

## MSS Prenatal Targeted Risk Factor Matrix

MSS Risk Factor		Definition	Desired Outcome	Rationale for Risk Factor	Risk Factor Criteria
<b>Race</b>		<p><b>Client (woman) identifies herself as:</b></p> <ul style="list-style-type: none"> <li>African American or Black</li> <li>American Indian, Alaska Native, or non-Spanish speaking indigenous women from the <b>Americas</b> (e.g. women whose primary language is Mixteco, Mam, or Kanjobal, etc.)</li> <li>Pacific Islander</li> </ul>	<ul style="list-style-type: none"> <li>Term birth greater than or equal to (<math>\geq</math>) 37 weeks gestation</li> <li>Infant weighing greater than or equal to (<math>\geq</math>) 5 pounds 8 ounces</li> </ul>	<p>African American and Black women have a significantly higher risk for LBW and preterm birth. In addition, currently known risk factors associated with LBW/preterm birth do not capture all African American women at risk.</p> <p>American Indians or Alaska Natives (as a population) have more risk factors associated with LBW/preterm birth than other populations in this state.</p> <p>Pacific Islanders have the lowest rates among all racial groups for seeking prenatal care in the first trimester. They also have the second highest rate of preterm births behind African Americans.</p>	<p><b>A.</b> Not an option for this risk factor  <b>B.</b> Not an option for this risk factor  <b>C.</b> American Indian, Alaska Native or non-Spanish speaking indigenous women from the Americas (see definition)  <b>Or</b>  African American or Black  <b>Or</b>  Pacific Islander</p>
<b>Prenatal Care</b>		<p><b>Late Entry prenatal care</b> - women greater than or equal to (<math>\geq</math>) 14 weeks gestation and no prenatal care is established at the time of screening</p>	<ul style="list-style-type: none"> <li>Prenatal care initiated before 14 weeks gestation</li> <li>Prenatal care initiated within 1 month of starting MSS</li> </ul>	<p>Early prenatal care provides important medical assessment including ultrasound and blood and urine tests. Early care is important to identify more accurate gestational age of the fetus and any possible problems. Late entry can also be an indicator of other risk factors associated with poor birth outcomes.</p>	<p><b>A.</b> Greater than or equal to (<math>\geq</math>) <b>14</b> and less than (<math>&lt;</math>) <b>24 weeks</b> gestation <b>and no prenatal care</b> started at time of screening.  <b>B.</b> Greater than or equal to (<math>\geq</math>) <b>24</b> weeks gestation before prenatal care started  <b>Or</b>  Greater than or equal to (<math>\geq</math>) <b>24</b> weeks gestation <b>and no prenatal care</b> has been started  <b>C.</b> Not an option for this risk factor</p>
<b>Nutrition</b>	<b>Food insecurity</b>	<p><b>Food insecurity</b>- Runs out of food before the end of the month or cuts down on amount eaten to feed others</p>	<ul style="list-style-type: none"> <li>Accessing WIC and food resources</li> </ul>	<p>Food insecurity places women at high risk for poor nutrition (malnutrition, anemia), weight gain issues, chronic stress, depression, and inability to address other issues in her life including medical appointments and health conditions.</p>	<p><b>A.</b> Runs out of food before the end of the month or cuts down on food to feed others  <b>B.</b> Not an option for this risk factor  <b>C.</b> Not an option for this risk factor</p>

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<b>Nutrition</b>	<b>Pre-pregnancy BMI</b>	<p><b>Pre-pregnancy BMI less than (&lt;) 18.5</b></p> <p>Pre-pregnancy Body Mass Index (BMI) classified as underweight (less than &lt; 18.5 BMI)</p> <p>Use CDC BMI table for adults</p>	<p>Total pregnancy weight gain within Institute of Medicine (IOM) recommendation based on Pre-pregnancy BMI:</p> <ul style="list-style-type: none"> <li>• <b>Singleton Birth</b> – 28 to 40 pounds total for the pregnancy. Approximately 1+ pound a week starting in the second trimester.</li> <li>• <b>Multiples</b> - no set guideline. Approximately 40+ pounds total.</li> </ul>	<p>Underweight women are four times more likely to deliver a low birth weight and/or preterm infant regardless of pregnancy weight gain.</p> <p>Women who gain less than the Institute of Medicine’s guidelines are at 6 times the risk. Research shows that women who eat a quality diet and gain within IOM recommendations have better birth outcomes.</p>	<p><b>*A.</b> Pre-pregnancy BMI less than (&lt;) <b>18.5</b> but pregnancy weight gain <b>within</b> guidelines (see desired outcome column)</p> <p><b>B.</b> Not an option for this risk factor</p> <p><b>*C.</b> Pre-pregnancy BMI less than (&lt;) <b>18.5</b> and <b>inadequate</b> weight gain based on guidelines (see desired outcome column)</p>
		<p><b>Pre-pregnancy BMI 25 to 29</b></p> <p>Pre-pregnancy Body Mass Index (BMI) classified as overweight (Pre-pregnancy BMI 25.0 to 29.9)</p> <p>Use CDC BMI table for adults</p>	<p>Weight gain within IOM recommendation based on Pre-pregnancy BMI:</p> <ul style="list-style-type: none"> <li>• <b>Singleton birth</b> – 15 to 25 pounds total for the pregnancy. Approximately 1/2 pound a week starting second trimester</li> <li>• <b>Multiple Birth</b> - 31to 50 pounds total</li> </ul>	<p>Women with a pre-pregnancy BMI 25.0 to 29.9 are twice as likely to develop diabetes and hypertension than women who start out in the normal BMI range pre-pregnancy.</p>	<p><b>A.</b> Pre-pregnancy BMI <b>25.0 to 29.9</b> (See desired outcome column)</p> <p><b>B.</b> Not an option for this risk factor</p> <p><b>C.</b> Not an option for this risk factor</p>
		<p><b>Pre-pregnancy BMI greater than or equal to(≥) 30</b></p> <p>Pre-pregnancy Body Mass Index (BMI) classified as obese (Pre-pregnancy BMI greater than and equal to(≥) 30.0)</p> <p>Use CDC BMI table for adults</p>	<p>Weight gain within IOM recommendation based on Pre-pregnancy BMI:</p> <p><b>Singleton Birth -</b></p> <ul style="list-style-type: none"> <li>• 11-20 pounds total for the pregnancy with women who are high in BMI gaining at the lower end of the weight gain range</li> <li>• Approximately 1/2 pound a week starting second trimester</li> <li>• 4 pounds or less the first trimester</li> </ul> <p><b>Multiples</b> - 25 to 42 pounds</p>	<p>Women with a pre-pregnancy BMI greater than or equal to (≥) 30.0 are more than twice as likely to have a poor birth outcome regardless of pregnancy weight gain. That risk increases with the increase in BMI (40 BMI = 8 times the risk).</p> <p>Obese women are twice as likely to have a stillbirth, fetal abnormality, and preterm birth due to metabolic changes that include glucose intolerance (separate from GDM) and lipid metabolism.</p>	<p><b>*A.</b> Pre-pregnancy BMI greater than or equal to (≥) <b>30.0</b> and pregnancy weight gain <b>within</b> guidelines (See desired outcome column)</p> <p><b>*B.</b> Pre-pregnancy BMI greater than or equal to (≥) <b>30.0</b> and weight gain <b>not within</b> guidelines (see desired outcome column)</p> <p><b>C.</b> Not an option for this risk factor</p>

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<b>Inter-pregnancy Interval less than 9 months</b>		Period between end of last pregnancy and current pregnancy is less than (<) 9 months. (This includes miscarriages, terminations)	<ul style="list-style-type: none"> <li>• Term birth greater than or equal to (<math>\geq</math>) 37 weeks gestation</li> <li>• Infant born weighing greater than or equal to (<math>\geq</math>) 5 pounds 8 ounces</li> </ul>	Shorten Interval between pregnancies does not allow for the woman's body to return to the most optimum physiologic/nutrition status before pregnancy.	<b>A.</b> Current pregnancy conception less than (<) 9 months from end of last pregnancy <b>B.</b> Not an option for this risk factor <b>C.</b> Not an option for this risk factor
<b>Medical</b>	<b>Diabetes</b>	<b>Diabetic Type 1 or 2</b>  Diabetes diagnosed prior to pregnancy: <ul style="list-style-type: none"> <li>• <b>Type 1</b> is an insulin dependent diabetic</li> <li>• <b>Type 2</b> is diet controlled and possibly taking oral medication</li> </ul>	<b>Stable blood sugars:</b> Fasting 60mg -100mg/dl 1hr postprandial 100-140 mg/dl 2hr postprandial <120 mg/dl Before Bed 100-120mg/d  <b>Weight gain within Institute of Medicine (IOM) guidelines based on Pre-pregnancy BMI:</b> Example for singleton <18.5 BMI: 28-40 lbs 18.5 to 24.9 BMI: 25-35 lbs 25.0 -29.9 BMI: 15-25 lbs $\geq$ 30.0 BMI: 11-20 lbs	Type 1 or 2 diabetes places women at risks for fetal loss, stillbirth, depression, hypo/hyperglycemia, increased risk of infection, c-section and preterm birth.  Infants are at higher risk for fetal death/stillbirth, birth defects, jaundice, hypoglycemia, macrosomia, diabetes later in life.	<b>A.</b> Not an option for this risk factor <b>B.</b> Not an option for this risk factor <b>C.</b> Diabetic Type 1 or 2
	<b>Gestational Diabetes</b>	<b>Gestational Diabetes:</b> Pregnant women who did not have diabetes prior to pregnancy but have been diagnosed by a medical provider to have high blood sugar (glucose) levels during pregnancy (determined by glucose tolerance test)	<b>Stable blood sugars:</b> Fasting 60mg-100mg/dl 1hr postprandial 100-140 mg/dl 2hr postprandial <120 mg/dl Before Bed 100-120mg/d  <b>Weight gain within Institute of Medicine (IOM) guidelines based on Pre-pregnancy BMI:</b> Example for singleton <18.5 BMI: 28-40 lbs 18.5 to 24.9 BMI: 25-35 lbs 25.0 -29.9 BMI: 15-25 lbs $\geq$ 30.0 BMI: 11-20 lbs	Gestational diabetes places women at risk for preterm birth, depression, infection, and diabetes in the future.  Infants are at higher risk for jaundice, hypoglycemia, macrosomia, and later in life diabetes.	<b>A.</b> Not an option for this risk factor <b>B.</b> History of gestational diabetes with last pregnancy <b>C.</b> Gestational diabetes with current pregnancy
	<b>Multiple Gestation</b>	<b>Pregnant with more than one fetus</b>	Delivery greater than or equal to ( $\geq$ ) 37 weeks gestation.	Multiple fetuses have the highest incidence of preterm/low birth rate and many other poor birth outcomes for both mother and infant.	<b>A.</b> Not an option for this risk factor <b>B.</b> Not an option for this risk factor <b>C.</b> Current pregnancy with multiple fetuses

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<b>Medical</b>	<b>Hypertension (HTN)</b>	<p><b>Chronic high blood pressure (BP):</b> BP screening greater than or equal to (<math>\geq</math>) 140/90 at more than one reading which started before the woman became pregnant or before she is 5 months pregnant (less than (<math>&lt;</math>) 20 weeks gestation)</p> <p><b>Pregnancy induced Hypertension (PIH)/ Gestational Hypertension (GH):</b> Blood pressure screening greater than and equal to (<math>\geq</math>) 140/90 and the woman is more than 5 months pregnant</p>	<p>Blood pressure less than or equal to (<math>\leq</math>) 120/80;</p> <ul style="list-style-type: none"> <li>• Following prescribed care by medical provider</li> <li>• Following diet and exercise routine to promote blood pressure within normal limits</li> </ul>	Chronic high blood pressure and PIH/GH places a woman at high risk for preeclampsia, preterm birth and adverse birth outcomes.	<p><b>A.</b> Gestational Hypertension in past pregnancy.</p> <p><b>B.</b> Not an option for this risk factor</p> <p><b>C.</b> Chronic Hypertension and Pregnancy Induced Hypertension/Gestational Hypertension (see definitions)</p>
	<b>History of Low Birth Weight infant (LBW) and/or premature birth or fetal death</b>	<p>A prior pregnancy resulted in:</p> <ul style="list-style-type: none"> <li>• Low Birth Weight (LBW) infant. LBW = Birth weight less than (<math>&lt;</math>) 5 pounds 8 ounces (2500 gm)</li> <li>• Premature birth less than (<math>&lt;</math>) 37 weeks gestation or fetal death</li> </ul>	<ul style="list-style-type: none"> <li>• Infant born greater than or equal to (<math>\geq</math>) 37 weeks gestation</li> <li>• Infant birth weight greater than or equal to (<math>\geq</math>) 5lbs. 8 oz</li> </ul>	<p>Pregnancy history of LBW/premature infants or fetal death puts a woman at increased risk for repeat LBW/preterm birth for current pregnancy.</p> <p>If a woman with a singleton gestation has had at least one spontaneous preterm labor and/or rupture of the membranes, she may qualify for 17P treatment. Refer the client to ask her OB provider about 17P.</p>	<p><b>A.</b> Not an option for this risk factor</p> <p><b>B.</b> Not an option for this risk factor.</p> <p><b>C.</b> Prior LBW/preterm birth, including fetal death</p> <p style="text-align: center;"><b>Or</b></p> <p>Current <b>preterm</b> labor: client diagnosed with preterm labor (labor before 37 weeks gestation) requiring bed rest or hospitalization</p>
<b>Maternal Age</b>		<b>Maternal age less than (<math>&lt;</math>) 17 at the time of conception</b>	<ul style="list-style-type: none"> <li>• Connected to a support system – family, school, WIC, medical care</li> <li>• Weight gain within Institute of Medicine (IOM) guidelines: Ex of singleton  <math>&lt;</math>18.5 BMI: 28-40 lbs            18.5 to 24.9 BMI: 25-35lbs            25.0 -29.9 BMI: 15-25 lbs  <math>\geq</math>30.0 BMI: 11-20 lbs</li> </ul>	<p>Teens less than (<math>&lt;</math>) 17 years of age are biologically at a greater risk of having a preterm infant.</p> <p>Very young teens, less than (<math>&lt;</math>) 16 years old, have a two fold increase in risk for a very early preterm birth (less than (<math>&lt;</math>) 33 weeks).</p>	<p><b>A.</b> 16 years of age of age at conception</p> <p><b>B.</b> Up through 15 years of age at conception</p> <p><b>C.</b> Not an option for this risk factor</p>

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	<p><b>Maternal age greater than or equal to (≥) 35 years at the time of conception</b></p>	<ul style="list-style-type: none"> <li>• Early screening for hypertension and diabetes</li> <li>• Weight gain within Institute of Medicine (IOM) guidelines: Ex of singleton               <ul style="list-style-type: none"> <li>&lt;18.5 BMI: 28-40 lbs</li> <li>18.5 to 24.9 BMI: 25-35 lbs</li> <li>25.0 to 29.9 BMI: 15-25 lbs</li> <li>≥ 30.0 BMI: 11-20 lbs</li> </ul> </li> </ul>	<p>Risk for poor pregnancy/birth outcomes increase for women greater than and equal to (≥) 35 years of age, i.e. HTN, diabetes, birth defects. Risk for multiple fetuses increases if infertility treatment is used, Assisted Reproductive Technology (ART).</p>	<ul style="list-style-type: none"> <li><b>A.</b> Greater than or equal to (≥) <b>35</b> years of age <b>and</b> prior healthy pregnancy <b>and</b> no assisted reproductive technology</li> <li><b>B.</b> Greater than or equal to (≥) <b>35</b> years of age at conception <b>and</b> one of the following:               <ul style="list-style-type: none"> <li>(1) First pregnancy</li> <li>(2) Assisted reproductive technology (ART) with this pregnancy</li> </ul> </li> <li><b>C.</b> Not an option for this risk factor</li> </ul>
<p><b>Maternal Tobacco/ Nicotine Use</b></p>	<p><b>Use of tobacco/nicotine by client during pregnancy</b></p>	<ul style="list-style-type: none"> <li>• No cigarette, other tobacco, or other nicotine product use during pregnancy</li> <li>• A plan to continue abstinence of tobacco/nicotine use</li> <li>• Client is knowledgeable of resources to support tobacco and nicotine cessation</li> </ul>	<p>Women who quit smoking and using other tobacco and nicotine products before or early in pregnancy significantly reduce the risk for several negative pregnancy outcomes.</p>	<ul style="list-style-type: none"> <li><b>A.</b> Quit 3 months prior to pregnancy or upon pregnancy diagnosis</li> <li><b>B.</b> Continues to use tobacco/nicotine since pregnancy diagnosis</li> <li><b>C.</b> Not an option for this risk factor</li> </ul>
<p><b>Maternal Alcohol and Substance Abuse or Addiction</b></p>	<p>Use or abuse during pregnancy of:</p> <ul style="list-style-type: none"> <li>• Alcohol</li> <li>• Illicit substances – i.e. cocaine, methamphetamine, marijuana, heroin</li> <li>• Non-prescriptive use of prescription drugs i.e. Oxycodone, Xanax</li> <li>• Diagnosed with abuse or dependence to alcohol and or substances and less than (&lt;) 90 days of no use and/or inconsistent participation in Chemical Dependency treatment</li> </ul>	<ul style="list-style-type: none"> <li>• No alcohol, illicit substance use and/or prescription drug abuse during pregnancy</li> </ul>	<p>There is no safe use of alcohol use during pregnancy due to potential or real effects on developing fetus: i.e. alcohol related birth defects including low birth weight or premature birth.</p> <p>Illicit use of addictive substances can lead to complications during pregnancy resulting in poor birth outcomes for both mother and infant: i.e. preterm birth, low birth weight, neonate abstinence syndrome including opiate withdrawal, placenta previa.</p>	<ul style="list-style-type: none"> <li><b>A.</b> Not an option for this risk factor</li> <li><b>*B. Stopped</b> alcohol/substance use upon diagnosis of pregnancy and has not used for more than or equal to (≥) <b>90 days</b></li> <li style="text-align: center;"><b>Or</b></li> <li><b>Actively engaged</b> in alcohol/drug treatment program and has not used alcohol/substance for greater than or equal to (≥) <b>90 days</b></li> <li><b>*C. Stopped use</b> of alcohol, illicit substances, or non-prescriptive use of prescription drugs for less than (&lt;) <b>90 days</b></li> <li style="text-align: center;"><b>Or</b></li> <li><b>Any use</b> of alcohol, illicit substances, or non-prescriptive use of prescriptive drugs <b>once the client knows she is pregnant</b></li> </ul> <p><b>Time spent incarcerated does not count toward 90 day clean and sober.</b></p>

<p><b>Intimate Partner Violence (IPV)</b></p>	<p>According to the CDC, IPV is a serious, preventable public health problem. Intimate partner violence describes physical, sexual, or psychological harm by a current or former partner or spouse. There are 4 main types of IPV (Saltzman et al. 2002): physical violence, sexual violence, threats of physical or sexual violence, and psychological/emotional violence.</p>	<ul style="list-style-type: none"> <li>• Pregnant women are not being exposed or experiencing IPV</li> <li>• All women screened and provided health messages and referrals/developed safety plans if indicated</li> </ul>	<p>The research associated with IPV and low birth weight/preterm birth is evolving with the strongest association at this time for married women.</p> <p>IPV is the leading cause of female homicides and injury-related deaths in pregnancy.</p>	<p><b>A.</b> IPV has occurred more than one year ago  <b>B.</b> In the last year, the woman’s intimate partner and/or FOB has committed or threatened physical/sexual violence against her  <b>C.</b> Not an option for this risk factor</p>
<p><b>Mental Health</b>  Severe Mental Illness  Perinatal Mood Disorders</p>	<p>Severe Mental Illness (SMI): preexisting mental health diagnosis resulting in impairment of general functioning, i.e. current or previous suicidal ideation or attempts, previous psychiatric hospitalization, and current or recent (6mos or less) use of psychotropic medication</p> <p>Perinatal Mood Disorders: mood and anxiety symptoms that occur during pregnancy or up to one year postpartum which result in impairment of general functioning</p>	<p>Severe Mental Illness and Perinatal Mood Disorders:</p> <ul style="list-style-type: none"> <li>• Knowledgeable of her individual mental health symptoms and possible impact on pregnancy</li> <li>• Understands treatment options</li> <li>• Initiates and is compliant with prescribed care</li> </ul>	<p>Women with untreated severe mental illness have multiple risks associated with poor birth outcomes for both mother and infant, i.e. not recognizing existence of pregnancy, not accessing prenatal care, not recognizing signs of preterm labor or labor resulting in precipitous birth, alcohol/substance abuse, and tobacco/nicotine use.</p> <p>Women with moderate to severe Perinatal Mood disorders are at risk for preterm birth and other poor birth outcomes.</p>	<p><b>*A. No history</b> of mental health diagnosis, but screens positive for “In the last month, have you felt down, depressed or hopeless?” or showing depression symptoms, but depression screening results <b>mild risk</b> (Edinburgh score less than (&lt;) 10 or a comparable score on another standardized depression screening tool)</p> <p><b>*B. History of</b> mental health treatment for SMI and stable or Perinatal Mood Disorders <b>and</b> Edinburgh score less than (&lt;) 10 (or a comparable score on another standardized depression screening tool)  <b>Or</b>  <b>Current</b> mental health diagnosis of SMI and/or Perinatal Mood Disorders <b>and</b> is actively participating in mental health treatment</p> <p><b>*C.</b> Mental health symptoms are evidenced by Edinburgh depression score greater than or equal to (<math>\geq</math>) <b>10</b> (or a comparable score on another standardized tool that indicates possible depression)  <b>Or</b>  Client has a mental health diagnosis with active symptoms that are interfering with general functioning <b>and</b> is not actively engaged in mental health treatment</p>

<p><b>Developmental Disability</b> (RCW 71A.10.020(4))</p>	<p>RCW 71A.10.020 defines developmental disability as a disability attributable to intellectual disability, cerebral palsy, epilepsy, autism, or another neurological or other condition closely related to an intellectual disability or to require treatment similar to that required for individuals with intellectual disabilities, which originated before the individual attained age 18, can be expected to continue indefinitely and results in substantial limitations to an individual's intellectual and/or adaptive functioning</p>	<p>Pregnant women with a developmental disability will receive health education, support and case management services (including care coordination) to promote healthy pregnancy and birth out comes through prenatal medical and self care.</p>	<p>Women with intellectual disability (see definition) are at greater risk of preeclampsia, low birth weight infants.</p>	<p>*A. Severe developmental disability which may impact the woman's ability to care for herself or infant, but has an <b>adequate</b> support system <b>and demonstrates</b> evidence of follow through with health care appointments/advice and self-care</p> <p><b>B.</b> Not an option for this risk factor</p> <p>*C. Severe developmental disability which impacts the woman's ability to care for herself infant, <b>and</b> has an <b>inadequate</b> support system <b>or</b> does <b>not demonstrate</b> evidence of follow through with health care appointments/ advice and self-care</p>
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