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Preterm Birth Trends — Alaska, 1989–2006

Background

Preterm birth (<37 weeks gestation) is a major contributor to infant mortality and short- and long-term morbidity. The adverse health and economic costs associated with prematurity make preterm birth surveillance and prevention a public health priority.¹

Methods

We analyzed birth certificate data of Alaskan infants born from 1989–2006. Gestational age was measured as the interval between the first day of the mother's last normal menstrual period and the infant's birth date. A clinical estimate of gestational age was used when the last menstrual period was invalid. Subtypes of preterm birth were classified into three mutually exclusive categories: premature rupture of membranes (PROM); medical intervention, defined as labor induction or cesarean-section without PROM; and spontaneous preterm delivery, which included all vaginal deliveries not induced and without PROM. Trends were evaluated using the χ^2 test for trend.

Results

Statewide, the proportion of infants born preterm increased by 26.5% (from 8.9% to 11.2%) during 1989–2006 ($p < 0.001$). When stratified by Alaska Native status, increases in the proportions of preterm births remained statistically significant only among non-Natives. Late preterm births (34–36 weeks) among non-Natives increased by 54.7%, from 5.3% to 8.2% of live births, over the study period ($p < 0.001$). Despite this increasing trend among non-Natives, Alaska Natives continued to be at greater risk of delivering a preterm infant. During the periods 1989–1997 and 1998–2006, Alaska Natives were 1.56 and 1.28 times more likely than non-Natives to deliver a preterm infant, respectively (95% confidence interval [CI], 1.50–1.63 and 1.23–1.33, respectively).

Spontaneous preterm births decreased among Alaska Natives, but increased among non-Natives (Figure 1). Among Alaska Natives and non-Natives the proportion of medical intervention preterm births increased by 196% and 124%, respectively. Compared to spontaneous and PROM preterm births, medical intervention preterm births were more likely to occur among women who were non-Native (relative risk [RR], 1.58; 95% CI, 1.50–1.65), ≥ 35 years old (RR, 1.71; 95% CI, 1.58–1.84), and had >12 years of education (RR, 1.31; 95%

CI, 1.27–1.36). Trends persisted when restricting the analysis to singleton births.

Discussion

Similar to national trends,² the proportion of preterm births in Alaska is increasing, primarily due to an increase in medical intervention preterm births. Among Alaska Natives, this increase was met with a concurrent decrease in spontaneous preterm births. This may indicate that high risk Alaska Native births are being better monitored.

National data have documented a decrease in perinatal mortality that coincides with an increase in preterm medical intervention births.⁴ In Alaska, the cause-specific infant mortality rate for preterm births declined from 2.1 per 1,000 live births during 1992–94 to 1.7 during 1999–2001.³ A decrease in infant mortality may increase short- and long-term morbidity.⁴ A surveillance program that tracks short- and long-term outcomes among all Alaskan preterm births would help evaluate Alaska's capacity to maximize health outcomes.

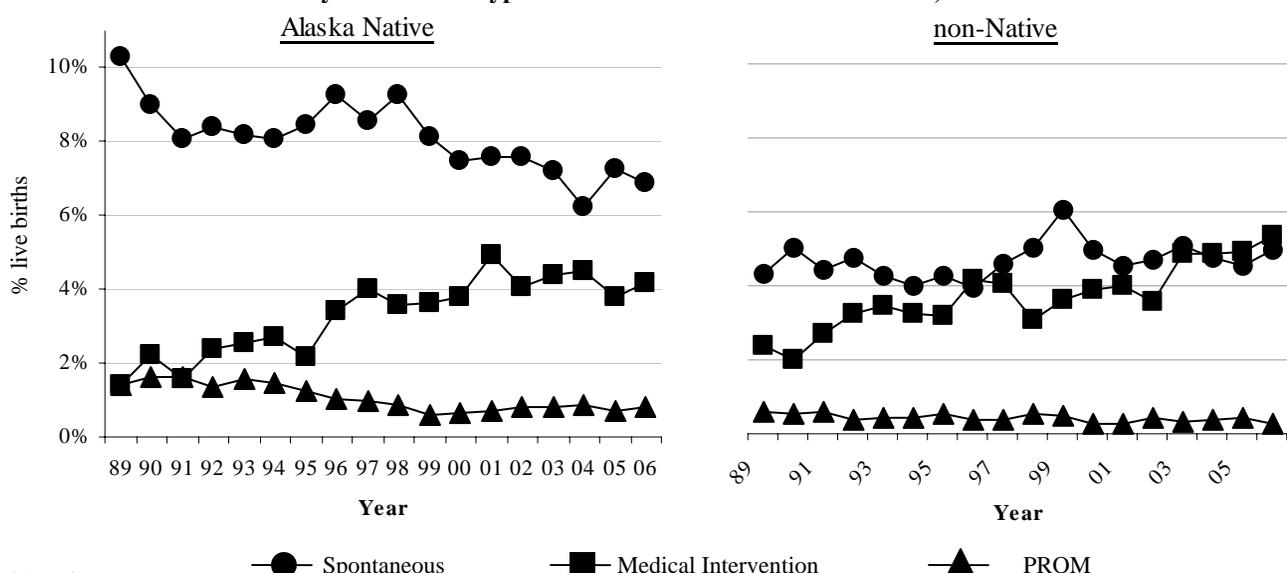
Recommendations

1. Health care providers should balance the needs of mothers and infants for medically indicated preterm delivery against the known risks associated with preterm birth.
2. Health care providers should familiarize themselves with the current research on preterm birth. Resources include:
 - The US Centers for Disease Control and Prevention www.cdc.gov/reproductivehealth/MaternalInfantHealth/PBP.htm
 - The March of Dimes www.marchofdimes.com/prematurity/21329_20738.asp
 - Optimizing Care and Outcome for Late Preterm Infants Workshop <http://pediatrics.aappublications.org/cgi/reprint/118/3/1207>

References

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Figure 1. Preterm Birth Rates by Clinical Subtype and Alaska Native status — Alaska, 1989–2006[†]



[†] $p < 0.05$ each strata

● Spontaneous ■ Medical Intervention ▲ PROM