The risk of death from complications of pregnancy decreased dramatically during the 20th century: from about 850 maternal deaths per 100,000 live births in 1900 to 7.5 deaths per 100,000 in 1982. There has been little improvement since then—although a goal of 3.3 deaths per 100,000 has been established. The maternal mortality ratio is highest for women over age 40. Most frequent causes of death are: embolism, hemorrhage, hypertension, infection, cardiomyopathy, stroke, and anesthesia.

UNDERWRITING CONSIDERATIONS

Although the large majority will be issued at standard rates, special questions arise in underwriting pregnant applicants. Only a superficial and limited review of pregnancy is possible here, but three general questions for the underwriter are:

1. **What is “normal” or “expected” during pregnancy?**

   Obviously, a woman’s weight, shape, and posture change during pregnancy. In addition, there are changes to her laboratory profiles and physical exam. A 15 – 40 lb. weight gain is typical, but quite variable. There is an increase in total blood volume and several blood values drop: hemoglobin and hematocrit, fasting glucose, total protein and albumin, BUN and creatinine, calcium and magnesium, and uric acid. Iron levels drop and a woman needs iron and vitamin supplementation during pregnancy. Other blood tests rise during pregnancy: alkaline phosphatase, white count, sedimentation rate, and lipids such as cholesterol and triglycerides. Thyroid function tests and liver function tests should NOT change during pregnancy. Blood pressure drops but returns to normal adult levels by term. Pulse rises, and an innocent heart murmur may appear.

   Common complaints during pregnancy include nausea and vomiting, pigment changes and striae (stretch marks), edema, urinary frequency, body aches, varicosities and hemorrhoids, fatigue, vaginal discharge, shortness of breath, and heartburn.
2. **Does this applicant have a pre-existing medical condition that interferes with pregnancy or could be adversely affected by pregnancy?**

Any medical condition may be present during pregnancy, ranging from asthma to seizures to most others, and each may require special medical attention. It is impossible to list and review all possible interactions between pre-existing medical conditions and pregnancy, but some may be dangerous (such as valvular heart disease, renal failure, uncontrolled hypertension, uncontrolled diabetes, and clotting disorders). Gall bladder disease may flare and require emergency surgery. Screening for HBV and HIV is commonplace during pregnancy. Cancers may appear during pregnancy, such as breast, cervical, and ovarian. The pregnancy may delay definitive diagnosis and treatment. Urinary tract infections are common and can range from mild to very serious. Unrecognized bleeding and clotting disorders may become manifest during pregnancy and the postpartum period. Thromboembolism is a leading cause of maternal mortality. Thyroid disease may become apparent during pregnancy or during the postpartum period.

3. **Does this applicant show evidence of a pregnancy-related condition that points to an increased risk of morbidity or mortality—either during her pregnancy or later in life?**

Pregnant women are routinely screened for **gestational diabetes** (GM). This glucose impairment first appears during pregnancy and may disappear after delivery but such women are at future risk for type 2 diabetes. Likewise, **pregnancy-induced hypertension** (PIH) can produce dangerously high blood pressures during pregnancy. Plus, it increases a woman’s risk of later developing chronic hypertension. Stroke is possible, sometimes in the pituitary gland (Sheehan syndrome). Other potentially fatal hypertensive events during pregnancy are HELLP and eclampsia/pre-eclampsia. **HELLP is a complex that includes hemolysis, dropping platelets, and elevated liver enzymes.** There can be renal failure, clotting failure, and other complications. Eclampsia/pre-eclampsia is a syndrome of proteinuria, hypertension, and edema. There can be seizures. A related condition is **acute fatty liver of pregnancy** (AFLP). It can lead to fatal liver failure. Any hypertensive complication of pregnancy is a risk for chronic renal disease. Another serious complication of pregnancy is cardiomyopathy. It can lead to rapidly progressive heart failure—or there may be complete recovery. Molar pregnancy and choriocarcinomas are two tumors associated with the products of conception. In general, these tumors are very amenable to treatment. Postpartum depression can be mild to severe (suicidal behavior or psychosis).

**High-risk pregnancies** are those situations in which there may be a danger to mother or fetus. Situations include many of those listed above as well as multiple gestation (twins, etc.), very young or very old maternal age, extremes of maternal weight, maternal smoking, maternal substance abuse, uterine anomalies and ectopic pregnancy, previous Caesarian section, extremes of fetal size (too small or too large), fetal anomalies, fetal distress and malposition, placenta previa and abruptio, preterm labor, preterm premature rupture of membranes, and so on.

Normal pregnancy presents little mortality risk and, if there are no other medical impairments, is issued at standard rates. Other cases are given individual consideration.