

Welcome

Welcome to the premier issue of *Health Data Notes*, a quarterly publication of the Children's Special Health Services Unit of the North Dakota Department of Human Services and the Division of Maternal and Child Health of the North Dakota Department of Health.

The private health care system, along with a number of public programs and services provided by the North Dakota Department of Health and Department of Human Services, helps to improve the health of women, infants and children, including children with special health care needs in North Dakota.

The quality of these programs are enhanced by using data to assess and evaluate their effectiveness and to understand the characteristics of the populations affected. The State Systems Development Initiative (SSDI) grant is designed to enhance data capacity within the state to achieve these outcomes. *Health Data Notes* is intended to provide readers with a summary of research and analysis of issues affecting the health of the maternal and child population in North Dakota.

In this issue ...

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Mortality of VLBW Infants by Birth Facility

Short gestation (low birth weight and prematurity) is the second leading cause of infant death in North Dakota. Very low birth weight babies (less than 1,500 grams or 3 pounds, 4 ounces) are more likely to survive if they are born and cared for in facilities equipped for high-risk deliveries and neonates. In 2000, four North Dakota hospitals in two communities were designated as Level III Neonatal Intensive Care Units.

Research Methods

Birth certificate records of all North Dakota resident births from 1994 through 2000 were reviewed. Birth hospitals were sorted into four groups, and VLBW infants were identified and categorized by their hospital of birth. Mortality for these infants was confirmed using linked birth and infant death certificate files. Finally, the VLBW mortality percentage was calculated for each hospital group.

Group 1: Level III Facilities

St. Alexuis, Medcenter One – Bismarck
Dakota Hospital, Merit Care – Fargo

Group 2: Other Large Systems

Altru Hospital – Grand Forks
UniMed, Trinity – Minot



Group 3: Other Birth Hospitals

Mercy – Devils Lake
Burdick Indian Health Service – Belcourt
St. Joseph's – Dickinson
Jamestown Hospital – Jamestown
Mercy – Williston

Group 4: All Other Facilities

Results

During the seven-year period 1994-2000, 57,009 babies were born in North Dakota. Of those, 618 were

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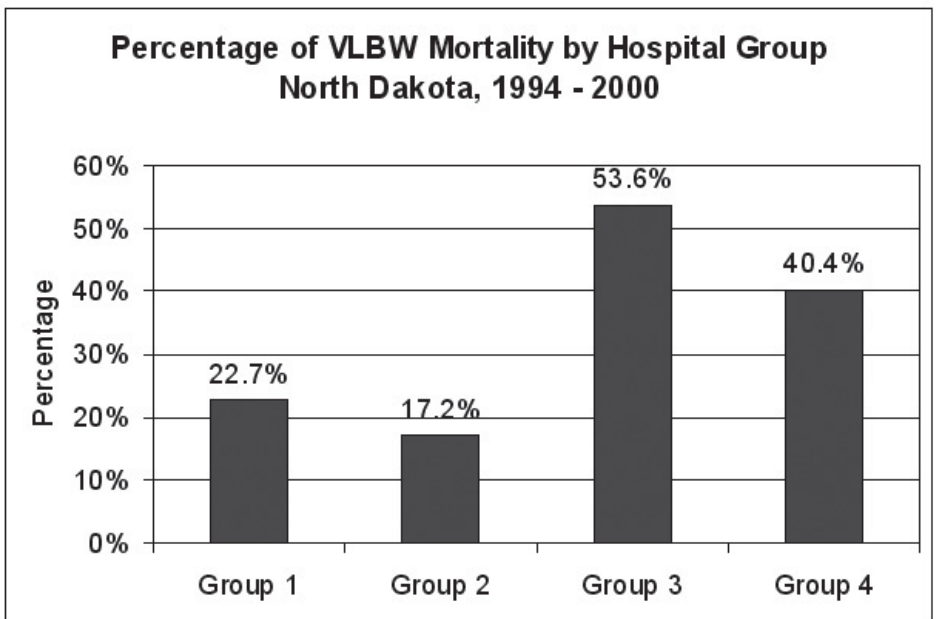
born VLBW, accounting for just more than 1 percent of all births. Most of the VLBW babies (57 percent) were born at one of the state's Level III hospitals.

One hundred and forty-nine of the 618 VLBW infants (nearly one-fourth) died during their first year of life. Controlling for other maternal and infant risk factors, the percentage of VLBW infant deaths varied considerably by hospital group. Forty-five percent of VLBW infants born in Group 3 or Group 4 hospitals died, as compared to just more than 20 percent born in Group 1 or Group 2 hospitals.

The percentage of infant deaths in Group 2 hospitals was slightly less than in Group 1 hospitals, although the difference was not statistically significant. Death rates were substantially higher for VLBW infants born in Group 3 or Group 4 hospitals.

Impact on the MCH Population

- VLBW infants have a much better chance of survival if born at Group 1 or Group 2 hospitals than if born at other hospitals in North Dakota.



- After controlling for other risk factors, there was no significant difference in the survival rates between VLBW infants born at Level III-designated NICUs and those born in the Grand Forks or Minot hospitals.
- Extreme geographic distances separate much of the rural population in North Dakota from health care facilities in Bismarck and Fargo. Pregnant women who are at risk of a preterm or VLBW infant can expect to have

appropriate care for their infant in the hospitals at all four major cities in the state; not just the two cities with Level III NICUs.

Sources

- North Dakota Department of Health, Division of Vital Records
- [Mortality in Low Birth Weight Infants According to Level of Neonatal Care at Hospital of Birth](#), Pediatrics Vol. 109, No. 5, May 2002, pp. 745-751.

Breastfeeding at Hospital Discharge



Data from linked birth certificate files and newborn metabolic screening files for 1996 through 2001 were analyzed to determine the percentage of mothers who breastfeed their infants at hospital discharge. Two characteristics of the mothers who breastfed also were examined.

For the six-year period 1996 through 2001, 60 percent of infants

with a linked birth record and screening file were breastfed at hospital discharge; 34 percent were bottlefed; and 3 percent were both bottlefed and breastfed. White mothers were more likely to breastfeed their infants than American Indian mothers (62 percent to 40 percent). Fifty-one

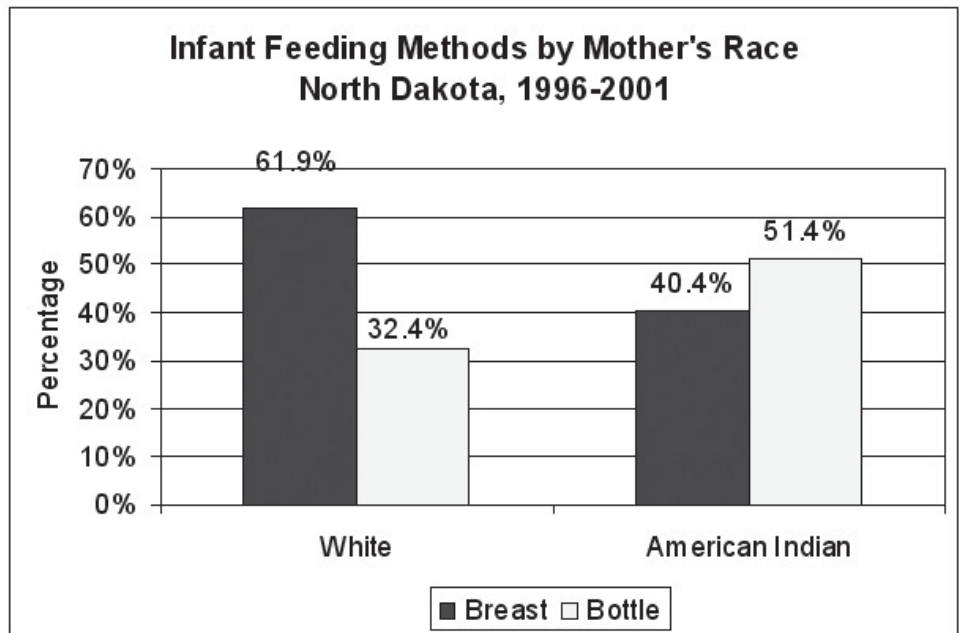
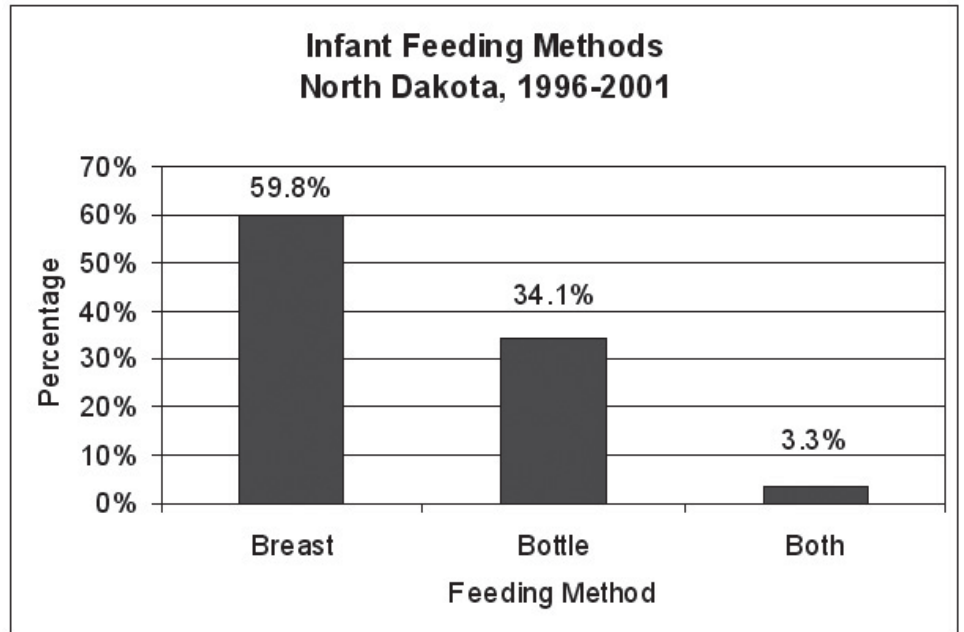
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percent of American Indian mothers bottlefed their infants at hospital discharge, compared to 32 percent of white mothers.

Mothers who used tobacco during pregnancy were significantly less likely to breastfeed their infant than mothers who did not use tobacco (RR=31.6, p=<0.0001). Only one-third of mothers who used tobacco during pregnancy breastfed their infants, compared to 55 percent of those who did not use tobacco. Tobacco-using mothers who stopped smoking during their first trimester were more likely to breastfeed their infant than tobacco-using mothers who did not stop smoking in the first trimester (42 percent to 31 percent).

Summary

Tobacco use during pregnancy is a significant risk associated with breastfeeding. American Indian mothers in North Dakota are nearly twice as likely to use tobacco during pregnancy than are white mothers. In addition to the other health benefits to the infant, interventions directed toward women, particularly American Indian women, aimed at reducing tobacco use during pregnancy also could be expected to increase the number of women who breastfeed their infant.



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**Cherishing children
is the mark of a
civilized society.**

– Joan Ganz Cooney