IMPLICIT interconception care toolkit

Incorporating maternal risk assessment into well-child visits to improve birth outcomes

IMPLICIT Network
An FMEC Collaborative

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Acknowledgments

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IMPLICIT Network Leadership Council

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Executive summary

"Few things are more important to a community than the health of its women."
-T.W. Higginson, 1881

We are at a tipping point in the United States when it comes to maternal and child health. For decades, advocates from many health sectors have been working on ways to improve infant and maternal morbidity and mortality: defining key issues, developing evidence for recommendations and creating guiding coalitions for improvements in care delivery. Despite these efforts, infant mortality in the United States lags behind most other economically similar countries in the world, and U.S. maternal mortality is increasing.

There is reason for optimism. With the passage of the Patient Protection and Affordable Care Act of 2010, women have increased access to preventive health care, including family planning (Patient Protection and Affordable Care Act of 2010). State health departments, health care systems, public health organizations and medical groups are focusing on the entire reproductive life cycle — preceonception, prenatal, intrapartum, postpartum and interconception — with the ultimate goal to improve birth outcomes and reduce infant and maternal mortality.

The IMPLICIT (Interventions to Minimize Preterm and Low birthweight Infants through Continuous Improvement Techniques) Network began in 2003 as a collaborative of family medicine residencies focused on developing continuous quality improvement (QI) techniques to deliver evidence-based interventions during prenatal care. The Network recognized the value of QI in improving care delivery with collective data sharing and that poor birth outcomes, particularly those related to premature birth and birth defects, require interventions and risk reduction before pregnancy. Pediatric well-child visits are an ideal time for providers to screen maternal risk and deliver interconception interventions. Five years later, the IMPLICIT Interconception Care (ICC) Model has been successfully implemented in a variety of sites in several states and is showing promising results in reducing unintended pregnancies and improving preconception health.

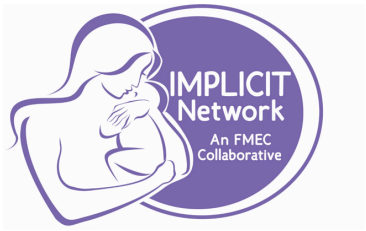
This toolkit provides the necessary background, evidence and resources to successfully implement the IMPLICIT ICC Model in the context of well-child visits. Because no two clinical sites are identical, each practice can tailor the Model to meet its needs and those of the population it serves. The Model is adaptable in a variety of settings, including family medicine practices, pediatric care, health departments, community health centers and public health programs. The toolkit offers strategies, workflows and guidance to implement the Model and presents solutions that have worked for others.

The IMPLICIT Network is committed to QI as a way to ensure that patients receive high-quality standardized care. QI offers established tools for evaluating practice improvements, and we recommend it as part of implementing the IMPLICIT ICC Model. Working on QI collaboratively with other organizations enables sharing best practices and assistance with solving problems. We encourage practices to join existing collaboratives or form new ones to support their work. Membership in the IMPLICIT Network has given us the opportunity to establish evidence for interconception care delivery and provided a forum for professional collaboration and development, resident education and advancement of the field.

IMPLICIT interconception care toolkit

Incorporating maternal risk assessment into well-child visits to improve birth outcomes

IMPLICIT: A Family Medicine Education Consortium Collaborative



Making the case for a new model of interconception care

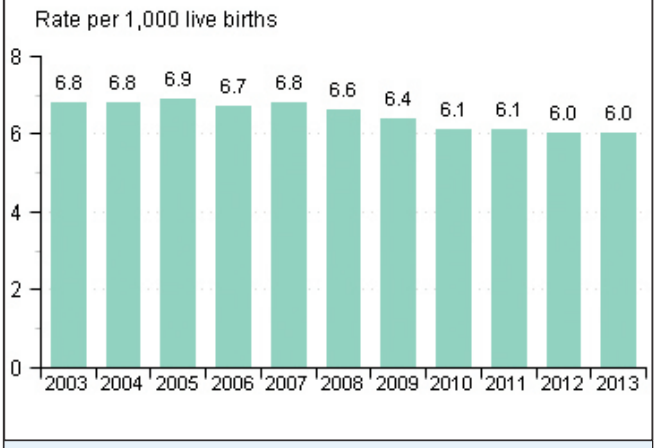
Every year in the United States more than 600 women die of pregnancy-related causes (Centers for Disease Control and Prevention [CDC], 2015b), and almost 24,000 infants die before their first birthday (CDC, 2015a). The United States ranks 44th in the world in infant mortality and 49th in maternal mortality (World Bank, 2015).

Despite a number of strategies aimed at women during pregnancy, the U.S. infant mortality rate has dropped only slightly (Figure 1) and the maternal mortality rate continues to rise (Figure 2).

Almost half of pregnancies in the United States are unintended (Finer & Zolna, 2016). By the time a woman knows she is pregnant or begins prenatal care, it is often too late to change many of the factors that lead to poor birth outcomes. The most crucial period for modifying birth outcomes is before a woman becomes pregnant (Atrash, Jack & Johnson, 2008).

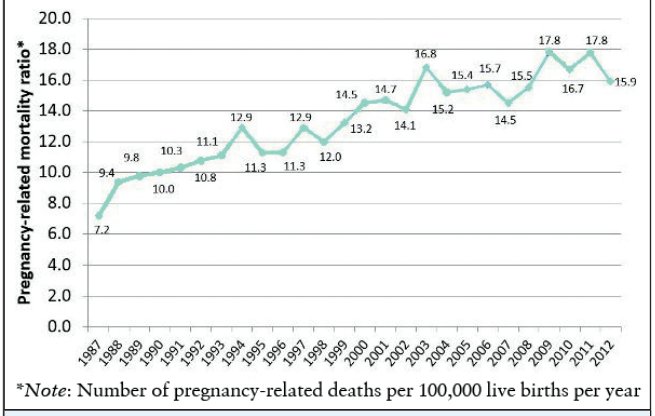
Unfortunately, multiple barriers prevent widespread delivery of effective interventions in the preconception period (Atrash, Jack & Johnson, 2008; Jack & Culpepper, 1990). Only 18 percent of women get preconception care (Robbins et al., 2014). Many women of reproductive age see multiple providers and have short relationships with them, especially women already at highest risk for poor birth outcomes (Salganicoff, Ranji & Wyn, 2005). The general health of reproductive-aged women is declining: more than 50 percent are

Figure 1. Infant mortality rates: United States 2003 to 2013



National Center for Health Statistics, 2013

Figure 2. Trends in pregnancy-related mortality in the United States 1987 to 2012



CDC, 2012

overweight or obese, 19 percent smoke, 10 percent have hypertension and 3 percent have pregestational diabetes (Creanga et al., 2015; Lu, Highsmith, de la Cruz & Atrash, 2015; Mathews & Hamilton, 2014; Robbins et al., 2014; Tong et al., 2013).

After the birth of a child, many women who had been getting regular prenatal care stop seeing providers for their own health care or return to the pattern of fragmented care with multiple short-term providers (DiBari, Yu, Chao & Lu, 2014; Jack, Atrash, Bickmore & Johnson, 2008; Liberto, 2012; McGarry, Kim, Sheng, Egger & Baksh, 2009; Moos, 2010; Salganicoff et al., 2005). After pregnancy, women often revert to behaviors, like smoking and substance abuse, that put them and their future pregnancies at risk (Su & Buttenheim, 2014). In addition, the maternal and family focus often shifts from caring for the woman to caring for the infant, ignoring the health care needs of the mother (Bloom, Cohen & Freeman, 2009; Salganicoff et al., 2005).

A decade ago, the CDC Work Group and Select Panel of Preconception Care recommended maternal risk assessment and intervention in the interconception period, especially for women with a previous poor birth outcome (Johnson et al., 2006). Recommendations for preconception screening and intervention for maternal family planning, birth spacing, depression, smoking and multivitamin/folic acid use have a robust base of evidence (Bukowski et al., 2009; Conde-Agudelo, Rosas-Bermudez & Kafury-Goeta, 2006; Floyd et al., 2008; Frieder, Dunlop, Culpepper & Bernstein, 2008; Wilson et al., 2007).

Interconception care (ICC) is care for women of childbearing age between pregnancies (from the end of one pregnancy to conception of the next), with the aim of improving health outcomes for women, their newborns and their other children (March of Dimes, The Partnership for Maternal, Newborn & Child Health, Save the Children & the World Health Organization, 2012). ICC uses medical and psychological interventions to modify risk factors and promote healthier outcomes in any subsequent pregnancy (Yonekura, French, Johnson, McGregor & Reyes, 2009). Table 1 identifies various ICC models described in the literature.

Table 1. Other ICC models

- Encouraging more than one postpartum visit with the maternity care provider (at 2 and 6 weeks, at 6 months and then annually) (Lu et al., 2006)
- Expanding the scope of the postpartum visit by providing guidelines focused on reducing risk factors to improve outcomes of subsequent pregnancies (Preconception Health Council of California, 2011)
- Offering group parenting visits for well-child visits and maternal education and support (Centering Healthcare Institute, 2016)
- Providing maternal health screening within the context of well-child visits (Lumley, Watson, Watson & Bower, 2001)
- Providing preconception and interconception care during routine primary care visits (Dunlop, Jack & Frey, 2007; Muchowski & Paladine, 2004)
- Using group interventions like Strong Healthy Women that focus on behavior change (Downs et al., 2009)

IMPLICIT (Interventions to Minimize Preterm & Low Birthweight Infants through Continuous Improvement Techniques) is a collaboration of family medicine residency programs under the

auspices of the Family Medicine Education Consortium. Its purpose is to educate faculty and residents about primary prevention of preterm birth. See Appendix 1 for more information about the IMPLICIT Network.

In 2003, IMPLICIT began recruiting family medicine residencies to review their current prenatal care processes and resident training curricula. Faculty members from these programs conducted a comprehensive literature review on prematurity prevention. Based on this review, project participants developed a collective strategy to implement evidence-based prenatal interventions aimed at decreasing the rates of preterm birth and low birthweight (LBW).

Realizing that intervention during pregnancy is often too late to improve outcomes, IMPLICIT became interested in interconception care and developed the ICC Model (Figure 3) to address at every well-child visit a mother's health risks that affect her child and family. The Model is brief and targets four risk factors for which there is evidence of effectiveness: 1) smoking, 2) depression, 3) family planning and 4) multivitamin/folic acid. These interventions have a robust base of evidence for affecting birth outcomes, specifically preterm birth, in future pregnancies (Bukowski et al., 2009; Conde-Agudelo et al., 2006; Frieder et al., 2008; Johnson et al., 2006; Wilson et al., 2007).

Not only do these interventions improve delivery of interconception care and associated outcomes, they also can help decrease health disparities. Black infants have more than twice the infant mortality (death within the first year of life) than non-Hispanic white infants (Hauck, Tanabe & Moon, 2011; Lorch & Enlow, 2015). Compared to non-Hispanic white women, rates of severe maternal morbidity are 2.1 times higher for black women, 1.3 times higher for Hispanic women, 1.2 times higher for Asian/Pacific Islander women and 1.7 times higher for American Indian/Alaska Native women (Mehta, 2014). Minority women have twice the rate of unintended pregnancy than non-minority women, and low-income women have 5 times the rate of unintended pregnancy than women with higher incomes (Mehta, 2014). Women in populations with fewer economic and social support resources are less likely to attend mental health visits during pregnancy and are less likely to resume antidepressant use following pregnancy than women in better-resourced populations (Dietz et al., 2007). Consumption of folic acid supplements varies from a low of 9 percent among non-Hispanic black women to a high of 30 percent of non-Hispanic white women (Tinker, Cogswell, Devine & Berry, 2010).

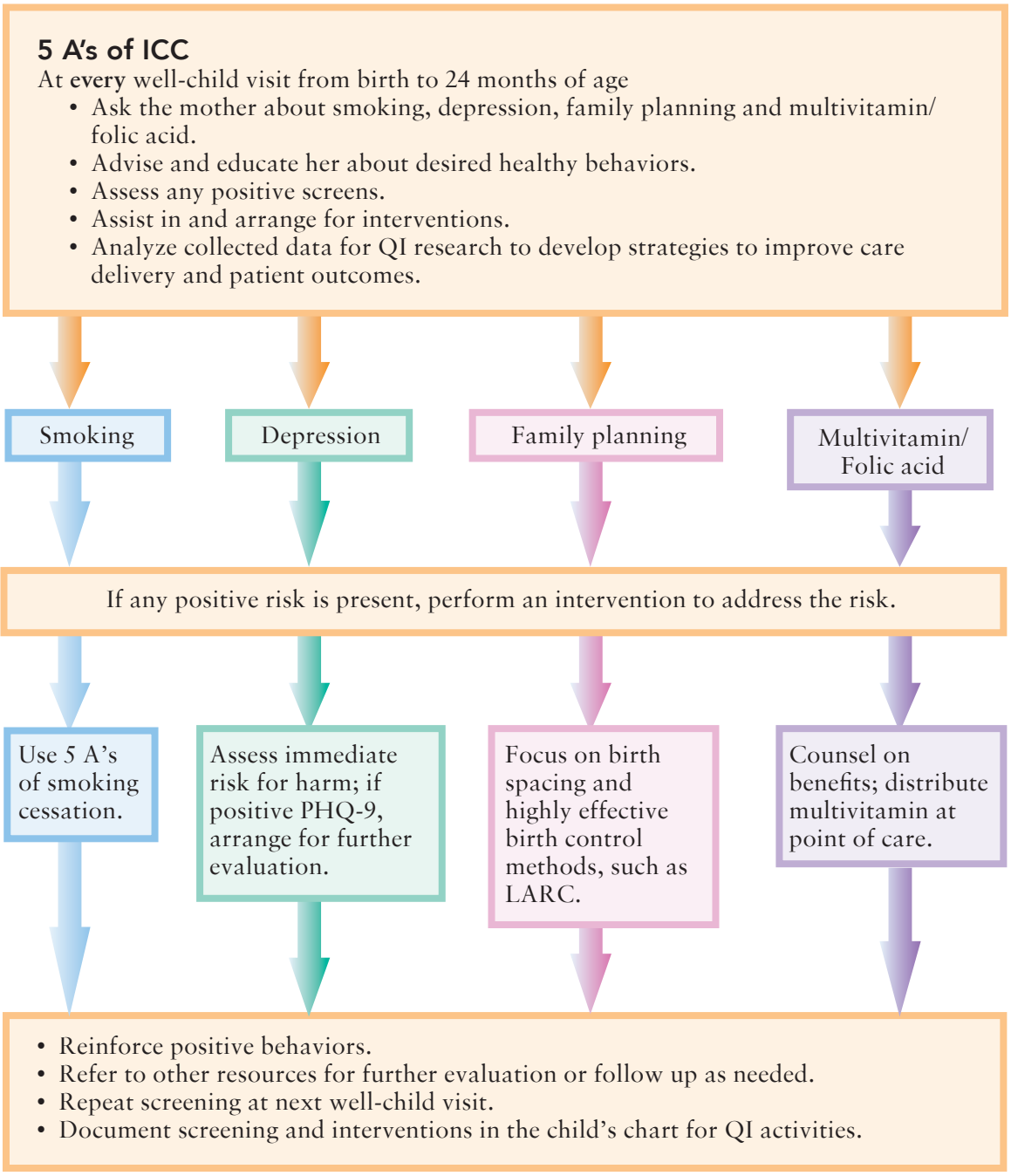
IMPLICIT ICC Model rationale

Even if mothers don't have primary care of their own, many regularly take their infants to pediatric health care visits (Bloom et al., 2009; Gjerdingen, Crow, McGovern, Miner & Center, 2009). This is why the IMPLICIT ICC Model focuses on screening and intervention during well-child visits. Well-child visits in the first 2 years of life occur frequently (at 1 and 2 weeks and at 1, 2, 4, 6, 9, 12, 15, 18 and 24 months of age), offering multiple opportunities to identify and address interconception health risks.

Addressing a mother's health in the context of her child's health is an ideal and appropriate way to provide interconception care. Many maternal behaviors and conditions affect childrens' health. Most mothers respond positively to screening and referral for services for their own emotional and health behaviors (Feinberg et al., 2006; Freeman et al., 2005; Gjerdingen et al., 2009; Heneghan, Mercer & DeLeone, 2004; Kahn et al., 1999; Rosener et al., 2016; Trussell et al., 2013; Wilson et al., 2008).

The American Academy of Family Physicians (AAFP) (2015b) position paper on preconception care states that preconception care *is* primary care. They recommend incorporating the elements of preconception/interconception care into routine care for all women. Other professional medical organizations validate this approach. The American Medical Association

Figure 3: IMPLICIT ICC Model



(AMA) (2012), in its statement of physician responsibilities for smoking cessation, calls for collaborative treatment across all points of contact with a patient, in any clinical context and by any appropriately licensed health care professional. The American Academy of Pediatrics (AAP), recognizing that the course of routine well-child visits gives the primary care provider and the family a chance to develop an ongoing relationship, recommends that pediatricians routinely screen mothers for depression and tobacco use and follow any positive screens by supporting and facilitating her access to resources to help the mother-child dyad (AAP, 2009; Earls &

AAP Committee on Psychosocial Aspects of Child and Family Health, 2010).

The IMPLICIT ICC Model builds on the familiar 5 A's of smoking cessation, a model recommended for more than 20 years by the National Cancer Institute (Glynn & Manley, 1997) and the U.S. Department of Health and Human Services (Fiore et al., 2008). The 5 A's are based in behavioral change theory and research and are also used for obesity screening and counseling (Jay et al., 2008; Sesrdula, Khan & Dietz, 2003; Vallis, Piccinini-Vallis, Sharma & Freedhoff, 2013).

To make screening and intervention feasible in the context of an already-busy well-child visit, the IMPLICIT ICC Model relies on six key concepts (Table 2).

The following information addresses each of the four intervention areas of the IMPLICIT ICC Model, including scope of the problem and evidence for improved outcomes in pediatric/postpartum care, best screening method and best intervention.

Smoking

Scope of the problem (rates, relapses, burden of disease)

- "Tobacco smoking in pregnancy remains one of the few preventable factors associated with complications in pregnancy" (Chamberlain et al., 2013, page 1).
- Twenty-three percent of reproductive-age women currently smoke (Tong et al., 2013).
- Half of pregnant women stop smoking during pregnancy, although up to 70 to 80 percent relapse postpartum (Su & Buttenheim, 2014).
- Prenatal smoking is associated with 5 to 8 percent of preterm births, 13 to 19 percent of term infants with growth restriction, 5 to 7 percent of preterm-related deaths and 23 to 34 percent of sudden infant death syndrome (SIDS) deaths (Tong et al., 2013).
- Table 3 identifies pregnancy complications associated with smoking.

Table 2. Screening and intervention concepts

1. **The screening needs to be brief.** Two major barriers to providing evidence-based screening interventions are lack of time and competing priorities of both provider and patient.
2. **The screening needs to be performable within the context of a well-child visit and relate to the child's health and well-being, not requiring a separate visit that focuses solely on maternal health.** This model builds on age-specific recommendations for routine health prevention screenings and anticipatory guidance that affect the child's health.
3. **The screening and intervention needs to have strong evidence for improving future birth outcomes.** Relying on strong evidence-based recommendations and guidelines is a cornerstone to the IMPLICIT Network QI work.
4. **The intervention for at-risk mothers needs to be brief and straightforward.** The intervention can be as simple as scheduling a follow-up appointment to address the concern or referring the woman to an appropriate provider for further care.
5. **The screening and intervention should be team-based and staff-driven, rather than depend solely on the provider.** As often as possible, clinical assistants, care managers or other office staff should perform them.
6. **The model should be performable in all clinical and nonclinical environments where preventive health care for children is offered.** Not all providers or practices have the education, resources or financial ability to address all a mother's needs themselves, but all are capable of screening and arranging/referring for needed services.

Table 3. Pregnancy complications associated with smoking

- Chorioamnionitis
- Incompetent cervix
- LBW
- Placental abruption
- Pregnancy-induced hypertension
- Preterm birth and threatened preterm birth
- Preterm rupture of membranes
- Stillbirth

Mund, Louwen, Klingelhoefer & Gerber, 2013

- Maternal smoking is associated with many long-term childhood behavioral and health issues, including increased incidence of adolescent and adult smoking, attention deficit hyperactivity disorder and other psychiatric disorders, and congenital anomalies such as orofacial clefts, childhood obesity and metabolic syndrome (Abbott & Winzer-Serhan, 2012; Surgeon General, 2014).
- Smoking adds $1,142 to $1,358 per woman who smokes to estimated birth and first-year costs for mothers and infants. The cost for infants of mothers who smoke are approximately 10 times the maternal costs (Chamberlain et al., 2013).
- For every $1 spent on smoking cessation programs, $3 can be saved on neonatal intensive care unit (NICU) treatment of LBW infants; the savings increase to $6 per $1 when including care for long-term disabilities secondary to LBW (Marks, Koplan, Hogue & Dalmat, 1990).

Evidence for improved outcomes (in pregnancy, for mother, for child)

Smoking cessation during pregnancy reduces risk of preterm birth, LBW, stillbirth, early neonatal mortality and SIDS (Baba, Wikstrom, Stephansson & Cnattingius, 2014; Bailey, 2015; Batech et al., 2013).

Evidence in pediatric/postpartum care

- AAP (2009), AMA (2012) and U.S. Preventive Services Task Force (USPSTF) (2009a) recommend maternal tobacco screening and intervention in the context of caring for children.
- AAP (2009) recommends asking about tobacco use at every clinical encounter, including well- and sick-child visits.
- Interventions during routine child care can be effective in preventing smoking relapse rates in mothers (Daly, 2016).

Evidence for best screening method

AAP (2009) recommends establishing office systems and workflows that promote screening and documentation in the electronic health record (EHR).

Evidence for best intervention

- USPSTF (2009a) guidelines recognize that tobacco dependence is a chronic disease and, therefore, recommend that tobacco status be consistently documented and that every patient be offered recommended treatments.
- The 5 A's model has been effective and is recommended by AAFP (2015a), AAP (2009), American College of Obstetricians and Gynecologists (ACOG) (2005) and USPSTF (2009a).

Depression

Scope of the problem (rates, relapses, burden of disease)

- One in 7 women is affected by perinatal depression (depression during pregnancy or in first 12 months after delivery) (ACOG, 2015).
- USPSTF (2016) guidelines recommend screening for depression in adults, including during pregnancy and the postpartum period, in settings where evaluation and treatment can be delivered based on evidence of benefit.
- In the United States, 400,000 infants are born each year to depressed mothers (Earls & AAP Committee on Psychosocial Aspects of Child and Family Health, 2010).
- Major depression peaks 6 weeks after birth and minor depression 2 to 3 months after birth; another peak in depression occurs 6 months after birth (Earls & AAP Committee on Psychosocial Aspects of Child and Family Health, 2010).
- Depression care is reduced or disrupted during pregnancy and into the postpartum period (Bennett et al., 2008).
- Women often change their primary health care providers when they begin prenatal care, and the relationship with their pre-pregnancy providers may not resume after giving birth. This period of transition can stretch from pregnancy through the first year postpartum, potentially creating an 18- to 24-month disruption in usual care providers (Dietrich et al., 2003; Hill, Greenberg, Holzman & Schulkin, 2001; LaRocco-Cockburn, Melville, Bell & Katon, 2003).
- Competing demands make it more difficult for women to maintain ongoing relationships with specialty mental health providers.

Evidence for improved outcomes (in pregnancy, for mother, for child)

Effective treatment of depression in mothers reduces the risk of problem behavior and psychopathology in children (Earls & AAP Committee on Psychosocial Aspects of Child and Family Health, 2010; Weissman et al., 2006).

Evidence in pediatric/postpartum care

- AAFP states that screening for perinatal depression is within their scope of practice and that they can screen effectively (Earls & AAP Committee on Psychosocial Aspects of Child and Family Health, 2010).
- Many pediatricians can and do screen for and address maternal depression (Earls & AAP Committee on Psychosocial Aspects of Child and Family Health, 2010; USPSTF, 2016).
- The benefits of screening mothers outweigh the risks legally, ethically and practically (Earls & AAP Committee on Psychosocial Aspects of Child and Family Health, 2010).
- Randomized trials show benefit of implementing team-based care for perinatal depression in sites providing non-specialty mental health services (Grote et al., 2015; Melville et al., 2014).

Evidence for best screening method

- Table 4 includes validated screening methods for pregnancy and postpartum depression.

Table 4. Validated screening methods for depression during pregnancy and postpartum depression

- Beck Depression Inventory
- Beck Depression Inventory-II
- Center for Epidemiologic Studies Depression Scale
- Edinburgh Postnatal Depression Scale
- Patient Health Questionnaire 2 and 9 (PHQ-2 and PHQ-9)
- Postpartum Depression Screening Scale
- Zung Self-rating Depression Scale

ACOG, 2015

- AAP's Bright Futures™ Guidelines (Earls & AAP Committee on Psychosocial Aspects of Child and Family Health, 2010) follow the USPSTF (2016) endorsement of the Edinburgh Postnatal Depression Scale and the two-question Patient Health Questionnaire (PHQ-2) screen for depression.
- Bennett and colleagues (2008) compared the Edinburgh Postnatal Depression Scale with a 2-item screen (Spitzer et al., 1994) modified from the PHQ-2. The authors found that the simpler 2-item screen is efficient in ruling out depression and can be used as a pre-screen for a longer tool, such as the PHQ-9 (9-question depression screen). See Table 5 for a comparison of the two-question screens. See Table 6 for the PHQ-9 screen.

Table 5. Depression screening comparison: PHQ-2 and 2-item screen

PHQ-2 (Pfizer, 2016)	The first two questions of the PHQ-9: Over the last 2 weeks, how often has the mother been bothered by any of the following? 1. Having little interest or pleasure in doing things 2. Feeling down, depressed or hopeless The answers are scored 0 to 3. (scored 0 = not at all; 1 = several days; 2 = more than half the days; 3 = nearly every day)
2-item screen (Spitzer et al., 1994)	1. During the past month have you often been bothered by feeling down, depressed or hopeless? 2. During the past month have you often been bothered by little interest or pleasure in doing things? The questions are yes/no.

- After initial screening at 1 month, repeated screening at 6 and 12 months postpartum identifies an additional 13 percent of women at high risk of depression (Yawn, Bertram, Kurland & Wollan, 2015).

Table 6. PHQ-9

Score: *0 = not at all 1 = several days*
2 = more than half the days 3 = nearly every day

Over the last 2 weeks, how often has the mother been bothered by any of the following?

1. Having little interest or pleasure in doing things
2. Feeling down, depressed or hopeless
3. Trouble falling or staying asleep too much
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about herself or that she's a failure or have let herself or her family down
7. Trouble concentrating on things, such as reading the newspaper or watching TV
8. Moving or speaking so slowly that other people notice. Or the opposite—being so fidgety or restless and moving around a lot more than usual
9. Thoughts that she would be better off dead or of hurting herself in some way

Pfizer, 2016

- Screening should be nonstigmatizing, assuage a mother's fear of being reported to authorities and use language that frames questions about the mother's well-being in terms of her child's health (Byatt, Biebel, Friedman, Debordes-Jackson & Ziedonis, 2013).

Evidence for best intervention

- The Motivating Our Mothers (MOM) trial screened mothers at well-child visits, followed by an educational intervention with motivational and destigmatizing language, followed by a telephone booster. The outcome of the randomized controlled study was an increase in mothers who reported attempting to contact identified resources: 73 percent intervention vs. 53 percent control (Fernandez y Garcia et al., 2015).
- Engaging with community partners can reveal public and private resources for follow-up and treatment (Earls & AAP Committee on Psychosocial Aspects of Child and Family Health, 2010).

Family planning

Scope of the problem (rates, relapses, burden of disease)

- Nearly half of all pregnancies in the United States are unintended (Finer & Zolna, 2016).
- The annual medical cost of unintended pregnancy is $4.5 billion (Trussell et al., 2013).
- Consequences of unintended pregnancy include delayed prenatal care, LBW and preterm birth (Zapata et al., 2015).
- An interpregnancy interval (IPI) of <18 months is associated with increased risk of adverse perinatal outcomes (Conde-Aguedelo, Rosas-Bermudez & Kafury-Goeta, 2006). Thirty percent of U.S. births have an IPI <18 months (Copen, Thoma & Kirmeyer, 2015).
- Rapid repeat pregnancies are associated with preterm birth, LBW, early infant death, congenital malformations, poor control of maternal chronic conditions, maternal nutritional depletion, incomplete healing, suboptimal lactation, infection transmission and sibling competition (Association of Maternal & Child Health Programs, 2014; Conde-Agudelo, Rosas-Bermudez, Castano & Norton, 2012; Zapata et al., 2015).
- Only 50 percent of postpartum women at risk for either unintended pregnancy or short IPI report using a highly effective method of contraception (Zapata et al., 2015).

Evidence for improved outcomes (in pregnancy, for mother, for child)

- Postpartum contraception reduces unintended pregnancy and preterm births (Rodriguez, Chang & Thiel de Bocanegra, 2015; White, Teal & Potter, 2015).
- Postpartum contraception, especially long-acting reversible contraception (LARC), increases the odds of optimal birth spacing (Damle, Gohari, McEvoy, Desale & Gomez-Lobo, 2015; Thiel de Bocanegra, Chang, Howell & Darney, 2014).
- AAP and ACOG recommend that routine postpartum care focus on contraception options and prompt initiation (Zapata et al., 2015).

Evidence in pediatric/postpartum care

- Although antenatal counseling or counseling prior to hospital discharge after childbirth does not improve postpartum contraceptive use or increase IPI (Zerden et al., 2015), postpartum counseling does improve contraception use, in general, as well as use of more effective methods (Zapata et al., 2015).
- Women welcome inquiry and are comfortable talking with their infant's provider about contraception at well-child visits (Fagan, Rodman, Sorensen, Landis & Colvin, 2009; Kumaraswami, 2013).

Evidence for best screening method

The CDC and the U.S. Office of Population Affairs recommend communication about contraception that establishes and maintains rapport with the client (Gavin et al., 2014).

Evidence for best intervention

- AAFP and ACOG endorse One Key Question®: Would you like to become pregnant in the next year? (Oregon Foundation for Reproductive Health, 2012).
- The CDC and the U.S. Office of Population Affairs recommend presenting information about the most effective methods of contraception first (the tiered approach) and beginning contraception at the visit instead of waiting for the next menstrual period (the quick start approach) (Gavin et al., 2014).
- The Contraceptive CHOICE project provided tiered contraceptive counseling followed by contraception of the woman's choice at no cost for 2 to 3 years. LARC methods were chosen by 75 percent of women and were 20 times more effective than non-LARC methods (Birgisson, Zhao, Secura, Madden & Peipert, 2015.
- ACOG (2011) and AAP (2014) recommend LARC.
- LARC improves IPI (Rickets, Klingler & Schwalberg, 2014).

Multivitamin/Folic acid

Scope of the problem (rates, relapses, burden of disease)

- Five percent of infants are born with a serious congenital malformation (Wilson et al., 2007).
- Each year in the United States, 4,000 fetuses have neural tube defects (Cheschier & ACOG Committee on Practice Bulletins — Obstetrics, 2003).
- Estimated annual direct medical cost per patient for neural tube defects is $51,000; estimated annual direct medical cost for spina bifida comorbidities is $1,300 to $2,700; in 2003, total U.S. hospital charges for spina bifida were $74 million (Yi, Lindemann, Colligs & Snowball, 2011).
- Periconceptional folic acid supplementation reduces the rate of neural tube defects by 72 percent (Figo Working Group On Best Practice In Maternal-Fetal Medicine & International Federation of Gynecology and Obstetrics, 2015).
- Folic acid supplementation is needed by 4 weeks after conception, before many women realize they are pregnant (Cheschier & ACOG Committee on Practice Bulletins — Obstetrics, 2003).
- Seventy percent of U.S. women don't take a multivitamin or folic acid supplement in the month before pregnancy (Robbins et al., 2014).
- Sixty-one percent of women who don't use multivitamins say they're not planning to get pregnant, and 41 percent say they don't think they need to take them (Bixenstine, Cheng, Cheng, Connor & Mistry, 2015).
- Twenty-nine million opportunities to recommend folic acid are missed each year (Burris & Werler, 2011).

Evidence for improved outcomes (in pregnancy, for mother, for child)

- Table 7 identifies professional medical groups that recommend daily use of 400 mcg of folic acid.
- Multivitamins reduce the rate of neural tube defects from 70 to 90 percent over folic acid alone; they also reduce the rates of cardiovascular, urinary tract and limb defects (Czeizel & Banhidy, 2011; Goh, Bollano, Einarson & Koren, 2007; van Beynum et al., 2010).

Table 7. Professional medical organizations that recommend daily folic acid consumption
• AAFP (2015b) • AAP (1999) • ACOG (Cheschier & ACOG Committee on Practice Bulletins — Obstetrics, 2003) • International Federation of Gynecology and Obstetrics (FIGO) (FIGO Working Group on Best Practice in Maternal-Fetal Medicine & International Federation of Gynecology and Obstetrics, 2015) • American College of Medical Genetics and Genomics (ACMG) (Toriello & Policy and Practice Guideline Committee of the ACMG, 2011) • Society of Obstetricians and Gynaecologists of Canada (Wilson et al., 2015)

Evidence in pediatric/postpartum care

Counseling mothers about folic acid at the 6-month well-child visit increases use or intention to use by 23 percent at 11 months postpartum (de Smit, Weinreich & Cornel, 2015).

Evidence for best intervention

- Women who are counseled about taking vitamins with folic acid are more likely to take vitamins than women who are not counseled (Oza-Frank, Kachoria, Keim & Klebanoff, 2015).
- Providing multivatamins with folic acid to women of childbearing age increases consumption of daily multivitamins from 25 to 70 percent (Morgan, Major, Meyer & Mullenix, 2009).

The 5 A's of the IMPLICIT ICC Model

Table 8 provides an overview of the 5 A's used in the IMPLICIT ICC Model. Providers use the 5 A's of the IMPLICIT ICC Model at every well-child visit from birth to 24 months of age.

Table 8. The 5 A's of the IMPLICIT ICC Model	
At every well-child visit from birth to 24 months of age:	
1. Ask	• Screen the mother for smoking, depression, family planning and multivitamin/folic acid. • Document the screening results. • Obtain maternal demographic information (at the first visit only).
2. Advise	• Reinforce the mother's desired behaviors. • Educate her about needed behaviors.
3. Assess	Evaluate any positive screens.
4. Assist/ Arrange	Determine interventions and billing.
5. Analyze	Collect and analyze data for QI to develop strategies to improve care delivery and patient outcomes.

Any mother who brings her child to a well-child visit from birth to age 2 is eligible for ICC. Table 9 identifies a typical schedule for well-child visits; this schedule offers numerous opportunities for interaction between mothers and providers.

Table 9. Well-child visits		
Typical well-child visits	• 1 month • 2 months • 4 months • 6 months • 9 months	• 12 months • 15 months • 18 months • 24 months

1. Ask: Screen the mother for smoking, depression, family planning and multivitamin/folic acid. Document the screening results. Obtain maternal demographic information (first visit only).

The IMPLICIT ICC Model uses screening questions at each well-child visit from birth to age 2 (Figure 4). This screening can take less than a minute to complete if all responses are negative.

Figure 4. IMPLICIT ICC Model screening questions

IMPLICIT ICC Model screening questions

To download this form, go to: **prematurityprevention.org**

Age of child at visit (in months) _____

1. **Is mother present at today's visit?**
   ○ Yes ○ No

2. **Is mother currently smoking?**
   ○ Yes ○ No

3. **If smoking, was an intervention done? (May include the 5A's: Ask, advice, assess, assist, arrange)**
   ○ Yes ○ No

4. **Results of 2-item or PHQ2 screen?**
   ○ Positive ○ Negative

5. **If PHQ is positive, was PHQ9 score ≥10?**
   ○ Yes
   ○ No, PHQ9 is <10
   ○ Not done

6. **If depression risk was present, was an intervention in place or provided?**
   ○ Yes ○ No

7. **Maternal safety screen: Thoughts of self-harm present (PHQ9 #9≥1)**
   ○ Yes, mother has thoughts of harming self. (PHQ9 #9≥1)
   ○ No, mother has no thoughts of harming self. (PHQ9 #9=0)
   ○ Not done

8. **If mother has thoughts of harming herself (PHQ9 #9), was the mother assessed for safety and triaged appropriately?**
   ○ Yes ○ No

9. **Has mother been pregnant since last visit?**
   ○ Yes ○ No

10. **Is mother using contraception?**
    ○ Yes, IUD or implant — Long acting reversible contraception (LARC)
    ○ Yes, permanent sterilization methods (tubal, vasectomy, hysterectomy)
    ○ Yes, other
    ○ No, mother is currently pregnant
    ○ No, mother is trying to conceive
    ○ No

11. **If not using contraception, was an intervention done (counseling about birth spacing, options/referral/prescription)?**
    ○ Yes ○ No

12. **Is mother currently taking a multivitamin, prenatal vitamin or folic acid at the time of this visit?**
    ○ Yes ○ No

13. **If no, was a multivitamin, prenatal vitamin or folic acid recommended?**
    ○ Yes, recommended but not provided
    ○ Yes, recommended and provided (prescription/voucher/free MVI)
    ○ No

The IMPLICIT ICC Model recommends documenting maternal screening results in the child's health record. A mother's risks may change; by using her child's health record, providers can track patient trends and successful interventions. Documenting in the child's record also provides the ability to extract data, compare it over time and share it for QI. If the mother is not a patient, the child's chart is the only place to document this information.

Use a hard copy ICC form or an EHR to document screening results. If using an EHR, use the well-child visit template to create order sets or reminders within the record.

Documenting maternal demographic information can help you understand your patient population. While you screen the woman for smoking, depression, family planning and multivitamin/folic acid at every child visit, you collect demographic information only once at the first visit. Figure 5 is the IMPLICIT ICC Model maternal demographic questionnaire.

Collecting demographic information can serve as the basis for a discussion with a mother about why you're asking questions about her health at her child's visits. It also allows you to emphasize the importance of **her** health to her child's health and any future children she may have.

2. Advise: Reinforce the mother's desired behaviors. Educate her about needed behaviors.

The IMPLICIT ICC Model is based on the belief that a healthy mother is crucial to a healthy family. Most women believe that their health can affect the health of their child and any future children they may have (Byatt et al., 2013).

Establishing rapport with a mother and making the connection between her health and her child's health are important entries into discussion of interconception care recommendations. Framing the screening and advice as routine parts of family care can help reduce fears the mother may have about stigma, judgment and the possibility of being reported to social service agencies (Byatt et al., 2013). Educating her about why the risk screen is important and how it relates to her child's health (for example, the impact of smoking and depression) and the health of future pregnancies (for example, risk of unintended pregnancy and benefits of IPI, birth spacing and preconception multivitamin/folic acid) can set the stage for shared decision-making around behavior change and intervention. Giving the mother a "prescription for a healthy family" (Appendix 2) (Mountain Area Health Education Center [MAHEC], 2012) that highlights ways she can improve her own health and the health of her child is a valuable message to embed in the standard well-child visit.

3. Assess: Evaluate any positive screens.

For each of the four screening areas, clearly outline pathways to deal with positive screens. Identify staff (provider, medical assistant, care manager, project coordinator) to be responsible for documenting interventions and staff (nurse, nurse manager, medical assistant) to be responsible for follow-up with the woman.

Smoking. Quitting smoking is one of the most significant things a mother can do to improve her own health, the health of her infant, the health of other people in her household, her health during future pregnancies, and the health of her future children. The U.S DHHS recommends using the 5 A's model for smoking screening and counseling (Table 10) (Fiore et al., 2008).

Table 10. 5 A's model for smoking screening and counseling

1. **Ask** about the patient's current smoking status
2. **Advise** the patient to quit and provide information on how beneficial quitting is.
3. **Assess** the patient's willingness to quit.
4. **Assist** the patient with finding resources and making a plan to quit.
5. **Arrange** for follow-ups to help the patient follow through and quit for good.

Fiore et al., 2008

Depression. Decide which depression screen to use (for question 4 of the IMPLICIT ICC Model Screening Questions, Figure 4). Both screens have

Figure 5. IMPLICIT ICC Model demographic questionnaire

IMPLICIT ICC Model demographic questionnaire

To download this form, go to: **prematurityprevention.org**

Month of this child's birth

- ○ January
- ○ February
- ○ March
- ○ April
- ○ May
- ○ June
- ○ July
- ○ August
- ○ September
- ○ October
- ○ November
- ○ December

Maternal education level

- ○ Less that high school degree or equivalent (GED)
- ○ High school degree or equivalent (GED)
- ○ More than high school degree or equivalent (GED)

Insurance type

- ○ Medical assistance
- ○ Private insurance
- ○ Self-pay
- ○ Unknown

Mother's age at this child's birth _____

Number of living children (including this child) _____

Maternal race (Select all that apply.)

- ○ White
- ○ Black or African American
- ○ American Indian or Alaska Native Asia
- ○ Native Hawaiian or Other Pacific Islander
- ○ Unknown

Maternal ethnicity

- ○ Hispanic
- ○ Non-Hispanic
- ○ Unknown

Is mother a patient at this practice?

- ○ Yes
- ○ No
- ○ Unknown

a high negative predictive value. The 2-item screen may be easier to use because the answers are yes or no, instead of scores from 0 to 3.

A positive result on either the PHQ-2 (Table 5) or the 2-item depression screen requires follow up with a longer screen. The IMPLICIT ICC Model uses PHQ-9 (Table 6) because of its widespread use in general primary care (Kroenke, Spitzer, Williams & Löwe, 2010). Using a common measure simplifies communication, training and monitoring of adults with depression, whether or not they are pregnant. In addition, a larger set of clinical and training resources linked to the PHQ-9 are available than for other measures, such as the Edinburgh Postnatal Depression Scale. On balance, there is a greater benefit in using a shared measure for primary care settings than in using a separate specialized measure that many in these settings may not understand or be familiar with.

Identifying mothers at immediate risk of harm to themselves or others is critical. If a mother's responses are positive on the PHQ-2 or the 2-item depression screen, use the PHQ-9. If she answers question 9 with "none of the time," the maternal safety screen is complete. If she gives any other answer, further assessment is indicated. If her screen indicates that she is at immediate risk for harm to herself or others, activate procedures to address a mental health crisis, such as sending her to the emergency room or calling a mental health hotline.

A PHQ-9 score of 10 or higher indicates a positive depression screen and requires further evaluation; the PHQ-9 is a screening tool and does not diagnose depression. If the woman has no previous history of depression, complete a diagnostic interview with her to identify possible major depressive disorder and rule out other psychopathology. If she has a history of depression, evaluate her for recurrence and the need to reinitiate or modify treatment. Ideally, the mother works with a primary care or behavioral health provider to develop a depression care plan that details how treatment is to be handled in the event of a future pregnancy.

Implementing evidence-based enhancements of depression care in the primary care setting requires a significant investment of effort that goes beyond the scope of this toolkit. A number of resources are available, however. The MacArthur Foundation's (2016) Initiative on Depression & Primary Care offers free clinical materials and guidelines. The AIMS (Advancing Integrated Mental Health Solutions) Center for Collaborative Care at the University of Washington (2016) provides resources targeting the implementation of evidence-based enhancements.

Family planning. Include these two key concepts in the conversation with a mother around family planning and contraception:

1. Nearly half of all pregnancies in the United States are unintended (Finer & Zolna, 2016).
2. The ideal length of time to wait between pregnancies is at least 18 months; significant risks for poor birth outcomes exist in pregnancies with a shorter IPI (Conde-Agudelo et al., 2006).

Counseling new mothers about the risk of a short IPI and recommending appropriate birth spacing in accordance with her future pregnancy desires are vital. It's important to assess a woman's comfort with her chosen birth control method, even if she states she is currently on birth control. Placing family planning in the context of a reproductive life plan for a mother and her family is a well-established way of having an informed discussion. The Centers for Disease Control and Prevention (CDC) (2014) offers a reproductive life plan at **cdc.gov/preconception/reproductiveplan.html.**

Women deserve education about and access to all forms of contraception. Providers should advise women who aren't using contraception in the immediate postpartum period about their contraception options, beginning with the most effective methods (the tiered approach). The discussion should be patient-centered, taking into account the woman's desires for future children and any health risks that affect her contraception decision.

Each practice has different abilities and resources and can determine a process to provide contraception that best suits the practice and its patients. Many patients encounter barriers — cost, lack of insurance, transportation, social pressure — that may make getting their chosen contraception method difficult. Each practice can establish a process that minimizes these barriers and enables patients to receive appropriate contraception without social or racial coercion (Higgins, 2014).

Multivitamin/Folic acid. The USPSTF (2009b) recommends counseling all women of reproductive age about the importance of taking a daily multivitamin with folic acid. It's important to highlight for women the high rate of unintended pregnancies and the narrow window for prevention of neural tube defects within a pregnancy.

Almost half of all unintended pregnancies are to women on some form of birth control (Guttmacher Institute, 2016). Tailoring messaging around this counseling is important for obtaining buy-in from a woman. Even if a mother at a well-child visit has no plans to become pregnant again, multivitamins are beneficial and recommended for this age group.

4. Assist/Arrange: Determine interventions and billing.

Provide interventions for positive risks. The IMPLICIT ICC Model provides the opportunity to identify maternal health risks which, if addressed, can improve future birth outcomes. Once you've identified and assessed a mother's risk, you can offer effective, evidence-based interventions to address it. Table 11 lists general concepts in providing interventions based on screening results.

The IMPLICIT ICC Model is not designed to be performed just once. A mother's risks may change over time, and behavior change may be difficult. Screening all mothers at every well-child visit provides multiple opportunities to assess risk and provide interventions throughout a child's first 2 years of life.

Table 11. Providing or referring mothers for interventions

If the mother is a patient	Add her to the schedule for the same day as her child's visit, or schedule a follow-up appointment for her. The follow-up appointment may be with her primary care provider or, if available in your practice, with an integrated behavioral health provider, clinical pharmacist or case manager.
If the mother is not a patient	Give her appropriate education materials. Refer her to her primary care provider or to other community resources.
If you use a care management approach	The care manager or other ICC team member follows all positive screens and generates referrals, educates patients and follows up to ensure patient follow-through.

Table 12 identifies options for handling a positive screen. Each practice designs its own process tailored to local resources and workflows. A well-defined and systematic process addresses each positive screen and provides resources that meet the needs of the patient (whether or not she is established in the practice and whether or not she has access to health insurance). Appendix 3 includes ICC workflow examples.

For consumer health education on intervention topics, refer patients to **marchofdimes.org**. To purchase products for consumer education, go to **marchofdimes.org/catalog**.

Document interventions. As with screening results, the IMPLICIT ICC Model recommends documenting interventions in the child's health record.

Determining billing options.
Billing the child's insurance. Use the established process to bill for care of the child at the well-child visit, unless your state Medicaid or other insurer covers caregiver screening (for example, screening mothers and billing the child's insurance). Using

Table 12. Options for handling a positive screen*	
Smoking	• Perform the 5 A's intervention to assess the mother's interest in quitting smoking. • Explain the negative effects of tobacco exposure on her child's health and about how she can quit. • Give her state or national smoking quitline information. **If the mother is a patient:** • If needed, prescribe medications at the time of the visit and schedule a follow-up appointment for further evaluation and treatment. • Refer her to an integrated pharmacy provider, if available. • If she is uninsured, refer her to a community resource for assistance with counseling and medication management. **If the mother is not a patient:** • Refer her to her primary care provider for further discussing and treatment. • Refer her to a community resource for assistance with counseling and medication management.
Depression	**If the mother is at immediate risk for harm to herself or others:** • Activate the practice's procedures to address a mental health crisis, such as sending her to the emergency department or calling a mental health crisis hotline. **If the mother is a patient:** • Counsel her about the effect of her emotional well-being on the health of her family, the need to further address her depression and the availability of resources for support. • Schedule a follow-up appointment for further evaluation and treatment. • Consult with an integrated or co-located behavioral medicine provider at the time of the visit, or set up an appointment or referral. • If the mother has no insurance coverage, refer her to a local community health resource. **If the mother is not a patient:** • Refer her to her primary care provider using a structured referral/sharing of information process. • Office staff connects her directly to her primary care provider, or she makes an appointment herself. • Refer her to a local community health resource using a structured referral/sharing of information process.
Family planning	• Provide educational resources on contraceptive options. • Have prompts in the EHR for discussion and an appropriate follow-up plan. • Have patient education handouts incorporated into the EHR. **If the mother is a patient:** • Offer to begin the contraceptive method of her choice immediately instead of waiting until the next menstrual period (the quick start approach). • Schedule a follow-up appointment. Offer emergency contraception or a hormonal bridge method, as needed. • If the mother is uninsured, refer her to a local health department, community health center or family planning clinic. **If the mother is not a patient:** • Refer her to her primary care provider or to her previous maternity care provider. Encourage her to make an appointment. • Refer her to a local health department, community health center or family planning clinic. *(Continued on next page)*

Table 12. Options for handling a positive screen (continued)	
Multivitamin/ Folic acid	• Give the mother educational material describing the importance of multivitamins and folic acid. • Give the mother a prescription for multivitamins to fill at a pharmacy of her choice. A prescription isn't required for multivitamins, but for some women, insurance covers the cost with a prescription. Also, women with low-literacy skills may be more comfortable having a prescription filled than having to find the right multivitamin on her own. • Send the mother a prescription or voucher for a local pharmacy that has free multivitamins. • Have a supply of multivitamins to give the mother for free. You can do this safely and legally regardless of whether or not the mother is your patient as long as the multivitamins have no iron and are available over-the-counter (considered a naturiceutical). You may find support for free multivitamins from community organizations or your state health department. Every Woman North Carolina (**everywomannc.com**) is an example of a multivitamin distribution program (March of Dimes North Carolina Preconception Health Campaign, 2014).
*See Appendix 3 for ICC workflow examples.	

the ICC model doesn't otherwise change the billing for care provided to the child.

The May 2016 Informational Bulletin from the Director of Center for Medicaid and Children's Health Insurance Program (CHIP) (Wachino, 2016) highlights that state Medicaid agencies may cover screening non-Medicaid eligible mothers for depression as part of well-child visits under the child's coverage.

Table 13 lists codes to use when billing for maternal screening and intervention to a child's insurer.

Billing the mother's insurance. When the mother is also your patient, you have an opportunity to bill for services provided to her through her insurance coverage. We suggest not billing mothers when their screens are negative — if she is not smoking, not depressed, is on contraception or is taking a multivitamin. If she has a positive screen and you are going to intervene, have a way to capture the encounter and appropriately bill her insurance. Examples of interventions are: providing brief counseling for tobacco use, depression or family planning and/or providing contraception or other medications at the time of the visit. Billing the mother is done by creating a separate encounter for the mother. Even though you're seeing the mother and the child in the same room at the same time, there are two encounters — one for the mother and one for the child. Table 13 includes details about how to bill mothers who are your patients.

Practice and billing scenarios. Use the following scenarios to determine billing options based on patient assessment:

Scenario 1
- Child presents for 6-month well-child visit with his mother and father.
- Mother does not smoke.
- Mother does not screen positive for depression.
- Mother had a tubal ligation post-delivery.
- Mother is taking a multivitamin.

Scenario 2
- Child presents for 4-month well-child visit with his mother.
- Mother quit smoking when she found out she was pregnant but is now smoking again.
- Mother does not have a history of depression but states that she is very sad.
- Mother is not using contraception.
- Mother is not taking a multivitamin or folic acid supplement.

Table 13. Billing options for ICC interventions*		
Part A: Billing the child's insurance for maternal screening and interventions (Preferred but not always possible)	**Screening**	Contact your state Medicaid office or other child insurer. Example: Mothers can be screened for depression or tobacco use using the code 99420 under ICD-10-CM Z13.89. The 99420 code is the same code used for multiple screenings (MCHAT, PHQ-9, etc.) and if allowed by your state, can be used multiple times per visit.
	Counseling	Contact your state Medicaid office or other child insurer. Example: Mothers can be counseled on behaviors affecting the child (such as tobacco use or depression) using the counseling codes 99401 (1 to 15 minutes), 99402 (16 to 30 minutes), 99403 (31 to 45 minutes) and 99404 (46 to 60 minutes).
Part B: Billing the mother's insurance (The child's insurance can't be billed and the mother is a patient).	**Smoking**	If you provide smoking cessation counseling, you can document the encounter using a time-based code: • 99406: Intermediate: Smoking and tobacco-use cessation counseling visit is more than 3 minutes but not more than 10 minutes. • 99407: Intensive: Smoking and tobacco-use cessation counseling visit is more than 10 minutes.
	Depression	If you use the PHQ-9 with a mother, generate an encounter and bill for PHQ-9 screening and for an evaluation and management (E&M) level visit based on the complexity of the evaluation.
	Family planning	If you counsel a mother on contraception options and she decides on an oral contraceptive or a progesterone injection, generate an encounter, perform a brief physical exam and pregnancy testing, as applicable, and administer the prescription or injection. Use E&M code 99213, or hire as appropriate for level of service, to be reimbursed for the visit.
	Multivitamin/Folic acid	You can bill for counseling about multivitamin and folic acid in the context of a family planning or preconception visit, even if the only thing covered in that visit is multivitamin/folic acid. There is no code specifically for it.
AAP, 2016; *Billing codes are subject to change. Check the AAP coding guide for updates.		

5. Analyze: Collect and analyze data for QI to develop strategies to improve care delivery and patient outcomes

"If you can't measure something, you can't understand it. If you can't understand it, you can't control it. If you can't control it, you can't improve it."

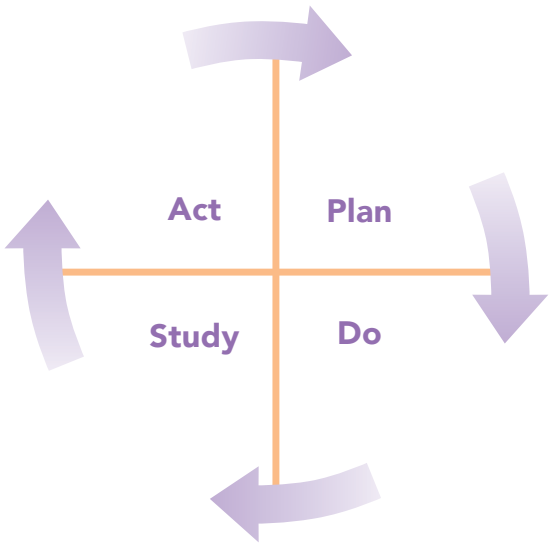
-H. James Harrington

Each practice can use its data to assess the strengths and weaknesses of its care delivery processes and identify areas of improvement that can lead to better outcomes for patients.

QI is a structured method of continually identifying and analyzing the strengths and weaknesses of a process, and then developing, testing, revising and implementing solutions. Any QI activity requires data to review, measure progress and establish benchmarks for success. Table 14 identifies fundamental components of QI.

Table 14. Fundamental components of QI
• A focus on systems and process • A focus on being part of the team • A focus on patients • A focus on the use of data • Use of the Plan-Do-Study-Act (PDSA) model (Deming, 2016) (Figure 6)
U.S. DHHS, 2011

Figure 6. Plan-Do-Study-Act Cycle



1. What are we trying to accomplish?
2. How will we know that a change is an improvement?
3. What changes can we make that will result in an improvement?
4. Who do we need to mobilize?

Deming's Plan/Do/Study/Act cycle is a primary model for QI. A provider identifies a problem and draws up a plan to test a change in the process or procedure. The test is done, the results are studied and then a decision is made about how to act — adopt the change, abandon the cycle or adapt the plan and do a new cycle (U.S. DHHS, 2011).

The IMPLICIT Network encourages providers using the IMPLICIT ICC Model to participate in the QI component. IMPLICIT is committed to the QI process, which ensures that patients receive high-quality, standardized care. QI has the greatest impact when it addresses at the same time what care is provided and **how, when, where** and by **whom** it is provided.

Implementing a new QI effort that involves a new model of care can be challenging and may require dedicated administrative support. Although the cost of performing ICC is minimal, many practices apply for grant monies to get started. You may be able to get grant money to pay for administrative support staff for 1 to 3 years or seed money for educational materials or multivitamins. Grant support can help a program get started, but it is not required. Appendix 4 offers grant application examples.

Your practice may be involved in more than one QI project. If you find that interconception care is competing with other QI projects, secure a strong and passionate ICC champion who can make the case for ICC in improving infant and maternal mortality and overall family health. Share results to get buy-in from all levels of your organization, and seek grant support for administrative time.

Working with a QI collaborative provides the opportunity to share experiences about best practices and help solve problems. Providers can use interconception care QI to satisfy the family medicine Maintenance of Certification Part IV requirement. Perhaps most importantly, working collaboratively provides the opportunity to share about what doesn't work (Reid, personal communication, October, 2015).

QI can be hard work. It can feel overwhelming, but each member of the collaborative doesn't have this experience at the same time — when one member is down, another member is up. A real value of being part of a collaborative is working with people who share the experience and can encourage and inspire one another.

A collaborative provides mutual accountability. Accountability to a group for reporting and sharing progress (or lack thereof) reduces the tempation to give up or scale back; keeps members honest and energized; and reminds members of

their common goal. The IMPLICIT Network is an example of such a collaborative. Table 15 identifies benefits of working collaboratively.

Table 15. Benefits of working collaboratively

- Developing a broad network of colleagues
- Gaining a broader perspective from exposure to other programs and practices
- Exchanging ideas and intellectual stimulation
- Becoming invigorated professionally
- Giving and receiving support
- Having opportunities for scholarship and publication

Implementing the IMPLICIT ICC Model

Several steps are necessary to implement the IMPLICIT ICC Model.

1. Identify a champion provider and leadership team.

Identify a champion to lead a passionate charge for initiating the IMPLICIT ICC Model at your practice. Having a provider leader is important to the success of a new project that involves clinical and administrative change. Table 16 identifies possible members for your leadership team.

Table 16. Possible leadership team members

- Administrative leaders and support staff
- Behavioral health specialists
- Dietitians
- Information technology (IT) specialists
- Medical students
- Nurse/Medical assistant champions
- Pharmacists
- Practice managers
- Project coordinators
- Providers
- Residents

2. Educate staff about the importance of the IMPLICIT ICC Model.

The champion and leadership team educates staff, administration and other providers in your practice via grand rounds, staff meetings and special education sessions. Table 17 identifies strategies to generate buy-in from staff to implement the IMPLICIT ICC Model.

Table 17. Getting buy-in from staff to implement the IMPLICIT ICC Model

- Create a sense of urgency. For example, the United States is in a crisis around infant and maternal health, so ICC needs to be a priority.
- Share the evidence that ICC benefits family health.
- Involve nurses. Nurse-driven protocols can lead to greater buy-in.
- Make it the standard of care rather than something additional that needs to be done.

3. Develop a workflow for each patient visit.

Your practice already has a patient-care workflow in place. Add to your workflow to establish procedures for obtaining maternal demographic information at the first visit, completing ICC screenings at every visit and performing and documenting interventions.

Although the IMPLICIT ICC Model is straightforward, successful implementation requires creating a process that works for individual sites. Each site determines its most efficient and effective workflow. Table 18 identifies ICC workflow models to consider. Table 19 identifies special workflow situations. Appendix 3 includes ICC workflow examples.

4. Develop a procedure for collecting and documenting data.

Documenting results of ICC screening and intervention is key to the ability to retrieve and share data for QI. Ideally, documentation for the IMPLICIT ICC Model is incorporated completely within the child's EHR. Most practices using EHRs have been successful in implementing electronic documentation.

When incorporating data into the EHR is a barrier, some practices use paper-based forms (Appendix 5). Some use a hybrid approach by

Table 18. ICC workflow models to consider
• Residents, physicians and ancillary health professionals are all trained to do ICC at the well-child visit. • The medical assistant/nurse who rooms the patient administers the maternal questionnaire, enters results in the chart and notifies the provider of positive screens. • Providers screen mothers and address health risks at the well-child visit, either by loading the template or using one that is already integrated into the well-child visit. Screening questions may be part of a larger questionnaire on family assessment. • A member of the QI project team administers the questionnaire. Members may include faculty, residents, the obstetric nurse coordinator, staff nurses, nurse managers and data entry staff. • Front desk staff administers the maternal questionnaire to new patients coming in for a well-child visit or as part of the initial packet given to the mother of any new patient <2 years old.

Table 19. Special workflow situations	
If the depression screen shows that the mother is at immediate risk for harm to herself or others	Activate procedures to address a mental health crisis, such as sending the woman to the emergency department or calling a mental health crisis hotline. When developing your workflow, consider the resources available within the practice, the larger health care system and the community for referral for depression care. The workflow should address potential barriers to care and strategies to address them, as well as methods for collaboration with other care providers.
If your practice provides care for both women and children	**Provide care in the moment.** The ability to immediately address a woman's risk at her child's visit is probably the most effective and patient-centered approach to care. Realistically, this occurs only if the woman already is established as a patient in your practice or the practice addresses her as a new patient. If you can address her need and have time to do it immediately, this approach can be effective and satisfying for the woman. It also can enhance your ability to bill for services. Develop a system to manage this process efficiently; use these questions to help create your workflow: • Can you establish the mother as a new patient? • How do you place her on the schedule when she's at her child's visit? • How do you open an encounter in the EHR and make sure it's billed correctly? • What information should you include in the visit note (for example, vital signs and medication reconciliation)? When/How is this information obtained (before or after the mother is seen)? **Schedule the mother to come back.** In a busy practice, it may be more feasible to schedule the mother to come back at a later time. The biggest challenge is getting her to keep her new appointment. Appointment tracking tools can be helpful to maintain contact with and follow-through with at-risk mothers.
If you need to refer mothers to interventions and services outside your practice	Even in full-scope family medicine clinics, you may not always have resources to provide interventions or services. For pediatric practices using the IMPLICIT ICC Model, any intervention requiring prescriptions for or further evaluation of a mother requires a well-developed referral pattern to community partners. **If the mother has an established relationship with a primary care or obstetric care provider,** communicate directly with the provider regarding follow-up. *(Continued on next page)*

Table 19. Special workflow situations (continued)	
If you need to refer mothers to interventions and services outside your practice *(continued)*	**If the mother has no primary care home,** community resources, such as county mental health providers/crisis centers, health departments and family-planning organizations, can be key to a successful intervention and follow-up plan.
If you're interested in a case management approach	Case management may be a promising way to follow up with at-risk mothers over time. You may be able to work within your current health system to identify case managers as part of intervention and follow-up. The University of Pittsburgh Medical Center has implemented a case management approach through use of AmeriCorps volunteers; see Appendix 6 for an example of its application and program.

collecting the information first on paper and then inputting it into a retrievable format in the EHR. For example, at one IMPLICIT site maternal demographic information is collected on paper and then transcribed into a template in the child's health record. Table 20 identifies procedures using paper forms and EHRs.

Table 20. Procedures for collecting and documenting information using paper forms and EHRs	
If using a paper form	• Ask the mother to answer all the screening questions on the form. • Review her answers and provide follow-up. • Document any interventions on the form. For example, if the woman smokes, document referrals or other interventions. • If desired, scan the form into the child's cart.
If using the EHR	• Ask the mother the ICC screening questions and provide follow-up. • Record the screening in the visit note of the child's chart using the documentation created for ICC.

Case studies

This toolkit guides you through the rationale behind the IMPLICIT ICC Model and provides steps to help you implement the Model into daily practice. The following case studies can help you apply toolkit content to specific practice situations.

Case study 1: Heather

Heather is a 26-year old with type 1 diabetes and hypothyroidism due to Hashimoto's thyroditis. Her two children were born at 34 weeks and 31 weeks respectively. Her last pregnancy was complicated by gestational hypertension. We first became acquainted with Heather and her family when we saw the younger child at a 6-month visit.

Routine inquiry about contraceptive needs revealed several problems. Heather had been having trouble accessing care, as she could not find a provider who would accept her Medicaid insurance. She had been dismissed from our practice because a bill for $36 had been turned over to collections several years ago. This created a tricky situation: Our office had not received payment, and the collection agency did not return calls. Our office staff confirmed the outstanding payment status.

With contraceptive needs not addressed, Heather had been relying on occasional use of condoms for contraception. She had unprotected midcycle intercourse 2 days before her daughter's visit. She did not wish to get pregnant at this time. Fortunately, we were able to attend to contraceptive needs with the morning after pill, to be followed by an oral contraceptive as a bridge to a follow-up

visit to discuss long-acting reversible contraception (LARC). A request to our office supervisor enabled her to be reinstated to the practice.

Questions:

1. What barriers to care does Heather face and how can you address them?
2. What might the outcome be if the provider doesn't ask about contraception?
3. How can you respond to billing matters in a way that addresses the needs of both the patient and your office?

Case study 2: Maria

Maria brought her 10-month-old son CM to our practice for a follow-up appointment after an acute illness. We noticed on check-in that CM had missed his 9-month well-child visit. Instead of doing a quick visit to check CM's health after his illness, we decided to take care of the 9-month well-child checkup.

Because our practice performs ICC screenings on all mothers at well-child visits, we asked Maria the usual screening questions to assess her risks. Her responses showed that she:

- Was no longer taking a multivitamin
- Had resumed smoking (had quit during pregnancy)
- Was actively stressed and mildly depressed (PHQ9 of 14) due to relationship issues
- Was not using contraception (stopped taking oral contraceptives several months ago)
- Screened positive for all four interconception risks

We looked back at CM's first few newborn visits, and all had been well. At 2 months, Maria was taking a multivitamin, not smoking, not depressed and taking the pill. CM missed the 4-month visit, and no ICC was documented at the 6-month visit.

At this visit, we assessed Maria's health and made a follow-up appointment for psychological support. We counseled her about unintended pregnancy and the importance of birth spacing of at least 18 months before getting pregnant again. She decided to get a progesterone implant and received a year's supply of multivitamins. We also encouraged her to quit smoking and agreed to address this again at future visits.

We saw Maria at CM's 15-month well-child visit. Life is still a bit stressful for her, but her PHQ9 was down to 9, and she feels more supported. She quit smoking, is taking a multivitamin and her progesterone implant was placed after our last visit.

Questions:

1. Why did the provider broaden the focus of CM's follow-up visit to include ICC for Maria? How did this change benefit Maria?
2. When screening for depression, when is it appropriate to refer a patient to follow-up?
3. What smoking cessation resources are available in your local area?
4. When counseling Maria about contraception options, why is it helpful to use the tiered approach of recommending the most effective contraceptions first?
5. Why is birth spacing important to include in ICC?

Case study 3: Susanna

New mothers sometimes struggle to take care of themselves when they have a new baby at home. Nurses and staff called a 19-year-old new mother Susanna repeatedly to schedule a postpartum appointment, so we were happy to see Susanna at her baby's 4-month well-child visit.

During the visit, we screened Susanna for health risks, including depression. She screened positive and seemed to be having trouble transitioning to her role as a mother. Further evaluation showed that she might benefit from depression treatment. After assessing Susanna for safety, we prescribed medication for depression and scheduled a follow-up appointment for her.

Susanna came back for her follow-up appointment and has continued to come to appointments since.

Although she decided not to take depression medication, we continue to monitor her depression and make sure she gets the care she needs as a new mother.

Questions:

1. If Susanna isn't a patient in your practice, what is the next step following a positive screen?
2. What might have happened to Susanna and her baby if the provider hadn't screened her for depression?
3. How can you identify behavioral medicine resources in your community to use for a referral?

Case study 4: Sonya

Thirty-two year-old Sonya is using progesterone injection to space her pregnancies. For this method to be effective, she has to get an injection every 3 months. Sonya has stayed on track with her injections for the first 6 months after pregnancy. She was due for her next shot, but she missed her appointment and hasn't rescheduled. When Sonya took her child to the health center for her 9-month well-baby visit, the provider screened her for contraception. Sonya and the provider quickly realized she was due for her next shot.

The provider talked with her about birth spacing, and Sonya decided to switch to a progesterone implant. The provider gave Sonya a prescription for birth control pills to use until the appointment for the implant placement. Within 2 weeks of the 9-month well-child visit, Sonya returned to have her progesterone implant placed. Because the implant is a long-acting birth spacing method, Sonya is sure to have a healthy pregnancy interval.

Questions:

1. How does familiarity with effectiveness and pros/cons of various contraceptive methods enable the provider to assist Sonya?
2. If you're a pediatrician and Sonya is not your patient, how might you counsel her to encourage follow-up with her own provider?

References

Abbott LC & Winzer-Serhan UH. (2012). Smoking during pregnancy: Lessons learned from epidemiological studies and experimental studies using animal models. *Critical Reviews in Toxicology, 42*(4), 279-303. DOI 10.3109/10408444.2012.658506.

AIMS Center. (2016). *Collaborative care*. Accessed 11/9/16 at: http://aims.uw.edu/collaborative-care

American Academy of Family Physicians (AAFP). (2015a). *Clinical preventive service recommendation: Tobacco use*. Accessed 9/23/16 at: http://www.aafp.org/patient-care/clinical-recommendations/all/tobacco-use.html

American Academy of Family Physicians (AAFP). (2015b). *Preconception care (position paper)*. Accessed 9/23/16 at: http://www.aafp.org/about/policies/all/preconception-care.html

American Academy of Pediatrics (AAP). (1999). Folic acid for the prevention of neural tube defects. *Pediatrics, 104*(2 Pt 1), 325-327.

American Academy of Pediatrics (AAP). (2009). *Policy statement — Tobacco use: A pediatric disease*. Accessed 11/7/16 at: http://www2.aap.org/richmondcenter/pdfs/2009PolicyStatement.pdf

American Academy of Pediatrics (AAP). (2014). Contraception for adolescents. *Pediatrics, 134*(4), e1244-56. DOI 10.1542/peds.2014-2299.

American Academy of Pediatrics (AAP). (2016). *Coding for pediatric preventive care*. Accessed 9/23/16 at: https://www.aap.org/en-us/Documents/coding_factsheet_brightfuturespreventivemedicine.pdf

American College of Obstetricians and Gynecologists (ACOG). (2005). Smoking cessation during pregnancy (Committee opinion 316). *Obstetrics and Gynecology, 106*(4), 883-888.

American College of Obstetricians and Gynecologists (ACOG). (2011). Long-acting reversible contraception: Implants and intrauterine devices (Practice bulletin 121). *Obstetrics and Gynecology*, *118*(2), 184-196.

American College of Obstetricians and Gynecologists (ACOG). (2015). Screening for perinatal depression (Committee opinion 630). *Obstetrics and Gynecology, 125*(5), 1268-1271. DOI 10.1097/01.AOG.0000465192.34779.dc.

American Medical Association (AMA). (2012). *Physician responsibilities for tobacco cessation* (H-490.917). Accessed 11/9/16 at: https://searchpf.ama-assn.org/SearchML/searchDetails.action?uri=%2FAMADoc%2FHOD.xml-0-4421.xml

Association of Maternal and Child Health Programs. (2014). *Life course indicator: Postpartum contraception* (LC-52). Washington, DC: Association of Maternal and Child Health Programs.

Atrash H, Jack BW & Johnson K. (2008). Preconception care: A 2008 update. *Current Opinion in Obstetrics and Gynecology, 20*(6), 581-589. DOI 10.1097/GCO.0b013e328317a27c.

Baba S, Wikstrom AK, Stephansson O & Cnattingius S. (2014). Influence of snuff and smoking habits in early pregnancy on risks for stillbirth and early neonatal mortality. *Nicotine and Tobacco Research, 16*(1), 78-83. DOI 10.1093/ntr/ntt117.

Bailey BA. (2015). Effectiveness of a pregnancy smoking intervention: The Tennessee Intervention for Pregnant Smokers program. *Health Education and Behavior, 42*(6), 824-831. DOI 10.1177/1090198115590780.

Batech M, Tonstad S, Job JS, Chinnock R, Oshiro B, Allen Merritt T et al. (2013). Estimating the impact of smoking cessation during pregnancy: The San Bernardino County experience. *Journal of Community Health, 38*(5), 838-846. DOI 10.1007/s10900-013-9687-8.

Bennett IM, Coco A, Coyne JC, Mitchell AJ, Nicholson J, Johnson E et al. (2008). Efficiency of a two-item pre-screen to reduce the burden of depression screening in pregnancy and postpartum: An IMPLICIT Network study. *Journal of the American Board of Family Medicine, 21*(4), 317-325. DOI 10.3122/jabfm.2008.04.080048.

Birgisson NE, Zhao Q, Secura GM, Madden T & Peipert JF. (2015). Preventing unintended pregnancy: The contraceptive CHOICE project in review. *Journal of Women's Health, 24*(5), 349-353. DOI 10.1089/jwh.2015.5191.

Bixenstine PJ, Cheng TL, Cheng D, Connor KA & Mistry KB. (2015). Association between preconception counseling and folic acid supplementation before pregnancy and reasons for non-use. *Maternal and Child Health Journal, 19*(9), 1974-1984. DOI 10.1007/s10995-015-1705-2.

Bloom B, Cohen RA & Freeman G. (2009). Summary health statistics for U.S. children: National health interview survey, 2008. *Vital Health Statistics, 10*(244), 1-81.

Bukowski R, Malone FD, Porter FT, Nyberg DA, Comstock CH, Hankins GD et al. (2009). Preconceptional folate supplementation and the risk of spontaneous preterm birth: A cohort study. *PLOS Medicine, 6*(5), e1000061. DOI 10.1371/journal.pmed.1000061.

Burris HH & Werler MM. (2011). U.S. provider reported folic acid or multivitamin ordering for non-pregnant women of childbearing age: NAMCS and NHAMCS, 2005 to 2006. *Maternal and Child Health Journal, 15*(3), 352-359. DOI 10.1007/s10995-010-0587-6.

Byatt N, Biebel K, Friedman L, Debordes-Jackson G & Ziedonis D. (2013). Women's perspectives on postpartum depression screening in pediatric settings: A preliminary study. *Archives of Women's Mental Health, 16*(5), 429-432. DOI 10.1007/s00737-013-0369-4.

Centering Healthcare Institute. (2016). *CenteringParenting*. Accessed 9/23/16 at: https://www.centeringhealthcare.org/what-we-do/centering-parenting

Centers for Disease Control and Prevention (CDC). (2014). *My reproductive life plan*. Accessed 8/16/16 at: http://www.cdc.gov/preconception/reproductiveplan.html

Centers for Disease Control and Prevention (CDC). (2015a). *Infant health*. Accessed 8/16/16 at: http://www.cdc.gov/nchs/fastats/infant-health.htm

Centers for Disease Control and Prevention (CDC). (2015b). *Pregnancy-related deaths*. Accessed 8/16/16 at: http://www.cdc.gov/reproductivehealth/maternalinfanthealth/pregnancy-relatedmortality.htm

Chamberlain C, O'Mara-Eves A, Oliver S, Caird JR, Perlen SM, Eades SJ et al. (2013). Psychosocial interventions for supporting women to stop smoking in pregnancy. *The Cochrane Database of Systematic Reviews, 10*(CD001055). DOI 10.1002/14651858.CD001055.pub4.

Cheschier N & ACOG Committee on Practice Bulletins — Obstetrics. (2003). Neural tube defects. (Practice Bulletin No. 44). *International Journal of Gynecology and Obstetrics, 83*(1), 123-133.

Conde-Agudelo A, Rosas-Bermudez A, Castano F & Norton MH (2012). Effects of birth spacing on maternal, perinatal, infant and child health: A systematic review of causal mechanisms. *Studies in Family Planning, 43*(2), 93-114.

Conde-Agudelo A, Rosas-Bermudez A & Kafury-Goeta AC. (2006). Birth spacing and risk of adverse perinatal outcomes: A meta-analysis. *Journal of the American Medical Association, 295*(15), 1809-1823. DOI 10.1001/jama.295.15.1809.

Copen CE, Thoma ME & Kirmeyer S. (2015). Interpregnancy intervals in the United States: Data from the birth certificate and the national survey of family growth. *National Vital Statistics Reports, 64*(3), 1-10.

Creanga AA, Berg CJ, Syverson C, Seed K, Bruce FC & Callaghan WM. (2015). Pregnancy-related mortality in the United States, 2006-2010. *Obstetrics and Gynecology, 125*(1), 5-12. DOI 10.1097/AOG.0000000000000564.

Czeizel AE & Banhidy F. (2011). Vitamin supply in pregnancy for prevention of congenital birth defects. *Current Opinion in Clinical Nutrition and Metabolic Care, 14*(3), 291-296. DOI 10.1097/MCO.0b013e328344b288.

Daly JB, Mackenzie LJ, Freund M, Wolfenden L, Roseby R & Wiggers JH. (2016). Interventions by health care professionals who provide routine child health care to reduce tobacco smoke exposure in children: A review and meta-analysis. *Journal of the American Medical Association Pediatrics, 170*(2), 138-147.

Damle LF, Gohari AC, McEvoy AK, Desale SY & Gomez-Lobo V. (2015). Early initiation of postpartum contraception: Does it decrease rapid repeat pregnancy in adolescents? *Journal of Pediatric and Adolescent Gynecology, 28*(1), 57-62. DOI 10.1016/j.jpag.2014.04.005.

Deming WE. (2016). *The PDSA cycle*. Accessed 11/2/16 at: https://www.deming.org/theman/theories/pdsacycle

de Smit DJ, Weinreich SS & Cornel MC. (2015). Effects of a simple educational intervention in well-baby clinics on women's knowledge about and intake of folic acid supplements in the periconceptional period: A controlled trial. *Public Health Nutrition, 18*(6), 1119-1126. DOI 10.1017/S1368980014000986.

DiBari JN, Yu SM, Chao SM & Lu MC. (2014). Use of postpartum care: Predictors and barriers. *Journal of Pregnancy, 2014*(530769). DOI 10.1155/2014/530769.

Dietrich AJ, Williams JW Jr, Ciotti MC, Schulkin J, Stotland N, Rost K et al. (2003). Depression care attitudes and practices of newer obstetrician-gynecologists: A national survey. *American Journal of Obstetrics and Gynecology, 189*(1), 267-273.

Dietz PM, Williams SB, Callaghan WM, Bachman, DJ, Whitlock EP & Hornbrook MC. (2007). Clinically identified maternal depression before, during and after pregnancies ending in live births. *The American Journal of Psychiatry, 164*(10), 1515-1520. DOI 10.1176/appi.ajp.2007.06111893.

Downs DS, Feinberg M, Hillemeier MM, Weisman CS, Chase GA, Chuang CH et al. (2009). Design of the Central Pennsylvania Women's Health Study (CePAWHS) Strong Healthy Women intervention: Improving preconceptional health. *Maternal and Child Health Journal, 13*(1), 18-28. DOI 10.1007/s10995-008-0323-7.

Dunlop AL, Jack B & Frey K. (2007). National recommendations for preconception care: The essential role of the family physician. *Journal of the American Board of Family Medicine, 20*(1), 81-84. DOI 10.3122/jabfm.2007.01.060143.

Earls MF & AAP Committee on Psychosocial Aspects of Child and Family Health. (2010). Incorporating recognition and management of perinatal and postpartum depression into pediatric practice. *Pediatrics, 126*(5), 1032-1039. DOI 10.1542/peds.2010-2348.

Fagan EB, Rodman E, Sorensen EA, Landis S & Colvin GF. (2009). A survey of mothers' comfort discussing contraception with infant providers at well-child visits. *Southern Medical Journal, 102*(3), 260-264. DOI 10.1097/SMJ.0b013e318197fae4.

Feinberg E, Smith MV, Morales MJ, Claussen AH, Smith DC & Perou R. (2006). Improving women's health during internatal periods: Developing an evidenced-based approach to addressing maternal depression in pediatric settings. *Journal of Women's Health, 15*(6), 692-703. DOI 10.1089/jwh.2006.15.692.

Fernandez y Garcia E, Joseph J, Wilson MD, Hinton L, Simon G, Ludman E et al. (2015). Pediatric-based intervention to motivate mothers to seek follow-up for depression screens: The Motivating Our Mothers (MOM) trial. *Academic Pediatrics, 15*(3), 311-318. DOI 10.1016/j.acap.2014.11.008.

Figo Working Group on Best Practice in Maternal-Fetal Medicine & International Federation of Gynecology and Obstetrics. (2015). Best practice in maternal-fetal medicine. *International Journal of Gynecology and Obstetrics, 128*(1), 80-82. DOI 10.1016/j.ijgo.2014.10.011.

Finer LB & Zolna MR. (2016). Declines in unintended pregnancy in the United States, 2008-2011. *New England Journal of Medicine, 374*(9), 843-852. DOI 10.1056/NEJMsa1506575.

Fiore MC, Jaén CR, Baker TB, Bailey WC, Benowitz NL, Curry SJ et al. (2008). *Treating tobacco use and dependence: 2008 update*. Accessed 10/6/16 at: https://www.ncbi.nlm.nih.gov/books/NBK63952/

Floyd RL, Jack BW, Cefalo R, Atrash H, Mahoney J, Herron A et al. (2008). The clinical content of preconception care: Alcohol, tobacco, and illicit drug exposures. *American Journal of Obstetrics and Gynecology, 199*(6 Suppl 2), S333-9. DOI 10.1016/j.ajog.2008.09.018.

Freeman MP, Wright R, Watchman M, Wahl RA, Sisk DJ, Fraleigh L et al. (2005). Postpartum depression assessments at well-baby visits: Screening feasibility, prevalence, and risk factors. *Journal of Women's Health, 14*(10), 929-935. DOI 10.1089/jwh.2005.14.929.

Frieder A, Dunlop AL, Culpepper L & Bernstein PS. (2008). The clinical content of preconception care: Women with psychiatric conditions. *American Journal of Obstetrics and Gynecology, 199*(6 Suppl 2), S328-32. DOI 10.1016/j.ajog.2008.09.001.

Gavin L, Moskosky S, Carter M, Curtis K, Glass E, Godfrey E et al. (2014). Providing quality family planning services: Recommendations of CDC and the U.S. Office of Population Affairs. *Morbidity and Mortality Weekly Report, 63*(RR-04), 1-54.

Gjerdingen D, Crow S, McGovern P, Miner M & Center B. (2009). Postpartum depression screening at well-child visits: Validity of a 2-question screen and the PHQ-9. *Annals of Family Medicine, 7*(1), 63-70. DOI 10.1370/afm.933.

Glynn TJ & Manley MW (1997). *How to help your patients stop smoking: A National Cancer Institute manual for physicians*. Bethesda, MD: National Cancer Institute.

Goh YI, Bollano E, Einarson TR & Koren G. (2007). Prenatal multivitamin supplementation and rates of pediatric cancers: A meta-analysis. *Clinical Pharmacology and Therapeutics, 81*(5), 685-691. DOI 10.1038/sj.clpt.6100100.

Grote NK, Katon WJ, Russo JE, Lohr MJ, Curran M, Galvin E et al. (2015). Collaborative care for perinatal depression in socioeconomically disadvantaged women: A randomized trial. *Depression and Anxiety, 32*(11), 821-834. DOI 10.1002/da.22405.

Guttmacher Institute. (2016). *Unintended pregnancy in the United States*. Accessed 8/16/16 at: https://www.guttmacher.org/fact-sheet/unintended-pregnancy-united-states

Hauck FR, Tanabe KO & Moon RY. (2011). Racial and ethnic disparities in infant mortality. *Seminars in Perinatology, 35*(4), 209-220. DOI 10.1053/j.semperi.2011.02.018.

Heneghan AM, Mercer M & DeLeone NL. (2004). Will mothers discuss parenting stress and depressive symptoms with their child's pediatrician? *Pediatrics, 113*(3 Pt 1), 460-467.

Higgins JA. (2014). Celebration meets caution: LARC's boons, potential busts, and the benefits of a reproductive justice approach. *Contraception, 89*(4), 237-241. DOI 10.1016/j.contraception.2014.01.027.

Hill LD, Greenberg BD, Holzman GB & Schulkin J. (2001). Obstetrician-gynecologists' attitudes towards premenstrual dysphoric disorder and major depressive disorder. *Journal of Psychosomatic Obstetrics and Gynecology, 22*(4), 241-250.

Jack BW, Atrash H, Bickmore T & Johnson K. (2008). The future of preconception care: A clinical perspective. *Women's Health Issues, 18*(Suppl 6), S19-25. DOI 10.1016/j.whi.2008.09.004.

Jack BW & Culpepper L. (1990). Preconception care. Risk reduction and health promotion in preparation for pregnancy. *Journal of the American Medical Association, 264*(9), 1147-1149.

Jay M, Gillespie C, Ark T, Richter R, McMacken M, Zabar S et al. (2008). Do internists, pediatricians and psychiatrists feel competent in obesity care?: Using a needs assessment to drive curriculum design. *Journal of General Internal Medicine, 23*(7), 1066-1070. DOI 10.1007/s11606-008-0519-y.

Johnson K, Posner SF, Biermann J, Cordero JF, Atrash HK, Parker CS et al. (2006). Recommendations to improve preconception health and health care — United States. A report of the CDC/ATSDR Preconception Care Work Group and the Select Panel on Preconception Care. *Morbidity and Mortality Weekly Report, 55*(RR-6), 1-23.

Kahn RS, Wise PH, Finkelstein JA, Bernstein HH, Lowe JA & Homer CJ. (1999). The scope of unmet maternal health needs in pediatric settings. *Pediatrics, 103*(3), 576-581.

Kroenke K, Spitzer RL, Williams JB & Löwe B. (2010). The patient health questionnaire somatic, anxiety, and depressive symptom scales: A systematic review. *General Hospital Psychiatry, 32*(4), 345-359.

Kumaraswami TN. (2013). *Postpartum contraception: How can the well baby visit be used to improve counseling and provision?* Paper presented at the 61st annual clinical meeting of the American College of Obstetricians and Gynecologists. New Orleans, LA.

LaRocco-Cockburn A, Melville J, Bell M & Katon W. (2003). Depression screening attitudes and practices among obstetrician-gynecologists. *Obstetrics and Gynecology, 101*(5 Pt 1), 892-898.

Liberto TL. (2012). Screening for depression and help-seeking in postpartum women during well-baby pediatric visits: An integrated review. *Journal of Pediatric Health Care, 26*(2), 109-117. DOI 10.1016/j.pedhc.2010.06.012.

Lorch SA & Enlow E. (2015). The role of social determinants in explaining racial/ethnic disparities in perinatal outcomes. *Pediatric Research, 79*(1-2), 141-147. DOI 10.1038/pr.2015.199.

Lu MC, Highsmith K, de la Cruz D & Atrash HK. (2015). Putting the "M" back in the Maternal and Child Health Bureau: Reducing maternal mortality and morbidity. *Maternal and Child Health Journal, 19*(7), 1435-1439. DOI 10.1007/s10995-015-1665-6.

Lu MC, Kotelchuck M, Culhane JF, Hobel CJ, Klerman LV & Thorp JM Jr. (2006). Preconception care between pregnancies: The content of internatal care. *Maternal and Child Health Journal, 10*(Suppl 5), S107-22. DOI 10.1007/s10995-006-0118-7.

Lumley J, Watson L, Watson M & Bower C. (2001). Periconceptional mentation with folate and/or multivitamins for preventing neural tube defects. *Cochrane Database of Systematic Reviews, 2001*(3), CD001056. DOI 10.1002/14651858.CD001056.

MacArthur Foundation. (2016). *Initiative on depression & primary care*. Accessed 11/9/16 at: https://www.macfound.org/networks/initiative-on-depression-primary-care/details

March of Dimes, The Partnership for Maternal, Newborn & Child Health, Save the Children & the World Health Organization. (2012). *Born too soon: The global action report on preterm birth*. Accessed 11/8/16 at: http://www.who.int/pmnch/media/news/2012/201204_borntoosoon-report.pdf

March of Dimes North Carolina Preconception Health Campaign. (2014). *Every Woman North Carolina: Statewide multivitamin distribution program*. Accessed 11/11/16 at: http://everywomannc.com/public-health-programs/north-carolina-programs/statewide-multivitamin-distribution-program

Marks JS, Koplan JP, Hogue CJ & Dalmat ME. (1990). A cost-benefit/cost-effectiveness analysis of smoking cessation for pregnant women. *American Journal of Preventive Medicine, 6*(5), 282-289.

Mathews TJ & Hamilton BE. (2014). First births to older women continue to rise. *NCHS Data Brief, 152*, 1-8. Accessed 11/9/16 at: http://www.cdc.gov/nchs/data/databriefs/db152.pdf

McGarry J, Kim H, Sheng X, Egger M & Baksh L. (2009). Postpartum depression and help-seeking behavior. *Journal of Midwifery & Women's Health, 54*(1), 50-56. DOI 10.1016/j.jmwh.2008.07.003.

Mehta P. (2014). Addressing reproductive health disparities as a healthcare management priority: Pursuing equity in the era of the Affordable Care Act. *Current Opinion in Obstetrics and Gynecology, 26*(6), DOI 531-538.10.1097/GCO.0000000000000119.

Melville JL, Reed SD, Russo J, Croicu CA, Ludman E, LaRocco-Cockburn A et al. (2014). Improving care for depression in obstetrics and gynecology: A randomized controlled trial. *Obstetrics and Gynecology, 123*(6), 1237-1246.

Moos MK. (2010). From concept to practice: Reflections on the preconception health agenda. *Journal of Women's Health, 19*(3), 561-567. DOI 10.1089/jwh.2009.1411.

Morgan LM, Major JL, Meyer RE & Mullenix A. (2009). Multivitamin use among non-pregnant females of childbearing age in the Western North Carolina multivitamin distribution program. *North Carolina Medical Journal, 70*(5), 386-390.

Mosher WD, Jones J & Abma JC. (2012). Intended and unintended births in the United States: 1982-2010. *National Health Statistics Reports, 55*, 1-28.

Mountain Area Health Education Center. (2012). *Prescription for a healthy family*. Accessed 11/10/16 at: prematurityprevention.org

Muchowski K & Paladine H. (2004). An ounce of prevention: The evidence supporting periconception health care. *The Journal of Family Practice, 53*(2), 126-133.

Mund M, Louwen F, Klingelhoefer D & Gerber A. (2013). Smoking and pregnancy — A review on the first major environmental risk factor of the unborn. *International Journal of Environmental Research and Public Health, 10*(12), 6485-6499. DOI 10.3390/ijerph10126485.

National Center for Health Statistics (2013). *Infant mortality rates: United States, 2003 to 2013*. Accessed 8/16/16 at: http://www.marchofdimes.org/Peristats/ViewSubtopic.aspx?reg=99&top=6&stop=91&lev=1&slev=1&obj=1

Oregon Foundation for Reproductive Health. (2012). *One key question*. Accessed 9/23/16 at: http://www.onekeyquestion.org

Oza-Frank R, Kachoria R, Keim SA & Klebanoff MA. (2015). Provision of specific preconception care messages and associated maternal health behaviors before and during pregnancy. *American Journal of Obstetrics and Gynecology, 212*(3), 372.e1-372.e8. DOI 10.1016/j.ajog.2014.10.027.

Pfizer. (2016). *Patient health questionnaire (PHQ) screeners*. Accessed 10/3/16 at: http://www.phqscreeners.com

Preconception Health Council of California. (2011). *Interconception care project for California*. Accessed 9/23/16 at: http://www.everywomancalifornia.org/content_display.cfm?categoriesID=120&contentID=359

Ricketts S, Klingler G & Schwalberg R. (2014). Game change in Colorado: Widespread use of long-acting reversible contraceptives and rapid decline in births among young, low-income women. *Perspectives on Sexual and Reproductive Health, 46*(3), 125-132.

Robbins CL, Zapata LB, Farr SL, Kroelinger CD, Morrow B, Ahluwalia I et al. (2014). Core state preconception health indicators — pregnancy risk assessment monitoring system and behavioral risk factor surveillance system, 2009. *Morbidity and Mortality Weekly Report, 63*(3), 1-62.

Rodriguez MI, Chang R & Thiel de Bocanegra H. (2015). The impact of postpartum contraception on reducing preterm birth: Findings from California. *American Journal of Obstetrics and Gynecology, 213*(5), 703.e1-703.e6. DOI 10.1016/j.ajog.2015.07.033.

Rosener SE, Barr WB, Frayne DF, Barash JH, Gross ME & Bennett IM. (2016). Interconception care for mothers during well-child visits with family physicians: An IMPLICIT Network study. *Annals of Family Medicine, 14*(4), 350-355.

Salganicoff A, Ranji U & Wyn R. (2005). *Women and health care: A national profile: Key findings from the Kaiser Women's Health Survey*. Accessed 11/2/16 at: http://kff.org/disparities-policy/report/women-and-health-care-a-national-profile/

Serdula MK, Khan LK & Dietz WH. (2003). Weight loss counseling revisited. *Journal of the American Medical Association, 289*(14), 1747-1750. DOI 10.1001/jama.289.14.1747.

Spitzer RL, Williams JB, Kroenke K, Linzer M, deGruy FV III, Hahn SR et al. (1994). Utility of a new procedure for diagnosing mental disorders in primary care. The PRIME-MD 1000 study. *Journal of the American Medical Association, 272*(22), 1749-1756.

Su A & Buttenheim AM (2014). Maintenance of smoking cessation in the postpartum period: Which interventions work best in the long-term? *Maternal and Child Health Journal, 18*(3), 714-728. DOI 10.1007/s10995-013-1298-6.

Surgeon General. (2014). *The health consequences of smoking — 50 years of progress: A report of the Surgeon General, 2014*. Atlanta, GA: US Department of Health and Human Services.

Thiel de Bocanegra H, Chang R, Howell M & Darney P. (2014). Interpregnancy intervals: Impact of postpartum contraceptive effectiveness and coverage. *American Journal of Obstetrics and Gynecology, 210*(4), 311.e1-311.e8. DOI 10.1016/j.ajog.2013.12.020.

Tinker SC, Cogswell ME, Devine O & Berry RJ. (2010). Folic acid intake among U.S. women aged 15-44 years, National Health and Nutrition Examination Survey, 2003-2006. *American Journal of Preventive Medicine, 38*(5), 534-542. DOI 10.1016/j.amepre.2010.01.025. Accessed 11/9/16 at: https://www.cdc.gov/mmwr/preview/mmwrhtml/ss6206a1.htm

Tong VT, Dietz PM, Morrow B, D'Angelo DV, Farr SL, Rockhill KM et al. (2013). Trends in smoking before, during and after pregnancy — Pregnancy Risk Assessment Monitoring System, United States, 40 sites, 2000-2010. *Morbidity and Mortality Weekly Report, 62*(6), 1-19. Accessed 11/9/16 at: https://www.cdc.gov/mmwr/preview/mmwrhtml/ss6206a1.htm

Toriello HV & Policy and Practice Guideline Committee of the American College of Medical Genetics. (2011). Policy statement on folic acid and neural tube defects. *Genetics in Medicine, 13*(6), 593-596. DOI 10.1097/GIM.0b013e31821d4188.

Trussell J, Henry N, Hassan F, Prezioso A, Law A & Filonenko A. (2013). Burden of unintended pregnancy in the United States: Potential savings with increased use of long-acting reversible contraception. *Contraception, 87*(2), 154-161. DOI 10.1016/j.contraception.2012.07.016.

U.S. Department of Health and Human Services (DHHS) Human Resources and Services Administration. (2011). *Quality improvement*. Accessed 8/16/16 at: http://www.hrsa.gov/quality/toolbox/methodology/qualityimprovement/

U.S. Preventive Services Task Force (USPSTF). (2009a). *Tobacco use in adults and pregnant women: Counseling and interventions*. Accessed 11/9/16 at: https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/tobacco-use-in-adults-and-pregnant-women-counseling-and-interventions

U.S. Preventive Services Task Force (USPSTF). (2009b). *Folic acid to prevent neural tube defects: Preventive medication*. Accessed 11/9/16 at: https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/folic-acid-to-prevent-neural-tube-defects-preventive-medication

U.S. Preventive Services Task Force (USPSTF). (2016). *Final recommendation statement: Depression in adults: Screening*. Accessed 11/9/16 at: https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/depression-in-adults-screening1

Vallis M, Piccinini-Vallis H, Sharma AM & Freedhoff Y. (2013). Clinical review: Modified 5 As: Minimal intervention for obesity counseling in primary care. *Canadian Family Physician Medecin De Famille Canadien, 59*(1), 27-31.

van Beynum IM, Kapusta L, Bakker MK, den Heijer M, Blom HJ & de Walle HE. (2010). Protective effect of periconceptional folic acid supplements on the risk of congenital heart defects: A registry-based case-control study in the Northern Netherlands. *European Heart Journal, 31*(4), 464-471. DOI 10.1093/eurheartj/ehp479.

Wachino V. (2016). *Maternal depression screening and treatment: A critical role for Medicaid in the care of mothers and children*. Accessed 9/23/16 at: https://www.medicaid.gov/federal-policy-guidance/downloads/cib051116.pdf

Weissman MM, Pilowsky DJ, Wickramaratne PJ, Talati A, Wisniewski SR, Fava M et al. (2006). Remissions in maternal depression and child psychopathology: A STAR*D-child report. *Journal of the American Medical Association, 295*(12), 1389-1398. DOI 10.1001/jama.295.12.1389.

White K, Teal SB & Potter JE. (2015). Contraception after delivery and short interpregnancy intervals among women in the United States. *Obstetrics and Gynecology, 125*(6), 1471-1477. DOI 10.1097/AOG.0000000000000841.

Wilson CR, Harris SK, Sherritt L, Lawrence N, Glotzer D, Shaw JS et al. (2008). Parental alcohol screening in pediatric practices. *Pediatrics, 122*(5), e1022-9. DOI 10.1542/peds.2008-1183.

Wilson RD, Audibert F, Brock JA, Carroll J, Cartier L, Gagnon A, et al. (2015). Pre-conception folic acid and multivitamin supplementation for the primary and secondary prevention of neural tube defects and other folic acid-sensitive congenital anomalies. *Journal of Obstetrics and Gynaecology Canada, 37*(6), 534-552.

Wilson RD, Johnson JA, Wyatt P, Allen V, Gagnon A, Langlois S et al. (2007). Pre-conceptional vitamin/folic acid supplementation 2007: The use of folic acid in combination with a multivitamin supplement for the prevention of neural tube defects and other congenital anomalies. *Journal of Obstetrics and Gynaecology Canada, 29*(12), 1003-1026.

World Bank. (2015). *World Bank mortality rate, infant (per 1,000 live births)*. Accessed 9/23/16 at: http://data.worldbank.org/indicator/SP.DYN.IMRT.IN

Yawn BP, Bertram S, Kurland M & Wollan PC. (2015). Repeated depression screening during the first postpartum year. *Annals of Family Medicine, 13*(3), 228-234. DOI 10.1370/afm.1777.

Yi Y, Lindemann M, Colligs A & Snowball C. (2011). Economic burden of neural tube defects and impact of prevention with folic acid: A literature review. *European Journal of Pediatrics, 170*(11), 1391-1400. DOI 10.1007/s00431-011-1492-8.

Yonekura ML, French J, Johnson RE, McGregor J & Reyes C. (2009). *Perinatal scorecard*. Los Angeles, CA: LA Best Babies Network.

Zapata LB, Murtaza S, Whiteman MK, Jamieson DJ, Robbins CL, Marchbanks PA et al. (2015). Contraceptive counseling and postpartum contraceptive use. *American Journal of Obstetrics and Gynecology, 212*(2), 171.e1-171.e8. DOI 10.1016/j.ajog.2014.07.059.

Zerden ML, Tang JH, Stuart GS, Norton DR, Verbiest SB & Brody S. (2015). Barriers to receiving long-acting reversible contraception in the postpartum period. *Women's Health Issues*, 25(6), 616-621. DOI 10.1016/j.whi.2015.06.004.

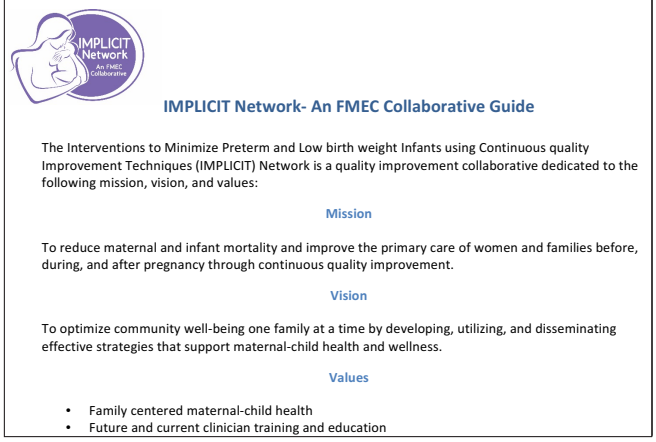
Appendices

These appendices contain thumbnail views of each document. Go to **prematurityprevention.org** to access each document for download.

Appendix 1. IMPLICIT Network

a. IMPLICIT Network guide
b. IMPLICIT Network brochure

Appendix 1a. IMPLICIT Network guide



IMPLICIT Network- An FMEC Collaborative Guide

The Interventions to Minimize Preterm and Low birth weight Infants using Continuous quality Improvement Techniques (IMPLICIT) Network is a quality improvement collaborative dedicated to the following mission, vision, and values:

Mission

To reduce maternal and infant mortality and improve the primary care of women and families before, during, and after pregnancy through continuous quality improvement.

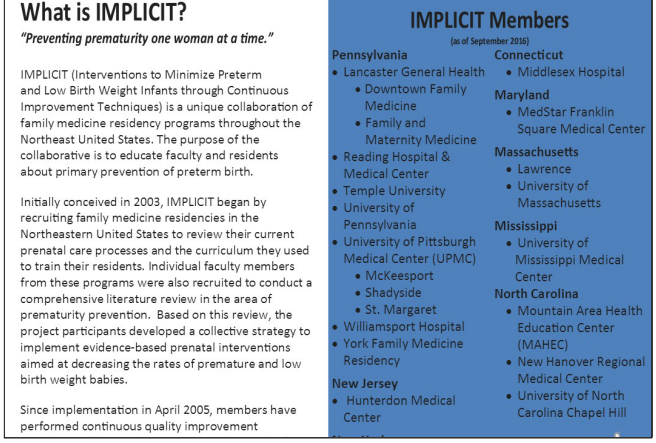
Vision

To optimize community well-being one family at a time by developing, utilizing, and disseminating effective strategies that support maternal-child health and wellness.

Values

- Family centered maternal-child health
- Future and current clinician training and education

Appendix 1b. IMPLICIT Network brochure



What is IMPLICIT?

"Preventing prematurity one woman at a time."

IMPLICIT (Interventions to Minimize Preterm and Low Birth Weight Infants through Continuous Improvement Techniques) is a unique collaboration of family medicine residency programs throughout the Northeast United States. The purpose of the collaborative is to educate faculty and residents about primary prevention of preterm birth.

Initially conceived in 2003, IMPLICIT began by recruiting family medicine residencies in the Northeastern United States to review their current prenatal care processes and the curriculum they used to train their residents. Individual faculty members from these programs were also recruited to conduct a comprehensive literature review in the area of prematurity prevention. Based on this review, the project participants developed a collective strategy to implement evidence-based prenatal interventions aimed at decreasing the rates of premature and low birth weight babies.

Since implementation in April 2005, members have performed continuous quality improvement

IMPLICIT Members

(as of September 2016)

Pennsylvania
- Lancaster General Health
  - Downtown Family Medicine
  - Family and Maternity Medicine
- Reading Hospital & Medical Center
- Temple University
- University of Pennsylvania
- University of Pittsburgh Medical Center (UPMC)
  - McKeesport
  - Shadyside
  - St. Margaret
- Williamsport Hospital
- York Family Medicine Residency

New Jersey
- Hunterdon Medical Center

Connecticut
- Middlesex Hospital

Maryland
- MedStar Franklin Square Medical Center

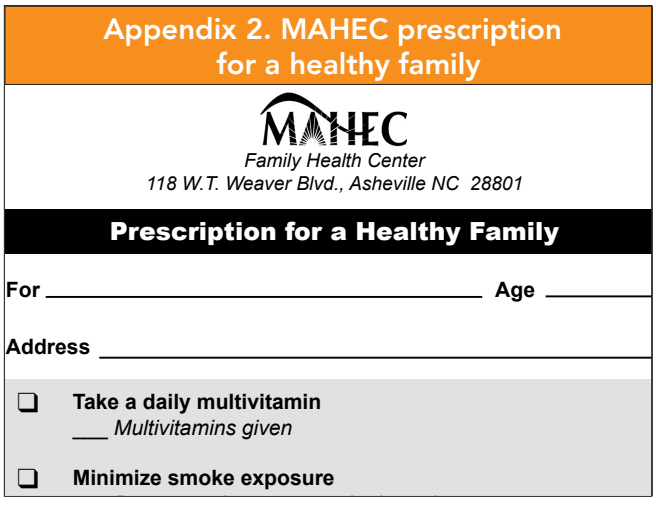
Massachusetts
- Lawrence
- University of Massachusetts

Mississippi
- University of Mississippi Medical Center

North Carolina
- Mountain Area Health Education Center (MAHEC)
- New Hanover Regional Medical Center
- University of North Carolina Chapel Hill

Appendix 2. MAHEC prescription for a healthy family

Appendix 2. MAHEC prescription for a healthy family



MAHEC
Family Health Center
118 W.T. Weaver Blvd., Asheville NC 28801

Prescription for a Healthy Family

For _____ **Age** _____

Address _____

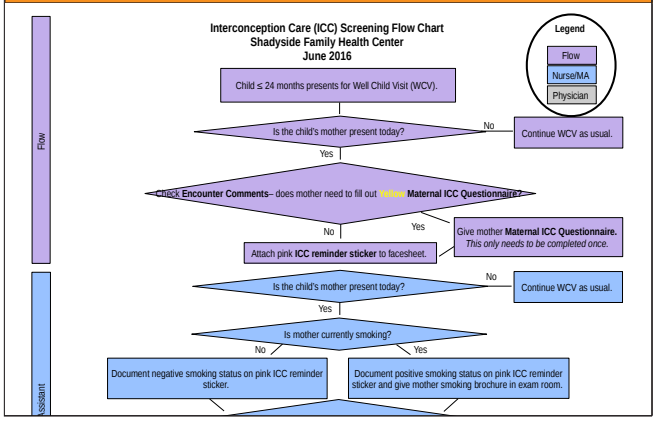
❑ **Take a daily multivitamin**
___ *Multivitamins given*

❑ **Minimize smoke exposure**

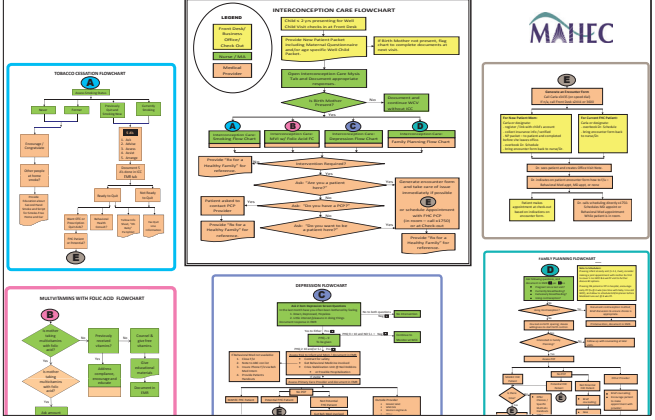
Appendix 3. ICC office workflow examples

a. University of Pittsburgh Medical Center (UPMC) Shadyside ICC workflow
b. MAHEC ICC workflow
c. UPMC St. Margaret workflow
d. Middlesex ICC workflow

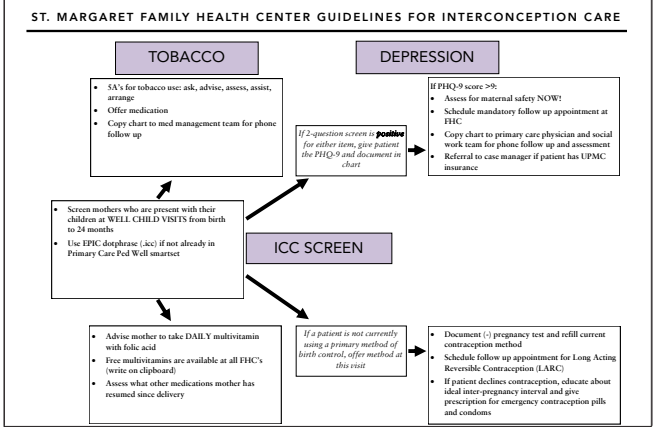
Appendix 3a. UPMC Shadyside ICC workflow



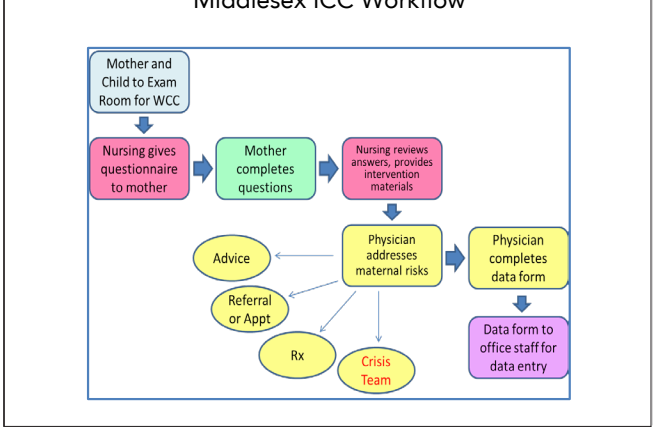
Appendix 3b. MAHEC ICC workflow



Appendix 3c. UPMC St. Margaret workflow



Appendix 3d. Middlesex ICC workflow



Appendix 4. Grant application examples

a. March of Dimes community grant cover sheet
b. MAHEC, North Carolina March of Dimes grant narrative
c. Rochester, New York March of Dimes ICC project application

Appendix 4a. March of Dimes community grant cover sheet

March of Dimes
Chapter Community Grants Program
APPLICATION COVER SHEET

A FIGHTING CHANCE FOR EVERY BABY™

*** ALL SECTIONS MUST BE COMPLETED for proposal to be considered ***

Applicant Organization _____

Project Title _____

Address _____

Contact Name _____

Phone/Fax _____

E-mail _____

Please provide a brief synopsis of your project (2 sentences are sufficient): _____

Appendix 4b. MAHEC, North Carolina March of Dimes grant narrative

PROJECT NARRATIVE

A. Project Abstract

Interconception care (ICC) is care that is provided to women during the period following childbirth until the birth of a subsequent child. It consists of medical and psychosocial interventions that improve a woman's health and modify risk factors in future pregnancies. While the potential benefit of ICC is widely recognized, it has rarely been implemented due to factors such as lack of access to care for women between pregnancies, the loss of insurance coverage during this period, a woman's focus on the infant to the exclusion of her own health, lack of awareness among providers, limited clinician time, and the lack of an established delivery model for ICC.

With the assistance of our membership in the IMPLICIT network of family medicine

Appendix 4c. Rochester, New York March of Dimes ICC project application

Indicate in which division the project will be implemented.
See page 4 for a list of division counties.

☐ Central New York ☒ Genesee Valley/Finger Lakes ☐ Long Island ☐ New York City
☐ Northeastern New York ☐ Northern Metro ☐ Staten Island ☐ Western New York

Project Overview (2 pages)

Applicant Organization: University of Rochester Department of Family Medicine - Highland Family Medicine

Address: 777 South Clinton Avenue

City: Rochester, NY 14620

Project Title: Implementation of an evidence based interconception care program

Contact Name : Scott Hartman, MD

Phone: (585) 690-3615, Fax: (585) 244 9048

E-mail: scott_hartman@urmc.rochester.edu Website:

Appendix 5. Lawrence ICC paper data collection form

Appendix 5. Lawrence ICC paper data collection form

Greater Lawrence Family Health Center

Child's Name: _____

Child's MR#:_____ Child's DOB: _____

Date of Visit: _____

Dear Mother,

We want to give your child the best care we can. To do this, we would like to know a little more about you. YOUR health is very important. When you are healthy, it helps your family be healthy. This information is voluntary and is used to support your care as a mother and to help us learn more how to support all our mothers. This paper will be part of the child's record.

Are you a patient at the Greater Lawrence Family Health Center? ____ Yes ____ No

1. Your age at this child's birth: _____ years
2. Are you breastfeeding? _____ Yes _____No
   If yes: _____ Breastfeeding (no formula) _____ Breast and formula
3. Are you taking vitamins right now? _____ Yes _____No
   If yes: _____Prenatal Vitamins _____Regular multi-vitamins ____Other
4. Your smoking history: _____ Never smoked
   _____Currently smoking and never quit
   _____Previously quit and now smoking again

Appendix 6. Americorps application

Appendix 6. Americorps application

National Health Corps

An AmeriCorps Program

Host Site Application 2015-2016

Organizational Information			
Organization Name			
Mailing Address			
City		Zip	
Phone		Fax	
Director Site Supervisor Information			
Name			
Position			
Phone			
Will this person be the contact throughout the interview & matching process?		Yes ☐ No ☐	
If no, please provide the Contact Information			
Contact Name			
Contact Position			