

# Reproductive Health

## Background

Infant survival, as well as normal growth and development, depend on positive birth conditions and healthy families. In turn, infant and child well-being influence the health of the next generation and can help predict future public health challenges for families, communities and the health care system.<sup>1</sup> The promotion of safe and healthy childbirth and infancy can produce enormous benefits for infants, children, mothers, and society.

Reproductive health is a key measure of the ability to access effective healthcare systems and social capacity for poverty reduction.<sup>2</sup> For women of childbearing age worldwide, a third of their total disease burden is attributable to disability and death resulting from reproductive health problems.<sup>2</sup> Pregnancies sustained by adequate prenatal care and proper nutrition result in lower rates of preterm births, higher rates of normal birth-weight infants, and increased likelihood of normal brain development and capacity to engage in social relationships.<sup>4</sup> Low birth weights are associated with increased risk of chronic diseases (such as asthma and cardiovascular disease) and developmental delays later in life.<sup>5</sup> Very low birth weight, can lead to costly hospital admissions and stays in neonatal intensive care units. Nationally, one quarter of pediatric costs are associated with premature births.<sup>6</sup>

## The Public Health Response

In the past decade, Maine has benefited from increased collaboration between programs that support aspects of reproductive health. Educational efforts have impacted teen pregnancy and the use of alcohol and tobacco in young people, social service programs such as home visiting better prepare new families, and collaboration between public safety agencies, social services, women's advocacy organizations have addressed violence against women.

## Health Equity Highlight: Racial and Ethnic Minorities

Disparities in reproductive health based on the race and/or ethnicity of the mother are well documented in the United States. Nationally, non-Hispanic blacks and Native Americans have an infant mortality rates.<sup>2,4</sup> times and 1.6 times higher than non-Hispanic whites, respectively.<sup>3</sup> The overall infant mortality rates for Maine are low enough that reliable Maine specific data on racial and ethnic disparities in infant mortality are not available. However, there are documented disparities in some of the factors known to contribute to infant mortality and other poor birth outcomes:

In Maine, Black, American Indian, and Asian women are less likely to receive prenatal care in the first trimester compared to White women. Based on data from 2005-2009, 88% of White women received prenatal care in the first trimester compared to 77.3% of Black women and 81.3% of American Indian women. During this same time period, Hispanic women were also less likely than non-Hispanic women to receive prenatal care in the first trimester (81.9 vs. 87.8 respectively).<sup>7</sup>

Teen births rates in Maine are almost two times higher among American Indian and Black females compared to Whites. Between 2005 and 2009, the birth rates among American Indian and Black females aged 15-19 years were 48.7 and 41.2 per 1,000 (respectively) compared to 25.1 per 1,000 among White females. During this same time period, Asian adolescent females had a significantly lower birth rate (20.3 per 1,000) and there was no statistically significant difference between the adolescent birth rates of Hispanic and non-Hispanic females (28.7 vs 25.0 per 1,000, respectively).<sup>7</sup>

One area of reproductive health with potential for significant public health impact if adequately addressed is unintended pregnancy. Efforts that promote intentional pregnancies may increase the number of healthy births, due in part to increased prenatal care, and healthier behaviors during pregnancy. Strategies to improve unintended pregnancies include comprehensive sexuality education, increased access to contraception, preconception healthcare, and reduced violence in women’s lives.

Regardless of the mother’s initial intentions, promotion of and access to prenatal care, healthy choices during pregnancy, such as such as smoking cessation, caffeine and alcohol restriction, taking a folic acid supplement prior to conception which decreases the risk of neural tube defects, and breastfeeding can improve birth outcomes.

## Healthy Maine 2020 Objectives

### 1. Reduce preterm births

Preterm birth (less 37 weeks gestation) is associated with infant illness, disability and death.<sup>8</sup> It is the leading cause of deaths not associated with birth defects in the first four weeks of life.<sup>1</sup> While great advances have been made in the treatment of babies born prematurely, the causes of prematurity still are not fully known. Nationally up to 40% of

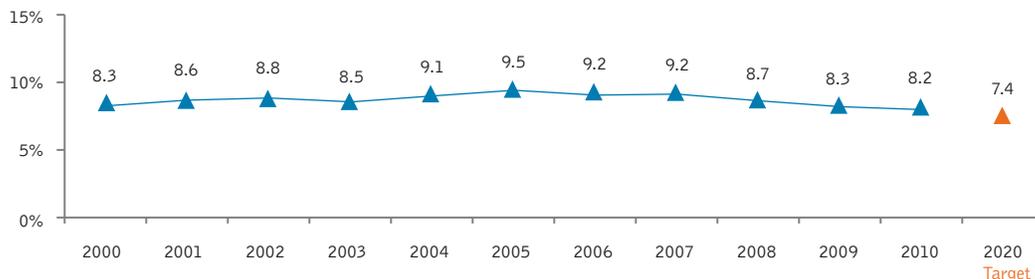
preterm births have no known cause. Women at greatest risk of preterm birth include a) women with a previous preterm birth, b) multiple gestation pregnancies, and c) women with uterine or cervical abnormalities. Nationally more than 70 percent of preterm births occur between 34 and 36 weeks gestation.

The percentage of Maine infants born preterm increased significantly between 2000 and 2005, but then decreased significantly (back to 2000 levels) from 2006 to 2010. In 2010, 8.2% of births were preterm; the Healthy Maine 2020 goal is 7.4%.

### 2. Increase the proportion of live births that are the result of an intended pregnancy

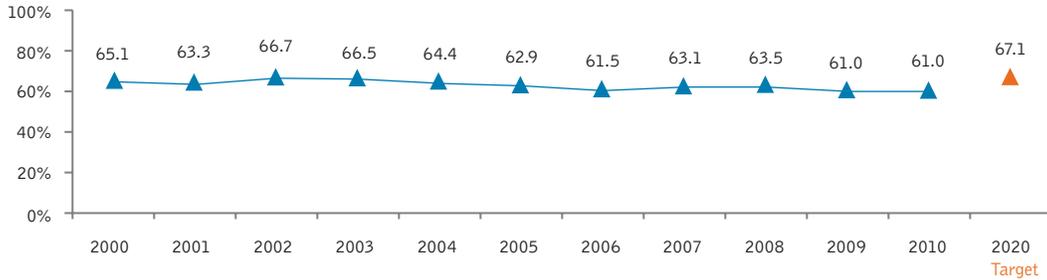
The consequences of unintended pregnancy (pregnancy that is either mistimed or unwanted at the time of conception) include increased risk of inadequate prenatal care, increased risk of smoking and alcohol and drug use during pregnancy, poor birth outcomes, postpartum depression, and child maltreatment.<sup>9</sup> Children born of intended pregnancies are less likely to suffer poor physical and mental health later in life. The relationship between mother and child is more likely to be supportive and nurturing when a pregnancy is intended. Unintended pregnancies generate many costs, both social and monetary.<sup>10</sup>

Percent of Preterm Live Births (Gestational Age <37 Weeks), Maine 2000-2010



Data source: Birth and death certificates, Maine CDC Data, Research, and Vital Statistics

Proportion of Live Births in Which Pregnancy Was Intended, Maine 2000-2010



Data source: Maine Pregnancy Risk Assessment Monitoring System

There was no consistent trend between 2000 and 2010 in the percentage of live births in which the pregnancy was intended. In 2010, 61% of births were intended; the Healthy Maine 2020 goal is 67.1%.

### 3. Reduce the rate of infant death

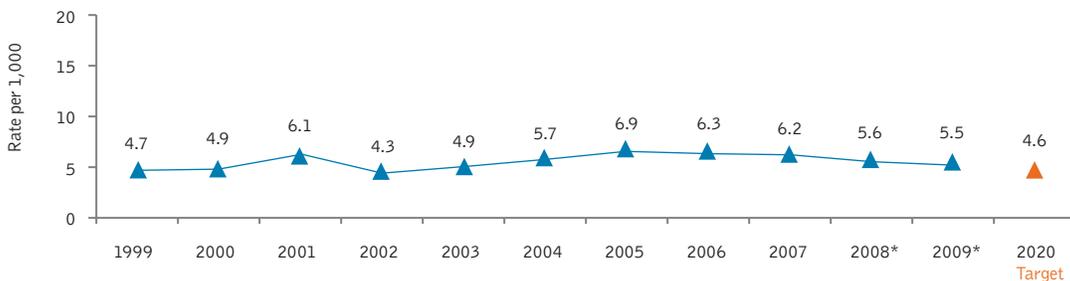
Infant mortality is a crucial indicator of a population’s health. It reflects Maine’s overall maternal health as well as the accessibility and quality of its primary health care resources available to pregnant women and babies.<sup>1</sup> The infant mortality rate in Maine has not changed significantly in the past 10 years. It was 5.5% in 2009; the Healthy Maine 2020 goal is 4.6%.

### 4. Increase the proportion of pregnant women who receive early and adequate prenatal care

Prenatal care can help reduce perinatal illness, disability, and death. Prenatal care should start early and continue on the recommended schedule throughout pregnancy.<sup>1</sup> The American Congress of Obstetricians and Gynecologists recommends prenatal care begin in the first month of pregnancy, with one visit per month through 28 weeks, one visit every 2 weeks through 36 weeks, and one visit per week thereafter.<sup>11</sup>

The proportion of pregnant women who receive early and adequate prenatal care increased significantly between 2000 and 2005, but then

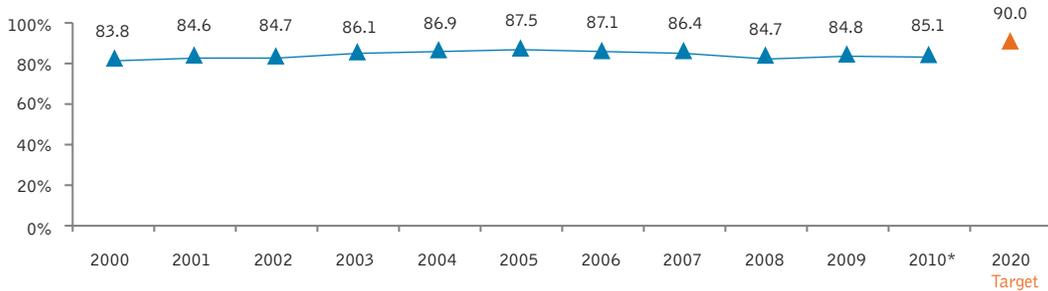
Infant Mortality Rate per 1,000 Live Births, Maine 1999-2009



Data source: Birth and death certificates, Maine CDC Data, Research, and Vital Statistics

\* Preliminary data, subject to revision.

Proportion of Pregnant Females Aged 15-44 Years Receiving Early & Adequate Prenatal Care, Maine 2000-2010



Data source: Birth and death certificates, Office of Data, Research, and Vital Statistics  
\* Preliminary data, subject to revision.

declined significantly between 2005 and 2010. Approximately 85% of pregnant females received early and adequate care in 2010; the Healthy Maine 2020 goal is 90%.

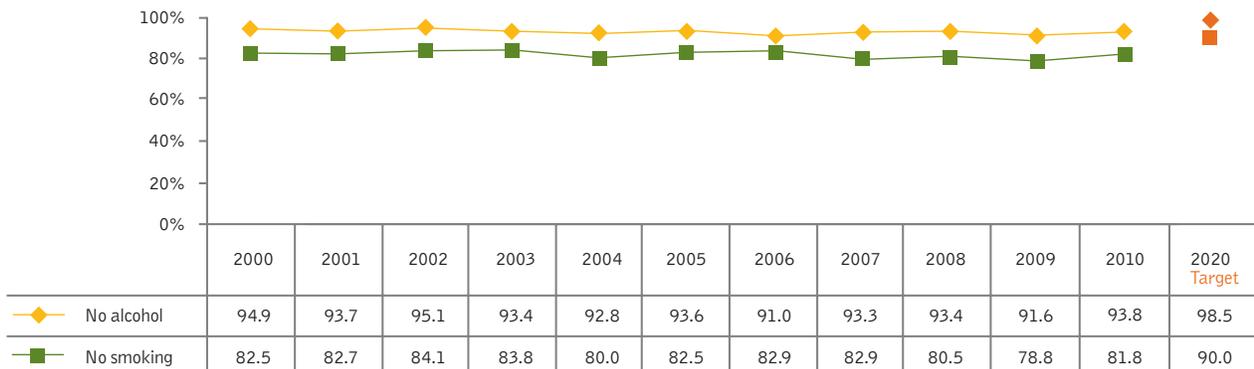
**5. Increase abstinence from alcohol, cigarettes, and illicit drugs among pregnant women**

Alcohol use during pregnancy can cause miscarriage, still birth, or fetal alcohol spectrum disorders (a range of lifelong disorders that can include behaviors or characteristics such as abnormal facial features, learning disabilities, poor judgment and reasoning skills, and heart, kidney or bone problems). There is no known safe amount of alcohol or safe time to drink alcohol during pregnancy.<sup>12</sup>

Smoking during pregnancy is associated with health problems for both babies and mothers, including pregnancy complications, still birth, low birth weight, premature birth, and sudden infant death syndrome.<sup>13</sup>

The percentage of women who abstained from alcohol use or cigarette smoking during the last 3 months of pregnancy did not change significantly between 2000 and 2010. In 2010 approximately 94% of women abstained from alcohol during the last three months of pregnancy, and 82% abstained from smoking; the Healthy Maine 2020 goals are 99% and 90%, respectively.

Proportion of Pregnant Women Who Abstain From Drinking and Smoking in the Last Three Months of Pregnancy, Maine 2000-2010



Data source: Maine Pregnancy Risk Assessment Monitoring System

## Methodology notes

### 1. Reduce preterm births

*Measure:* Percent of resident live births for which clinical estimate of gestational age is less than 37 weeks.

*Numerator:* Number of resident live births for which clinical estimate of gestational age is 37 weeks.

*Denominator:* Number of resident live births.

*Target-setting method:* 10 percent improvement.

*Other notes:* This data include only Maine residents. The target is the same as HP2020.

### 2. Increase the proportion of live births that are the result of an intended pregnancy

*Measure:* Percent of live births for which the pregnancy was intended

*Numerator:* Number of respondents who answer “I wanted to be pregnant sooner” or “I wanted to be pregnant then” to “Thinking back to just before you got pregnant with your new baby, how did you feel about becoming pregnant?”

*Denominator:* Number of respondents who answer “I wanted to be pregnant sooner,” “I wanted to be pregnant then,” “I wanted to be pregnant later,” or “I didn’t want to be pregnant then or at any time in the future” to this question.

*Target-setting method:* The target was set as a 10 percent improvement.

*Other notes:* Data are weighted, so numerator and denominator are not shown. The Healthy Maine 2020 objective differs from the Healthy People 2020 objective, which is to “Increase the proportion of pregnancies that are intended”. State-level data are not available from the Healthy People 2020 data source. Maine data are from PRAMS, a survey of mothers who have had a recent live birth.

### 3. Reduce the rate of infant death

*Measure:* Infant mortality rate per 1,000 live births.

*Numerator:* Number of deaths of Maine residents for which age at death is <1 year, per 1,000 live births.

*Denominator:* Number of resident live births.

*Target-setting method:* Retained Healthy Maine 2010 target.

*Other notes:* Data are for Maine only residents only rate.

### 4. Increase the proportion of pregnant women who receive early and adequate prenatal care

*Measure:* Proportion of pregnant females aged 15-44 receiving adequate prenatal care by the Adequacy of Prenatal Care Utilization Index (APNCU).

*Numerator:* Number of resident live births for which mother started prenatal care during 1st trimester and meet the definition of adequate prenatal as defined by the APNCU.

*Denominator:* Number of resident live births.

*Target-setting method:* This objective is the same as a Healthy People 2020 objective, and the Healthy Maine 2020 target is the same as the HP2020 target.

*Other notes:* Adequate prenatal care is defined by the Adequacy of Prenatal Care Utilization as the Observed to Expected Prenatal Visits Greater Than or Equal to 80 Percent of the Kotelchuck Index. Data are for Maine residents only, women aged 15-44.

## 5. Increase abstinence from alcohol and cigarettes among pregnant women

### SUB-OBJECTIVES

#### 5a. Increase abstinence from alcohol among pregnant women

*Measure:* Percent of pregnant women who do not drink any alcohol during the last 3 months of pregnancy

*Numerator:* Number of respondents who answer “I didn’t drink then” to “In the last 3 months of your pregnancy, how many alcoholic drinks did you have in an average week?”

*Denominator:* Number of respondents who answer “I didn’t drink then” or <1-14+ to “In the last 3 months of your pregnancy, how many alcoholic drinks did you have in an average week?”

*Target-setting method:* 5% improvement.

*Other notes:* This objective is measured differently in Healthy Maine 2020 than in Healthy People 2020 due to the use of different data sources. State-level data are not available from the Healthy People 2020 data source, so Maine data are taken instead from the Pregnancy Risk Assessment Monitoring System (PRAMS). As such, the Healthy Maine 2020 measure is defined as abstaining from alcohol during the last 3 months of pregnancy and does not have an age restriction, while the corresponding Healthy People 2020 measure is defined as abstaining from alcohol use during the past month among 15-44 year old pregnant women.

#### 5b. Increase abstinence from cigarette smoking among pregnant women

*Measure:* Percent of pregnant women who do not smoke any cigarettes during the last 3 months of pregnancy

*Numerator:* Number of respondents who answer no to “Have you smoked any cigarettes in the past 2 years?” plus # of respondents who answer yes

to “Have you smoked any cigarettes in the past 2 years?” and answer “I didn’t smoke then” to “In the last 3 months of your pregnancy, how many cigarettes did you smoke on an average day?”

*Denominator:* Number of respondents who answer no to the last 2 years question plus # of respondents who answer yes to the last 2 years question and answer “I didn’t smoke then” or <1-14+ to the last 3 months of pregnancy question

*Target-setting method:* 10 percent improvement

*Other notes:* The 2000-2003 question is slightly different from question in 2004 and after. 2000-2003 :”In the last 3 months of your pregnancy, how many cigarettes or packs of cigarettes did you smoke on an average day?”; 2004 and after: “ In the last 3 months of your pregnancy how many cigarettes did you smoke on an average day?” This objective is measured differently in Healthy Maine 2020 than in Healthy People 2020 due to the use of different data sources. Healthy People 2020 uses birth certificates in the National Vital Statistics System and measures abstinence from cigarette smoking throughout pregnancy. Maine data are taken instead from the Pregnancy Risk Assessment Monitoring System, which measures abstinence from cigarette smoking during the last 3 months of pregnancy. Healthy Maine 2020 uses PRAMS data for this objective both because of concerns about the validity of cigarette smoking data on birth certificates and the benefits of using a consistent data source for the abstinence from alcohol and cigarette smoking during pregnancy objectives.

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