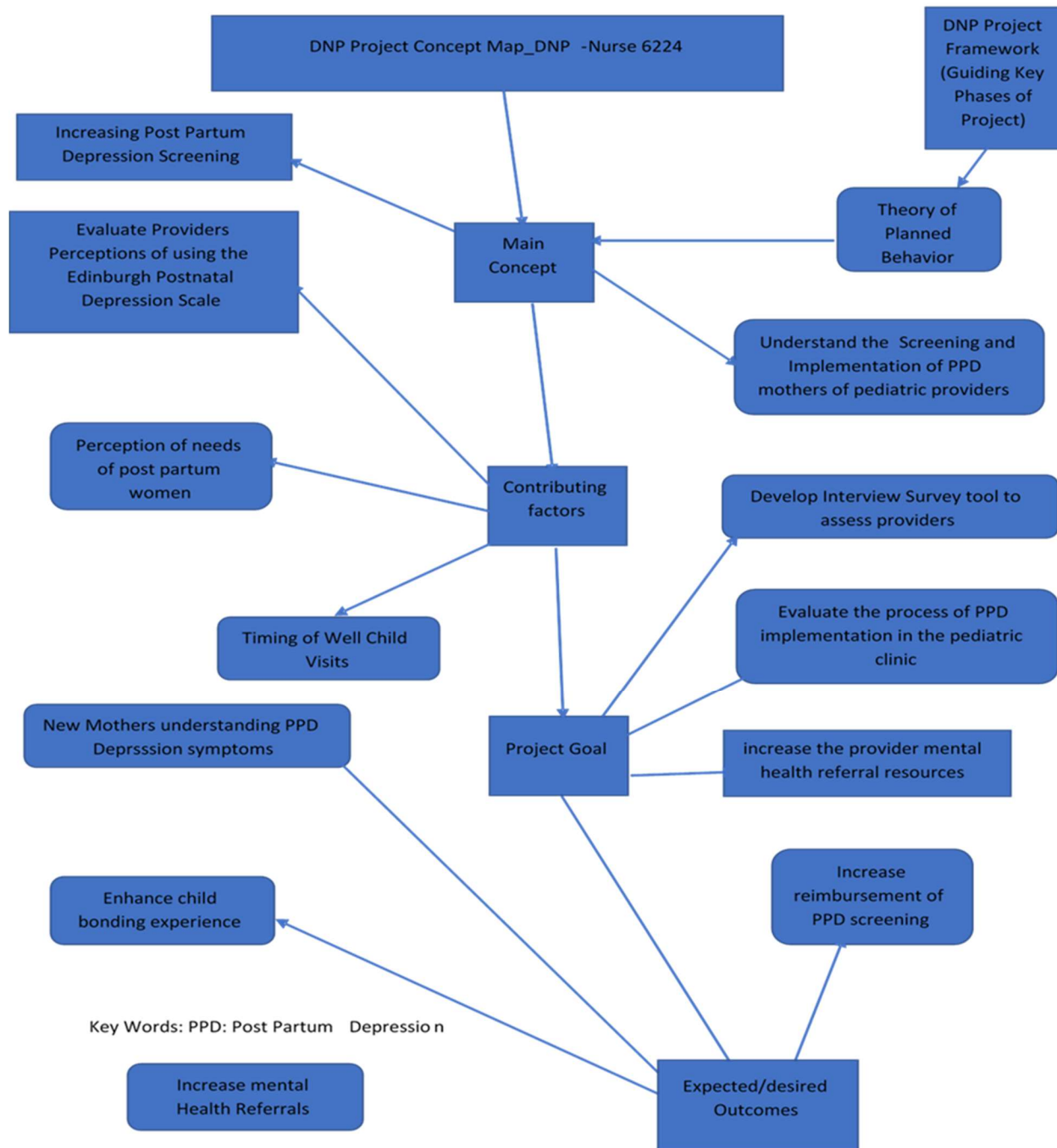
PDSA Cycle Weekly Communication with Chair 1-31-2021	
Item #1	IRB reviewed and revisions and submissions are in the works
Item #2	PDSA Cycle NURS 628V - DNP CLINICAL III (1213-THEUA-NURS-628V-SEC902-9184)
Objective	IRB revisions, Personalized Learning Objectives-master copy signed Change Idea: Complete any revisions proposed to the UARK IRB committee
Plan	Everyday 7 days of the week spend 2-5 hours completing the IRB revision-clinical inquiry project-continue with clinical continuing education and submit to EXXAT. Continue to prepare the submissions to the conferences for dissemination of clinical inquiry project Person Responsible: Principle Investigator Due Date: February 7th, 2021
Do	2-5 hours completing the IRB revision/implementation/continuing education in the 7 days week-continue to revise the IRB submit to chair for approval Person Responsible: Principle Investigator Due Date February 7th, 2021
Study/Act	Continue with IRB revision plan 2-5 hours of completing the IRB revision/Implementation/continuing education everyday in the 7 day week- continue to revise the IRB submit to char for approval Person Responsible: Principle Investigator Due Date: February 7th, 2021

PDSA Weekly Communication to Chair Due February 7-2021	
#1-IRB	reviewed and revisions and submissions are in the works
Item #2	PDSA Cycle NURS 628V - DNP CLINICAL III (1213-THEUA-NURS-628V-SEC902-9184)
Objective	IRB revisions/submission, Personalized Learning Objectives-master copy signed Change Idea: Complete any revisions proposed to the UARK IRB committee
Plan	Everyday 7 days of the week spend 2-5 hours completing the IRB revision-clinical inquiry project-continue with clinical continuing education and submit to EXXAT. Continue to prepare the submissions to the conferences for dissemination of clinical inquiry project Person Responsible: Principle Investigator Due Date: February 3th, 2021
Do	2-5 hours completing the IRB revision/implementation/continuing education in the 7 days week-continue to revise the IRB submit to chair for approval Person Responsible: Principle Investigator Due Date February 3th, 2021
Study/Act	Continue with IRB revision plan 2-5 hours of completing the IRB revision/Implementation/continuing education everyday in the 7 day week- continue to revise the IRB submit to chair for approval Person Responsible: Principle Investigator Due Date: February 3th, 2021

PDSA Weekly Communication to Chair Due February 14, 2021	
Item #1	Qualtrics approval, and process of obtaining entering the survey to obtain the link to add to the recruitment letter is in progress. Also this week is the Individual Conference #1-with Chair and Professor Dr. Callie Bradley, it is scheduled February 18th at 10:00am CST-Arkansas; 8:00am in PST-Washington (30mins) teams link to follow. If Phone call is more expeditious or efficient phone number will be added to the Teams link.
Objective	IRB revisions/submission, Personalized Learning Objectives-master copy signed Change Idea: Obtain approval from Qualtrics website to complete Complete the submission to the Qualtrics website to obtain the survey link for the recruitment letter, add the link to the recruitment letter, began sending the recruitment letter to providers on the UARK Board of Medicine, and UARK Board of Nursing provider list.
Plan	Everyday 7 days of the week spend 2-5 hours completing the clinical inquiry Implementation project- continue with clinical continuing education and submit to EXXAT. Continue to prepare the submissions to the conferences for dissemination of clinical inquiry project Person Responsible: Principle Investigator Due Date: February 14th, and February 21st 2021
Do	2-5 hours completing the implementation/continuing education for the Clinical Inquiry Study in the 7 days week-continue to implementation process, update chair on progress weekly Person Responsible: Principle Investigator Due Date February 14th and February 21st, 2021
Study/Act	Study: Continue with plan 2-5 hours of completing Implementation/continuing education everyday in the 7 day week- continue to submit to chair for approval as needed Person Responsible: Principle Investigator Due Date : February 14th, February 21st 2021

PDSA CYCLE Weekly Communication Due 1-24-2021	
Item #1	no new news on update as of yet on the IRB submitted 1-15-2021.
Item #2	PDSA Cycle: PDSA Nurs 628V-DNP Clinical III (1213-THEUA-NURS-628V-SEC902-9184)
Objective	Complete the IRB Process, COMPLETE Preceptor agreement, Personalized Learning Objectives Change Idea: Complete any revisions to proposed from the IRB committee
Plan	Everyday 7 days of the week-spend 2-5 hours completing the IRB revision-clinical inquiry project-continue with clinical Continuing education and Submit to EXXAT Person Responsible Principle Investigator Due Date February 7th, 2021
Do	2-5 hours of completing the IRB revision/implementations/continuing education everyday in the 7 day week-Continue to revise the IRB submit to chair for approval Person Responsible: Principle Investigator Due Date: February 7th, 2021
	Obtain the signed preceptor agreement/and signed personalized learning objective- Requesting from Dr. Scott
Study	Continue with IRB revision plan 2-5 hours of completing the IRB revision/implementations/continuing education everyday in the 7 day week- Continue to revise the IRB submit to chair for approval Person Responsible: Principle Investigator Due Date: February 7, 2021
Act	meet the IRB revision deadline for the course- Person Responsible: Principle Investigator Due Date: February 7, 2021

Appendix D



Appendix E Global Aim Statement

<p>Write a Theme for Improvement: <u>Clinical Inquiry project</u> _____ Global Aim Statement</p> <p style="text-align: center;">Create an aim statement that will help keep your focus clear and your work productive:</p> <p>We aim to improve: Understanding of providers knowledge and barriers to postpartum depression</p> <p style="text-align: right;">_____ (Name the process)</p> <p>In: Clinical inquiry _____ _____ (Clinical location in which process is embedded)</p> <p>The process begins with: Providers answering the survey designed to assess their knowledge and barriers to postpartum depression _____ _____ (Name where the process begins)</p> <p>The process ends with: dissemination of analysis of survey results _____ _____ (Name the ending point of the process)</p> <p>By working on the process, we expect: Understand providers barriers to providing post partum _____ _____ (List benefits)</p> <p>It is important to work on this now because: to understand how providers think about Postpartum depression _____ _____ (List imperatives)</p>
Create Flowchart
<p style="text-align: center;">Specific Aim Statement</p> <p>We will: x <input checked="" type="checkbox"/> improve <input type="checkbox"/> increase <input type="checkbox"/> decrease</p> <p>The: x <input checked="" type="checkbox"/> quality of <input type="checkbox"/> number/amount of <input type="checkbox"/> percentage of information available to understand providers barriers to provide a postpartum depression _____ _____ (process)</p> <p>By: _____ _____ (percentage)</p> <p>OR</p> <p>From: and provide a baseline understanding of providers knowledge of PPD _____ _____ (baseline state/number/amount/percentage)</p> <p>To/By: This study will increase the knowledge of providers feeling and knowledge of PPD _____ _____ (describe the change in quality or state the number/amount/percentage)</p> <p>By: May 2021 _____ _____ (date)</p>

Appendix F
Informed Consent Form



Clinical Inquiry of Provider perception of Post-Partum Screening in the clinical Practice Setting

PRINCIPAL INVESTIGATOR

Natasha Patterson ARNP

University of Arkansas Eleanor Mann School of Nursing 606 N. Razorback Rd.

njaramil@uark.edu

**FACULTY ADVISOR
Dr. Allison Scott ARNP**

University of Arkansas Eleanor Mann School of Nursing 606 N. Razorback Rd.

479-575-3761

als002@uark.edu

PURPOSE OF PROJECT The purpose of this research clinical inquiry project is to evaluate the provider perception of postpartum screening in the clinical practice setting as recommended by American Academy of Pediatrics

You are being asked to take part in a DNP project due to your status as a pediatric, primary or family provider. Before you decide to participate in this project, it is important that you understand why the project is being done and what it will involve. Please read the following information carefully. Please ask the principal investigator if there is anything that is not clear or if you need more information.

The aim of this project is to understand the PPD screening perceptions of PCPs.

PROJECT PROCEDURES You will submit answers to a survey, then submit demographic information. Please make your responses as accurate as possible.

RISKS The risks and discomfort associated with participation in this study are no greater than those ordinarily encountered in daily life or during the performance of routine daily work.

During the survey, you may feel tired of sitting or concentrating, in which case you may take self-governed breaks.

BENEFITS Benefits to participating in this project include the knowledge received may be of educational value to the principal investigator with regard to methods of conducting empirical research, and insight into postpartum depression screening

CONFIDENTIALITY

Your responses to the surveys will be anonymous, and the results will be presented in the aggregate. Please do not write any identifying information on your surveys.

Participant data will be kept confidential to the extent allowed by law and University policy. The researcher is legally obligated to report specific incidents which include, but may not be limited to, incidents of abuse and suicide risk.

CONTACT INFORMATION

If you have questions at any time about this project, or you experience adverse effects as the result of participating in this project, you may contact the principal investigator, whose contact information is provided on the first page. If you have questions regarding your rights as a study participant, or if problems arise which you do not feel you can discuss with the Principal Investigator, please contact the University of Arkansas Institutional Review Board at 1-479-575- 2208.

VOLUNTARY PARTICIPATION

Your participation in this project is voluntary. It is your decision whether or not to take part in this project. If you decide to take part in this project, completion of the survey indicates that you agree for your responses to be used in this research. Withdrawing from this project will not affect the relationship you have, if any, with the principal investigator. If you withdraw from the project before data collection is completed, your data will be returned to you or destroyed.

CONSENT

I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form if requested. I voluntarily agree to take part in this project.

My completion of this survey indicates that I agree for my responses to be used in this research.

Appendix G

Recruitment Script

Hello, my name is Natasha Patterson. I am a Doctorate of Nursing graduate student at University of Arkansas in the Eleanor Mann School of Nursing Department. I am conducting research on Postpartum Depression screening with providers in Arkansas and I am inviting you to participate because you are either a Pediatric, Family or Obstetric Provider.

Participation in this research includes taking a survey about your attitudes toward Postpartum Depression screening within the context of well-child evaluations in primary care clinics, the American Academy of Pediatrics (AAP) recommends this practice and I am would like to investigate providers' understanding and perception of depression scening in well-child evaluations, which will take approximately 10 minutes.

If you have any questions or would like to participate in the research, I can be reached at email njaramil@uark.edu and I will send you the online survey information. Thank you for your time in this important research.

Appendix H

Barriers in Postpartum Depression Screening Practices Questionnaire

Please complete this short questionnaire survey to evaluate your perceptions as a primary care provider, and barriers to effectively treat postpartum depression.

1. There are many Medical Practice settings in which to practice. Please specify your practice setting.

- Pediatric Practice
- Internal Medicine Practice
- Family Practice
- OB/GYN Practice
- Private Practice (please specify specialty)
- Hospital Practice
- Single Speciality
- Multiple Specialty
- Other-Please specify specialty



2. What type of Provider Credential do you hold?

- MD/DO
- Nurse Practitioner
- Clinical Nurse Specialist
- Physician Assistant
- Please Specify Credential/Board/Certification Specialty if not listed above



3. Do you see children in your clinical practice? If so, what are the ages?
[select all that apply]

- birth-10 yrs. of age
- 11-18 yrs. of age
- 19-20
- I do not see children in my practice



4. My gender is:

- Male
- Female
- Non-binary / third gender
- Prefer not to say



5. How many years in current clinical practice? (Please specify in years).



6. Age

- 18-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70+



7. What county of Arkansas is your practice located?



8. Do you currently screen for PPD in your clinical practice?

- Yes, always
- Yes, sometimes
- No, never



9. Is time a factor in your decision to address or not address PPD

- All of the time
- Sometimes
- Occasionally
- Sometimes
- Never

10. If the answer to the above question #9 as yes, how much time do you anticipate needing to assess for PPD (screening) and provide patient education and for referral and future PPD management? (please specify in minutes)

11. Does lack of reimbursement for such visits influence your decision-making of addressing PPD?

- All of the time
- Sometimes
- Occasionally
- Often
- Never

12. In your practice, which of the following barriers do you encounter most frequently when addressing Postpartum depression with new mothers who you care for in your clinical practice? Choose all that apply

- Time
- Reimbursement
- Resources
- Lack of knowledge of published recommendations
- Referral options
- Tools to calculate PPD
- Desensitization of the issue of PPD
- All of the above
- Other

13. What other barriers do you identify in addressing postpartum depression

14. Do you think it is important that pediatricians/family practitioners be able to recognize the signs of PPD?

- Yes
- No
- Unsure

15. Is there a clinical practice guideline for Postpartum depression screening that is currently implemented in your current clinical practice?

- Yes
- No

16. If yes to question 15, what is the screening guideline/s used?

17. Do you use a survey routinely to assess for PPD in your clinic?

- Yes
- No

18. If no to question 17, would you be willing to use a brief survey to identify the signs of PPD? If yes to question 17-what survey do you use?

- Yes
- No
- Survey choice

19. Do you know what the American Academy of Pediatrics Postpartum depression guidelines include for postpartum decision making in patients that exhibit symptoms of postpartum depression?

- Yes
- No

20. Do you use the American Academy of Pediatric Postpartum depression guidelines in your practice for screening for Postpartum depression?

- Yes
 No

21. If Yes, when are the screening guidelines used?

- With all patients with infants
 At the two week well child visit
 At the 2 month well child visit
 At the 4 month well child visit
 At the 6 month well child visit
 Other clinical screening practices

22. How do you respond if you identify PPD in the mother of an infant in your care?

- None or minimal involvement
 Clarify, consult and/or Refer
 Treat the mother

How much to you agree to disagree with the following statements:

23. I intend to use the American Academy of Pediatric postpartum depression screening guidelines specific to my practice to inform decisions I make regarding patient care

- Definitely not
 Probably not
 Might or might not
 Probably yes
 Definitely yes

How much to you agree to disagree with the following statements:

24. Rate your willingness to learn more and participate in professional development related to postpartum depression screening in the clinical setting

- Definitely not
 Probably not
 Might or might not
 Probably yes
 Definitely yes

How much to you agree to disagree with the following statements:

25. Lack of time prevents me from effectively using Postpartum depression guidelines

- Definitely not
 Probably not
 Might or might not
 Probably yes
 Definitely yes

26. The postpartum depression guidelines for my specialization are clear and understandable

- Definitely not
 Probably not
 Might or might not
 Probably yes
 Definitely yes

27. The postpartum depression guidelines incorporate the viewpoints of my professional group

- Definitely not
- Probably not
- Might or might not
- Probably yes
- Definitely yes

28. I can easily access postpartum depression guidelines

- Definitely not
- Probably not
- Might or might not
- Probably yes
- Definitely yes

29. Cost associated with implementing universal postpartum depression screening in clinical setting is difficult, due to cost of administrative support and changing clinical protocols

- Definitely not
- Probably not
- Might or might not
- Probably yes
- Definitely yes

30. Screenings to detect postpartum depression lack standardization

- Definitely not
- Probably not
- Might or might not
- Probably yes
- Definitely yes

31. Is there anything you would like to add regarding PPD and your clinical Practice?

Q34. Thank you for your contribution to this important research, it is very much appreciated!

Appendix I



College of Education and Health Professions
Eleanor Mann School of Nursing

Appendix: EMSON EVIDENCE TABLE

Author/Year	Country where research conducted	Brief Summary of Results	Independent or Treatment Variables(s)/Dependent or Outcome Variables (s)	Theory Guiding the study and identification of variables	Design Type/Sample (N=) Method	Data Collection tools	Brief Summary of Results	Strength of Evidence
AAP Division of Health Care Finance. CPT Code Changes for health risk assessments take effect Jan. 1. AAP News. (November 4, 2016) https://www.aapublications.org/news/2016/11/04/Coming110416?utm_source=TrendMD&utm_medium=TrendMD&utm_campaign=AAPNews_TrendMD_0	USA	CPT code changes, use of code 96161 for use of standardized instrument to screen for health risks in the caregiver for the benefit of the patient-can use when billed under the baby; 96127-can be billed when billed to the mother in screening practices	N/A	Analysis of new billing changes for screening for PPD in pediatric care settings	New billing changes may be able to increase the integration of PPD screening in practice	Increase in universal screening in PPD pediatric practices	Pediatric practices should be informed of the new CPT codes in screening practice	2; Increased revenue for pediatrics clinics, and increased universal screening opportunities to increase the referrals for women that may be showing symptoms of PPD during the first year of life of the new infant
Albaugh, A. S., Friedman, S. H., Yang, S. N., & Rosenthal, M. (2018). Attendance at mental health appointments by women who were referred during pregnancy or the postpartum period. <i>Journal of Obstetric, Gynecologic, and Neonatal Nursing</i> : JOGNN, 47(1), 3-11. Doi:10.1016/j.jogn.2017.11.001	USA	To describe characteristics of women referred to mental health care during pregnancy or the year after giving birth to identify characteristics associated with attendance at mental health intake visits	Participants were referred because they experienced perinatal loss, and those who requested the referral themselves.	Retrospective records review of referral documentation	The referral data sent from women's health care providers to perinatal mental health clinics to determine if mental health visits occurred; Design: Retrospective record review of referral documentation N=647 women	Fifty percent of 647 women who accepted perinatal mental health referrals had intake appointments. Women were more likely to participate in an intake appointment if in-home services were offered. Data collected via the Maternal Behavioral Health Referral forms	Even among women who accepted referrals to mental health services only half attended intake appointment. For this group of pregnant women and those in the first year after birth, in-home mental health visits were most likely to result in care engagement which has important implications for service delivery	3
Appleby, B.E. (2019). Implementing guidelines-checklists: Evaluating health care providers' intentional behaviour using an extended model of the theory of planned behaviour. <i>Journal of Evaluation in Clinical Practice</i> , 25(4), 664-675. doi:10.1111/jep.13075	USA	Internationally, clinical guidelines as checklists are increasingly used in acute ward practice to standardize the delivery and raise the quality of care on acute hospital wards. However, when guideline-checklists are implemented repeatedly, health providers' intentions to carry out this type of behaviour are not well understood.	Identify nurses and HCA key beliefs and intentions, identify statistically significant determinants of nurses' and HCAs' intentions, establish the usefulness of the extended TPB model in explaining intention	Cross-sectional study-evaluate nurses' and health care assistants' (HCAs) intentions to implement a "care round checklist"; a guideline-intervention repeated hourly on hospital wards. Furthermore, an extended Theory of Planned Behaviour (TPB) model's usefulness in explaining this type of behaviour was also evaluated	A theory-informed questionnaire, guided by the TPB, habit, and clinical context variables, was developed to measure the guideline-checklist behaviour. Quantitative questionnaire data were analysed using descriptive and inferential tests to establish differences in nurses' and HCAs' intentions and the predictive value of the model	A sample of 270 nurses and HCAs returned questionnaires from 24 wards in a major hospital in England. The extended TPB model explained 20% of nurses and 24% of HCAs reported intentions to implement a care round checklist, a modest proportion of intent. Attitude and perceived control best predicted nurses' intentions,	Statistically, the extended TPB model highlighted that nurses and HCAs' intentions to implement this type of guideline are predicted by different variables.	3, This implied professional "role" as an important variable in explaining differences in intentions, which should be evaluated and integrated into the future design of this type of checklist. Further variables could be added to explain and learn more about intentional thinking for this type of behaviour and should help to

						and attitude and practice habit HCAs' intentions. TPB belief variables helped explain why nurses and HCAs intentions were different.		develop a theoretical understanding of intentions underpinning this type of behaviour and ultimately improve patient care
Atzmüller, C., & Steiner, P. M. (2010). Experimental vignette studies in survey research. <i>Methodology</i> , 6(3), 128-138. Doi:10.1027/1614-2241/a000014	USA	Vignette studies use short descriptions of situations or persons (vignettes) that are usually shown to respondents within surveys in order to elicit their judgments about these scenarios	N/A	By systematically varying the levels of theoretically important vignette characteristics a large population of different vignettes is typically available – too large to be presented to each respondent.	Therefore, each respondent gets only a subset of vignettes. These subsets may either be randomly selected in following the tradition of the factorial survey or systematically selected according to an experimental design	either be randomly selected in following the tradition of the factorial survey or systematically selected according to an experimental design. We show that these strategies in selecting vignette sets have strong implications for the analysis and interpretation of vignette data. Random selection strategies result in a random confounding of effects and heavily rely on the assumption of no interaction effects.	In contrast, experimental strategies systematically confound interaction effects with main or set effects, thereby preserving a meaningful interpretation of main and important interaction effects. Aim of this article is to discuss different strategies for selecting subpopulations or vignette sets in large vignette studies with respect to their implications for the analysis of the data	2, A quantitative vignette study consists of two components: (17) a vignette experiment as the core element, and (b) a traditional survey for the parallel and supplementary measurement of additional respondent-specific characteristics, which are used as covariates in the analysis of vignette data.
Association of Arkansas Counties. (2021). https://www.arcocities.org/counties/	Arkansas	Demographic and location data of counties in Arkansas	N/A	N/A	N/A	N/A	Included information on all counties in Arkansas based on 2010 census data	2, current census data is not calculated for 2020, not yet available
Bauman BL, Ko JY, Cox S, D'Angelo, V.D., Warner, L., Folger, S., Tevendale D.H., Coy, C.K., Harrison, L., Barfield, D, W. (2020) Vital signs: Postpartum depressive Symptoms and provider discussions about perinatal depression – united states, 2018. <i>MMWR. Morbidity and Mortality Weekly Report</i> , 69(19), 575-581. Doi:10.15585/mmwr.mm6919a2	USA	Perinatal depression is a complication of pregnancy that can result in adverse maternal and infant outcomes. Screening to identify pregnant and postpartum women with depressive symptoms is recommended to provide diagnosis, treatment, and follow-up care to reduce poor outcomes	N/A	CDC analyzed 2018 data from the Pregnancy Risk Assessment Monitoring System to describe postpartum depressive symptoms (PDS) among women with a recent live birth and to assess whether health care providers asked women about depression during prenatal and postpartum health care visits, by site and maternal and infant characteristics.	Among respondents from 31 sites, the prevalence of PDS was 13.2%, ranging from 9.7% in Illinois to 23.5% in Mississippi. The prevalence of PDS exceeded 20% among women who were aged ≤19 years, were American Indian/Alaska Native, smoked during or after pregnancy, experienced intimate partner violence before or during pregnancy, self-reported	The prevalence of women reporting that a health care provider asked about depression during prenatal care visits was 79.1% overall, ranging from 51.3% in Puerto Rico to 90.7% in Alaska. The prevalence of women reporting that a provider asked about depression during postpartum visits was 87.4% overall, ranging from 50.7% in Puerto Rico to 96.2% in Vermont.	The prevalence of self-reported PDS varied by site and maternal and infant characteristics.	2, Whether providers asked women about perinatal depression was not consistent across sites. Provision of recommended screenings and appropriate referrals for diagnosis, treatment, and follow-up care can ensure early and effective management of depression to reduce adverse maternal and infant outcomes.

					depression before or during pregnancy, or whose infant had died since birth.			
Booth, L., Wedgeworth, M., & Turner, A. (2018). Integrating optimal screening, intervention, and referral for postpartum depression in adolescents. The Nursing Clinics of North America, 53(2), 157-168. Doi:10.1016/j.cnur.2018.01.00	USA	Between 10% and 13% of women develop a mental disorder during the postpartum period. According to the World Health Organization, 10% to 13% of postpartum women develop a mental health disorder, most often depression, and this number is even higher in developing countries.	n/A	This percentage increased with adolescents and symptoms are commonly overlooked. The incidence of mental illness is higher in postpartum adolescents (ages 10–19 years of age), ranging from 26% to more than 50%. These percentages for postpartum depression (PPD) include women who miscarry or have abortions	These depressive disorders can be treated successfully if detected early, preventing more serious symptoms. More than 50% of women with PPD are undiagnosed ¹⁴ and that percentage may be higher in adolescent mothers. In addition, suicide is a leading cause of death in postpartum women. The patient health questionnaire-9 can be used to collect prescreening data to identify individuals in need of further assessment	Primary care nurse led clinics are on the “front lines” of health care, providing inventive approaches to expanding and integrating services for increasingly complex positions. Primary care providers to take the lead in the screening, brief treatment, and referral of adolescent mothers. Nurse-led clinics already serve women and children as primary care providers, and this factor is especially important in underserved and financially disadvantaged areas	Early intervention and treatment cannot be accomplished without the integration of screening (and treatment) for PPD in primary care settings, where high-risk adolescents seek health care. Validated tools are successful in well-child and obstetric settings	2, Ideally behavioral health treatment begins immediately; however, processes should be put in place at clinics to integrate behavioral health at a variety of levels to better serve this group.
Burnes, B. (2004). Kurt Lewin and the planned approach to change: A Re-appraisal. Journal of Management Studies, 41(6), 977-1002. Doi:10.1111/j.1467-6486.2004.00463.x	USA	This article seeks to re-appraise Lewin's work and challenge the validity of these views.	N/A	It begins by describing Lewin's background and beliefs, especially his commitment to resolving social conflict.	The article then moves on to examine the main elements of his Planned approach to change: Field Theory; Group Dynamics; Action Research; and the 3-Step model.	This is followed by a brief summary of the major developments in the field of organizational change since Lewin's death which, in turn, leads to an examination of the main criticisms leveled at Lewin's work.	Lewin maintained that to understand any situation it was necessary that: 'One should view the present situation – the status quo – as being maintained by certain conditions or forces'	2, Lewin's view was that if one could identify, plot and establish the potency of these forces, then it would be possible not only to understand why individuals, groups and organizations act as they do, but also what forces would need to be diminished or strengthened in order to bring about change.
Bauer, N. S., Ofner, S., Pottenger, A., Carroll, A. E., & Downs, S. M. (2017). Follow-up of mothers with suspected postpartum depression from pediatrics clinics. Frontiers in Pediatrics, 5, 212. Doi:10.3389/fped.2017.00212	USA	Pediatric providers are increasingly screening for postpartum depression (PD), yet, it is unknown how often mothers comply with recommendations to seek treatment. The objectives were to describe the rate at which mothers with suspected PD seek treatment and explore factors that predict help-seeking behavior.	Mothers screened and reported if they sought treatment or called a community resource for mental health resources	Mothers were recruited from four pediatric clinics after identification using the Child Health Improvement through Computer Automation (CHICA) system. Mothers with a positive screen were invited to participate in a telephone interview between January 2012 and December 2014. Mothers reported if they sought treatment or called a community resource	N: 73 of 133 eligible mothers participated (55% response rate). Fifty women recalled a recommendation to seek help. Only 43.8% (32/73) made a follow-up appointment with an adult provider and even fewer kept the appointment.	When PD occurs, it is most common when the newborn infant is between 6 weeks and 6 months of life; however, it can occur anytime within the first year postpartum	A majority of mothers suspected of having PD recalled a referral for further intervention; yet, less than half took action. Further investigation of barriers of help-seeking behavior is warranted.	3

<p>Byatt, N., Cox, L., Moore Simas, T., A., Kini, N., Biebel, K., Sankaran, P., . . . Weinreb, L. (2018). How obstetric settings can help address gaps in psychiatric care for pregnant and postpartum women with bipolar disorder. <i>Archives of Women's Mental Health</i>, 21(5), 543-551. Doi:10.1007/s00737-018-08252</p>	USA	<p>To elucidate (1) the challenges associated with under-recognition of bipolar disorder in obstetric settings, (2) barriers pregnant and postpartum women with bipolar disorder face when trying to access psychiatric care, and (3) how obstetric settings can identify such women and connect them with mental health services</p>	<p>Patient were deemed eligible based on prescreening were contacted by telephone and screening for eligibility using the three-question composite international diagnostic interview based bipolar disorder, if the CIDI screen was positive, patients were invited to meeting in-person, women were eligible if they had an EPDS greater than 10</p>	<p>Structured, in-depth interviews were conducted with 25 pregnant and postpartum women recruited from obstetric practices who scored ≥ 10 on the Edinburgh Postnatal Depression Scale and met DSM-IV criteria for bipolar disorder I, II, or not otherwise specified using the Mini International Neuropsychiatric Interview.</p>	<p>Descriptive exploratory study, Differentiating the barriers experienced by women with and without unrecognized bipolar disorder would also have allowed us to better understand the different barriers experienced by these subsets of women in our sample.</p>	<p>Women face challenges in securing mental health treatment appropriate to their bipolar illness. Obstetric providers provide the bulk of medical care for these women and need supports in place to (1) better recognize bipolar disorder, (2) avoid inappropriate prescribing practices for women with undiagnosed bipolar disorder, and (3) ensure women are referred to specialized treatment when needed.</p>	<p>Qualitative interviews indicated that participants want their obstetric practices to proactively screen for, discuss and help them obtain mental health treatment.</p>	<p>3, Obstetric providers are at the front line serving these vulnerable women with complex conditions.</p>
<p>Chaudron, L.H., Szilagyi, P.G., Kitzman, H.J., Wadkins, H.I.M., & Conwell, Y. (2004) Detection of postpartum depressive symptoms by screening at well-child visits. <i>Pediatrics</i>, 113(3), 551-558. Doi:10.1542/peds.113.3.551</p>	USA	<p>To assess 1) the feasibility of universal postpartum depression screening during wellchild visits in the first year of life, 2) the prevalence of postpartum depressive symptoms among mothers who attend first-year well-child visits, 3) detection of postpartum depressive symptoms in a pediatric clinic before and after universal screening at each first-year well-child visit, and 4) social work referrals before and after universal screening</p>	<p>Variables collected included demographic such as maternal age, infant age, infant race/ ethnicity, infant birth weight, gestational, number of well-child visits, and health insurance</p>	<p>The practice instituted universal screening for postpartum depressive symptoms during first-year well-child visits using the Edinburgh Postnatal Depression Scale (EPDS).</p>	<p>We randomly selected 110 infant medical records before (cohort 1) and 110 after (cohort 2) screening was initiated. Measures included demographics, notation of depression or depressive symptoms in the well-child visit note, and referral for depression. EPDS scores were collected for cohort 2 only. Before-after comparisons were made for detection of depression or depressive symptoms and mental health referrals.</p>	<p>The EPDS was included in the medical record in 46% of well-child visits. Eighty-eight percent of these forms were completed. Twenty-one percent of completed EPDS forms had scores >10, and 27% of women who completed the EPDS had scores >10 sometime during the postpartum year.</p>	<p>Women with high levels of postpartum depressive symptoms are common in an urban population and can be detected at well-child visits throughout the first postpartum year by pediatricians using a standardized screening tool</p>	<p>3, Because screening for depression during well-child visits is feasible using a standardized screening instrument, pediatricians can play an active role in early detection and referral for postpartum depression</p>
<p>Dagher, R. K., McGovern, P. M., Dowd, B. E., & Gjerdingen, D. K. (2012). Postpartum depression and health services expenditures among employed women. <i>Journal of Occupational and Environmental Medicine</i>, 54(2), 210-215. doi:10.1097/JOM.0b013e31823fd85</p>	USA	<p>To investigate the association of postpartum depression with health services expenditures among employed women.</p>	<p>Dependent variable is expenditure on healthcare services from discharge until 11 weeks postpartum; postpartum depression the primary explanatory variable was measured at 5 weeks postpartum using the edinburg postnatal depression scale (EPDS)</p>	<p>Women, aged 18 years and older, were recruited from three community hospitals in Minnesota while hospitalized for childbirth in 2001. Using Andersen's Behavioral Model, we regressed the natural log of the price-weighted sum of selfreported health services used from hospital discharge until 11 weeks postpartum on depression status at 5 weeks postpartum (Edinburgh</p>	<p>Five percent of the women met the depression threshold. Two-stage least squares analyses showed that depressed women incurred 90% higher health services expenditures than nondepressed women.</p>	<p>Older age, poverty, non-public assistance insurance status, and increased maternal symptoms also were associated with higher expenditures</p>	<p>Higher health expenditures among postpartum depressed women highlight the importance of addressing mental health issues in the workplace.</p>	<p>3, Moreover, researchers should explore whether earlier identification and treatment of postpartum depression may decrease health care expenditures after childbirth</p>

				Postnatal Depression Scale)				
Duffecy, J., Grekin, R., Hinkel, H., Gallivan, N., Nelson, G., & O'Hara, M.,W. (2019). A group-based online intervention to prevent postpartum depression (sunnyside): Feasibility randomized controlled trial. JMIR Mental Health, 6(5), e10778. Doi:10.2196/10778	USA	Postpartum depression (PPD) has a 20% 3-month prevalence rate. The consequences of PPD are significant for the mother, infant, and the family. There is a need for preventive interventions for PPD, which are effective and accessible; however, many barriers exist for women who attempt to access perinatal depression prevention programs.	Women who were 20 to 28 weeks pregnant with symptoms of depression (Patient Health Questionnaire-8 scores of 5-14) but who had no major depression diagnosis were enrolled in a randomized controlled trial (RCT)	This study aimed to describe the development of a cognitive behavioral therapy (CBT) internet intervention with peer support to prevent PPD and examine preliminary depression and site usage outcomes.	User-centered design groups were used to develop the internet intervention. Once the intervention was developed, place at baseline,	A total of 25 women were randomized. Of these, 24 women completed the RCT. Patient Health Questionnaire-9 scores at 6 weeks postpartum remained below the clinical threshold for referral for treatment in both groups, with depression measures showing a decrease in symptoms from baseline to postpartum. At 6 weeks postpartum, only 4% (1/24) met the criteria for PPD. There was no difference between groups in adherence to the intervention, with an average of 14.55 log-ins over the course of treatment.	Results suggest women were responsive to both peer support and individual internet interventions to prevent PPD and that peer support may be a useful feature to keep participants adherent.	5, In addition, making intervention enrollment available via primary care clinics or ob-gyn offices, rather than simply online, may increase access for those most in need of preventive services but with less familiarity with online resources.
Earls, M. F., Yogman, M. W., Mattson, G., Rafferty, J., & COMMITTEE ON PSYCHOSOCIAL ASPECTS OF CHILD AND FAMILY HEALTH. (2018;2019). Incorporating recognition and management of perinatal depression into pediatric practice. Pediatrics (Evanston), 143(1), e20183259. Doi:10.1542/peds.2018-3259	USA	A 2010 clinical report from the American Academy of Pediatrics (AAP) described the rationale and need for screening for postpartum depression (PPD) in pediatric primary care	N/A	Although primary care clinicians (PCCs) have improved the rates of integrating screening in practice since then, according to the 2013 periodic survey of AAP members, less than half of pediatricians screened mothers for depression	The expanding understanding of the effects of adverse childhood experiences, the recognition of screening as an evidence-based recommendation by the US Preventive Services Task Force (USPSTF)	Maternal depression affects the whole family. ⁶ This policy statement focuses specifically on the effects of maternal depression on the young infant and the role of the pediatric PCC (physician, nurse practitioner, or physician assistant) in identifying PPD and referring the mother/infant dyad for treatment	the statement of the Centers for Medicare and Medicaid Services (CMS) ^{4,5} for support of the coverage of PPD screening under Early and Periodic Screening, Diagnostic and Treatment services have emphasized that it is time to close the gap in rates of screening.	2, Routine screening for PPD should be integrated into well-child visits at 1, 2, 4, and 6 months of age. This screening schedule is recommended in Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents, Fourth Edition
*Engaging Patients and Families. Periodicity Schedule. 2020. American Academy of Pediatrics. https://www.aap.org/en-us/professional-resources/practice-transformation/managingpatients/Pages/Periodicity-Schedule.aspx	USA	Recommendations from the American Academy of Pediatrics for screenings and assessments at each well-child visit from infancy through adolescence.	N/A	Footnote 16 has been updated to read as follows: "Screening should occur per 'Incorporating Recognition and Management of Perinatal Depression Into Pediatric Practice'."	Screening for maternal depression at 1-, 2-, 4-, and 6-month visits has been added. An accompanying footnote (#16) has been added.	These recommendations represent a consensus by the AAP and Bright Futures. The AAP continues to emphasize the great importance of continuity of care in comprehensive health supervision and the need to avoid fragmentation of care.	Each child and family is unique; therefore, these recommendations are designed for the care of children who are receiving competent parenting, have no manifestations of any important health problems, and are growing and developing in a satisfactory fashion. Additional visits may become necessary if circumstances	2, Developmental, psychosocial, and chronic disease issues for children and adolescents may require frequent counseling and treatment visits separate from preventive care visits.

							suggest variations from normal.	
Emerson, M. R., Mathews, T. L., & Struwe, L. (2018). Postpartum depression screening for new mothers at well-child visits. <i>MCN, the American Journal of Maternal Child Nursing</i> , 43(3), 139-145. Doi:10.1097/NMC.0000000000000426	USA	Postpartum depression (PPD) is a debilitating emotional experience that can affect mothers and their infants. Screening for PPD is encouraged during pediatric well-child visits (WCVs);	Inclusion criteria postpartum women who were not pregnant by self-report able to read and understand English age 19 or older and attending the 6-month WCV for their infant	There were three purposes to this study: 1) determine prevalence of mothers who scored in the at-risk range using the Edinburgh Postnatal Depression Scale (EPDS) at each of the 2-, 4-, and 6-month WCVs in a pediatric outpatient practice; 2) examine feasibility factors relative to extending the current standard of care for PPD screening; and 3) examine visit documentation for at-risk mothers.	A prospective cohort study design was used to screen mothers during their infants' 6-month WCV for PPD using the EPDS	Feasibility in adding the 6-month time frame was assessed using an investigator-designed clinical team survey. Visit documentation content was obtained through medical record review	Forty-three postpartum women were included in the study. Prevalence rates among participants were 10%, 12.5%, and 14% for 2-month, 4-month, and 6-month WCVs, respectively	2, Prevalence of PPD among participants is consistent with previously reported rates. Areas 71ustrali ed for improved clinical practice include the content of the visit that is documented in the medical record and reviewed with mothers 71ustrali ed to be at-risk, time allotted for the clinical team to screen new mothers, and appropriate referral to outside sources.
*Goldin Evans, M., Phillippi, S., & Gee, R. E. (2015). Examining the screening practices of physicians for postpartum depression: Implications for improving health outcomes. <i>Women's Health Issues</i> , 25(6), 703-710. Doi:10.1016/j.whi.2015.07.003	USA	Postpartum depression the most common complication of childbirth, remains largely undetected by providers	N/A	Pediatricians/obstetricians/gynecologists, and family practitioners have a responsibility to identify PPD as the condition has long-term adverse effects on their patients	Using PubMed and PsychInfo databases this review explores and summarizes studies on the screening practices of physicians	The prevalence and method of screening their patients for PPD was low and variable among the three types of physicians. Pediatricians were the least likely to screen compared with obstetricians/gynecologists and family practitioners	Screening rates can increase if physicians are educated about PPD and trained on the ease of routinely using a validated tool to identify PPD.	2, This is critical because more detection can lead to improved access to treatment and the long-term detrimental impact that untreated PPD has on a mother and her children might be mitigated.
Glasser, S., Levinson, D., Bina, R., Munitz, H., Horev, Z., & Kaplan, G. (2016). Primary care physicians' attitudes toward postpartum depression: Is it part of their job? <i>Journal of Primary Care & Community Health</i> , 7(1), 24-29. Doi:10.1177/2150131915611827	Isreal	This study surveyed Israeli primary care physicians attitudes and practice regarding postpartum depression (PPD)	In 2012 the Ministry of Health issued a Directive mandating PPD screening with the Edinburgh Postnatal Depression Scale antenatally and postpartum	Participants included 224 pediatricians and family practitioners responding to an online survey 65% response rate	N-345 pediatricians and family practitioners: Almost all respondents 98% considered it important that they be able to recognize the signs of PPD.	Family practitioners were significantly more willing to screen for PPD than were pediatricians, most noted that if they suspected PPD they would become somewhat involved: clarifying, keeping attentive, consulting with colleagues, referring the women to a professional	There is a clear difference between considering the importance of recognizing signs of PPD and acting on it.	3, Hopefully future directions for medical education and health policy for family practitioners and pediatricians as well as obstetricians/gynecologists will be the challenge of early identification and treatment of PPD for the benefit of women infant and families
Hahn-Holbrook, J., Cornwell-Hinrichs, T., & Anaya, L., (2018:2017). Economic and health predictors of national postpartum depression prevalence: A systematic review,	USA	Postpartum depression (PPD) poses a major global public health challenge. PPD is the most common complication associated with childbirth and	N/A	a meta-analysis was conducted to estimate the global and national prevalence of PPD and a meta-regression to identify economic, health, social, or policy factors associated with	We conducted a systematic review of all papers reporting PPD prevalence using the Edinburgh Postnatal Depression Scale. PPD prevalence and methods were	291 studies of 296284 women from 56 countries were identified. The global pooled prevalence of PPD was 17.7%	The global prevalence of PPD is greater than previously thought and varies dramatically by nation. Disparities in wealth inequality and maternal-child-health	3, Creating meaningful improvements in these areas presents enormous social challenges, yet the potential benefits of reducing PPD for mothers, families,

meta-analysis, and meta-regression of 291 studies from 56 countries. <i>Frontiers in Psychiatry</i> , 8, 248. Doi:10.3389/fpsy.2017.00248		exerts harmful effects on children		national PPD prevalence	extracted from each study. Random effects meta-analysis was used to estimate global and national PPD prevalence.		factors explain much of the national variation in PPD prevalence	and infants are equally great.
*IRS. Publication 969 (2019), Health Savings Account and Other Tax-Favored Health Plans. https://www.irs.gov/publications/p969#en_US_2019_publication1000204196	USA	Publication 969 (2019) health savings accounts and other tax-favored health plans	N/A	HER accounts can pay for periodic health evaluations in connection with routine examinations	Various programs are designed to give individuals tax advantages to offset healthcare costs	FSA accounts do not have to be reported on the income tax return but can be used to qualified health expenses-employer established plans use or lose it plans	HRA health reimbursement arrangements-funded solely by an employer-no reporting requirements-contributions made by employers can be excluded from gross income	2, Understanding the health savings accounts of the patient is crucial to understanding provider reimbursement
Jaronski, J., & Fox, J.A. (2016). A review of research and nursing management of mental health problems in pregnancy and motherhood. <i>Nursing: Research and Reviews</i> (Auckland, N.Z), 6(Issue 1), 1-8. Doi:10.2147/NRR.S92203. Joseph Galli, B. (2018). Change management models : A comparative analysis and concerns. <i>IEEE Engineering Management Review</i> , 46(3), 124-132. doi:10.1109/EMR.2018.2866860	USA	In this article, the authors explore the risks pregnant women experience due to mental illness and intimate partner violence (IPV) and discuss the nursing role involved in the management of their care	N/A	For many women, pregnancy is a time of hopeful anticipation, yet for others, pregnancy reflects a new or an ongoing struggle with mental illness. The sequelae of untreated mental illness can be as severe as infanticide, maternal suicide, lack of maternal attachment, and inability to parent	Practices that use a depression assessment tool such as the Edinburgh Postnatal Depression Scale. During the initial intake assessment, the Edinburgh Postnatal Depression Scale can provide the means of early treatment through targeted assessment.	The available literature reveals that women at risk of SMI, pre- and post pregnancy, are not well served by the current system.	Educating nurses to the reality of comorbidity as the norm rather than the rare occurrence, with a truly holistic approach that diminishes stigma.	3, Implications for practice include the use of assessment tools early and during the treatment trajectory; otherwise, mental illness and IPV in pregnancy would go undetected/untreated. Identifying postpartum depression early is key toward providing timely care for both the mother and infant;
Kortteisto, T., Kaila, M., Komulainen, J., Mantyrant, T., & Rissanen, P. (2010). Healthcare Professionals' intentions to use clinical guidelines: A survey using the theory of planned behaviour. <i>Implementation Science</i> : 5, 51-51. Doi:10.1186/1748-5908-5-551	Finland	A theory-based approach is a possible solution to explore determinants of professionals' behaviour. The study's aim was to produce baseline information for developers and implementers by using the theory of planned behaviour	Dependent variable was an intention that measured one item which was measured with one item: 'I intend to use clinical practice guidelines for my area of specialization in the decision I make on the care of patients in the next three months	A cross-sectional internet-based survey was carried out in Finnish healthcare organisations within three hospital districts. The target population (n = 2,252) included physicians, nurses, and other professionals, of whom 806 participated. Indicators of the intention to use clinical guidelines were observed by using a theory-based questionnaire. The main data analysis was done by means of multiple linear regressions.	N: 2,252; The results indicated that all theory-based variables—the attitude toward the behaviour, the subjective norm, and the perceived behaviour control—were important factors associated with the professionals' intention to use clinical practice guidelines for their area of 72ustralia72tion in the decisions they would make on the care of patients in the next three months	In addition, both the nurse and the physician factors had positive ($p < 0.01$) effects on this intention in comparison to other professionals. In the similar models for all professions, the strongest factor for the physicians was the perceived behaviour control, while the key factor for the nurses and the other professionals was the subjective norm.	The results confirm suggestions that the theory of planned behaviour is a suitable theoretical basis for implementing clinical guidelines in healthcare practices.	3, Our new finding was that, in general, profession had an effect on intention to use clinical guidelines in patient care. Therefore, the study reaffirms the general contention that different strategies need to be in place when clinical guidelines are targeted at different professional groups.
Logsdon, M.C., Myers, J., Rushton, J., Gregg, L.J., Josephson M.A., Davis, W.D., Brothers, K.,	USA	Approximately 400,000 adolescents give birth in the USA annually. Although one-half	Outcome variables provide information on how an internet-based depression intervention can	Based upon the theory of planned behavior (TPB), the intervention included vignettes, questions and	Before the intervention, immediately after the intervention, and	Adolescent mothers in the intervention group answered questions and completed the	Results indicated that subjective norms but not attitude was a significant predictor or	4, Untreated postpartum depression dramatically impacts a mother's relationship with

<p>Baisch, K., Carabello, A., Vogt, K., Jones, K., Angermeier, J., (2017; 2018). Efficacy of</p> <p>An internet-based depression intervention to improve rates of treatment in adolescent Mothers. Archives of Women's Mental Health, 21(3), 273-285. Doi:10.1007/s00737-017-0804-z</p>		<p>experience depressive symptoms, less than 25% comply with referrals for depression evaluation and treatment. The current study tested the effectiveness of an Internetbased depression intervention on seeking depression treatment.</p>	<p>assist mothers with depressive symptoms to seek and receive depression evaluation and treatment to improve their health and functioning and lessen the impact of depression on their infant.</p>	<p>answers, and resources.</p>	<p>2 weeks later the adolescent mothers (n = 151) answered questions related to TPB variables and depression treatment. Data were compared to adolescent mothers (n = 138) in the control group. Data were collected in community organizations or home visits for the control group.</p>	<p>intervention from a computer of their choice. The adolescents were primarily African American (89.2%), less than high school educated (51.7%), had given birth in last year (97.1%), with a mean age 18.2 years.</p>	<p>intentions to seek depression treatment in adolescent mothers. Thus the peers, family culture, and values of the teen mother influenced her intention to seek mental health treatment. There is a need for culturally sensitive educational intervention, so that peers and family find mental health treatment acceptable</p>	<p>her child, her functioning at work and school, health care-seeking behaviors, mothering skills, and her development as well as the development of her child. An Internet-based depression intervention is an inexpensive method to increase rates of depression treatment.</p>
<p>Loudon, H., Nentin, F., Silver, M.E., & Silverman, M.E. (2016). Using clinical decision support as a means of implementing a universal postpartum depression screening program. Archives of Women's Mental Health, 19(3), 501-505. Doi:10.1007/s00737-015-0596-y</p>	<p>USA</p>	<p>The purpose of this study was to test the feasibility of adding clinical decision support (CDS) to the electronic health record (HER) as a means of implementing a universal standardized PPD screening program within a large, at high risk, population</p>	<p>Population of women who delivered an infant and returned for their 6 week postpartum follow up appointment between January 2010 and December 2013</p>	<p>All women returning to the Mount Sinai Hospital OB/GYN Ambulatory Practice for postpartum care between 2010 and 2013 were presented with the Edinburgh Postnatal Depression Scale (EPDS) in response to a CDS "hard stop" built into the HER. Of the 2102 women who presented for postpartum care, 2092 women (99.5 %) were screened for PPD in response to a CDS hard stop module. Screens were missing on ten records (0.5 %) secondary to refusal, language barrier, or lack of clarity in the HER</p>	<p>N; 2092 Technology is becoming increasingly important in addressing the challenges faced by health care providers. While the identification of PPD has become the recent focus of public health concerns secondary to the significant social burden, numerous barriers to screening still exist within the clinical setting</p>	<p>The utility of adding CDS in the form of a hard stop, requiring clinicians to enter a standardized PPD mood assessment score to the patient HER, offers a sufficient</p>	<p>Because pregnant and postpartum women represent a population that is receiving regular medical care and for whom screening and treatment are quite feasible, these findings suggest that the universal screening for PPD and improved outpatient quality of postpartum care may be achieved by combining EHRs and CDS.</p>	<p>3, Adding the PPD screening tool to the Electronic record increases screening, but a subsequent intervention is required</p>
<p>*Long, M. M., Cramer, R. J., Jenkins, J., Bennington, L., & Paulson, J. F. (2019). A systematic review of interventions for healthcare professionals to improve screening and referral for perinatal mood and anxiety disorders. Archives of Women's Mental Health, 22(1), 25-36. Doi:10.1007/s00737-018-0876-4</p>	<p>USA</p>	<p>Postpartum depression affects approximately 11% of women, however screening for perinatal mood and anxiety (PMAD) is rare and inconsistent among healthcare professionals. Objective is to review the types and effectiveness of interventions for healthcare professionals that have been used to increase the number of women screened and referred for PMAD</p>	<p>The four main outcome variables were the following: percentage of women screened, percentage of women referred for services, percentage of women screened positive for PMAD, and provider knowledge, attitudes, and/or skills concerning PMAD.</p>	<p>Twenty-five studies were included in the review. Based on prior quality assessment tools, the quality of each article was assessed using an assessment tool created by the authors.</p>	<p>The most common intervention type was educational, with others including changes in electronic medical records and standardized patients for training. Study quality and target audience varied among the studies.</p>	<p>Interventions demonstrated moderate positive impacts on screening completion rates, referral rates for PMAD, and patient-provider communication.</p>	<p>Studies suggested positive receptivity to screening protocols by mothers and providers.</p>	<p>3, Given the prevalence and negative impacts of PMAD on mothers and children, further interventions to improve screening and referral are needed.</p>

<p>Luca, D. L., Margiotta, C., Staatz, C., Garlow, E., Christensen, A., & Zivin, K. (2020). Financial toll of untreated perinatal mood and anxiety disorders among 2017 births in the united states. American Journal of Public Health (1971), 110(6), 888-896. Doi:10.2105/AJPH.2020.305619</p>	USA	To estimate the economic burden of untreated perinatal mood and anxiety disorders (PMADS among 2017 births in the United States	PMADS are not only common they are among the most costly conditions during pregnancy and postpartum	Mathematical model based on a cost of illness approach to estimate the impacts of exposure to untreated PMADS on mothers and children. The model estimated the cost incurred by mothers and their babies born in 2017, projected from conception through the first 5 years of the birth cohorts lives.	Estimated that PMADS cost 14\$ billion for the birth cohort from conception to 5 years postpartum. The average cost per affected mother-child dyad was about #31,800. Mothers incurred 65% of the costs, children incurred 35%, the largest costs were attributable to reduced economic productivity among affected mothers more preterm births and increases in other maternal health expenditures	Mothers incurred 65% of the costs, children incurred 35%, the largest costs were attributable to reduced economic productivity among affected mothers more preterm births and increases in other maternal health expenditures	The US economic burden of PMADS is high.	2, Efforts to lower the prevalence of untreated PMADS could lead to substantial economic savings for employers, insurers, the government and society.
<p>Moore Simas, T.A., Huang, M., Patton, C., Reinhart, M., Chawla, A. J., Clemson, C., Eldar-Lissai, A. (2019). The humanistic Burden of postpartum depression: A Systematic Literature review. Current Medical Research and Opinion, 35(3), 383.</p>	USA	Postpartum depression has detrimental effects on the health of the mother, child and family	Women want their obstetric practices to screen for mental health issues and provide resources for treatment	Sociodemographic variables can influence PPD. Sense of 74ustralia is a personal resource that mitigates the experience of stressful events	N: 25 Hypothesis that sense of coherence would have a protective effect against PPD over time. The aim was to investigate the effects of socio-demographic facts and SOC on PPD at birth and nine months postpartum, a longitudinal study of primiparous women N=114, age range 18-47 eyars measured PPD, SOC and PPD at T1 and T@.	Established EPDS thresholds scores of 10 for mild depressive symptoms and 13 and above for severe depressive symptoms. Results showed the 15.8% of women reported symptoms indicating PPD at T1 and only 6.2% at T2. Only job status was found to distinguish the SOC of mothers at T1 and T2, but difference was not significant	This study was designed to examine the relationships between socio-demographic parameters, SOC and PPD of primiparous mothers, after birth and nine months postpartum. In consideration of the conceptual framework of SOC, it was hypothesized that job status before the birth would enhance SOC. Our results corroborate the hypothesis, showing that the mother's SOC immediately after birth was influenced by whether or not she was employed prior to giving birth. Women who worked before birth had higher SOC than women who did not work	3, findings indicate that job status prior to birth is an important resource that is related to higher SOC levels. The job status and SOC were discussed in relation to the theory of ideal mental health. This theory identifies five factors able to contribute positively to mental health including social interaction, status and identity and manageable regular activity. Intervention to teach strategies for enhancing SOC is provided both antenatally and postnatally for women who do not work and are identified through screening to be at risk of PPD.
<p>National Academy for State Health Policy. Medicaid Policies for Maternal Depression Screening (MDS) During Well-Child Visits, By State (March 1, 2020). https://healthychild.nashp.org/wp-content/uploads/2020/03/Mat-Depression-Screen-chart-3.20.20.pdf</p>	USA	State Medicaid policies for maternal depression screening during well-child visit	11 states distinguish between positive and negative screens in claims data using specific codes or modifiers. At least 4 states (Oregon, Pennsylvania, Rhode Island, and Wisconsin) have performance measures related to maternal or perinatal depression screening.	National academy for state health policy features updated interactive maps at its state Medicaid policies for maternal depression screening during well-child visits resource page	An increasing number of states are adopting an effective two generation approach to health by screening for maternal depression during well-child visits.	43 states recommend, require, or allow maternal depression screening to be provided as part of a well-child visit	The most commonly used CPT code is 96161 and reported fee-for-service reimbursement rates range from \$1.78 to \$30.	2

<p>Noonan, M., Doody, O., Jomeen, J., O'Regan, A., & Galvin, R. (2018). Family physicians perceived role in perinatal mental health: An integrative review. <i>BMC Family Practice</i>, 19(1), 154. Doi:10.1186/s12875-018-0843-1</p>	USA	<p>Responding to and caring for women who experience mental health problems during the perinatal period from pregnancy up to one year after birth is complex and requires a multidisciplinary response.</p>	<p>Articles exploring family physicians experiences of caring for women who experienced perinatal mental health problems</p>	<p>Family physicians are ideally placed to provide an effective response as it is recognized that they are responsible for organizing care and supports for women and their families</p>	<p>A systematic search of literature is seven databases from January 200 to March 2016 identified a total of 1125 articles,</p>	<p>Thirteen articles reporting 11 studies met the inclusion criteria for this review and quality of included studies were assessed using published criteria for the critical appraisal of qualitative and quantitative research methods.</p>	<p>Family physicians require timely access to local integrated care pathways that provide a wide range of services that are culturally sensitive, perinatal mental health specific support psychological well-being and infant/family mental health.</p>	<p>3, Family physicians are open to incorporating a brief validated screening tool into primary practice supported by succinct guidelines.</p>
<p>O'Connor, E., Senger, C. A., Henninger, M. L., Coppola, E., & Gaynes, B. N. (2019). Interventions to prevent perinatal depression: Evidence report and systematic review for the US preventive services task force. <i>Jama</i>, 321(6), 588-601. Doi:10.1001/jama.2018.20865</p>	USA	<p>Depression during pregnancy and the postpartum period is relatively common and can have adverse effects on both mother and child</p>	<p>Main outcomes: Depression status depression symptoms maternal, infant and child health outcomes</p>	<p>To systematically review benefits and harms of primary care-relevant interventions to prevent perinatal depression, a major or minor depressive episode during pregnancy or up to 1 year after childbirth to inform the US preventative services task force</p>	<p>Randomized clinical trials and nonrandomized controlled intervention studies of interventions, studies that detailed how to prevent perinatal depression in general populations of pregnant and postpartum individuals or in those at increased risk of perinatal depression.</p>	<p>Two investigators independently reviewed abstract and full-text articles and quality rated studies. Fifty studies N=22,385 met inclusion criteria. Counseling interventions were associated with a lower likelihood of onset of perinatal depression; health system interventions showed a benefit in 3 studies;</p>	<p>Counseling interventions can be effective in preventing perinatal depression.</p>	<p>3, Deficit in the literature lack of good information on how to identify individuals at risk for perinatal depression. Measures of depressive symptoms, such as EPDS likely provide the most direct association with future perinatal depression, as well as on who is most likely to benefit from preventative interventions and how those individuals are best identified.</p>
<p>Ogbo, F. A., Eastwood, J., Hendry, A., Jalaludin, B., Agho, K. E., Barnett, B., & Page, A. (2018). Determinants of antenatal depression and postnatal depression in 75 Australia. <i>BMC Psychiatry</i>, 18(1), 49. Doi:10.1186/s12888-018-1598-x</p>	USA	<p>Depression is a leading source of morbidity and health loss in Australian women This study investigates the determinates of antenatal depressive symptoms and postnatal depressive symptoms in an Australian population, including people from culturally and linguistically diverse CALP backgrounds</p>		<p>This study used a retrospective cohort of mothers of all live births in public health facilities in 2014. N=17,564, prevalence of antenatal and postnatal depressive symptoms were estimated for the cohort.</p>	<p>Multivariate logistic regression models were conducted to investigate the sociodemographic, psychological, and health service determinants of antenatal and postnatal depressive symptoms, measured using the Edinburgh postnatal depression scale (EPDS)</p>	<p>The prevalence of antenatal and postnatal depressive symptoms were 6.2% and 3.3% of the cohort.</p>	<p>Factors relating to demographic and psychological disadvantage were associated with subsequent antenatal and postnatal depressive symptoms</p>	<p>3, Screening for probable depression and timely referral for expert assessment of at-risk mothers may be an effective strategy to improve maternal and mental health outcomes.</p>
<p>Osborn, C.Y., Kozak, C., & Wagner, J. (2010). Theory in practice: Helping providers address depression in diabetes care. <i>Journal of Continuing Education in the Health Profession</i>, 30(3), 172-179. Doi: 10.1002/chp.20078</p>	USA	<p>CE program based on the theory of planned behavior was designed to understand and improve health care providers practice patterns in screening, assessing, and treating and/or referring patients with diabetes for depression treatment</p>	<p>Maternal depressive symptoms during pregnancy and postnatal depressive symptoms during pregnancy and postnatal depressive symptoms</p>	<p>Participants completed assessments of attitudes, confidence, intentions, and behaviors regarding depression management</p>	<p>Baseline participant test, at 3 times points, immediately prior to the CE program, immediately after the CE program and 6 week after the CE program</p>	<p>Ninety eight providers attending the CE program at the 6 week follow participants reported a marginally significant increase in educating patients about depression</p>	<p>It was found that no other depression management practices changed, intention of the providers to change and confidence predicted some depression practice patterns at follow-up</p>	<p>In the short term, provider attitudes, confidence, and intentions to address depression with their patients improved; provider intentions, confidence, and especially barriers are important intervention targets</p>
<p>Papadopoulou, Z., Vlaikou, AM., Theodoridou D., Komini, C., Chalkiadaki, G., Vafeiadi, M.,</p>	Crete, Greece	<p>Depression is the leading cause of disability worldwide and is more prevalent in women than in</p>	<p>Elevated levels of cortisol, lower plasma levels of tryptophan, PPD at the 10% level, covariates-age at</p>	<p>Unraveling the molecular underpinnings of PPD will allow timely detection and establishment</p>	<p>Serum samples analyzed using mass spectrometry platform for targeted metabolomics.</p>	<p>Serum samples from PPD mothers and a control group of mothers were analyzed, increased levels of</p>	<p>Molecular changes related to PPD are detectable in peripheral material thus paving the way for additional</p>	<p>3; Potential for early detection and a blood serum sample of metabolite markers that may</p>

Margetaki K., Trangas T., Turck, WC., Syrrou M., Chatzi, L., Filiou D.M. (2019) Unraveling the serum metabolomic profile of post-partum depression. <i>Frontiers in Neuroscience</i> , doi:http://dx.doi.org/10.3389/fnins.2019.00833		men. PPD is the most common psychiatric disorder in women after childbirth, with an increasing risk occurring during the first post-partum year	blood sampling, working during pregnancy, educational status, and pre-pregnancy overweight; the aim of this identify molecular signatures for PPD by comparing the serum metabolomic profiles of women with PPD vs control subjects	of effective therapeutic approaches		glutathione-disulfide, adenylosuccinate, and ATP-associated with oxidative stress, nucleotide biosynthesis and energy production pathways.	studies in order to shed light on the molecular correlates of PPD	be able to accurately diagnose PPD in new mothers.
Rafferty, J., Mattson, G., Earls, M. F., & Yogman, M. W. (2019). Incorporating recognition and management of perinatal depression into pediatric practice. <i>Pediatrics</i> , 143(1) doi:10.1542/peds.2018-3260	USA	Perinatal depression (PND) is the most common obstetric complication in the United States.	N/A	A 2010 clinical report from the American Academy of Pediatrics (AAP) described the rationale and need for screening for postpartum depression (PPD) in pediatric primary care.	Pediatric medical homes should coordinate care more effectively with prenatal provider for women with prenatally diagnosed maternal depression	Establishing a system to implement PPD screening at the 1, 2, 4, 6 month well-child visits assists with treatment and referral of the mother with depression, and provide support for the maternal-child relationship	American Academy of Pediatrics recommends advocacy for workforce development for mental health professionals who care for young children and mother-infant dyads	3; Routine screening for PPD should be integrated into well-child visits at 1,2,4, and 6 months of age. PPD screening has also been recognized as evidenced based according to the USPSTF (Grade B recommendations) Training and continuing medical education should be available for all pediatric providers on the subject of PPD screening and referral
Roberts, L., Davis, G. K., & Homer, C. S. E. (2019). Depression, anxiety, and post-traumatic stress disorder following a hypertensive disorder of pregnancy: A narrative literature review. <i>Frontiers in Cardiovascular Medicine</i> , 6, 147. Doi:10.3389/fcvm.2019.00147	USA	Pregnancy and childbirth can be a source of anxiety and worry for women, mental health is an integral part of health and well-being and poor mental health can be detrimental to the woman's welfare and her infant's behavior and cognitive development	N/A	Narrative literature review.	17 publications were included. The relationship between HDP and depression, anxiety, and PTSD was variable between studies and inconsistent	There is a trend for increased prevalence and symptom severity of depression, anxiety and PTSD following HPD, hypertensive disorders of pregnancy	Women who experience HDP may be at increased risk of developing postpartum depression, anxiety, and PTSD	3, Awareness and screening for these mental health disorder in the postpartum period will alert clinicians to the need for additional follow-up and referral for women following HDP.
Rosenbaum, D., More, E., & Steane, P. (2018). Planned organizational change management: Forward to the past? And exploratory literature review. <i>Journal of Organizational Change Management</i> , 31(2), 286-303. Doi:10.1108/JOCM-06-2015-0089	USA	Identify the development of planned organizational change models (POCMs) since Lewin's three step model and to highlight key linkages between them	N/A	Total of 13 commonly used POCMs were identified and connections with Lewin's three step framework and associated process attributes were made reflecting the connections between these models and Lewin	Lewins three-step model represents a framework for planned changes	All 13 POCMs have clearly identified linkages to Lewin suggesting	Inclusions of additional POCMs would help strengthen linkages to Lewin	3, Opportunities for organizational change management researchers to challenge their thinking with regard to ongoing search for model refinement
*Russomagnò, S., & Waldrop, J. (2019). Improving postpartum depression screening and referral in pediatric primary care.	USA	Postpartum depression affects up to 20% of American mothers and if left untreated can have serious lifelong effects on women and their	Improve maternal and infant outcomes	This project standardized the PPD screening schedule and developed a novel referral algorithm that was concurrently implemented in a	The project significantly increased the clinics screening rate from 33% to 80% (p<.001) and improved referral rates from 66% to 79%	By standardizing PPD screening and implementing a referral algorithm in the ambulating pediatric setting.	Increasing the screening of PPD in pediatric setting, more PPD cases can be identified and further evaluated and hopefully treated to improve	3; Providing a process in pediatric practice to screen new mothers improves the health outcome measures for new mothers.

Journal of Pediatric Health Care : Official Publication of National Association of Pediatric Nurse Associates & Practitioners, 33(4), e19-e27. Doi:10.1016/j.pedh.c.2019.02.011		children, the American academy of pediatrics recommends that pediatric practices screen for PPD at the 1, 2, 4 and 6 month well child checks few pediatric practices institute this practice		rural primary care pediatric practice			maternal and infant health outcomes	
Selix, N., Henshaw, E., Barrera, A., Botcheva, L., Huie, E., & Kaufman, G. (2017). Interdisciplinary collaboration in maternal mental health. MCN.the American Journal of Maternal Child Nursing, 42(4), 226-231. Doi:10.1097/NMC.0000000000000343	USA	One out of every five to seven births is affected by postpartum depression, factors that inhibit effective screening and treatment include lack of uniform screening policies in all maternal settings, poor coordination between primary care and mental health services, and social stigma	Interdisciplinary partnership of maternal mental health now-a collaborative and integrative approach MMH in Los Angeles	Interdisciplinary cross-organizational approach coalescing diverse perspective from those working across policy, research, training, primary care and mental health in various disciplines to practice collaboratively to improve perinatal mental healthcare	Embedding mental healthcare in primary care settings implementation of universal screening, training clinicians and providing consultation in case conference meetings integrate MMH into primary care.	Collaborative work has many benefits, start collaboration at early stages rather than waiting until ideas are finalized. Many of the strongest benefits from collaboration require dialogue between partners before a clear agenda or program has been developed	MMH can be addressed from a variety of perspectives using interdisciplinary collaboration	3; Primary care providers may feel inadequately prepared to provide mental health screening, treatment, and referral so by providing education on these services, barriers will be reduced and access improved.
Stokes L. Sample Size Calculation for a Hypothesis Test. JAMA. 2014 ;312(2) :180-181. Doi:10.1001/jama.2014.8295		Knowing the sample size in a research investigation should be large enough that differences occurring by chance are rare but should not be larger than necessary		In developing methods for a study investigators conduct a power analysis to calculate sample size	Calculation of sample size requires predictions of baseline rates and MDD, the sample size is especially sensitive to MDD	A power analysis can help with the interpretation of study findings when statistically significant effects are not found	Sample size calculation based on any power analysis requires input from the researcher prior to the study	Caveats to consider when looking at results based on power analysis-a lack of significance in a study for an outcome in a study may not be confirmation that no difference exists, because the analysis is specific to the parameter settings.
Steimel, S.S (2020) Effects of Maternal Postpartum Depression Screening at Well-Child Visits University of Arkansas Eleanor Mann School of Nursing Project.	USA	First outcome measure evaluated the number of eligible mothers who screened positive for PPD	Project provided knowledge to nursing staff and providers regarding PPD screening recommendations at well child visits as well as the negative impact PPD can have on both the mother and child if not addressed	Rogers Diffusion of Innovations of Theory	Program Development and evaluation project-initiation of a PPD screening program	Quasi-experimental study design without control groups	EPDS screening tool was administered to the new mother and scored if greater than 9 the provider was to discuss and discuss referral to a mental health professional; if mother agreed a mental health referral was made	3, Needs assessment concluded that providers could increase the PPD evaluation during well child visits
Stover, K. E., Tesfaye, S., Frew, A. H., Mohammed, H., Barry, D., Alamineh, L., . . . Sibley, L. M. (2014). Building District-Level capacity for continuous improvement in maternal and newborn health. Journal of Midwifery & Women's Health, 59(s1), S91-S100. Doi:10.1111/jmwh.12164	USA	The maternal and Newborn Health in Ethiopia Partnership adapted a collaborative improvement strategy to develop woreda (district) leadership capacity to support and facilitate continuous improvement of community maternal and neonatal health.	Improve 4 key areas deemed necessary to ensure that women and newborns receive care during birth and early postnatal period, pregnancy identification, antenatal care registration, participation in birth preparation training through CMNH family meetings, labor and birth notification	Community level quality improvement teams tested solutions to improve CMNH care supported by monthly coaching and regular meeting to share experiences	Study examines the extent of the capacity built to support continuous improvement in CMNH care	Respondent reported significant positive changes in many areas of woreda culture and leadership, including involving a cross section of community stakeholders	MANHEP was able to build capacity for continuous improvement and develop lead woredas.	3; The multifaceted approve to building capacity was critical for the success in creating lead woredas able to serve as models for other districts.

<p>*Waldrop, J., Ledford, A., Perry, L. C., & Beeber, L. S. (2018). Developing a postpartum depression screening and referral procedure in pediatric primary care. <i>Journal of Pediatric Health Care : Official Publication of National Association of Pediatric Nurse Associates & Practitioners</i>, 32(3), e67-e73. doi:10.1016/j.pedhc.2017.11.002</p>	USA	<p>Postpartum depression affects approximately 10% to 20% of mothers and impairs a mothers ability to engage with her child at an emotional and cognitive level placing the child at great risk for impaired development. Early diagnosis and management can reduce its negative impacts. Despite mothers being receptive to screening screening rates are less than 50%.</p>	N/A	<p>Appraisal of the current state of the evidence on implementation screening for postpartum depression in pediatric primary care.</p>	<p>Described how to use clinical decision support algorithm for screening and follow-up and the process of developing an accompanying referral/resource list</p>	<p>Evidence supports the use of clinical decision support algorithm and the need for having local resources and referrals available at the point of care</p>	<p>Screening for postpartum depression in the pediatric primary care setting is feasible and can be adapted to the local setting</p>	<p>3. Putting postpartum depression screening practice in the pediatric primary care setting, is more successful if there is accompanying referral/resource lists for new mothers</p>
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