

**Written Testimony  
Submitted to the Institute of Medicine  
Committee on  
Preventive Services for Women**

**May 2, 2011**



## Acknowledgments

Prepared for the Institute of Medicine Committee on Preventive Services for Women by the Office of Women's Health within the California Department of Public Health and the Department of Health Care Services. The mission of the Office of Women's Health is to promote health and well-being and reduce the burden of preventable illness, disease and injury among the women and girls of California.

Comments 1 and 2 California Department of Public Health; Maternal, Child and Adolescent Division, Karen Ramstrom, DO, MSPH, Chief, Programs Standards Branch, [Karen.Ramstrom@cdph.ca.gov](mailto:Karen.Ramstrom@cdph.ca.gov).

Comment 1 California Department of Public Health; Maternal, Child and Adolescent Division, Connie Mitchell, MD, MPH, Branch Chief, Policy Development, Maternal Child Adolescent Health, [Connie.Mitchell@cdph.ca.gov](mailto:Connie.Mitchell@cdph.ca.gov).

Comment 3 The Office of Women's Health, California Department of Public Health and Department of Health Care Services, in conjunction with prevention programs within both departments, Terri Thorfinnson, J.D., [Terri.Thorfinnson@dhcs.ca.gov](mailto:Terri.Thorfinnson@dhcs.ca.gov).

Comment 4 California Department of Public Health Safe and Active Communities Branch, Barb Alberson, MPH, [Barb.Alberson@cdph.ca.gov](mailto:Barb.Alberson@cdph.ca.gov)

Comments 5, 6 and 7 California Department of Public Health; Maternal, Child and Adolescent Division, Suzanne Haydu, MPH, RD, Nutrition and Physical Activity Coordinator, [Suzanne.Haydu@cdph.ca.gov](mailto:Suzanne.Haydu@cdph.ca.gov)

## **I. Overview of the California Department of Public Health (CDPH) and Department of Health Care Services' (DHCS) Comments on Preventive Services for Women**

The Institute of Medicine (IOM) convened this committee to review what preventive services are necessary for women's health and well-being and should be considered in developing comprehensive guidelines for preventive services for women. CDPH and DHCS' joint testimony focuses on gaps in preventive services for women in the U.S. Preventive Services Task Force (USPSTF) A or B recommendations.

USPSTF recommendations fail to address any preventive reproductive health services for women. Also missing are critical gender-specific preventive services that promote wellness, well-being and promote healthy outcomes for women. Preventive care should be viewed as care essential to meet the health needs of women. The IOM committee must ensure that its recommendations truly meet the health needs of women, address gender-specific needs, and include care unique to women's health.

### **Gender-based Appropriate Care**

Women's health is unique and gender based. Currently, women's preventive health is no different than men's preventive health under the USPSTF, with the exception of maternity and reproductive organ screening. Women's preventive health should be more than the sum of periodic screening of particular body parts. One major gap in USPSTF-recommended preventive services for women is gender-based, patient-centered preventive care. Such preventive care should include comprehensive family planning services, including contraception and appropriate counseling, preconception and interconception care, a periodic well-woman visit, screening for violence and eating disorders, and routine, age-appropriate counseling for nutrition and physical activity.

These unique, gender-based preventive services must be coordinated and managed in order to be effective and patient centered. Patient-centered prevention services for women should be delivered through a periodic wellness visit or well-woman visit in which preventive services can be offered and managed appropriately. This periodic well-woman visit would integrate primary care and reproductive care with the full range of preventive care services.

### **Promotion of Health and Well-Being for Women**

Promotion of health and well-being are essential to women's health. A woman's ability to control her fertility is one of the strongest determinants of her well-being as well as her health. Reproductive health is at the core of women's health. Without coverage of comprehensive reproductive health, women's health will be compromised and their health needs unmet.

Pregnancy is not a disease, yet pregnancy poses significant health risks for women. Those risks can be minimized through preventive health and promotion of well-being. The health of the mother prior to pregnancy, her socio-economic status, the absence of domestic violence or threat of violence, and family planning are the key determinants of women's health. Timing of pregnancy and the ability to control one's fertility are critical for women's health and well-being. Planned pregnancies are typically healthy pregnancies; coerced or unintended pregnancies are not. Access to the full range of comprehensive family planning services is essential for a woman's well-being and her health.

Nutrition and physical activity are also critical components of women's health and well-being. Eating disorders, which involve both health and behavioral health determinants and are often a by-product of history of abuse or trauma suffered by women and girls, can be an underlying cause of ill-health or death. Obesity prevention is not the only eating disorder that must be addressed through preventive services for women.

### **Maternity-Related Preventive Care**

Reproductive health cannot be limited to just the six-nine months of maternity care; the health needs of women begin well before and continue well after delivery. The full range of recommended preventive services should begin prior to pregnancy to improve both pregnancy and fetal outcomes and include the full range of family planning, preconception, prenatal, perinatal, interconception care, breastfeeding and nutrition, and screening for intimate partner violence. Violence prevention is critical to include in preventive services for women given that violent death from homicide or suicide are the leading causes of maternal mortality.

Ample evidence supports comprehensive reproductive health services positive effects on healthy maternal and infant outcomes and overall women's health. Narrowly defining maternity, as only the time of pregnancy, results in failure to provide critical prevention and clinical interventions to the detriment of mother and baby. Prenatal care alone does not adequately address the health needs of mothers enough to ensure healthy outcomes for both mother and infants. Additionally, family planning, to control the timing of pregnancies, contribute to ensuring healthy maternal outcomes. Although breastfeeding support is recommended by the USPSTF, we have specific comments about what services should be included.

## **II. Summary of Comments**

- 1. Comprehensive Family Planning, Preconception and Interconception Services are a Gap in USPSTF-Recommended Preventive Services for Women and Girls.**
- 2. Comprehensive Prenatal Care is a Gap in USPSTF-Recommended Preventive Services for Women.**
- 3. A Comprehensive Annual Well-Woman Visit is a Gap in USPSTF-Recommended Preventive Health Services for Women.**
- 4. Routine Intimate Partner Violence Screening and Periodic Assessments is a Gap in USPSTF-Recommended Preventive Services for Women and Girls.**
- 5. Supporting Optimum Nutrition and Physical Activity is a Gap in USPSTF-Recommended Preventive Services for Women and Girls.**
- 6. Screening and Treatment of Eating Disorders is a Gap in USPSTF-Recommended Preventive Services for Women and Girls.**
- 7. A Comprehensive Range of Breastfeeding Promotion and Support Services is a Gap in USPSTF-Recommended Preventive Services for Women.**

**Comment 1:  
Comprehensive Family Planning,  
Preconception and Interconception Services  
are a Gap in USPSTF-Recommended  
Preventive Services for Women and Girls**

**COMMENT 1: Comprehensive Family Planning, Preconception and Interconception Services are a Gap in USPSTF-Recommended Preventive Services for Women and Girls.**

There is no USPSTF recommendation for either family planning services nor preconception and interconception care. The comprehensive range of family planning services (clinical assessment, education and counseling, method provision), prescriptions and devices are essential to the health and reproductive health and of women. Similarly, preconception and interconception care are needed preventive services to ensure women are healthy when they become pregnant so they avoid unhealthy and costly outcomes. The lack of comprehensive reproductive health recommendations by the USPSTF represents a major gap in preventive services for women and girls.

**RATIONALE**

**I. Family Planning Services are an Essential Component of Women's Health**

Family planning is an essential component of primary and preventive health care for women. Family planning services are inclusive of the following: clinical assessment; education and counseling; contraceptive drugs and devices including emergency contraception; and medical procedures for provision of the method including, but not limited to, permanent and long-acting methods.

The Centers for Disease Control and Prevention included contraception development and access among the ten great public health achievements of the 20<sup>th</sup> century, "based on the opportunity for prevention and the impact on death, illness, and disability in the United States."<sup>1</sup> The evidence strongly supports the effect of contraceptive access on reducing unintended pregnancies, thus improving birth outcomes and the health of women and their offspring, and also promoting other important health, social, economic benefits to women and their families. The provision of family planning services for all women is necessary to reverse disparities in unintended pregnancy rates and related poor health and socioeconomic consequences.

Contraceptive services and supplies are fundamental and necessary to ensure the following:

- **Prevention of unintended pregnancies.** Unintended pregnancies occur among all populations of women; however, in 2001, the rates of unintended pregnancy were found to disparately impact women who were low income, younger (ages 18 to 24), with education less than a high school diploma, cohabiting, and of Black or Hispanic race/ethnicity.<sup>2</sup> Family planning benefits extend beyond health and beyond a single generation. Use of contraceptives contributes to better educational prospects for children and improved physical and social well-being of women.<sup>3</sup>

- **Individual responsibility across the life span.** Encouraging women, men and couples to develop a reproductive life plan provides an opportunity for women and families to realize their individual social, educational, financial, and career goals in a manner that supports their reproductive life goals, thus strengthening women, children, families and communities.<sup>4</sup>
  - Reproductive life planning involves being intentional around preparing for and starting pregnancies and includes making decisions about when to have children, how many to have, how to time pregnancies, and how to ensure the healthiest pregnancies and families.
  - Reproductive health planning with youth focuses on the opportunity for goal setting, while bringing up the issue of possible childbearing and parenting responsibilities in the future, within the context of a frank and positive discussion about sexual and reproductive health.
  - Unlike other developed countries, this proactive approach is not a U.S. social norm, but could be promoted through health professional engagement to actively support the reproductive goals of women and men. Reproductive life planning can be readily integrated into primary care and family planning encounters.
- **Women's health and healthy behaviors prior to conception.** A woman's health and behaviors prior to conception influences her pregnancy experience and birth outcomes. Delaying pregnancy provides an opportunity to manage chronic conditions, achieve an optimal weight, and to implement healthy behaviors prior to conception.
  - There are missed opportunities to promote preconception health while delaying pregnancy: Among women with an unintended pregnancy who experienced a live birth in 2007, prevalence was higher for tobacco use, physical abuse, obesity, anemia and a prior low birth weight or premature birth, and was lower for preconception health counseling and multivitamin use.<sup>5</sup>
- **Prevention of unintended pregnancies that can cause harm.** Prevention of birth defects and maternal risk in the case of known or suspected teratogenic exposure (e.g., medications, occupational) or when a woman's health status will not safely support a pregnancy.
- **Adequate birth spacing.** Short inter-pregnancy intervals are associated with low birth weight, prematurity and small for gestational age births, outcomes that disparately impact low income women and populations of color.<sup>6,7</sup>
- **Promotion of health during the inter-conception period.**
  - Among women who recently delivered a live birth, 7.5 percent delivered a low birth weight baby, 10.4 percent a premature birth and 15.7 percent experienced symptoms of depression since the birth. Women with a prior poor birth outcome are the women most likely to experience a subsequent poor birth outcome and can benefit from preconception health care and delaying pregnancy until of adequate health.<sup>5,8,9</sup>
- **Non-contraceptive health benefits.** Contraceptive methods result in non-contraceptive health benefits such as reducing the risk of endometrial and



ovarian cancers; prevention of menstrual migraines, ectopic pregnancies, benign breast cyst and sexually transmitted infections; and management of menstrual disorders and related anemia.

### **Family Planning Services are a Necessary Component of Both Preconception Health Visits and Well-Woman Visits**

**Preconception health visits.** Preconception health visits are designed to assist a woman or couple who is planning a pregnancy. The planning involves considering delaying conception while taking steps to optimize health, social or financial goals prior to pregnancy. This involves initiation of folic acid supplements; adoption of healthy behaviors regarding tobacco, alcohol, nutrition, stress management; discontinuation of certain medications; optimization of chronic disease control such as diabetes.

**Well-woman visits.** A client centered health visit that addresses primary, secondary and tertiary prevention needs that may involve avoidance of pregnancy in the best interests of a woman's health or personal choice to avoid childbearing.

### **COST BENEFIT**

Universal access to comprehensive contraceptive services would positively impact health care system sustainability by making available a **highly cost effective service** - family planning benefits.<sup>10, 11, 12</sup> Using contraception is undoubtedly cost-effective, with every \$1 invested in publicly funded family planning services saving \$3.74 in pregnancy-related Medicaid expenditures, according to a 2010 study by the Guttmacher Institute.<sup>13</sup> In California, Family PACT, California's innovative family planning program, highlights even greater savings. Every dollar spent on Family PACT saved the public sector \$4.30 from conception up to two years after birth, and \$9.25 from conception to age five.<sup>14</sup>

### **SPECIFIC COMMENTS**

#### **Family Planning**

Health care professional associations including American Congress of Obstetrics and Gynecology, American Academy of Pediatrics, American Medical Association, American Academy of Family Practice, and the Society for Adolescent Health and Medicine recommend the use and coverage of contraceptive services, supplies and counseling.<sup>15-20</sup> Further, the Institutes of Medicine, in 1995 and again in 2009, recognized the health, social and economic consequences of unintended pregnancy and consequently recommended reduction of financial barriers to contraceptive use.<sup>21</sup>

1. Comprehensive family planning services are essential preventive service for women. Women need counseling and patient education to support

individual method selection and correct use; all FDA approved reversible and permanent contraceptive drugs, devices and procedures including emergency contraception; and related clinical services necessary to assess method selection and to provide the method.

2. Comprehensive reproductive health care that includes family planning Counseling, preconception and interconception care and health education could be an integral part of well women and wellness visits. Health care professionals should be encouraged to speak with their patients about plans for pregnancy (or no pregnancy) and to provide counseling and services to support each individual's specific reproductive health and personal needs and goals. Such reproductive life planning counseling should be included in family planning care.

## **II. Preconception and Interconception Care are an Essential Component of Reproductive Health for Women and Girls.**

Preconception and interconception preventive care is defined as a set of interventions that aim to identify and modify biomedical, behavioral and social risks to a woman's health or pregnancy outcome through prevention and management emphasizing those factors which must be acted on before conception or early pregnancy to have maximal impact.

Girls and women of reproductive age can benefit from prevention care that includes preconception and interconception prevention health services and such services contribute to decreased morbidity and mortality for mothers and their infants. Preconception and interconception health services are a gap in USPSTF-recommended preventive health practice for women and girls.

### **Maternal mortality rates in the US and California are rising and the disparity ratio is increasing.**

After several decades of declining rates of maternal mortality in California, rates began to rise in 1999 and proceeded to double in the next seven years. Rates of maternal deaths in California rose from 8.0 deaths per 100,000 live births in 1999 to 16.9 deaths per 100,000 live births in 2006. Rates dropped slightly to 11.0 in 2007 but rose again to 14.0 in 2008. From 1999-2004 data, the National Report Card on Women's Health ranked California as 35 of 51 states (includes Washington, D.C.) in rates of maternal mortality for that year.<sup>1</sup> Maternal mortality has similarly risen across the United States so that in 2007, the US was ranked 41st among the cohort of 59 developed countries.<sup>2</sup> For the past five decades, Black women in the U.S. have consistently experienced an almost 4-times greater risk of death from pregnancy complications than have White women.<sup>3</sup> This increase appears to be independent of age, parity or education.<sup>4, 5</sup> In California, like the rest of the nation, African-American women have a higher rate of pregnancy-related deaths than Hispanics, Whites or Asians, and recent data

from 2006-2008 indicate that this rate is nearly four times higher. African-American infants in California are over two-and-a-half times more likely than White infants to die before their first birthday.<sup>6</sup>

**Prenatal care alone does not ensure a healthy pregnancy outcome.**

Health care providers have increasingly recognized that prenatal care alone does not ensure a health pregnancy outcome.<sup>7, 8</sup> Rather, such outcomes are greatly influenced by a woman's health status, as well as her lifestyle prior to conception.<sup>9, 10</sup> Even though data from the Birth Statistics Master File indicate that 83 percent of California mothers received prenatal care in the first trimester during 2009, birth outcomes have not improved. In 2006, 11.0 percent of infants were born preterm, 6.8 percent were born with low birth weight, 1.2 percent with very low birth weight, and during the past several years, the infant mortality rate has remained fairly stable at about 5.1 deaths per 1000 live births.

**Despite effective contraception, many pregnancies are unplanned.**

Because so many pregnancies are unplanned (43 percent among 18-44 year old women giving birth in California in 2006), women frequently conceive while in suboptimal health or while engaging in behaviors that can harm a pregnancy. Preconception care is thus a critical component of health care for women of reproductive age, and is part of the larger health care model that results in healthier women, infants, and families.<sup>11</sup> Preconception and interconception care aims to provide health promotion, screening, and interventions for women of reproductive age to reduce risk factors that may affect future pregnancies, both planned and unintended.<sup>11-15</sup> The most critical periods of fetal development occur in the earliest weeks following conception, before many women even know they are pregnant. Since prenatal care usually begins at week 11 or 12, it is often too late to prevent a number of adverse maternal and infant health outcomes. One important target population for preconception and interconception care in order to prevent severe negative health consequences are Hispanic women. Hispanic women are at increased risk for having a fetus or an infant with neural tube defects (NTD), which affect 1 in every 1,480 pregnancies in California, compared with women of other races/ethnicities.<sup>16, 17</sup> Rates of NTD among Hispanic infants are twice that of African-American and Asian, and nearly twice that of White infants.<sup>16</sup> Hispanic women have lower blood folate levels, are less likely to have heard about and consume foods fortified with folic acid, are less likely to know that folic acid can prevent birth defects, and are less likely to take a folic acid-containing supplement daily.<sup>18, 19</sup> They may eat more corn "masa" flour found in corn tortillas; these flours are not required to be fortified with folic acid, as are other processed grains. Postpartum Hispanic women are at elevated risk due to the combined effects of food practices, folic acid depletion from a prior pregnancy and lactation, and high parity rates with short inter-birth intervals<sup>20</sup>

**Rates of chronic disease among women of child-bearing age have risen.**

Early prenatal care is not enough, or in many cases, may be too late, to ensure the best outcomes for mother and baby. Several proven interventions

recommended during pregnancy are more effective and beneficial if implemented before conception. Moreover, women of reproductive age may suffer from a variety of chronic conditions that, if untreated, could potentially contribute to poor pregnancy outcomes. For example, from 2007 California Health Interview Survey data, California women aged 18-44 were found to have asthma (13.6 percent), diabetes (3.0 percent) and hypertension (10.6 percent). In addition, in 2007, 42.3 percent of women in California were overweight or obese.<sup>21</sup> Women who are overweight (body mass index [BMI] of 25-29.9 kg/m<sup>2</sup> or obese (BMI≥30) before conception have an increased likelihood of diabetes, chronic hypertension and eclampsia, thromboembolic disease, and excess postpartum weight retention.<sup>22</sup> Complications for the fetus/neonate of an overweight or obese mother include fetal/neonatal death, macrosomia, birth defects, including heart defects, spina bifida and omphalocele, prematurity and/or small for gestational age, and childhood obesity. Undoubtedly, the nutritional well-being of a woman during preconception and pregnancy directly impacts her health and that of her offspring.

**Maternal and infant health outcome disparities persist among people of color.**

African-Americans account for about 13 percent of the U.S. population, yet they have the poorest health status indicators in the nation and are disproportionately represented among underserved populations.<sup>23</sup> The health status of African-American women continues to lag behind their White counterparts despite improvements in mortality rates, heart disease, stroke and obesity.<sup>24</sup> African-Americans continue to be twice more likely than Whites to have hypertension, obesity, and high fat intake. Poor nutrition, smoking, alcohol and drug abuse are reported to occur more commonly in African-American women, and thus increase their risk for heart disease and type 2 diabetes.<sup>25</sup> The lack of access to preventive care, a stressful lifestyle, poor education, inadequate housing, low-paying jobs, and a lack of insurance are powerful predictors of health outcomes.<sup>26, 27</sup>

**COST BENEFIT**

Maximizing a woman's health before she becomes pregnant is a strategy that benefits the woman and increases the chances for a healthy pregnancy and a healthy baby. In 2005, preterm birth cost the United States at least \$26.2 billion or \$51,600 for every preterm infant born<sup>28</sup> 59,225 babies in California were born preterm in 2005 at a cost of 3 billion dollars. For every \$1 spent on preconception care programs for women with diabetes, health costs can be reduced by \$5.19 by preventing costly complications in both mothers and babies.<sup>18</sup> In a prospective analysis of a hypothetical preconception health initiative, maternal and infant health hospitalizations were reduced by \$1,720 per woman enrollee leading the investigators to conclude that every \$1 spent on preconception health would save \$1.60 in maternal and fetal care.<sup>29</sup> In a meta-analysis of three prior studies on preconception care, Grosse and colleagues found that women who received

preconception care prior to pregnancy had babies with fewer congenital anomalies compared to women with prenatal care only.<sup>30</sup>

## **SPECIFIC COMMENTS**

### **Preconception Prevention Care**

Preconception Preventive Care targets women of reproductive age prior to first pregnancy and are of two types within the health care setting: 1) incorporated as a discrete component of defined well-child visits for adolescents and well-women visits for adults; and 2) a specific consultation for a woman planning for pregnancy. A well-woman primary care visit can be augmented when preconception issues are specifically addressed. A preconception counseling visit for a woman planning pregnancy would be a complex, high level visit of longer duration. Additional interventions may be required for identified risks. There is evidence that preconception counseling is effective in changing knowledge and behaviors of women of reproductive age.<sup>11</sup>

The goals of preconception prevention services are to:

- 1) Identify existing chronic diseases and maximize functioning prior to onset of pregnancy
- 2) Reduce risky alcohol use (education and/or referral to addiction services if warranted)
- 3) Improve nutritional status (may require additional laboratory testing or dietician consultation)
- 4) Achieve healthy weight and activity levels (may require additional laboratory testing or consultation)
- 5) Reproductive life planning and use of effective contraception when desired (during visit)
- 6) Decrease exposure to dangerous drugs, including prescription medicines and chemicals including tobacco
- 7) Conduct occupational risk assessment for chemical exposure, work place or work activity requirements
- 8) Screen for STDs (laboratory screening)
- 9) Genetic screening when desired (laboratory screening and specialist consultation)
- 10) Assess for previous exposure to trauma and violence (may require additional counseling and mental health referrals)
- 11) Promote healthy relationships (education)
- 12) Update immunizations as needed (during visit)

Interconception Prevention Care target women between pregnancies and provides additional clinical encounters beyond the traditional 42-day post-partum visit and are particularly important for women who have had a prior pregnancy ending in an adverse outcome (e.g. infant death, low birthweight, preterm birth, pre-eclampsia, obstetrical hemorrhage or cesarean delivery.)

The goal of interconception prevention services are to:

- 1) Identify prior infant outcomes and possible relationship to maternal health
- 2) Identify pregnancy related illnesses or injuries and restore to health
- 3) 6 month monitoring for peripartum depressive disorders
- 4) Conduct post-partum nutritional assessment and restore nutritional status by addressing anemia, restoring calcium stores, resuming folic acid supplementation, etc.
- 5) Continue to maximize maternal health using preconception strategies outlined above

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**COMMENT 2: Comprehensive Prenatal Care  
is a Gap in USPSTF-Recommended  
Preventive Services for Women.**

**COMMENT 2: Comprehensive Prenatal Care is a Gap in USPSTF-Recommended Preventive Services for Women.**

The USPSTF recommends specific screenings for maternity and newborn care. However, there are no recommendations beyond recommended tests for preventive services related to maternity care. The lack of comprehensive prenatal care recommendations by the USPSTF represents a huge gap in maternity care and in preventive services for women.

**RATIONALE**

**Comprehensive Prenatal Care is an Essential Component of Health for Pregnant Women and their Infants**

Comprehensive prenatal care services for all pregnant and postpartum women, which includes case management, health education, nutrition and psychosocial risk assessments and referrals, reduces the rate of low birth-weight births and infant deaths. Comprehensive prenatal care is supported by The American Congress of Obstetricians and Gynecologists (ACOG) through the integration of clinical activities from basic through subspecialty services.

- Basic (level I) of prenatal care is provided by Obstetricians (OBs), family physicians, certified nurse midwives and other advanced-practice nurses and includes risk-oriented prenatal care record, physical examination and interpretation of findings, mechanisms for consultation and referral, psychosocial support, childbirth education and care coordination.
- Specialty (level II) of prenatal care is provided by OBs and includes basic care plus fetal diagnostic testing and expertise in management of medical and obstetric complications.
- Subspecialty (level III) of prenatal care is provided by maternal-fetal medicine specialists and reproductive geneticists and includes basic and specialty care plus advanced fetal diagnosis and therapy, medical, surgical, neonatal and genetic consultation and management of severe maternal complications.<sup>1</sup>

Comprehensive prenatal care is consistent with the Life Course perspective to address a broad range of medical, social and environmental issues that impact the health of mothers and babies and future offspring.

Historically, one strategy to reduce low-birth weight births and preterm deliveries in the United States has been to improve the content or quality of prenatal care.<sup>2</sup> In the 1980s the federal government passed legislation allowing states to expand their Medicaid programs for pregnant women. The federal government also offered matching funds for enhanced prenatal care services that augmented traditional prenatal medical visits and included health education, nutrition and psychosocial assessment and referrals, risk assessment and case coordination.<sup>3</sup> Studies assessing comprehensive prenatal care have demonstrated a positive effect on outcomes such as low birth-weight weight and infant mortality.<sup>3</sup>

Today, comprehensive prenatal care is the standard of care recommended for all pregnant and postpartum women and infants. According to the American Academy of Pediatrics and ACOG, Guidelines for Perinatal Care, Sixth Edition, all women should have access to early, regular and adequate prenatal care continuing through the postpartum period. All women should receive nutrition, parenting, breastfeeding, immunizations and childbirth education along with recommended clinical prenatal care. Prenatal care should also include intimate partner violence, mental health and substance use screening, treatment and referrals, family planning services and other social support services as needed.<sup>1</sup>

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Comprehensive primary and preventive health care for women of reproductive age requires a life stages approach that focuses on health trajectories across the life span.<sup>4</sup> Pregnancy affects the quality of health a woman experiences. Pregnancy brings multiple changes to the body and health such as nutritional requirements, psychosocial issues and health education needs. Pregnancy outcomes can be predicated on the woman's health prior to and during pregnancy. For instance, obese women are at increased risk of pregnancy complications such as preeclampsia, gestational diabetes and cesarean delivery.<sup>1</sup>

Comprehensive prenatal care programs should include preconception and interconception care and comprehensive family planning services inclusive of health care, medications and devices, and education/counseling. Interconception care and comprehensive family planning services are especially necessary for women with a history of a complicated pregnancy course or poor birth outcomes in order to improve health status, plan for another pregnancy and optimize chances for a healthy delivery in subsequent pregnancies:

For example, a pregnant woman who develops gestational diabetes has an unhealthy weight gain during pregnancy and who delivers a preterm infant must have interconception care to resolve or control the diabetes and address the weight gain. She requires birth control measures to guard against an unintended pregnancy while she is regaining her optimal health status. Once an optimal state of health is obtained, the woman requires preconception care with continuing family planning services while she decides whether to have and when to plan future pregnancies.

**Comprehensive prenatal care improves birth outcomes.**

Women who receive no or late prenatal care are more likely to experience the following<sup>5</sup>:

- 3-4 times higher rates of pregnancy-related maternal mortality
- 6 times higher rates of infant mortality
- 4 times more likely to deliver low birthweight babies
- 7 times more likely to have a preterm delivery

According to Healthy People 2020, the health of babies and pregnant and postpartum women in the United States is not optimal<sup>6</sup>:

- 6.2 fetal deaths per 1,000 live births and fetal deaths (2005)
- 6.7 infant deaths per 1,000 live births (2006)
- 12.7 maternal deaths per 100,000 live births (2007)
- 31.1 percent of pregnant females suffered complications during hospitalized labor and delivery (2007)
- 12.7 percent of live births were preterm (2007)
- 70.8 percent of females delivering a live birth received prenatal care beginning in the first trimester (2007)
- 70.5 percent of pregnant females received early and adequate prenatal care (2007)

**Significant disparities in pregnancy outcomes for both mothers and babies persist.**

- Black women have the highest maternal mortality rate. In 2008, the maternal mortality rate for Black women was 30.6, compared with White women who had the lowest rate of 10.9.<sup>7</sup>
- The infant mortality rate among Black infant is three times the rate among White infants.<sup>7</sup>

**Studies report comprehensive prenatal care reduces rates of low-birthweight births and infant deaths among medically high-risk, low-income women and improves patient knowledge of pregnancy and health promoting behaviors.<sup>3, 8</sup>**

- Several studies have noted positive results for the use of comprehensive perinatal support services among diverse ethnic groups, including a reduction in the rate of preterm births and cesarean deliveries, greater maternal weight gain, a decrease in the number of cigarettes smoked each day and improved patient satisfaction of care and perceived mastery of their lives.<sup>2</sup>
- Another study of Black, US born Latina, non-US born Latina and White women who received comprehensive prenatal care services, health promotion advice, psychosocial risk assessments or interpersonal care associated these services with improved provider-patient communication and patient centered decision making and an overall greater satisfaction with care.<sup>9</sup>

**Cost Benefit**

Two decades of research has shown that every dollar spent on prenatal care saves at least \$3 in reduced spending for low birth-weight and preterm infants.<sup>5</sup> According to a 2000 study every dollar cut from public funding of prenatal care increases spending on postnatal care by \$3.33 and long-term morbidity costs by \$4.63.<sup>5</sup>

**SPECIFIC COMMENTS**

A core set of services is needed to guarantee that no woman is denied comprehensive prenatal care, preconception and interconception care, and comprehensive family planning services:

- Services should be client-centered, and uniform and invest in primary and preventive care.
- Comprehensive prenatal care services must include immunizations; health education; nutrition and psychosocial risk assessments and referrals; intimate partner violence screening and referral; mental health and substance use screening, treatment and referrals; comprehensive family planning services; and social support services, such as case management.
- All pregnant and postpartum women should have prenatal clinical activities from level I (basic) through level III (subspecialty). Basic activities in level I include ongoing risk identification, health education and a means of referral to psychosocial and nutrition support.

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**COMMENT 3: A Comprehensive Periodic Well-Woman Visit is a Gap in USPSTF-Recommended Preventive Services for Women.**

**COMMENT 3: A Comprehensive Periodic Well-Woman Visit is a Gap in USPSTF-Recommended Preventive Services for Women.**

The USPSTF does not have a recommendation for well-woman or wellness visits for women. Women need a well-woman visit to provide patients centered preventive care and to manage their gender-based complex health needs. A well-woman visit would provide an opportunity for sensitive and comprehensive preventive health counseling beyond simply testing body parts periodically. The National Committee on Quality Assurance (NCQA) agrees that the well-woman visit could be an excellent quality measure for women's health. This remains a critical gap in women's preventive and wellness care.

**RATIONALE**

**Critical Preventive Health Services for Women Missing**

Currently, there are prevention recommendations for an annual wellness visit for seniors 65 years of age and a well-child visit, but nothing for women under age 65. This omission is a major gap in women's preventive health. Women need a periodic visit that directs and delivers patient centered care throughout their life that continues through their reproductive years and beyond to age 65 when Medicare takes over.

Women have gender-specific reproductive health needs that are intrinsically tied to their overall health. Women need a periodic well-woman visit that truly coordinates, manages, and integrates the complexity of women's reproductive, behavioral health, and primary care needs. Annual well-woman visits have been a long standing recommendation of the American College of Obstetricians and Gynecologists (ACOG), functioning as the core for their preventive service recommendations.<sup>1</sup>

**The Well-Woman Visit Will Generate Long-Term Savings**

Investing in prevention saves overall long-term health care costs. The well-woman visit is the missing link for the preventive health services for women. Spending \$10 per person per year on strategic disease prevention programs can have a return-on investment of 5.6-to-1 after just five years<sup>2</sup>. Investing in prevention is cost saving. For every dollar spent on prevention for chronic

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<sup>1</sup> Primary and Preventive Care: Periodic Assessments, ACOG Committee Opinion No.483, 2011; 117:1008-1015.

<sup>2</sup> Trust for America's Health. "Prevention for a Healthier America: Investments in Disease Prevention Yield Significant Savings, Stronger Communities"  
<http://healthyamericans.org/reports/prevention08/Prevention08.pdf>

disease, \$5.601 is saved<sup>3</sup>, for family planning, \$4.022 is saved<sup>4</sup>. With this proven track record of savings with family planning and chronic disease, it is critical that these preventive services be offered to women and coordinated through a periodic well women visit.

### **Periodic Well-Woman Visit Needed**

Preventive and wellness service services are essential to women's health. For women, prevention and wellness is not simply a matter of screening particular body parts periodically, there is a need for a periodic well-woman visit that meets woman's unique health needs and coordinates the care. Reproductive health is a gender-based health need for a woman that begins as she enters her childbearing years in adolescence whether or not she ever has a child. These gender-based health needs continue well after women exit their childbearing years into menopause. A well-woman visit offers a woman an opportunity to talk with her doctor about her health and underlying issues that may be negatively affecting her health, and provide counseling and health education to promote her wellness and well-being in a coordinated and nurturing manner. Health education and counseling are essential components of a well-woman visit.

The periodic well-woman visit could be the foundation for a woman's preventive health. The well-woman visit could provide the critical patient centered care that women need. It could serve as the anchor for coordinating periodic screening and assessments. It could facilitate the sensitive conversations about underlying problems that may be driving health concerns such as suffering from intimate partner violence, sexual coercion or abuse. The well-woman visit could be the ideal visit for such screening and periodic assessment of violence which, if left undetected, will lead to the early onset of chronic disease or premature death. Currently, no routine violence screening has been recommended despite the fact that homicide is the second leading cause of traumatic death for pregnant women in the nation, accounting for 31 percent of maternal injury deaths<sup>5</sup>. Violence prevention is a natural component of wellness and would be best addressed through a well-woman visit.

### **Periodic Well-Woman Visit Promotes Patient-Centered Quality of Care**

The periodic well-woman visit could provide a continuum of care coordination that is essential to making prevention effective. The investment in prevention is

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<sup>3</sup> Trust for America's Health (TFAH). Prevention for a Healthier America: Investments in Disease Prevention Yield Significant Savings, Stronger Communities. July 2008.  
<http://healthyamericans.org/reports/prevention08/Prevention08.pdf>.

<sup>4</sup> Frost, Jennifer J., DrPH et al., The Impact of Publicly Funded Family Planning Clinic Services on Unintended Pregnancies and Government Cost Savings. *Journal of Health Care for the Poor and Underserved* 19 (2008): 778–796.  
[http://www.gutmacher.org/pubs/09\\_HPU19.3Frost.pdf](http://www.gutmacher.org/pubs/09_HPU19.3Frost.pdf)

<sup>5</sup> Coker AL, Smith PH, Bethea L, King MR, McKeown RE. (2000). *Physical Health Consequences of Physical and Psychological Intimate Partner Violence.* : Archives of Family Medicine.

not only a matter of cost or cost savings, it also is an investment in quality of care and healthy outcomes. One critical aspect of both quality of care and healthy outcomes is the patient-provider relationship. Without the time and the relationship, much of the opportunities for prevention will be missed. Under a managed care system, time with a doctor has shortened to the point that it is difficult to complete basic screening and counseling in the same visit. A periodic well-woman visit could allow time for patient-centered care. Additionally, a periodic well-woman visit builds the patient-provider relationship required for intimate and sensitive conversations necessary for patient-centered preventive care. From a provider perspective, the well-woman visit would accommodate the ever changing periodicity recommendations for prevention and screening without causing widespread confusion among women who wonder how often they should see their doctor. Accordingly, health education materials promoting a periodic well-woman visit would be easy to understand for patients and increase health literacy.

Preventive health for women needs to be much more than the periodic screening of body parts; it must also be tied to counseling, health education, and patient-provider communication about health and well-being. The well-woman visit will improve the quality of care and integrate behavioral health needs to truly promote health and well-being for women and girls. The well-woman visit reflects the patient-centered preventive care that women need.

**COMMENT 4:**

**Routine Intimate Partner Violence Screening and Periodic Assessments is a Gap USPSTF-Recommended in Preventive Services for Women and Girls**

**COMMENT 4: Routine Intimate Partner Violence Screening and Periodic Assessments is a Gap in USPSTF-Recommended Preventive Services for Women and Girls**

The USPSTF found insufficient evidence to recommend for or against routine screening for intimate partner violence or abuse. This is a gap in preventive services for women of all ages. The prevalence of violence against women and girls is too high to continue to be ignored in the health system. Violence has significant negative impact on women's health leading to early onset of chronic disease or death. Preventive screening can save lives and improve women's health and should be a routine part of preventive health for women.

**RATIONALE**

**Violence Against Women and Girls is a Major Health Determinant that Causes ill Health, Chronic Disease and Death**

**Intimate Partner Violence (IPV)**

IPV is a pattern of assaultive and coercive behaviors that include: physical injury; psychological abuse; sexual violence; social isolation; stalking; deprivation of basic human needs; intimidation and threats. Perpetrators can be partners, spouses, ex-spouses, current or former boyfriends, or dating partners.

- According to national data, an estimated 5.3 million intimate partner victimizations occur among U.S. women ages 18 and older each year. This violence results in about 1,200 deaths and 2 million injuries, more than 550,000 of which require medical attention.<sup>6</sup>
- In California, five percent of women, or about 548,000 women per year, experience IPV.<sup>7</sup>
- According to the latest census of domestic violence service programs in California, 3,674 victims needed assistance over one 24-hour survey period.<sup>8</sup>
- IPV is the precipitating factor in 52 percent of female homicides and nearly one-third of suicides. About 74 percent of all murder-suicides involve an intimate partner.<sup>9</sup>

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### **Teen Dating Violence**

- Seven percent of eleventh grade students in California report experiencing violence in their relationships in the last 12 months.<sup>10</sup>
- Teen dating violence is the cause of short- term and long-term physical, mental, and social consequences to the developing teen.<sup>11</sup>
- Teens involved in dating violence are more likely to do poorly in school, engage in sexual intercourse, report binge drinking, suicide attempts, and physical aggression now and later in their adult relationships.<sup>12</sup>

### **Reproductive Coercion**

Reproductive coercion is behavior that interferes with a woman's ability to control her reproductive life. This includes intentionally exposing a partner to sexually transmitted infections, attempting to impregnate a woman against her will, intentionally interfering with birth control, or threatening or acting violent if a woman does not comply with wishes regarding contraception or the decision to terminate or continue a pregnancy.

- Research conducted in California in 2010 found that 53 percent of women ages 16-29 in family planning clinics report physical or sexual violence from an intimate partner.<sup>13</sup>
  - In the same study, about one in five young women said they experienced pregnancy coercion and one in seven said they experienced active interference with contraception (birth control sabotage). And, thirty-five percent of women reporting IPV also reported either pregnancy coercion or birth control sabotage.<sup>14</sup>
  - Forty percent of pregnant women who have been exposed to violence report that their pregnancy was unintended, compared to just eight percent of non-abused women.<sup>15</sup>
  - Women disclosing physical violence are nearly three times more likely to experience a sexually transmitted infection than women who do not.<sup>16</sup>
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- Girls who have been abused by a boyfriend are five times as likely to be forced into not using a condom, and eight times more likely to be pressured to become pregnant.<sup>17</sup>

### **IPV During Pregnancy**

- Homicide is the second leading cause of traumatic death for pregnant women in the Nation, accounting for 31 percent of maternal injury deaths.<sup>18</sup>
- The incidence of violence in pregnancy may range from four to eight percent. These figures may significantly underestimate the problem, as many women do not report their experiences of violence.<sup>19</sup>
- Women are four times more likely to suffer increased abuse as a result of an unintended or unwanted pregnancy. What this data ignores is that the pregnancy itself can also be a result of domestic violence, in the form of sexual abuse, marital rape, or denial of access to birth control.<sup>20</sup>
- Pregnant adolescents (ages 13-17) in particular have an elevated risk of violence from their partners. Nearly 10 percent of teenage mothers experience violence while pregnant.<sup>21</sup>

### **Sexual Violence**

Sexual violence is a broad term that includes what is commonly called “rape” or “sexual assault.” It is defined as one or more unwanted sexual acts that fall within a continuum from sexual harassment to rape/murder. It is sexual action that is lacking consent or in which consent is forced, coerced, manipulated, or obtained against a person’s will or from someone who is unable, legally or incapacitated, to give consent.

- Seventeen percent of women in California (1,862,000) report experiencing sexual violence - incest, childhood sexual abuse, or rape - sometime in their lives.<sup>22</sup>
- Between 80-90 percent of rape victims know their perpetrator.<sup>23</sup>

### **Routine Violence Screening is Essential to Women and Girls’ Preventive Health**

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Exposure to violence is a common experience that is associated with acute injuries, negative long-term health consequences, revictimization, and an intergenerational cycle of violence. IPV-related injuries may include scratches or bruises or more serious injuries such as lacerations, broken bones, dislocated joints, or internal, head or spinal cord injuries. Women who experience violence in their relationships are also more likely to be diagnosed with depression, substance abuse, and chronic illnesses.<sup>24</sup> Unrecognized and unresolved violence and abuse can sabotage the effectiveness of health-promoting interventions.

Research from the CDC finds that women reporting IPV are significantly more likely to experience a number of chronic health conditions. Arthritis, asthma, stroke, high blood cholesterol, heart disease, and heart attack were significantly higher among women who had experienced IPV compared with women who had not. Victims of violence were also significantly more likely to smoke, engage in heavy or binge drinking, and put themselves at greater risk for HIV and sexually transmitted infections.<sup>25</sup>

Violence has particularly devastating consequences during pregnancy. IPV during pregnancy may be more common than conditions for which pregnant women are routinely screened. Violence is cited as a pregnancy complication more often than diabetes, hypertension, or any other serious complication<sup>26</sup>. Studies have shown that during pregnancy, an abuser's attacks will generally focus on the breasts, abdomen, and genitals, resulting in serious consequences to the mother, giving rise to maternal mortality and morbidity. Physical attacks can cause injuries to or ruptures of the pregnant woman's uterus, liver, or spleen<sup>27</sup>. Women experiencing abuse in the year prior to and/or during a recent pregnancy are 40-60 percent more likely to report high blood pressure, vaginal bleeding, severe nausea, kidney or urinary tract infections, and hospitalization during pregnancy and are 37 percent more likely to deliver preterm. Violence is linked to an increased risk of miscarriage, ruptured membranes, low birth weight, fetal injury, and fetal death.<sup>28</sup>

In addition to the physical consequences mentioned, domestic violence during pregnancy can have a number of psychological consequences. Pregnant women who are abused by their partners have a higher risk for conditions like stress, depression, and addiction to tobacco, alcohol, and drugs. The damage caused to unborn children by addictive drugs has been well documented, but the effects of conditions like depression are somewhat more difficult to isolate. These can include a general loss of interest on the part of the mother in her or her baby's health, both during the pregnancy and after the child is born. The long-term psychological consequences of violence during pregnancy can have a

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severely detrimental effect on a child's psychological development. The child will probably have to witness domestic violence after it is born. Moreover, the man who abuses his partner is also likely to abuse his children.<sup>29</sup>

Sexual violence in all its forms is more than just a single traumatic experience. It is a complex and multidimensional problem that affects all spheres of women's lives: their autonomy, their productivity, their capacity to care for themselves and their children, their long-term health, and their overall quality of life. Researchers have found that "adverse experiences", like sexual violence, lead to a range of long-term emotional and health consequences for victims such as chronic diseases, emotional and functional disabilities, harmful behaviors, and difficulties in intimate relationships.<sup>30</sup>

### **Costs**

The medical care, mental health services, and lost productivity (e.g., time away from work) cost of IPV was an estimated \$8.3 billion in 2003. Nearly \$4.1 billion of these costs are for direct medical and mental health care services. According to research conducted by the Centers for Disease Control and Prevention, more than 28 percent of IPV-related injuries require medical attention, and more than 7 percent are serious enough to warrant hospitalization for one or more nights. Multiple medical care visits are often required for each IPV victimization. For example, victims of both rape and physical assault averaged 1.9 hospital emergency department visits per victimization.<sup>31</sup> Medical costs associated with complications resulting from violence during pregnancy, or subsequent chronic disease or mental illness have not been researched as thoroughly, but are presumed to be extensive as well.

### **SPECIFIC RECOMMENDATIONS**

#### **1. Routine screening and periodic assessment of violence or abuse is a major gap in preventive services for women.**

All women are at risk for violence. Physician visits, whether for contraception, pregnancy or wellness, offer windows of opportunity to address this issue. Health care providers, including pediatricians, can have a critical role in helping to prevent victimization and perpetration of intimate partner violence, sexual violence, and teen dating violence, and promote healthy and safe relationships for children, teens, and adults. Integration of culturally relevant identification, screening, and prevention strategies into the health care setting is needed to ameliorate this enormous and costly public health problem.

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## **2. Screening for violence could be part of well-woman and prenatal care visits**

Routine inquiry of every woman during reproductive health visits, at the first prenatal visit and at least once per trimester, and during wellness visits can have a significant impact on preventing violence in women's lives. In one study, women in family planning clinics who received both assessment and counseling on harm reduction strategies were 60 percent more likely to end a relationship because it felt unhealthy or unsafe.<sup>32</sup> Another recent study demonstrated that assessment for reproductive coercion during family planning clinic visits was associated with a 70 percent reduction in pregnancy coercion.<sup>33</sup> During pregnancy, a woman may be more motivated to seek help out of desire to be a good parent, prevent child abuse, and look to the future in a positive way.

Well-visits for girls and women of reproductive age provide an excellent opportunity to deliver basic health education messages about the value, in terms of health outcomes, of being in a healthy relationship. Results from the Adverse Childhood Experiences (ACE) Study, conducted by Kaiser Permanente in partnership with the CDC, demonstrate that routine inquiry about past exposure to all forms of violence may not only positively impact treatment of current health issues, it may also help identify hidden risk factors for health compromising behaviors, injuries, and chronic disease throughout the lifespan.<sup>34</sup>

## **3. Violence screening for all girls needs to begin at age 12**

Health care clinicians should conduct universal assessment for all women and girls, starting at age 12, which asks about past or current physical or sexual violence. Assessment includes routine inquiry as well as the ability to recognize patterns in the history and physical that would raise exposure to violence as one consideration in the clinical decision-making process.<sup>35</sup>

In the early stages of an abusive relationship, early identification and referral can prevent serious injuries, depression, and chronic illnesses as the violence escalates. As a secondary prevention strategy, those that answer "yes" to having past or current violent experiences should be assessed for safety and referred to office/hospital personnel with special training in intimate partner violence or mental health services or to local domestic violence services, rape crisis centers, or local hotlines. In relationships with escalating violence, routine inquiry provides the opportunity for disclosure in a safe and confidential environment. Even if clients do not feel safe disclosing their abuse, giving supportive messages may diminish their isolation and let them know they have

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options. Such practices have not been associated with any unanticipated harms or negative consequences.

For clients who are not experiencing abuse (those who answer “no”), a conversation that inquires about past or current violence provides a powerful health education message that violence exposure is an important health issue and provides an opportunity to talk about healthy and safe non-violent relationships and the warning signs of abuse. In this case, routine assessment becomes an opportunity for primary prevention of violence (stopping violence before it happens) to reinforce what it is to be in a healthy and safe relationship. For example: “relationships should be based on equality and respect and not involve acts of violence, threats, or coercive behaviors that are hurtful and demeaning.”

The Family Violence Prevention Fund's National Health Resource Center on Domestic Violence, in partnership with leading experts from around the country, has published guidelines and screening questions for this purpose. The National Consensus Guidelines on Identifying and Responding to Domestic Violence Victimization in Health Care Settings was designed to assist health care providers from multiple settings and in various professional disciplines to address domestic violence victimization. These guidelines include assessment, documentation, intervention, and referral information.<sup>36</sup> Recommendations for health care providers on assessment for violence are also discussed thoroughly in the textbook *Intimate Partner Violence: A Health-Based Perspective*.<sup>37</sup>

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### **Resources**

The Family Violence Prevention Fund: [www.endabuse.org](http://www.endabuse.org)

CDPH/DHCS Testimony for IOM Committee on Preventive Services for Women

The Centers for Disease Control and Prevention:

<http://www.cdc.gov/reproductivehealth/violence/IntimatePartnerViolence/index.htm>

<http://www.cdc.gov/reproductivehealth/violence/>

<http://www.cdc.gov/ViolencePrevention/index.html>

The March of Dimes:

[http://www.marchofdimes.com/pregnancy/stayingsafe\\_abuse.html](http://www.marchofdimes.com/pregnancy/stayingsafe_abuse.html)

Prepared by Safe and Active Communities Branch, MS 7214, P.O. Box 997377,  
Sacramento, CA 95899-7377 (916) 552-9800 Internet Address:

[www.cdph.ca.gov](http://www.cdph.ca.gov)

**COMMENT 5:**

**Supporting Optimum Nutrition and Physical Activity is a Gap in USPSTF-Recommended Preventive Services for Women and Girls**



**COMMENT 5: Supporting Optimum Nutrition and Physical Activity is a Gap in USPSTF-Recommended Preventive Services for Women and Girls.**

Healthy diet counseling is a grade B recommendation by the USPSTF only for adults with hyperlipidemia and other known risk factors for cardiovascular and diet-related chronic diseases. Additionally, obesity screening and counseling for adults is a grade B recommendation by the USPSTF. Behavioral counseling to promote healthy diet and physical activity in adults has been released for public comment (February 22, 2011) as an update to their current, above-mentioned recommendations.

These recommendations focus on diet and obesity counseling for adults who are already obese with cardiovascular risk factors. There are several critical gaps in these recommendations. First, these adult recommendations are not gender specific, so they do not address issues related to female reproductive health such as iron deficiency due to heavy menstruation or risk of osteoporosis due to poor diet in young girls. Second, recommendations are not sufficiently preventive because they do not address females who could be at risk for obesity but have not yet developed other cardiovascular risk factors. These gaps in preventive services have detrimental gender based health implications for females during their childbearing years.

**RATIONALE**

**Supporting Optimum Nutrition and Physical Activity is An Essential Component of Women's Health**

Optimal nutrition is important for sustenance, good health, and well-being throughout life. The impact of nutrition prior to and during pregnancy is significant because studies show that environmental factors, particularly nutrition, act in early life to program the risks for adverse health outcomes in adult life. Early exposure to healthy nutrition is important starting in-utero and dietary preferences and behavior during adolescence through adulthood are largely shaped within early childhood.<sup>1</sup> For example, the "fetal origins" hypothesis demonstrates that maternal nutrition is important not only for weight management and chronic disease prevention, but is critical for optimal fetal growth and development. Adverse intra-uterine environments jeopardize the growth and development of the fetus and increase the child's risks for chronic diseases such as coronary heart disease, diabetes and obesity in adulthood. These findings emphasize the need for life-course perspectives on nutrition within the maternal and pediatric populations and the urgency of improving the health status of women before, during and after pregnancy.<sup>2</sup>

Proper nutrition and physical activity is particularly important before and during pregnancy. Women who enter and continue into pregnancy with optimal nutrition and regular physical activity have fewer medical complications and better perinatal outcomes.<sup>3,4</sup> Mothers being overweight or obese before and during pregnancy pose negative health consequences for their offspring during birth, infancy, childhood, adolescence and adulthood. Women of child-bearing age should maintain good nutritional status through a lifestyle that optimizes maternal health and reduces the risk of birth defects, suboptimal fetal growth and development, and chronic health problems in their children.<sup>5</sup> Maternal overweight and obesity perpetuates the disease burden and economic and social costs of the epidemic into future generations, as there is increasing evidence associating overweight mothers, independent of GDM, to the development of the metabolic syndrome (obesity, hypertension, dyslipidemia, and glucose intolerance) in the offspring.<sup>6</sup>

Early prenatal nutrition and physical activity counseling is not enough and, in many cases, may be too late as studies have shown that interventions recommended during pregnancy are more effective and beneficial if implemented before conception.<sup>7</sup> Nutrition education remains overlooked in routine medical practice and is even less accessible for low-income and/or uninsured women who do not receive prenatal care. Low-income households are less likely to have access to routine medical care including preventive services and information regarding nutrition and physical activity.<sup>8</sup>

Health-promoting lifestyle includes maintaining a healthy weight and appropriate weight gain during pregnancy.<sup>9</sup> However, a large proportion of the Californian population is falling short of meeting these lifestyle recommendations. In California, 25 percent of women in their reproductive ages were overweight and an additional 24 percent were obese in 2008.<sup>7</sup> What is becoming an increasing concern is that obesity and diabetes are occurring at earlier ages and stages of life.<sup>10</sup> One in every three California teens and over half of adults are overweight or obese.<sup>5,11</sup> This epidemic affects virtually all age, income, educational, ethnic, and disability groups, although rates are highest among Californians of Latino, American Indian, African American, and Pacific Islander descent, Californians from lower-income households, and those with disabilities.<sup>5</sup>

In California, low-income women comprise over half (58 percent in 2008) of all women giving birth. In 2008, over one-third (36.3 percent) lived below poverty and another 21.6 percent were “near-poor,” with incomes between 101 percent and 200 percent of the poverty level.<sup>7</sup> Of the women delivering in California in 2008, over one-quarter (29 percent) had less than a high-school education. Over one-half (52 percent) were Hispanic; White women comprised less than one-third (27 percent) of the total.<sup>12</sup> In any given year, approximately 4 million women in the United States become pregnant.<sup>13</sup> Given there is a high percentage of unplanned pregnancies, 41 percent in California, it is important for women to

maintain optimal health and weight throughout their reproductive age; especially since obesity cannot be optimally addressed during pregnancy.<sup>7, 8</sup>

Nutrition and health status is falling short throughout the nation. Given current trends, obesity rates among adults will continue to rise.<sup>8, 13</sup> Many women are not entering pregnancy with a healthy weight, which introduces risks for both the mother and the child.<sup>14</sup> In addition, childhood obesity rates are starting at earlier ages and are rising at alarming rates. Obesity rates have tripled for school-aged and adolescent children during the past three decades.<sup>8, 13</sup>

IOM provides guidelines on weight gain during pregnancy. Prenatal weight gain within the IOM recommended ranges has been associated with better pregnancy outcomes.<sup>15</sup> Among women who become pregnant, the shift toward higher pre-pregnancy weight in recent years is evident.<sup>8, 13</sup> The 2009 CDC Pregnancy Nutrition Surveillance System indicates that 48.2 percent of mothers gained more weight than is recommended by IOM.<sup>15</sup> Among women who become pregnant, the shift toward higher pre-pregnancy weight in recent years is evident.<sup>13</sup> However, only 30-40 percent of women have prenatal weight gains within these ranges. Most women state that they either did not receive information or received misleading information on how much weight to gain during pregnancy.<sup>8</sup>

Studies have shown a positive correlation between neonatal birth weight in relation to maternal BMI. Offspring of obese mothers whose birth weight is appropriate for gestational age have a higher proportion of body fat when compared to offspring born to lean mothers. Furthermore, birth weight is associated with raised BMI throughout childhood and into adulthood.<sup>16, 17</sup> Even more concerning is the finding that children born to obese mothers demonstrate insulin resistance calculated from fetal cord blood.<sup>16</sup> Studies have identified maternal BMI as the greatest single risk factor contributing to maternal death and adverse maternal outcome of pregnancy.<sup>16</sup> Obesity during pregnancy has been associated with gestational diabetes, gestational hypertension, pre-eclampsia, birth defects, cesarean delivery, fetal macrosomia, perinatal deaths, postpartum anemia, and childhood obesity.<sup>13</sup> Risk for gestational diabetes is doubled amongst overweight women in comparison to normal weight women and increased eight-fold amongst the severely obese. Pre-eclampsia is also doubled among overweight and three times as likely among obese women.<sup>13</sup> Maternal obesity negatively impacts breastfeeding as it is initiated and maintained with significantly less success both as a consequence of maternal attitude and mechanical difficulty with infant positioning.<sup>16</sup> The length of prenatal and postnatal hospitalization is 4.43 days longer for obese woman.<sup>18</sup> Studies have identified maternal BMI as the greatest single risk factor contributing to maternal death and adverse maternal outcome of pregnancy.<sup>18</sup>

Women frequently fail to consume adequate vitamins and minerals for optimal health. Only 40 percent of pregnant women take folic acid supplements and 3,000 babies are born each year with neural tube defects, which could be

reduced with supplementation.<sup>19</sup> National Institute of Health (NIH) Osteoporosis and Related Bone Diseases National Research Center reports that medical experts currently believe osteoporosis to be largely preventable; however, the prevention message is lost since many view osteoporosis as a disease only concerned with later adulthood.<sup>20</sup> Adolescent girls and women of childbearing age are at higher risk for iron deficient anemia due to menstruation.<sup>26</sup> Pregnant women are at a higher risk of iron deficiency because of increased iron needs due to blood volume expansion and rapid growth.<sup>21</sup> California did not meet the Healthy People 2010 goal of 80 percent of women of reproductive age taking the recommended daily 400 micrograms of folic acid daily. In 2006, the overall prevalence of daily intake of supplements containing folic acid among California women aged 18-44 years was 41.1 percent and 30.2 percent among Hispanic women.<sup>5</sup> Population groups.<sup>5</sup> Hispanic women, especially those born outside the United States are among the least likely to take folic acid supplements and at the highest risk for neural tube defects include Hispanic women (especially those born outside the United States).<sup>5</sup>

Iron deficiency is the most prevalent nutritional deficiency globally and is highly associated with poverty.<sup>15</sup> Severe anemia is associated with a higher mortality rate, low birth weight and pre-term delivery among pregnant women.<sup>21</sup>

Osteoporosis is a common health problem associated with an unhealthy lifestyle, and the data indicate the problem is increasing. The disease involves complex interactions among genetic, dietary, and environmental factors over a long period of time, resulting in reduced bone mass, increased bone fragility, and increased risk of fracture.<sup>20</sup> Less than optimal bone growth during childhood and adolescence, as well as bone loss later in life, are factors leading to osteoporosis.<sup>20</sup> For girls, the peak for calcium accretion rate occurs around the age of 13, and retention, bone formation, and reabsorption decline after menarche.<sup>22</sup> The prevalence of osteoporosis among postmenopausal women is 21 percent for Caucasians and Asians, 16 percent for Hispanics, and 10 percent for African Americans.<sup>23</sup>

In addition to the importance of proper nutrition in a healthy lifestyle, physical activity is also a vital component. Physical activity is equally important for women before and during pregnancy. Women and youth fall short of physical activity recommendations. United States Department of Agriculture's (USDA) Physical Activity Guidelines for Americans recommend 60 minutes of aerobic activity daily, in addition to muscle- and bone-strengthening exercises three times a week for adolescents.<sup>24</sup> Healthy women should get at least 150 minutes of moderate-intensity aerobic activity per week, and it is advised that this activity be distributed evenly throughout the week.<sup>24</sup> The 2009 Youth Risk Behavioral Surveillance System (YRBSS) indicated that 23.1 percent of students did not participate in at least 60 minutes of exercise at least one day in the days before the survey was conducted.<sup>25</sup> The survey also reported that 32.8 percent of students watched three or more hours of television per day on a school day and

24.9 percent reported spending 3 or more hours per day on the computer outside of school.<sup>25</sup> For adults, the 2007 Behavioral Risk Factor Surveillance System (BRFSS) estimated that the prevalence of no leisure time activity was 17-44 percent.<sup>5</sup>

In order to illustrate the magnitude of importance of healthy eating, physical activity, and proper bone health, Healthy People 2020 outlines pertinent goals in its National Health Promotion and Disease Prevention Objectives section. See Attachment 1 for related goals.

Reducing overweight and obesity in women reduces their risks for heart disease, stroke, and cancer.<sup>26</sup> Reducing perinatal overweight and obesity reduces the risk for poor pregnancy-related outcomes such as macrosomia, gestational diabetes, preeclampsia and eclampsia, pregnancy induced hypertension, thromboembolic disease, spina bifida, omphalocele, heart defects and multiple anomalies, neonatal and fetal deaths, labor induction and cesarean section.<sup>16</sup>

California's costs attributable to physical inactivity, obesity, and overweight in 2006 were estimated at \$41.2 billion. In contrast, a five percent improvement in each of these risk factors could result in annual savings of nearly \$2.4 billion.<sup>5</sup>

### **Strategies for Optimum Nutrition and Physical Activity**

Because these are modifiable risk factors, women and female adolescents should receive preventive services to support healthy eating and a physically active lifestyle in order to optimize health. Interventions based on physical activity and dietary counseling, usually combined with supplementary weight monitoring, appear to be successful in reducing gestational weight gain.<sup>5</sup> Healthy eating and physical activity should be the easy and preferred lifestyle choice of all women and female adolescents.

Addressing maternal overweight and obesity not only influences her weight status but can prevent childhood and adult on-set overweight or obesity of her offspring. As a result, such efforts can prevent the disease burden and economic costs amongst the entire MCH population. Addressing racial and ethnic communities from low-income households that are disproportionately affected by overweight and obesity is of significant concern to the public health community.

To prevent iron deficiency, women and adolescents should eat a healthful diet that includes good sources of iron. See Attachment 2 for guidelines. A vitamin that is particularly important during pregnancy is folic acid. A daily folic acid supplement of 400 micrograms is recommended for women of reproductive age to reduce the incidence of birth defects.<sup>19</sup>

A paradigm shift is needed to expand the focus for osteoporosis prevention to include adolescents and women under the age of 60. Prevention should include

screening as well as recommendations to increase calcium intake and bone-strengthening activities.<sup>20</sup>

## **SPECIFIC COMMENTS**

**Gender-based, age appropriate healthy eating and physical activity promotion and counseling are major gaps in preventive services for women and girls.** Healthy eating and physical activity promotion should be integrated into preventive health, specifically assessment, follow-up, and referrals to appropriate health care providers for nutrition counseling. Components of these services should include screening for chronic diseases such as: obesity, eating disorders, diabetes, high blood pressure and anemia for all populations at higher risk. Screening for osteoporosis should be provided for women of all ages, and calcium intake and bone-strengthening activity should be encouraged for women throughout the lifespan. Education and awareness is essential for all women of child-bearing age regarding the risk of adverse outcome associated with obesity in pregnancy.

**Pre-pregnancy nutrition and physical activity counseling is needed before pregnancy.** Women need pre-pregnancy nutrition and physical activity counseling before pregnancy such as the California Department of Public Health's comprehensive program to address gestational diabetes. The program entitled the California Diabetes and Pregnancy Program (CDAPP) provides program information at <http://www.cdph.ca.gov/programs/cdapp/Pages/default.aspx>. CDAPP emphasizes pre-pregnancy counseling because it is the best way to help control blood sugar before pregnancy. When maternal blood sugar is high during the first 6 weeks of pregnancy the baby is at risk of: birth defects (especially of the heart and spine), miscarriage or stillbirth, failure to thrive, problems breathing after birth. High blood sugar can also compromise the mother's eyes, kidneys and blood pressure. CDAPP services include: seeing and working with a team of diabetes specialists, having a complete physical exam, talking with a doctor about health risks for mother and baby, learning what to expect when a mother has diabetes and is pregnant, planning the best time to have a baby, choosing a method of family planning to use until your blood sugar is well under control, looking at ways to pay for your health-care costs, sharing what you have learned and your plans with family and special friends.

A healthy diet and optimal levels of physical activity between births is important for maternal weight management as well as for the exposure to proper nutrition and an active lifestyle amongst their offspring. Parental modeling of diet and physical activity influences attitudes and behavior of their children during their early years and throughout adulthood. Healthy women should be encouraged to get at least 150 minutes (2 hours and 30 minutes) per week of moderate-intensity aerobic activity, such as brisk walking, during and after their pregnancy. It is best to spread this activity throughout the week.

Women of reproductive age should be educated about the importance of daily consumption of 400 micrograms of folic acid to reduce the incidence of birth defects, especially younger women, obese women, and women with poor diet quality.

**Appropriate Nutrition and Physical Activity Counseling for Overweight and Obese Women of Reproductive Age is a Preventive Health Gap for Women and Girls.**

All overweight and obese women of reproductive age should receive counseling on the roles of diet and physical activity in reproductive health prior to pregnancy, during pregnancy, and in the interconceptional period, in order to ameliorate these adverse outcomes. Women should be counseled on the adverse effects of excess weight in pregnancy. Maternal obesity adversely affects pregnancy outcome primarily through increased rates of chronic hypertension and pre-eclampsia, diabetes (pregestational and gestational), cesarean section and infections. Weight gain during pregnancy is also highly associated with weight gain after delivery.

**Medical Nutrition Therapy for Patients with Identified Need.**

Medical Nutrition Therapy (MNT), as a part of the Nutrition Care Process, should be the initial step and an integral component of medical treatment for management of specific disease states and conditions. MNT is the development and provision of a nutritional treatment or therapy based on a detailed assessment of a person's medical history, psychosocial history, physical examination, and dietary history. It is used to treat an illness or condition, or as a means to prevent or delay disease or complications from diseases such as diabetes.

The Registered Dietitian (RD) is the preferred practitioner for medical nutrition therapy.

See Attachment 3 for Cost-effectiveness of MNT services provided by an RD.

Pregnant women with inappropriate weight gain, hyperemesis, poor dietary patterns, phenylketonuria, certain chronic health problems or a history of substance abuse should be among those women referred to a registered dietitian for medical nutrition therapy.

**ADDITIONAL INFORMATION OR KEY EVIDENCE**

The RD is a food and nutrition expert who has met academic and professional requirements including:

- Earned a bachelor's degree with course work approved by ADA's Commission on Accreditation for Dietetics Education.
- Completed an accredited, supervised practice program at a health-care facility, community agency or food service corporation.

- Passed a national examination administered by the Commission on Dietetic Registration.
- Completes continuing professional educational requirements to maintain registration.<sup>27</sup>

RDs use MNT as a cost-effective means to achieve significant health benefits by preventing or altering the course of diabetes, obesity, hypertension, disorders of lipid metabolism, heart failure, osteoporosis, celiac disease, and chronic kidney disease, among other diseases. Should pharmacotherapy be needed to control these diseases, a team approach in which an RD brings expertise in food and nutrition and a pharmacist brings expertise in medications is essential. RDs and pharmacists share the goals of maintaining food and nutrient intake, nutritional status, and medication effectiveness while avoiding adverse food–medication interactions. RDs manipulate food and nutrient intake in medication regimens based on clinical significance of the interaction, medication dosage and duration, and recognition of potential adverse effects related to pharmacotherapy. RDs who provide MNT using enhanced patient education skills and pharmacotherapy knowledge are critical for successful outcomes and patient safety.<sup>21</sup>

Prenatal weight gain within IOM-recommended ranges has been associated with better pregnancy outcomes. Most pregnant women need 2,200 to 2,900 kcal a day, but pre-pregnancy body mass index, rate of weight gain, maternal age and appetite must be considered when tailoring this recommendation to the individual. The consumption of more food to meet energy needs, and the increased absorption and efficiency of nutrient utilization that occurs in pregnancy, are generally adequate to meet the needs for most nutrients. However, vitamin and mineral supplementation is appropriate for some nutrients and situations.<sup>28</sup>

Successful weight management to improve overall health for adults requires a lifelong commitment to healthful lifestyle behaviors emphasizing sustainable and enjoyable eating practices and daily physical activity. Given the increasing incidence of overweight and obesity along with the escalating health care costs associated with weight-related illnesses, health care providers must discover how to effectively treat this complex condition.<sup>14</sup>

Healthy People 2020: National Health Promotion and Disease Prevention Objectives include numerous objectives on healthy eating and physical activity for women and adolescents <http://www.healthypeople.gov/2020/default.aspx> (see Attachment 1).<sup>29</sup>

The key components of a health-promoting lifestyle during pregnancy include appropriate weight gain; appropriate physical activity; consumption of a variety of foods in accordance with the *Dietary Guidelines for Americans 2010* <http://www.cnpp.usda.gov/dietaryguidelines.htm>; appropriate and timely vitamin



and mineral supplementation; avoidance of alcohol, tobacco, and other harmful substances; and safe food handling.<sup>28</sup>

**Attachment 1**

Healthy People 2020: National Health Promotion and Disease Prevention Objectives<sup>13</sup> for healthy eating and physical activity for women and adolescents

- MICH-13** (Developmental) Increase the proportion of mothers who achieve a recommended weight gain during their pregnancies
- MICH-14** Increase the proportion of women of childbearing potential with intake of at least 400 mcg of folic acid from fortified foods or dietary supplements
- MICH-15** Reduce the proportion of women of childbearing potential who have low red blood cell folate concentrations
- MICH-16** Increase the proportion of women delivering a live birth who received preconception care services and practiced key recommended preconception health behaviors
- MICH-16.2** Took multivitamins/folic acid prior to pregnancy
- MICH-16.5** Had a healthy weight prior to pregnancy
- NWS-5** Increase the proportion of primary care physicians who regularly measure the body mass index of their patients
- NWS-6** Increase the proportion of physician office visits that include counseling or education related to nutrition or weight
- NWS-8** Increase the proportion of adults who are at a healthy weight
- NWS-9** Reduce the proportion of adults who are obese
- NWS-11** (Developmental) Prevent inappropriate weight gain in youth and adults
- NWS-17** Reduce consumption of calories from solid fats and added sugars in the population aged 2 years and older
- NWS-18** Reduce consumption of saturated fat in the population aged 2 years and older
- NWS-19** Reduce consumption of sodium in the population aged 2 years and older
- NWS-20** Increase consumption of calcium in the population aged 2 years and older
- NWS-21** Reduce iron deficiency among young children and females of childbearing age
- NWS-22** Reduce iron deficiency among pregnant females
- PA-1** Reduce the proportion of adults who engage in no leisure-time physical activity

- PA-2**            Increase the proportion of adults who meet current Federal physical activity guidelines for aerobic physical activity and for muscle-strengthening activity
- PA-3**            Increase the proportion of adolescents who meet current Federal physical activity guidelines for aerobic physical activity and for muscle-strengthening activity
- PA-11**           Increase the proportion of physician office visits that include counseling or education related to physical activity

## **Attachment 2**

### Recommendations to Prevent and Control Iron Deficiency<sup>14</sup>

Primary prevention of iron deficiency for adolescent girls and non-pregnant women of childbearing age is through diet. Information about healthy diets, including good sources of iron, is available in Nutrition and Your Health: Dietary Guidelines for Americans (14). Screening for, diagnosing, and treating iron-deficiency anemia are secondary prevention approaches. Age-specific anemia criteria should be used during screening ([Table 6](#)). Primary Prevention

- Most adolescent girls and women do not require iron supplements, but encourage them to eat iron-rich foods and foods that enhance iron absorption.
- Women who have low-iron diets are at additional risk for iron-deficiency anemia; guide these women in optimizing their dietary iron intake. Secondary Prevention Screening
- Starting in adolescence, screen all non-pregnant women for anemia every 5-10 years throughout their childbearing years during routine health examinations.
- Annually screen for anemia women having risk factors for iron deficiency (e.g., extensive menstrual or other blood loss, low iron intake, or a previous diagnosis of iron-deficiency anemia). Diagnosis and Treatment
- Confirm a positive anemia screening result by performing a repeat Hb concentration or Hct test. If the adolescent girl or woman is not ill, a presumptive diagnosis of iron-deficiency anemia can be made and treatment begun.
- Treat adolescent girls and women who have anemia by prescribing an oral dose of 60-120 mg/day of iron. Counsel these patients about correcting iron deficiency through diet.
- Follow up adolescent girls and non-pregnant women of childbearing age as is done for infants and preschool children, except that for a confirmed case of iron-deficiency anemia, continue iron treatment for 2-3 more months.
- If after 4 weeks the anemia does not respond to iron treatment despite compliance with the iron supplementation regimen and the absence of acute illness, further evaluate the anemia by using other laboratory tests, including MCV, RDW, and serum ferritin concentration. In

women of African, Mediterranean, or Southeast Asian ancestry, mild anemia unresponsive to iron therapy may be due to thalassemia minor or sickle cell trait.

**Pregnant Women.** Primary prevention of iron deficiency during pregnancy includes adequate dietary iron intake and iron supplementation. Information about healthy diets, including good sources of iron, is found in Nutrition and Your Health: Dietary Guidelines for Americans (14). More detailed information for pregnant women is found in Nutrition During Pregnancy and Lactation: An Implementation Guide (112). Secondary prevention involves screening for, diagnosing, and treating iron-deficiency anemia. Primary Prevention

- Start oral, low-dose (30 mg/day) supplements of iron at the first prenatal visit.
- Encourage pregnant women to eat iron-rich foods and foods that enhance iron absorption.
- Pregnant women whose diets are low in iron are at additional risk for iron-deficiency anemia; guide these women in optimizing their dietary iron intake. Secondary Prevention Screening
- Screen for anemia at the first prenatal care visit. Use the anemia criteria for the specific stage of pregnancy ([Table 6](#)). Diagnosis and Treatment
- Confirm a positive anemia screening result by performing a repeat Hb concentration or Hct test. If the pregnant woman is not ill, a presumptive diagnosis of iron-deficiency anemia can be made and treatment begun.
- If Hb concentration is less than 9.0 g/dL or Hct is less than 27.0 percent, refer the patient to a physician familiar with anemia during pregnancy for further medical evaluation.
- Treat anemia by prescribing an oral dose of 60-120 mg/day of iron. Counsel pregnant women about correcting iron-deficiency anemia through diet.
- If after 4 weeks the anemia does not respond to iron treatment (the woman remains anemic for her stage of pregnancy and Hb concentration does not increase by 1 g/dL or Hct by 3 [percent] despite compliance with an iron supplementation regimen and the absence of acute illness, further evaluate the anemia by using other tests, including MCV, RDW, and serum ferritin concentration. In women of African, Mediterranean, or Southeast Asian ancestry, mild anemia

unresponsive to iron therapy may be due to thalassemia minor or sickle cell trait.

- When Hb concentration or Hct becomes normal for the stage of gestation, decrease the dose of iron to 30 mg/day.
- During the second or third trimester, if Hb concentration is greater than 15.0 g/dL or Hct is greater than 45.0 percent, evaluate the woman for potential pregnancy complications related to poor blood volume expansion. Postpartum Women

### **Attachment 3**

#### Cost-effectiveness of Medical Nutrition Therapy (MNT) services provided by an RD<sup>30</sup>

#### **What is the evidence to support the cost-effectiveness, cost benefit or economic savings of inpatient MNT services provided by an RD?**

##### **Conclusion**

Five studies were reviewed to evaluate the cost-effectiveness, cost benefit, and/or economic savings of inpatient MNT services provided by a Registered Dietitian. Three studies report that nutrition screening, early assessment and treatment by an RD, and early discharge result in cost savings due to reduced length of hospital stay. Two studies demonstrate that appropriate use of parenteral nutrition results in cost savings related to laboratory monitoring, central line placement and maintenance care, nursing administration, pharmacy and dietitian clinical management, and/or the avoidance of catheter-related sepsis. More in-depth cost analyses of inpatient MNT services provided by a RD are needed.

##### **Grade II**

Date of Literature Review for the Evidence Analysis: December 2007

#### **What is the evidence to support the cost-effectiveness, cost benefit or economic savings of outpatient MNT services provided by an RD?**

##### **Conclusion**

Ten studies were reviewed to evaluate the cost-effectiveness, cost benefit and economic savings of outpatient MNT, involving in-depth individualized nutrition assessment and a duration and frequency of care using the Nutrition Care Process to manage disease. Using a variety of cost-effectiveness analyses, the studies affirm that MNT resulted in improved clinical outcomes and reduced costs related to physician time, medication use and/or hospital admissions for people with obesity, diabetes and disorders of lipid metabolism, as well as other chronic diseases. Further research is needed on the cost-effectiveness, cost benefit and economic savings of outpatient MNT in other disease states.

##### **Grade I**

Literature Review for the Evidence Analysis: December 2007

#### **What is the evidence to support the cost-effectiveness, cost benefit or economic savings of lifestyle interventions for diabetes prevention?**

##### **Conclusion**

Compared with pharmacotherapy or no intervention, lifestyle interventions for diabetes prevention were cost-effective in terms of cost per quality-adjusted life years gained, based on six cost-effectiveness analyses.

**Grade I**

Date of Literature Review for the Evidence Analysis: December 2007

Overall strength of the available supporting evidence: Grade I - good; Grade II - fair; Grade III - limited; Grade IV - expert opinion; Grade V: not assignable



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**COMMENT 6:**

**Screening and Treatment of Eating Disorders  
is a Gap in USPSTF-Recommended  
Preventive Services for Women and Girls**

**COMMENT 6: Screening and Treatment of Eating Disorders is a Gap in USPSTF-Recommended Preventive Services for Women and Girls.**

The USPSTF does not have a recommendation for addressing eating disorders. Both nutrition counseling and behavioral health treatment to address eating disorders should be included as preventive services for women and girls.

**RATIONALE**

**Eating Disorders are a Critical Health and Behavioral Health Condition for Women and Girls**

Thinness is culturally promoted in the United States; 59.3 percent of females between grades 9 through 12 report that they are trying to lose weight and 33.1 percent described themselves as overweight.<sup>1</sup> Therefore, addressing healthy eating and providing accurate information about weight and BMI should routinely be part of health maintenance visits beginning at a young age.

Eating disorders involves physical health and behavioral health and sometimes substance abuse. While eating disorders are typically associated with the drive to be thin, they can also be the result of physical or sexual abuse. Eating pathology is associated with depressive and anxiety disorders and also increases their risk, as well as risk for future obesity, substance abuse and health problems. The mortality rate associated with anorexia nervosa is 12 times higher than the death rate of all causes of death for females 15 – 24 years old.<sup>2</sup>

Eating disorders, include threshold and sub-threshold anorexia nervosa (restricted eating with fixed belief that one is too fat), bulimia nervosa (periods of over-eating followed by and purging via vomiting or laxatives), and binge eating disorder. Eating disorders are marked by chronicity and relapse.

In the United States, the lifetime prevalence of anorexia nervosa, bulimia nervosa, and binge eating disorder are estimated to be 0.9 percent, 1.5 percent, and 3.5 percent, respectively, among women. Median age of onset for the 3 disorders is estimated to be 18-21 years.<sup>3</sup> Rates are similar among Caucasian and minority women. Eating disorders affect adolescents and young adults; 95 percent of those with eating disorders are aged 12 – 25. Among adolescents, anorexia is the 3rd most common chronic illness.

“Early identification and treatment of disordered eating and weight control behaviors may prevent progression and reduce the risk of chronic health consequences.”<sup>4</sup> About 3 percent of U.S. adolescents are affected by an eating disorder, but most do not receive treatment for their specific eating condition, according to an NIMH-funded study published in the Archives of General Psychiatry.<sup>5</sup> Treatment for established eating disorders may be prolonged and require hospitalization.

## **SPECIFIC COMMENTS**

Screening in primary care is needed to identify patients with eating disorders. [The Eating Attitudes Test](#) (EAT-26), developed by David Garner, is an effective screening instrument used in the 1998 National Eating Disorders Screening Program. It includes 13 dieting scale items, 6 Bulimia and food preoccupation items, and 7 Oral Control subscale items, all scored on a likert scale. A cut-off score of 20 on the EAT-26 indicates need for referral for a diagnostic interview to establish a diagnosis.<sup>6</sup>

### **Secondary (selective) and Tertiary (indicated) prevention.**

A meta-analysis of eating disorder prevention programs found that effectiveness of certain intervention persisted as long as 2 years and were superior to minimal-intervention control conditions. Larger effects occurred for selective interventions that were interactive (rather than didactic), and multisession rather single-session) programs; for programs offered solely to females over age 15.<sup>7</sup>

Nutrition counseling by an RD is an essential component of the team treatment of patients with anorexia nervosa, bulimia nervosa, and other eating disorders during assessment and treatment across the continuum of care. Diagnostic criteria for eating disorders provide important guidelines for identification and treatment. However, it is thought that a continuum of disordered eating may exist that ranges from persistent dieting to sub-threshold conditions and then to defined eating disorders, which include anorexia nervosa, bulimia nervosa, and binge eating disorder. Understanding the complexities of eating disorders, such as influencing factors, comorbid illness, medical and psychological complications, and boundary issues, is critical in the effective treatment of eating disorders.

The nature of eating disorders requires a collaborative approach by an interdisciplinary team of psychological, nutritional, and medical specialists. The RD is an integral member of the treatment team and is uniquely qualified to provide medical nutrition therapy for the normalization of eating patterns and nutritional status. RDs provide nutritional counseling, recognize clinical signs related to eating disorders, and assist with medical monitoring while cognizant of psychotherapy and pharmacotherapy that are cornerstones of eating disorder treatment. Specialized resources are available for RDs to advance their level of expertise in the field of eating disorders.<sup>8</sup>

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**Comment 7:**

**A Comprehensive Range of Breastfeeding  
Promotion and Support Services is a Gap  
USPSTF-Recommended in Preventive  
Services for Women**



**COMMENT 7: A Comprehensive Range of Breastfeeding Promotion and Support Services is a Gap in USPSTF-Recommended Preventive Services for Women.**

Breastfeeding has received a Grade B recommendation for the USPSTF for interventions during pregnancy and after birth to promote and support breast feeding. This testimony highlights barriers and provides specific comments about what breastfeeding services should be provided to women as preventive services.

**Barriers to Breastfeeding**

The most recent CDC data show that three out of every four new mothers in the United States now starts out breastfeeding, yet the rates of breastfeeding at 6 and 12 months, as well as rates of exclusive breastfeeding at 3 and 6 months, remain stagnant and low.<sup>18</sup> All mothers who choose to start out breastfeeding need the support and protection necessary to accomplish exclusive breastfeeding. Studies have demonstrated that breastfeeding is dose-dependent, and good health outcomes require longer periods of exclusive breastfeeding than currently found in the United States. Exclusive breastfeeding had been stagnant in the U.S for many years and less exclusive breastfeeding coupled with more exclusive or combination formula-feeding appears to contribute to poor health outcomes.<sup>18</sup>

Access to appropriate, evidence-based support during the prenatal and intrapartum periods is critical for the success of breastfeeding.<sup>19</sup> Health care providers have a substantial influence on a woman's decision to breastfeed and on her ability and desire to continue breastfeeding.<sup>20,21</sup> Few health care professionals have received training or kept current about the science of lactation, despite new published research on anatomy, maternal and infant assessment, effective breastfeeding interventions and the development of new community resources for referrals. Mothers and their families know little about breastfeeding and have little access to culturally appropriate breastfeeding information and lactation services. Few hospitals have policies that effectively promote and protect breastfeeding.<sup>18</sup> Due to the lack of professional support, mothers have little confidence, and fear attempting to breastfeed, as they have seen other women in their families and community try and fail. Maternity care practices, peer support, educating mothers, and professional support have been identified as evidence-based practices to promote and support breastfeeding.<sup>22</sup>

**SPECIFIC COMMENTS**

Effective breastfeeding strategy would include providing breastfeeding promotion, education and counseling services to women, offered by qualified individuals based on the level of intervention required, that includes information

about breastfeeding related durable medical equipment, supplies and banked human milk.

**1) Breastfeeding Promotion, Education and Counseling Services:** It is important to develop and implement breastfeeding promotion, protection and support strategies that are comprehensive and well integrated throughout perinatal and pediatric services to include:

Preconception/Interconception

- Education about the importance of breastfeeding, risks of not breastfeeding to both baby and mother
- Breast assessment with anticipatory guidance related to breastfeeding
- Assure an adequate health history and breastfeeding history is performed
- Encourage collaboration with community resources to provide consistent and evidence-based information to children and young women about breastfeeding and normal infant behaviors

Prenatal

- Breast assessment with anticipatory guidance related to breastfeeding
- Health, nutrition and psychosocial history, review of prescription and non-prescription medications, breastfeeding history
- Education about the risks of not breastfeeding
- Education about the needs and behaviors of normal infants
- Community resources including WIC, perinatal services, and local OB/GYN providers
- Timely referral to support groups and encouragement of participation prior to delivery
- Creation of birth plan and breastfeeding plan
- Education about inadequacies of artificial milk, and the financial and time constraints that it creates
- Normalizing the needs and concerns that women have related to breastfeeding and encourage the creation of a plan to contact those who can help them overcome common barriers to exclusive breastfeeding
- Strategies and rationale to avoid unnecessary use of artificial milk

Intrapartum

- Encourage collaboration with hospitals to assure staff education is consistent with patient prenatal education
- Encourage medical providers to maintain intrapartum practices (i.e.: avoid unnecessary childbirth interventions and maternal-infant separation after birth, promote early and frequent skin to skin and cue-based frequent breastfeeding in optimal – laid back - position) that support early optimal breastfeeding initiation such as avoiding non-medically indicated infant supplementation with formula (for other

examples, see BFHI

(<http://www.babyfriendlyusa.org/eng/10steps.html>) , and/or CA Model Hospital Policy Recommendations

(<http://www.cdph.ca.gov/programs/breastfeeding/Documents/MO-05ModelHospitalPolicyRecommend.pdf>, or <http://cdph.ca.gov/CAHospitalBFToolkit>)

- Appropriate and frequent breastfeeding assessments with evidence-based interventions when necessary.
- Encourage timely:
  - evidence-based interventions, including education on positioning, hand expression and normal infant behavior
  - access to equipment necessary to assist in breastfeeding, and the use of feeding tools, if supplementation is necessary, that will support breastfeeding
  - Banked human milk if supplementation is medically indicated
    - Encourage hospitals to refer patients to WIC and other community breastfeeding support services and groups
    - Prior to discharge, assure early newborn follow-up by setting up an appointment for first pediatric visit and breastfeeding assessment per AAP Guidelines

#### Postpartum

- Reach out to newly-discharged mothers within the first 3 days after discharge and on a routine basis thereafter (8, 12, 21 days) to offer postnatal support to breastfeeding mothers through continued health education, anticipatory guidance and counseling.
- Assessment of all breastfeeding newborn infants by a pediatrician or other knowledgeable and experienced health care professional at 3 to 5 days of age as recommended by the AAP.
- Encourage the use of durable medical equipment such as breast pumps to support lactation including when mothers are going back to work or school.
- Facilitate appropriate and timely referrals of breastfeeding mothers to professional lactation consultation services.
- Home visiting breastfeeding assistance when medically necessary
- Mothers should be made aware of the option of banked human milk when mothers' own milk is not available.
- Ensure that services are provided by knowledgeable health practitioners experienced in providing lactation consultation, such as physicians, International Board Certified Lactation Consultants (IBCLC), registered nurses, and registered dietitians under the direction of a physician.

One of the first decisions a new mother makes about infant care is whether she will breastfeed, use formula, or a combination of the two. Thus, it is important to ensure that all pregnant and postpartum mothers are well-informed when making

infant feeding decisions, and that support for breastfeeding is available and accessible after delivery.

Given the extensive benefits of breastfeeding for the health of the mother and infant, it is essential to have comprehensive breastfeeding promotion strategies. Broad approaches to the promotion of breastfeeding including: adoption of network-wide clinical standards, utilizing existing educational resources, and working with local breastfeeding coalitions.

Exclusive breastfeeding is ideal nutrition sufficient to support optimal growth and development for approximately the first six months after birth. The AAP recommends that breastfeeding continue for at least 12 months, and thereafter for as long as it benefits both mother and infant. There is a benefit to having a joint management approach between pediatricians and obstetricians. The obstetrician's encouragement is essential to increasing the initiation frequency, and the pediatrician's support is essential to extending the duration of breastfeeding.

The obstetrician's encouragement is essential to increasing the initiation frequency, as well as supporting her after delivery and when planning contraception, and the pediatrician's support is essential to extending the duration of breastfeeding.

#### Guidelines for Breastfeeding Education

All education materials must be reviewed to assure that they are culturally/linguistically appropriate. Education on the following topics should be provided:

- Explanation of benefits related to breastfeeding/lactation
- Risks of formula feeding
- Lifestyle issues
- How to get support from family and friends
- Role of Father
- Economic advantages to breastfeeding
- Milk production
- Reasons for frequent skin to skin contact
- Breastfeeding positions, especially concentrating on the "laid back" position that has been found much easier during the initiation of breastfeeding
- Assessment of latch/milk transfer
- Normal infant behaviors including:
  - Feeding and satiation cues
  - Sleep cycles
  - Dealing with crying and over-sleeping infants
- Prevention and management of possible problems Normalizing the needs and concerns that women have related to breastfeeding and encourage the

creation of a plan to contact those who can help them overcome common barriers to exclusive breastfeeding.

- Ways to overcome commonly perceived barriers to breastfeeding
- Medical interventions and their effect upon breastfeeding
- When to seek help
- Working and breastfeeding- including applicable laws
- Where to get additional information and resources
- Back to school and/or work and breastfeeding

**2) Negative or contradictory messages about breastfeeding.** Written and other media ads should not include pictures/images of pacifiers, baby bottles and formula feeding equipment.

Culturally appropriate educational materials at provider sites during routine and prenatal care visits is an effective way to reach mother.

All potential conflicts of interest should be avoided by not performing marketing functions for formula companies. Medical providers should be discouraged from promoting or distributing samples, or performing other marketing functions for formula companies. All materials given to patients must be screened carefully for negative or contradictory messages about breastfeeding. Given that early supplementation of infant formula may result in early termination of breastfeeding and contribute to negative health consequences, formula samples, coupons, and materials from infant formula companies should not be distributed to pregnant and postpartum women.

### **3) Human Milk Bank**

Recognizing that banked human milk is the preferred feeding for infants whose mothers are not able to breastfeed and adequately provide their own safe pumped breast milk, mothers should be made aware of this important option; The human milk bank can be used for newborns when mother and /or infant is unable to breastfeed due to medical reasons. It is important that policies and procedures be established for ensuring the timely provision of human milk, and information provided to mothers who are effectively breastfeeding so they can donate their milk to the bank when possible.

## **ADDITIONAL INFORMATION AND RESOURCES**

Breastfeeding is an essential component of health promotion for both mother and child. Breastfeeding is an important strategy in reducing the risk of obesity and its health-damaging sequelae to women's health. Exclusivity of breastfeeding and longer duration of breastfeeding both are protective of obesity.<sup>1</sup> A recent systematic review of breastfeeding research reports an association between being breastfed and a reduced risk of being overweight or obese in adolescence and adult life.<sup>2</sup>

Extensive research has documented many hazards to both mother and baby from formula-feeding, including hypertension, cardiovascular disease, and diabetes.<sup>3</sup> Documented by extensive research,<sup>4</sup> all major medical organizations recommend exclusive breastfeeding for the first six months, followed by continued breastfeeding for the first year and beyond, with the gradual introduction of appropriate complementary foods to the infant's diet beginning around six months of age.<sup>5-11</sup>

For infants, there is evidence that infants who are not breastfed are more susceptible to illnesses and obesity throughout their life. While breastfeeding has already been identified as the evidence-based standard for nutrition and immunization for infants, there are many barriers for mothers to breastfeed that must be addressed as an essential benefit.<sup>12</sup>

According to the Bright Futures Guidelines, breastfeeding promotion is a key aspect of the prenatal visit to establish a relationship with the child's future medical home, in particular for expectant mothers who have not yet decided on a feeding method or who are unsure about the benefits or their ability to successfully breastfeed.<sup>13</sup> The risks of not breastfeeding for the mother and baby can be emphasized and parental questions or concerns about breastfeeding and breast milk can be addressed. A priority for the prenatal visit is to listen to a woman's perceived barriers, discuss the breastfeeding decision (breastfeeding plans, breastfeeding concerns, past experiences, prescription or nonprescription medications/drugs, breastfeeding support systems, and financial resources for infant feeding) and collaborate with those who will be caring for her at and after delivery to provide early and easy access to support after delivery.

*A Purchaser's Guide to Clinical Preventive Services: Moving Science into Coverage produced by the National Business Group on Health*, describes clinical preventive services recommended for coverage selected by the National Business Group on Health with technical assistance from the Centers for Disease Control and Prevention (CDC) and the Agency for Healthcare Research and Quality (AHRQ). The *Purchaser's Guide* recommendations are based mainly on AHRQ's USPSTF recommendations for clinical preventive services. In the *Purchaser's Guide* chapter: The Maternal and Child Health Plan Benefit Model: Evidence-Informed Coverage,<sup>14</sup> it is stated that breastfeeding promotion is cost saving, donor milk is cost-saving for limited populations, and lactation consultants credentialed by the International Boards of Lactation Consultant Examiners (IBCLCs) are approved for the provision of breastfeeding counseling, training and support. They recommend that minimum plan benefits include rental or purchase and repair as well as adjustment of durable medical equipment that is medically necessary, including high-quality breast pumps for assistance with breastfeeding and banked human milk, and the requisite supplies, processing and shipping fees.

In 2010, the U.S. Department of Health and Human Services' (DHHS) established new goals to foster increased rates of exclusive breastfeeding as a means of promoting the overall health of the nation. The Healthy People 2020: National Health Promotion and Disease Prevention Objectives<sup>15</sup> have four national objectives to increase breastfeeding initiation, exclusivity and duration rates, including:

**MICH-21** Increase the proportion of infants who are breastfed: 1) Ever, 2) At 6 months, 3) At 1 year, 4) Exclusively through 3 months, 5) Exclusively through 6 months.

**MICH-22** Increase the proportion of employers that have worksite lactation support programs.

**MICH-23** Reduce the proportion of breastfed newborns who receive formula supplementation within the first 2 days of life.

**MICH-24** Increase the proportion of live births that occur in facilities that provide recommended care for lactating mothers and their babies.

Exclusive breast milk feeding rate during birth hospital stay is calculated by the California Department of Public Health using newborn genetic disease testing data. In 2009, in California, 86.2 percent of women breastfed in the hospital, but only 49.6 percent were able to do so exclusively.<sup>16</sup> Looking at duration in California, in 2008, any breastfeeding was at 60 percent and exclusive breastfeeding was 33 percent at 3 months, while less than one third of Hispanic (26.1 percent) and Black (19.9 percent) mothers breastfed exclusively.<sup>16,17</sup> This was below the Healthy People 2020 Objective for exclusive breastfeeding at 3 months of 44.3 percent.

California data is actually better than most states.<sup>18</sup>

### **Resources:**

Academy of breastfeeding Medicine protocols:

<http://www.bfmed.org/Resources/Protocols.aspx>. Accessed December 16, 2010.

Reasons for Lactation Consults and recommended staffing, United States Lactation Consultants Association (USLCA):

[http://www.uslca.org/documents/Staffing%20Statement/IBCLC\\_Staffing\\_Recommendations\\_July\\_2010.pdf](http://www.uslca.org/documents/Staffing%20Statement/IBCLC_Staffing_Recommendations_July_2010.pdf). Accessed December 16, 2010.

Bright Futures <http://brightfutures.aap.org/index.html>

International Lactation Consultant Association, find an Internationally Board Certified Lactation Consultant (IBCLC):

<http://www.ilca.org/i4a/pages/index.cfm?pageid=3432>. Accessed December 16, 2010.

United States Lactation Consultants Association (USLCA) press releases:

<http://www.uslca.org/pressroom.html>. Accessed December 16, 2010.

International Board of Lactation Consultant Examiners (IBLCE)

- scope of work and Ethics: <http://www.iblce.org/professional-standards>. Accessed December 16, 2010.
- Reasons for IBCLC consults <http://americas.iblce.org/why-hire-an-ibclc>. Accessed December 16, 2010.

La Leche League International ([www.lalecheleague.org](http://www.lalecheleague.org))

- For breastfeeding handouts in various languages
- information about access to mother-to-mother support groups
- Internet discussion groups

National Women's Health Information Center

([www.womenshealth.gov/breastfeeding/government-programs/](http://www.womenshealth.gov/breastfeeding/government-programs/))

- National Breastfeeding Helpline: 800-994-9662
- Business Case for Breastfeeding

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