

American Indians and Alaska Natives and Infant Mortality

The health of mothers, infants, and children is critical, both as a reflection of the current health status of a large segment of the US population and as a predictor of the health of the next generation. This section addresses a range of indicators of maternal, infant, and child health—primarily those that affect pregnant and postpartum women and those that affect infants' health and survival.

The infant mortality rate (IMR) is an important measure of a nation's health and a worldwide indicator of health status and social well-being. As of 1998, the US ranked 28th among industrialized nations in infant mortality. (CDC, 2002). From 1990 to 2000, critical measures of increased risk of infant death, such as low or very low birth weight, actually increased in the US. In addition, the disparity in IMRs between whites and specific racial and ethnic groups persists. The draft national health objective for 2010 is no more than 5 deaths per 1,000 live births. (US DHHS, 2000).

Four causes account for more than half of all infant deaths: birth defects, disorders related to short gestation and unspecified low birth weight, sudden infant death syndrome (SIDS), and respiratory distress syndrome. (US DHHS, 2000).

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- **Risk Factors and Challenges**
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Incidence and Prevalence

- **In 2000, the American Indian and Alaska Native IMR was 8.3 per 1,000 live births.** This is lower than the rates for African-American (13.6) and Hawaiian infants (9.0) and only slightly higher than the rate for Puerto Rican infants (8.2). The total US rate for 2000 was 6.9, and the non-Hispanic white rate was 5.7. (Mathews et al., 2002).
- **Between 1995 and 2000, the American Indian and Alaska Native IMR decreased from 9.0 to 8.3 per 1,000 live births.** (Mathews et al., 2002).
- **The mortality rate for American Indian infants is somewhat higher during the postnatal period (28 days to less than 1 year) than the neonatal period (less than 28 days).** The reverse is true for the US all-races population. (Indian Health Service, 2001). In 2000, the American Indian and Alaska Native neonatal rate was 3.9; the postnatal rate was 4.4. (Mathews et al., 2002).

Leading Causes of Infant Death

- **In 2000, congenital malformations were the leading cause of infant death for American Indians and Alaska Natives,** as they were for all groups except African Americans and Puerto Ricans (for whom low birth weight was the leading cause). (Mathews et al., 2002).
- The top two leading causes of Indian infant death are **sudden infant death syndrome (SIDS) and congenital anomalies.** For the all-races population, they are congenital anomalies and disorders related to short gestation and low birth weight. (Indian Health Service, 2001).
- **The 2000 IMR due to SIDS was highest among African Americans and American Indians and Alaska Natives.** The SIDS rate for infants of African-American mothers was 2.4 times that of white mothers, and for American Indians and Alaska Natives, it was 2.3 times the white rate. Because most SIDS deaths occur during the postnatal period, the high SIDS rate for infants of African-American and American Indian and Alaska Native mothers accounts for much of the elevated risk of postnatal mortality. (Mathews et al., 2002).

SIDS Risk Factor

Research has shown that a nonprone sleeping position (that is, sleeping on the side or back rather than the stomach) greatly decreases the risk of SIDS among healthy full-term infants. However, healthy preterm infants have been shown to be more vulnerable to respiratory problems when put to sleep on their backs. The American Academy of Pediatrics has recommended that healthy full-term infants be laid down to sleep on their backs. (US DHHS, 2000).

- American Indians and Alaska Natives account for a disproportionate share of **fetal alcohol syndrome (FAS)** cases. In 1990, the rate of FAS among American Indians and Alaska Natives was 5.2 per 1,000 live births, compared with 0.4 among the population as a whole. (US DHHS, 2000). It should be noted, however, that the FAS rate in other populations may

be underestimated, as they haven't been studied to the same degree as the American Indian and Alaska Native population has.

No Stereotyping!

Risk factors present in particular individuals, tribes, or regions cannot be generalized to other American Indians and Alaska Natives. For example, southwestern tribes and the Plains tribes of Oklahoma appear to have lower prevalence rates of drinking than do Northern Plains tribes. (May and Gossage, 2001).

Regional Differences

- **Minnesota's rate is highest.** In Minnesota, the IMR for American Indians was more than three times the white rate in 1998. Minnesota's mortality rate for American Indian infants was the highest among all states with significant American Indian populations. (Minnesota Department of Health, 2001).
- **Rates are declining nationally except for Minnesota.** National American Indian IMRs have demonstrated a steady decline, although Minnesota's rate has continued to rise. (Minnesota Department of Health, 2001).

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There are more than 560 federally recognized tribes in the US, and about 100 others are recognized by individual states. (Department of the Interior, 2002). Health beliefs, practices, and status may vary greatly among different tribes, among different regions, and, as for members of any population group, among individuals. Each community and its individuals are unique, and it is dangerous to generalize.

Traditional Health Beliefs and Practices

- **Pregnancy and disease are starkly separated.** Because pregnancy and birth are considered normal processes, and health care facilities are associated with illness and disease, American Indian women may choose not to seek prenatal care. In fact, pregnancy and disease are starkly separated; for example, some pregnant American Indian women may not attend traditional healing ceremonies to avoid contact with illness or disease. (Diversity Resources, Inc., 2001).

Recommendation

Because of some American Indian tribes' cultural beliefs related to protecting pregnant women from contact with illness, disease, or death, consider providing maternal and child health care services in a location separate from other clinical services. It may be helpful to consult with the community to determine whether a separate facility for maternal and child health would be welcome.

Risk Factors and Challenges

- For American Indian and Alaska Native mothers, more than **one-fourth (26%) of the elevated IMR, compared with infants of white mothers, can be accounted for by higher SIDS rates, and 14% is due to higher rates of low birth weight.** If American Indian and Alaska Native infant mortality caused by SIDS and low birth weight could be reduced to white levels, the difference in IMR between American Indians and whites would be reduced by 40%. (Mathews et al., 2002).

Birth Weight and Period of Gestation

- In 2000, **the percentage of American Indian and Alaska Native mothers whose live births were preterm (12.7%) was higher than for all other groups except African Americans (17.3%),** although it was not statistically different from that of Filipino mothers (12.2%) and only about 2 percentage points higher than for white mothers (10.6%). (Mathews et al., 2002).

Prenatal Care

- **Just over 69% of American Indian and Alaska Native mothers began prenatal care in the first trimester,** the lowest percentage for any group, and lower than the all-races percentage (83.2%). It should be noted, however, that **IMRs were not significantly higher for infants of American Indian and Alaska Native mothers who began prenatal care after the first trimester or received no care** than for those whose mothers received early care. (Mathews et al., 2002).
- **Lack of American Indian access to prenatal care in Minnesota.** In Minnesota, American Indian women's access to primary preventive health care, preconception care, and early prenatal care is impacted by higher rates of lack of insurance—more than three times the white rate. American Indians' rate of inadequate or no prenatal care is six times higher than the white rate. (Minnesota Department of Health, 2001).
- **Prenatal care in North Carolina.** In 1999, 7 in 10 American Indian women in North Carolina received prenatal care in the first trimester of pregnancy (the year 2000 goal was 9 in 10). (Office of Minority Health and State Center for Health Statistics, 1999).

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Maternal Age

- **In 2000, almost 20% of American Indian and Alaska Native mothers were younger than 20 years.** (Mathews et al., 2002).

- **Teen pregnancy in North Carolina.** In 1997, the teen pregnancy rate for American Indians in North Carolina was 97 pregnancies per 1,000 girls aged 15 to 19, compared with 69 per 1,000 for whites. (Office of Minority Health and State Center for Health Statistics, 1999).

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Maternal Alcohol Use

Abstinence Days Far Outnumber Drinking Days

“An over-emphasis on drinking among American Indians, while ignoring the abstinence measures, has been common in the past among journalists, academics, and others. That is, even though males (and to some extent females) [of Northern Plains and Rocky Mountain tribes] may drink substantial quantities when they do drink, on most days no drinking occurs at all. Similarly, approximately 35% of the adults are complete abstainers. Therefore, abstinence days in each month and year far outnumber drinking days. If the point prevalence of drinking is taken as any day, particularly a weekday, the modal pattern of drinking among American Indians is abstinence. This is not intended to minimize the fact that heavy drinking causes a tremendous number of problems ranging from adverse social consequences, morbidity, and mortality. It is, however, intended to emphasize the clearly documented strengths rather than the weaknesses exhibited in this population. The modal category on most of the frequency of drinking variables is zero drinks for both males and females.” (May and Gossage, 2001).

- **American Indian mothers used alcohol during pregnancy** at a rate three times that of mothers of all races. (US DHHS, 1999).

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Risk factors present in particular individuals, tribes, or regions cannot be generalized to other American Indians and Alaska Natives. For example, southwestern tribes and the Plains tribes of Oklahoma appear to have lower prevalence rates of drinking than do Northern Plains tribes. Furthermore, for those American Indian women who drink while pregnant, their **use of alcohol is likely to be limited to occasional or sporadic binge drinking** during social occasions. (May and Gossage, 2001).

- In a North Dakota study of **maternal risk factors and neonatal characteristics of children with FAS**, researchers identified the following statistically significant characteristics: older maternal age, lower education level, fewer months of prenatal care, fewer prenatal visits, younger gestational age at time of delivery, and less prenatal weight gain. Significant neonatal differences were lower birth weight, lower Apgar scores, and higher incidence of congenital malformations. (Bagheri et al., 1998).

Prevention of FAS

Fetal alcohol syndrome is a completely preventable developmental disability. A woman's consumption of alcohol during pregnancy can result in lifelong physical and mental impairments for her child. **All pregnant women of all cultural backgrounds should be screened for alcohol use during prenatal visits.** Women with positive screens or at high risk should be identified early by the primary care physician and referred for treatment and counseling. (Bagheri et al., 1998).

- A study of enrolled members of four tribes (on reservations) from the northern US (Northern Plains and Rocky Mountain states) found that **most drinkers are binge drinkers, and on any typical day, abstinence from alcohol is the modal pattern.** The number of drinking days per month is 2.1 for females. When drinking occurs, women consume an average of 3.1 drinks. The highest prevalence and the heaviest drinking occur among those under age 30. (May and Gossage, 2001).

Recommendation

For American Indian and Alaska Native patients who are at high risk for drinking alcohol while pregnant, **advise the male partner or spouse to regard himself as “pregnant” during the prenatal period.** If the male partner is alcohol or substance free, it may be much easier for the pregnant woman to remain alcohol or substance free as well—a tremendously important and effective prevention plan. (Gray and Nye, 2001).

Maternal Smoking

- **Tobacco use during pregnancy** by American Indian and Alaska Native women is higher than in any other racial or ethnic group, but the prevalence decreased from 23.0% in 1989 to 10.2% in 1998. (Office on Women's Health, 2001). In 2000, however, 20% of pregnant American Indian and Alaska Native women smoked, more than twice the percentage of African-American women and about 7% higher than the number of white women who smoked during pregnancy. (Mathews et al., 2002).
- **American Indian women smoked during pregnancy** at a rate 1.5 times that of women of all races. (US DHHS, 1999).

Recommendation

“One useful treatment approach for American Indian and Alaska Native substance abusers may be the **Medicine Wheel**. The Medicine Wheel model differs from community to community and from family to family, and may be unfamiliar to some American Indian and Alaska Native communities. It is a useful tool that helps address the individual in a holistic manner with a focus on balance of the spiritual, physical, mental/emotional, and social/cultural aspects of the whole person. The Medicine Wheel is a simple, elegant circle with a cross bar in the center and may be enhanced by creative local artists. At each of the four directions—north, south, east, and west—an element of a balanced life is assigned. This differs from community to community, but the variations in assignments of the elements of balance to one of the four directions make no difference. The Medicine Wheel is another creative, rich approach that is the hallmark of a healthy, balanced American Indian and Alaska Native approach to life.” (Gray and Nye, 2001).

To learn more about the Medicine Wheel, go to [http://www.uchsc.edu/ai/ncaianmhr/journal/10\(2\).pdf](http://www.uchsc.edu/ai/ncaianmhr/journal/10(2).pdf), pages 77–78.

Another source for information on using the Medicine Wheel in your practice is “The Medicine Wheel: Understanding ‘Problem’ Patients in Primary Care,” by Louis T. Montour, at <http://www.kaiserpermanente.org/medicine/permjournal/winter00pj/wheel.html>.

Regional Risk Factors

- In 1997, the **leading causes of American Indian infant death in North Carolina** were infant prematurity or immaturity and respiratory conditions, which together caused nearly 60% of deaths. Low birth weight (5 pounds 8 ounces or less) is the leading risk factor for infant mortality, and in 1997, almost 10% of the state’s American Indian infants were low birth weight. (Office of Minority Health and State Center for Health Statistics, 1999).

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- **American Indian women in North Carolina appear to have a higher incidence of maternal risk factors associated with infant mortality.** In North Carolina in 1997, 74% of American Indian mothers of newborns had one or more of these maternal risk factors: age under 18 or over 34, educational level less than 12th grade, unmarried, four or more pregnancies, previous fetal death, or previous live-born child who later died. (Office of Minority Health and State Center for Health Statistics, 1999).

- **American Indian babies in Minnesota die from SIDS at three to five times the white rate.** These deaths occur most often after the first month of life and before age 1 year. (Minnesota Department of Health, 2001).
- **Risk factors for American Indian babies in Minnesota.** The pregnancies of American Indian women in Minnesota are affected by rates of diabetes, tobacco and alcohol use, and teen births that are higher than those of the white population. (Minnesota Department of Health, 2001).

Strengths and Protective Factors

Low Rates for Many Risk Factors and Complications

- **Differences in IMRs due to congenital malformations between American Indian and Alaska Native mothers and white mothers were not statistically significant.** (Mathews et al., 2002).
- **The number of American Indian and Alaska Native newborns affected by maternal complications of pregnancy was so low as to be statistically insignificant.** The rate for all races was 64.3 per 100,000. (Mathews et al., 2002).
- **The number of American Indian and Alaska Native newborns affected by complications of the placenta, cord, and membranes was so low as to be statistically insignificant.** The rate for all races was 25.7 per 100,000. (Mathews et al., 2002).
- **IMRs were not significantly higher for infants of American Indian and Alaska Native mothers who began prenatal care after the first trimester or received no care** than for those who received early care. This was also true for children born to Mexican and Central and South American mothers. (Mathews et al., 2002).
- **American Indian women may be less likely to have high blood pressure.** In North Carolina in 1997, American Indian women were less likely than other women to have high blood pressure during pregnancy. (Office of Minority Health and State Center for Health Statistics, 1999).

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Limited Maternal Alcohol Use

- For those American Indian women who drink while pregnant, their **use of alcohol is likely to be limited to occasional or sporadic binge drinking** during social occasions. (May and Gossage, 2001).

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