



## Low Birthweight and Preterm Births in Alaska

Compared to infants of normal weight, low birthweight (LBW; less than 2,500 grams or 5.5 lbs.) and very low birthweight (VLBW; less than 1,500 grams or 3.3 lbs.) infants are at increased risk of death and delayed motor and social development.<sup>1,2</sup> Studies have shown that LBW infants were more likely to have later learning disabilities and to be adversely affected in their performance at school than children who were born at normal birthweight.

The majority of LBW and VLBW infants are born preterm (less than 37 weeks gestation). Nationally, disorders relating to preterm birth and LBW are the leading cause of neonatal deaths.<sup>3</sup>

### Seriousness

#### Healthy People 2010 Targets and National Data

Indicator	Alaska 2005 <sup>†</sup>	Nation 2005 <sup>†</sup>	Healthy People 2010 <sup>*</sup>
Proportion of low birthweight births	5.9%	8.2%	5.0%
Proportion of very low birthweight births	0.9%	1.49%	0.9%
Proportion of preterm births	10.7%	12.7%	7.6%
National data for 2005 is preliminary.			

- Alaska achieved the HP2010 goal of 0.9% for VLBW in 2002, 2003 and 2005. The 2004 rate (1.2%) exceeded the HP2010 goal by 33% .
- When considering singleton births (as opposed to all births), both LBW and VLBW during 2004 met the HP2010 goals, with rates of 4.6% and 0.8%, respectively.
- The frequency of preterm births in Alaska, although less than the U.S. as a whole in 2005, was 40% higher than the HP2010 goal.
- U.S. rates of LBW and VLBW births were 1.4 and 1.7 times higher than in Alaska during 2005. In 2003, Alaska had the smallest proportion of LBW births in the country.
- In 2005, 1 in 22 singleton live births in Alaska was LBW, and nearly 1 in 125 was VLBW.
- In 2005, 1 in 9 live births was preterm.

### Severity

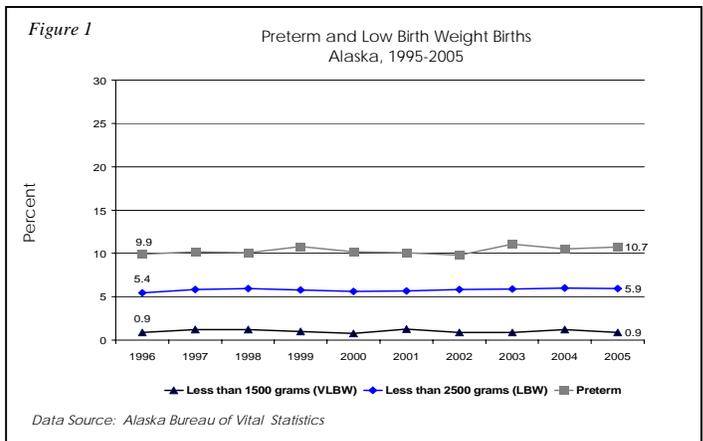
VLBW infants have a mortality risk in the first year of life 100 times higher than normal birthweight infants. The risk for moderately low birthweight (1,500–2,499 grams) infants is more than five times higher.<sup>4</sup> LBW, and especially VLBW, infants that survive are more likely to suffer from long-term disabilities, such as cerebral palsy, blindness, and other chronic conditions.<sup>1</sup>

### Urgency

#### Preterm

- From 1996 - 2005, the overall percentage of infants born preterm in Alaska varied between a low of 9.8% in 2002 to a high of 11.1% in 2003, a record high for the State. (Figure 1)
- From 1989 – 2003 there was a statistically significant increase in the proportion of moderately preterm (32 to 37 weeks gestation) infants. On the other hand, there was no significant change in the proportion of extremely preterm (23 to <32 weeks gestation) births.

### Low Birthweight



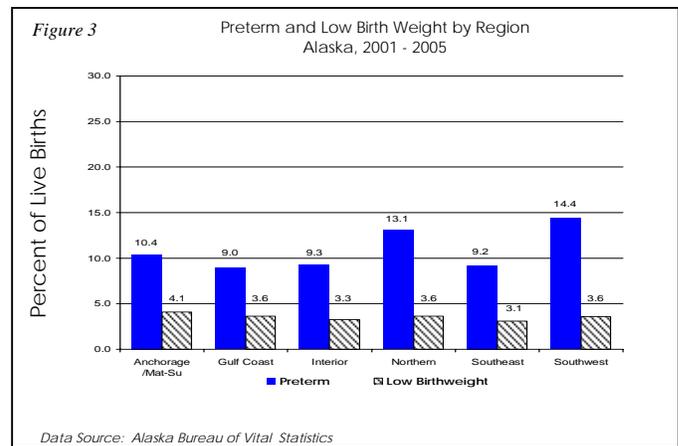
- From 1996-2005 there was a statistically significant increase in the proportion of moderately low birth weight (1,500–2,499 grams) infants. On the other hand, there was no significant change in the proportion of very low birth weight births.

### Disparities

#### Preterm

Risk factors associated with preterm birth include multiple birth, previous preterm delivery, stress, infection, vaginal bleeding, smoking, illicit drugs, low pre-pregnancy weight, and maternal age extremes. Women who are less than 17 or over 35 years of age are at increased risk of preterm birth.<sup>5</sup>

- Compared with singleton births (one baby), multiple gestation births in Alaska were about 7 times as likely to be preterm in 2004.<sup>6</sup>
- During 1996 to 2005, the preterm birth disparity between Alaska Native and non-Native mothers decreased because of an increase of preterm births among non-Native mothers and a decline among Alaska Native mothers.<sup>†</sup> However, an analysis of the same data, using a different way of measuring estimated gestation, shows a persistent gap between Alaska Natives and non-Natives for moderately preterm births. (Figure 2)
- The Southwest region of Alaska had the highest percentage of preterm births during 2001-2005. (Figure 3)



likely to be born preterm and of low birthweight than singletons.<sup>9</sup>

- In Alaska in 2004, 97% of all live births were singleton births and 2.8% were multiple births. Between 1994 and 2004, the ratio of multiple to singleton births increased by nearly 17%.<sup>6</sup>
- The percent of LBW births among multiple gestation deliveries in Alaska was 54% in 2004. The percent of VLBW births was 14%.<sup>6</sup>
- In Alaska during the last five years, the Anchorage/Mat-Su region had the highest percentage of LBW births. (Figure 3)

### Economic Loss

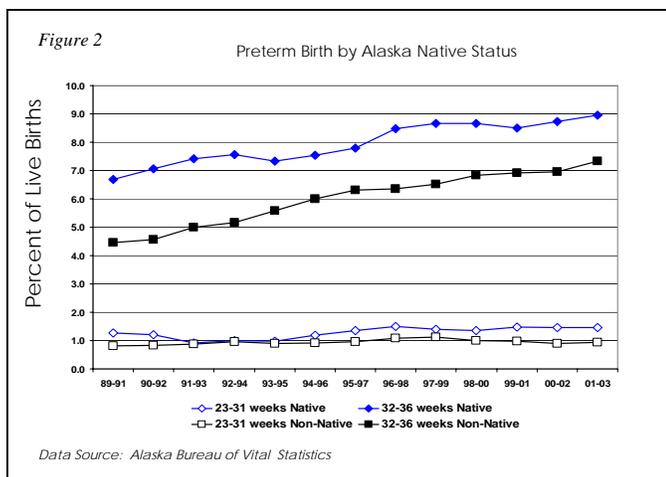
In 2003, hospital charges for newborns without complications averaged \$1,700 nationally. In contrast, hospital costs for infants born preterm or LBW averaged \$77,000.<sup>10</sup>

About 25% of the youngest and smallest babies who leave the neonatal intensive care unit live with long-term health problems including cerebral palsy, blindness and other chronic conditions.<sup>10</sup>

### Interventions & Recommendations

**Primary Interventions:** Prevention of unintended pregnancy as well as early and continuous prenatal care may improve infant outcomes. According to the U.S. Surgeon General, women who quit smoking before or during pregnancy reduce the risk of preterm delivery and LBW. Furthermore, women who stop smoking by the first trimester have infants with weight and body measurements comparable with those of nonsmokers. Studies suggest that smoking in the third trimester is particularly detrimental to fetal growth.<sup>8</sup> For most women, however, no known primary prevention measures exist, a fact underscored by the increasing occurrence of preterm births.

**Secondary Interventions:** Some studies have shown that women with vaginal infections such as bacterial vaginosis



### Low Birthweight

Prenatal cigarette smoking is the greatest known risk factor for LBW births, accounting for 20-30% of all LBW births in the United States.<sup>7,8</sup> Other risk factors associated with LBW birth include multiple birth, preterm delivery, poor nutrition, maternal age extremes, and short inter-pregnancy interval.<sup>5</sup> Multiple birth infants are significantly more

(BV) and trichomoniasis are at increased risk of preterm delivery. Controlled studies of antibiotic treatment, however, have not been shown to reduce risk.<sup>17</sup> Antenatal corticosteroid therapies may accelerate fetal lung development and thereby reduce some complications of prematurity such as respiratory distress syndrome and infant mortality.

### *Intervention Effectiveness*

Recent studies have shown that only some interventions for preterm birth may be beneficial.<sup>10</sup> Treatment with the hormone progesterone has been shown to reduce the incidence of preterm birth in women who had a previous preterm birth, but this agent has not been shown to reduce perinatal mortality. Antenatal maternal corticosteroids are effective in accelerating fetal lung maturation and thus reducing the incidence of the most serious complications of prematurity, including death, respiratory distress syndrome and intraventricular hemorrhage.<sup>16</sup>

Studies have shown that the occurrence of LBW could be reduced by an estimated 20% if all pregnant women were non-smokers.<sup>12,13</sup> Women are more likely to stop smoking during pregnancy, both spontaneously and with assistance, than at other times in their lives. Since women are highly motivated to stop smoking during pregnancy, programs that encourage women to stop smoking before, during and after pregnancy deserve high priority.<sup>8</sup>

Since many women who lack adequate prenatal care may also have risk factors related to poverty and young maternal age – factors that cannot be fully addressed through more adequate prenatal care – there is concern that increased use of prenatal care alone may not be sufficient to significantly improve birth outcomes.<sup>14,15</sup> Likewise, bedrest and drug therapy to stop uterine contractions have not been shown to be effective for preventing preterm delivery.<sup>16</sup>

## **Capacity**

### Propriety

Supporting initiatives to reduce LBW and preterm births among Alaskan women falls within the overall mission of the Women's, Children's, and Family Health Section. National initiatives have been set forth to address LBW and preterm birth objectives (HP2010) and the Maternal and Child Health Bureau requires that indicators related to reducing LBW births (NPM#15 and #17; HSCI #5 and #6; HSI #1A-2B) are monitored and assessed on a yearly basis.

### Economic Feasibility

Economic feasibility has not been evaluated.

### Acceptability

Surveys show that most people don't know how serious or widespread the problem is. According to the March of Dimes (MOD), only 35% of people surveyed in 2002 considered prematurity to be a serious problem. The MOD National Prematurity Campaign is trying to increase community awareness through national television, radio and print media.

## Resources

Data: Alaska Bureau of Vital Statistics  
March of Dimes National Prematurity Campaign

## Legality

Not an issue.

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## **Data Sources**

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