

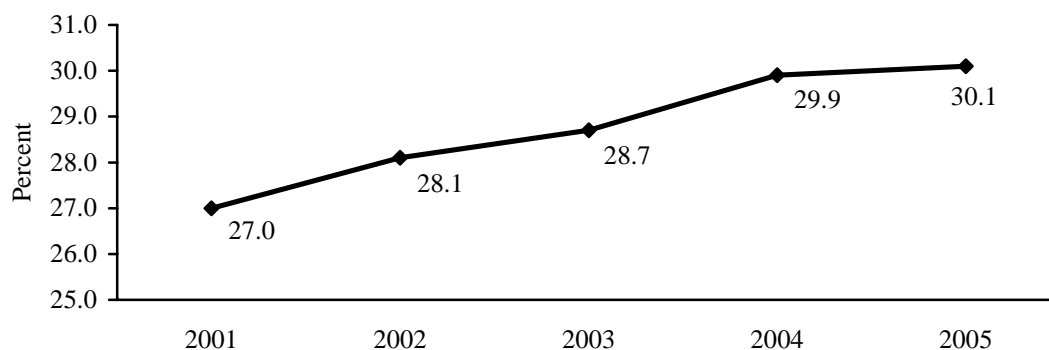
## *Medical Risk Factors of Minnesota Mothers, 2001-2005*

This Vital Signs focuses on medical risk factors from the Minnesota birth certificate, analyzed by type of risk factor, age of mother, parity, and birth outcome. The current version of the birth certificate includes a risk factors check off list designed to identify medical risk factors that place women at risk for poor birth outcomes. The list includes boxes for 17 specific medical risk factors

### Overview

In 2005, 30.1 percent or 21,310 births indicated one or more medical risk factors. Of those births where a medical risk factor was identified, the greatest percent (24.9 percent) identified one medical risk factor, while 4.4 percent identified two medical risk factors, and .8 percent identified 3 or more (530 births). Figure 1 indicates a steady increase over the last 5-years in the percent of births with one or more medical risk factors<sup>1</sup>.

**Figure 1: Percent of Births with One or More Medical Risk Factors, Minnesota 2001-2005**



<sup>1</sup>Includes anemia, cardiac disease, acute or chronic lung disease, gestational diabetes, pre-pregnancy diabetes, genital herpes, hydramnios or oligohydramnios, hemoglobincopathy, chronic hypertension, pregnancy associated hypertension, eclampsia, incompetent cervix, previous infant 4,000 or more grams, previous preterm or small for gestational age infant, renal disease, Rh sensitization, and uterine bleeding. The check off list of medical risk factors on the birth certificate also includes categories for "other (specify)" and "unknown".

While birth certificate risk factor data can be a valuable source of information, there are some limitations for its use. Some limitations are inherent in using birth certificate data (e.g. the role of the person completing the form, variation in hospital practices in completing the birth certificate). There are also limitations in using medical risk factor data because of a lack of standardization and definitions of these risk factors for physicians, medical clerks, or others who routinely complete this form.

Results of this analysis indicate more commonly identified risk factors and a greater prevalence of risk factors for older mothers and mothers who have had four or more previous births (parity). In addition, certain risk factors are more commonly identified in low birthweight and preterm births.

### **Type of Risk Factors**

Total numbers of risk factors for the last five years (2001-2005) indicate high numbers of birth certificates that indicate pregnancy related hypertension, anemia, and gestational diabetes as risk factors. Table 1 indicates that the identification of anemia as a risk factor has declined from 1,597 in 2001 to 989 in 2005. In 2004 and 2005 gestational diabetes is reported more often than any other risk factor, replacing pregnancy-related hypertension as the most common risk factor identified. Since 2001, the number of birth certificates including gestational diabetes as a risk factor has increased steadily.

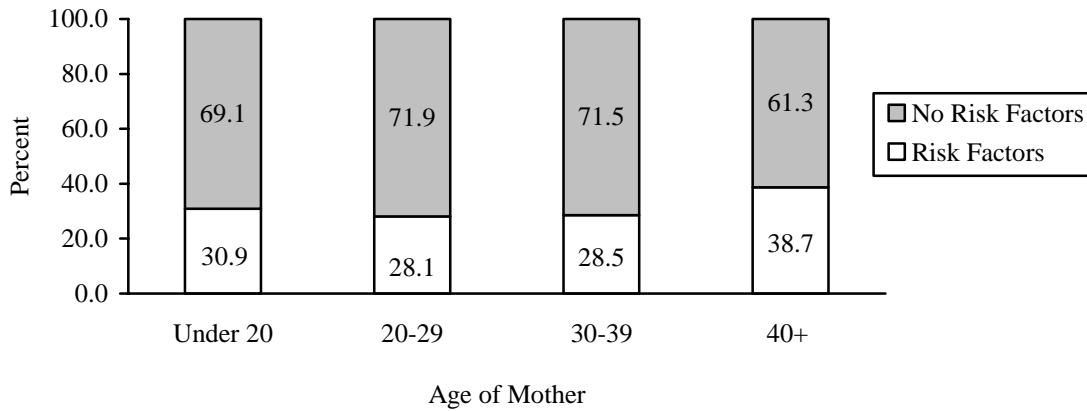
**Table 1. Number of Birth Certificates with Selected Medical Risk Factors  
Minnesota 2001-2005**

	2001	2002	2003	2004	2005
Acute or Chronic Lung Disease	414	472	455	369	369
Anemia	1,597	1,642	1,284	1,054	989
Chronic Hypertension	462	432	443	479	504
Genital Herpes	450	417	376	390	418
Gestational Diabetes	2,197	2,281	2,357	2,528	2,725
Hydramnios/Oligohydramnios	539	594	667	665	668
Pre-Existing Diabetes	277	327	337	317	345
Pregnancy-Associated Hypertension	2,381	2,325	2,462	2,440	2,284
Previous Infant 4000+ Grams	985	950	950	918	817
Previous Preterm or Small for Gestational Age Infant	944	967	822	807	778

### **Age of Mother**

Overall, there is a higher prevalence of women in the 40 + year age group (38.7 percent) that had one or more risk factors identified (Figure 2). The under 20 group (30.9 percent) as well as the 20-29 (28.1 percent) and the 30-39 year old (28.5 percent) were roughly equivalent in the percent of women giving birth where one or more risk factors were identified.

**Figure 2: Presence of Risk Factors by Age of Mother, Minnesota 2001-2005**  
**Minnesota 2001-2005**



### Parity

One or more risk factors were more frequently checked for mothers with 4 or more previous births (40.5 percent). The presence of risk factors was less common for women with no previous birth or 1-3 previous births (Figure 3).

**Figure 3: Presence of Risk Factors by Parity, Minnesota 2001-2005**  
**Minnesota 2001-2005**



Based on risk factor rates per 1,000 births, Table 2 indicates that there were differences in the risk factors that were most often identified for low birthweight (<2500 grams) and normal birthweight (>2500 grams) infants. For low birthweight births, the most often indicated risk factor was pregnancy-related hypertension as compared to gestational diabetes for those births that were normal birthweight. For low birthweight births, the second most often indicated risk factor was a previous preterm or small for gestational age infant.

**Table 2. Most Often Indicated Risk Factors for Low Birthweight and Normal Birthweight Births, Minnesota, 2001-2005**

Low Birthweight Births	Normal Birthweight Births
1st Pregnancy-Associated Hypertension	Gestational Diabetes
2nd Previous PT or SGA Infant*	Pregnancy-Associated Hypertension
3rd Gestational Diabetes	Anemia
4th Hydramnios/Oligodramnios	Previous Infant 4000+ Grams

\*PT - preterm and SGA - small for gestational age

Table 3 indicates differences in the risk factors that were most often identified for preterm (under 37 weeks) and term (greater than 37 weeks gestation) births. For preterm births, as with low birthweight births, pregnancy-associated hypertension, previous preterm or small for gestational age infant, and gestational diabetes were the three risk factors most often indicated on birth certificates. In addition, uterine bleeding was more often identified for preterm births. The most often cited risk factors for those births that were not preterm were gestational diabetes, pregnancy-related hypertension, anemia, and previous infant 4000+ grams.

**Table 3. Most Often Indicated Risk Factors for Preterm and Not Preterm Births Minnesota, 2001-2005**

Preterm Births	Term Births
1st Pregnancy-Associated Hypertension	Gestational Diabetes
2nd Previous PT or SGA Infant	Pregnancy-Associated Hypertension
3rd Gestational Diabetes	Anemia
4th Uterine Bleeding	Previous Infant 4000+ Grams

\*PT - preterm and SGA - small for gestational age

## **Glossary of Terms**

**Chronic Lung Disease** – Ongoing (or chronic) lung disease

**Anemia** – Any condition in which number of red blood cells is less than normal. Usually applies to the concentration of the oxygen-transporting material in the blood, the red blood cell

**Chronic Hypertension** – Force of blood against your artery walls is stronger than normal

**Genital Herpes** – Herpes simplex infection involving the genital area. It can be significant during pregnancy because of the danger to a newborn fetus infected with herpes simplex

**Gestational Diabetes** – The occurrence of diabetes during pregnancy (gestation)

**Hydramnios** – Excess amount of amniotic fluid in the sac surrounding the fetus

**Oligohydramnios** – Lack or deficiency of amniotic fluid

**Pre-Existing Diabetes** – Occurrence of diabetes prior to pregnancy (gestation)

**Pregnancy-Associated Hypertension** – A hypertensive disorder including preeclampsia and eclampsia, characterized by the three cardinal signs of hypertension, edema, and proteinuria

**Previous Infant 4000+ Grams** – Previous birth to infant weighing more than 4000 grams at birth

**Preterm** – Born before thirty-seven weeks gestation

**Small for Gestational Age Infant** – An infant who is smaller than the usual weight for the number of weeks of pregnancy

# Minnesota VitalSigns

**Minnesota Center for Health Statistics  
Division of Health Policy  
Minnesota Department of Health**

Vital Signs is available on the Minnesota Center for Health Statistics website, <http://www.health.state.mn.us/divs/chs/vitalsigns/index.html>. If you require this document in another format such as large print, Braille, or cassette tape call 651/201-3504 or email [healthstats@health.state.mn.us](mailto:healthstats@health.state.mn.us).



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