Relevance to Population: UPMC Health Plan is dedicated to high-quality evidence based prenatal care of the membership of women of childbearing age, including the population at high risk. Prenatal care includes preconception care that identifies health and social risks that leads to poor pregnancy outcomes, low birth weight and infant mortality.

Population Covered by Guideline: All pregnant women.

Clinical Indicators Measured by UPMC Health Plan:
1. Screening for Timeliness of Prenatal Care. HEDIS®
2. Screening for Postpartum Care. HEDIS®

Definition: Care provided the pregnant woman in order to prevent complications and decrease the incidence of maternal and prenatal mortality.

Prenatal Care:
The current American College of Obstetricians and Gynecologists (ACOG) Guidelines for Perinatal Care, Sixth Edition October 2007 is available at http://www.acog.org/publications/guidelinesForPerinatalCare/ ¹

The following is a summary of the key clinical indicators of the guideline.

Office visits
- Frequency:
  - Advise office visit at 8–10 weeks of pregnancy (if first contact earlier)
  - Every 4 weeks for first 28 weeks
  - Every 2–3 weeks until 36 weeks gestation
  - Every week after 36 weeks gestation
- Frequency of visits are determined by individual needs and assessed risk factors
- Goal: Coordination of care for detected medical, psychosocial complications and risk factors

First Prenatal Visit (8–10 weeks of pregnancy if first contact earlier)
- Assessment
  - Initial history and physical
  - Family medical history
  - Genetic history
  - General exam to confirm pregnancy
  - Complete needs assessment
  - Preterm labor risk, education and prevention
  - Assess for tobacco, alcohol, drug use
  - Domestic violence screening
  - Prescriptions: prenatal vitamins or iron supplement
- Education and counseling
  - Scope of care provided in the office and anticipated schedule of visits
  - Advise regarding specific complications
  - Discuss lab studies/testing; expected course of pregnancy; genetic counseling and testing including Cystic Fibrosis (CF) and tests for aneuploidy; HIV counseling/education; breastfeeding, choosing the child’s physician
  - Education regarding: Labor and delivery, nutrition, exercise, working, air travel, routine dental care, tobacco use and smoke exposure, alcohol/drug consumption, etc.
  - Practices to promote health maintenance such as use of safety restraints including lap and shoulder belts
  - Encourage prenatal classes
  - Encourage maternity program enrollment
  - Offer influenza vaccination, regardless of the stage of pregnancy, if the woman will be pregnant during the influenza season.
Laboratory/diagnostic studies
  - Type and screen
  - CBC for H&H and MCV
  - Hepatitis B surface antigen (HBsAg)
  - RPR
  - Chlamydia if ≤ age 25 or >25 with risk factors
  - Screening for gestational diabetes if at high risk (see section on gestational diabetes below)
  - HIV testing unless they decline (opt-out approach)
  - Pap smear (if not done pre-pregnancy)
  - Urinalysis including microscopic examination
  - Urine C&S
  - Any additional testing indicated by the risk assessment or genetic history.

Goals:
  - Improve the timeliness of prenatal care
  - Prenatal care within the first trimester or within 42 days of enrollment
  - Provide education and recommended screening and intervention
  - Monitor progression of pregnancy
  - Assess the well-being of the woman and her fetus
  - Early detection and intervention of high risk factors
  - Complete 80% of expected prenatal visits. (ACOG recommends 14 visits)
  - Decrease the incidence of smoking during pregnancy
  - Improve the frequency of appropriate testing during pregnancy

**Gestational Diabetes (GDM) Risk**

Risk assessment for GDM should be undertaken at the first prenatal visit and categorized as follows:

- **High Risk Status**
  - Prepregnancy BMI ≥ 27 kg/m²
  - Personal history of GDM
  - Glycosuria
  - Previous delivery of a baby greater than 9 pounds (4.1 kg)
  - Family history of diabetes

- **Intermediate Risk Status**
  - Neither high-risk nor low-risk criteria are met

- **Low Risk Status**
  - Age <25 years old
  - Weight normal before pregnancy (BMI < 25)
  - Member of an ethnic group with low prevalence of GDM
  - No known diabetes in first-degree relatives
  - No history of abnormal glucose tolerance
  - No history of poor obstetric outcome

A woman with a low risk does not require additional glucose screening. Women that fall into the high risk category should be screened using a glucose challenge test (GCT) as soon as possible. If the screening test is abnormal, further testing should be done using a three-hour glucose tolerance test to determine if the woman has GDM. If the initial screening is negative high risk women should be have a repeat GCT at 24-28 weeks gestation. Women at intermediate risk should also be screened with a GCT at 24-28 weeks. Any woman with an abnormal result should be further tested using a three-hour oral glucose tolerance test to determine the presence of GDM.

When the above criteria for Low Risk Status were applied to data from more than 18,000 pregnancies in a predominantly Caucasian population, researchers determined that only 3% of women with GDM would not have been diagnosed. However, only 10% of the population would have been exempted from screening. For this reason, many physicians elect to screen all pregnant patients as a practical matter.
Recent research by the Hyperglycemia and Adverse Pregnancy Outcomes (HAPO) has suggested that using a one-step screening method, instead of the two-step method described above, results in more accurate identification of women with GDM. The study also emphasized that universal screening is the best method to improve diagnosis results. The International Association of Diabetes and Pregnancy Study Groups (IADPSG) and the American Diabetes Association (ADA) is currently working with U.S. obstetrical organizations to consider adopting diagnostic criteria recommended by the HAPO study. A diagnosis of “Overt Diabetes” is also under consideration for high risk women who meet the criteria for GDM prior to 24 weeks gestation.

**Subsequent Prenatal Visits**

- Every visit
  - Urine for protein
  - Vital signs
  - Weight (height/weight/BMI – initial visit)
  - Fetal assessment from 10th week
  - Uterine size for progressive growth and consistency with EDD
  - Domestic violence screening
  - Assessment of tobacco use and smoke exposure

- 11 – 14 weeks
  - Pelvic exam if fetal heart tones (FHT) not heard with amplification
  - Discuss breastfeeding
  - Review laboratory data
  - Offer screening tests for aneuploidy. This may be a combination of first and second trimester blood tests and ultrasounds depending on availability. All pregnant women, regardless of age, should be offered screening for aneuploidy. Women found to have increased risk for aneuploidy with screening should be offered genetic counseling and the option of chorionic villus sampling (CVS) or second trimester amniocentesis.
  - First trimester screening using nuchal translucency (NT) measurement and a blood test should be limited to those centers or individuals with expertise in these measures.

- 15-20 weeks
  - Offer ultrasound
  - Offer screening test for aneuploidy, if not done in first trimester (triple/quad screen). This also incorporates neural tube defect (NTD) screening. Screening and invasive diagnostic testing for aneuploidy should be available to all women who present for prenatal care before 20 weeks of gestation regardless of maternal age.
  - Offer genetic counseling and the option of second trimester amniocentesis to women found to have increased risk for aneuploidy with screening.
  - Offer neural tube defect screening (MSAFP) to women who elect first trimester screening for aneuploidy.
  - Advise regarding normal fetal movement, fetal movement assessment (kick counts); review signs and symptoms of pre-term labor (PTL).
  - Review results of MSAFP/triple/quad screen and ultrasound if not already done.

- 24 – 28 weeks
  - Screening for gestational diabetes
  - Select baby’s medical provider

- 28 weeks
  - Repeat type and screen if Rh negative, H&H
  - Administer Rhogam if Rh (-) and indirect Coombs (-)
  - Confirm and document name of baby’s medical provider
o Discuss cord blood banking to allow a pregnant woman to make an informed decision on whether to participate in a public or private umbilical cord blood banking program. (In accordance with PA House Bill 874)

- 32 – 34 weeks
  o Repeat STD if high risk
  o Discuss Group B Strep protocol

- 36 weeks
  o Determine fetal position
  o Group B Strep culture
  o Labor education: latent phase of labor, rupture of membranes (ROM), active labor management, analgesia in labor

- 38 weeks
  o Review labor education; discuss contraception and prescribe contraception as needed

- > 41 weeks
  o Baseline nonstress test (NST) or contraction stress test (CST), ultrasonography (US), biophysical profile (BPP) or a combination of these tests
  o Discuss labor induction > 41 weeks

**Postpartum Care**

- Postpartum vaccine
  o Women (including women who are breastfeeding) who have not received a dose of Tdap previously should receive Tdap after delivery and before discharge from the hospital if 2 years or more have elapsed since the most recent dose of Td. If Tdap can’t be administered before discharge, it should be administered as soon as feasible. The dose of Tdap substitutes for the next decennial dose of Td.6

- Postpartum visit
  o On or between 21 days and 56 days after delivery
    - Pelvic exam and/or weight, BP, breast, and abdomen exam
    - Screen for postpartum depression. Refer for intervention if indicated.
  o Women with GDM should be screened for diabetes 6-12 weeks postpartum and should be followed up with subsequent screening for the development of diabetes or pre-diabetes.7

**Goal:** Return to optimal maternal health and recovery post pregnancy

**Clinical practice guidelines** are designed to assist clinicians by providing a framework for the evaluation and treatment of patients. The prenatal clinical practice guideline is based on the most current recommendations from the American College of Obstetricians and Gynecologists in addition to the scientific evidence sources referenced below. The current ACOG guideline for the management of prenatal and postpartum care is available at [http://www.acog.org/publications/guidelinesForPerinatalCare/](http://www.acog.org/publications/guidelinesForPerinatalCare/)
Additional Resources for UPMC Health Plan Members

- **My Health Advice Line** is staffed by experienced Registered Nurses and is available 24/7 to provide telephonic support to members. Call 1-866-918-1591.

- **Health Management** programs provide intensive case management for members with specific chronic illnesses or conditions. The programs are built upon best practices and accepted clinical guidelines and include:
  - Maternity Program - UPMC for a New Beginning (1-866-463-1462 - Select the option for the Maternity Program)
  - Diabetes
  - Asthma
  - Depression

Members and providers can obtain additional information about the Health Management programs by calling 1-866-778-6073.

- **On line** interactive preventive health programs and resources are available at [www.upmchealthplan.com](http://www.upmchealthplan.com)
  - Ready Set Stop -- smoking cessation program
  - LEAP -- fitness program
  - Nutrition center

**Scientific Evidence Sources:**

7. Jovanovic L MD. Screening and diagnosis of diabetes mellitus during pregnancy. *UpToDate*; Ver. 18.2, updated June 18, 2010