DOCUMENT RESUME

ED 432 382 PS 027 756

TITLE	A Report on the Health of Montana's Infants. 1996 Montana Special Report No. 1.
INSTITUTION	Healthy Mothers, Healthy Babies--The Montana Coalition, Helena.
SPONS AGENCY	Annie E. Casey Foundation, Baltimore, MD.
PUB DATE	1996-02-00
NOTE	7p.; For other Special Reports, see PS 027 757-758.
AVAILABLE FROM	Montana KIDS COUNT Project, Healthy Mothers, Healthy Babies, The Montana Coalition, 316 Fuller Avenue, P.O. Box 876, Helena, MT 59624; Tel: 406-449-8611.
PUB TYPE	Numerical/Quantitative Data (110) -- Reports - Descriptive (141)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Birth Weight; *Child Health; Child Welfare; *Infant Mortality; *Infants; Pregnancy; Prenatal Care; *Prenatal Influences; Social Indicators; Substance Abuse; Tables (Data); *Well Being
IDENTIFIERS	*Indicators; *Montana

ABSTRACT

This brief Kids Count report reviews principal adverse birth outcomes that affect the status of infants in Montana, including infant mortality and low birth weight. Statistics and brief summaries are provided in the following areas: (1) infant mortality (on the decline since 1989); (2) low birth rate (remaining steady from 1988 through 1992); (3) race of mother (no significant difference between white and American Indian mothers with regard to infant birth weight or mortality); (4) selective risk factors (the infant mortality rate for women who have maternal risk factors--being unmarried at time of birth, having less than a high school education, and being less than 20 years old--is markedly higher in every category); (5) substance use (of mothers who both smoke and drink during pregnancy, 12.7 percent have infants of low birth weight, more than double the overall rate of 5.8 percent); (6) prenatal care (at-risk mothers who report no prenatal care have the highest rates of low birth weight infants); and (7) infant mortality rates by county for 1993. The report also summarizes Montana outreaches to high-risk women. (EV)

montana kids count

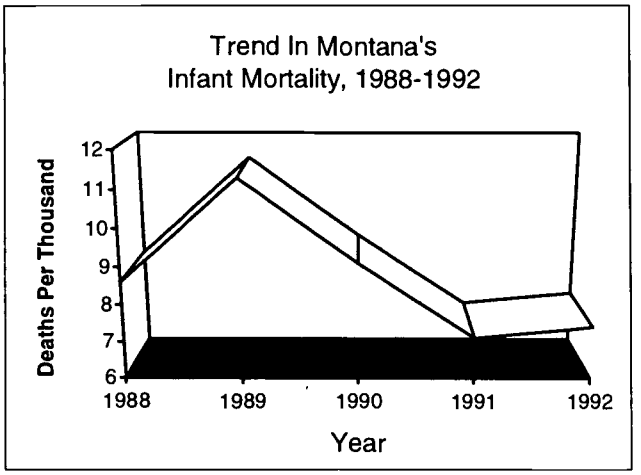
Montana Special Report

1996 Report # 1

A Report on the Health of Montana's Infants

This report is a review of principal adverse birth outcomes that affect the status of infants in Montana including infant mortality and low birth weight.

Infant Mortality Declines

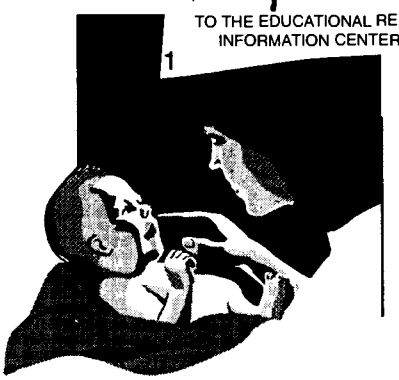


In recent years, Montana has experienced a steady decline in the infant mortality rate (measured as deaths per thousand live births.) In 1989, Montana's infant mortality rate stood at 11.3 (see chart). Since then, Montana's infant mortality rate has declined to a low of 7.1 in 1991 and has tapered off at 7.4 deaths per thousand births in 1992.

Low Birth Weight Rate Remains Steady

Low birth weight is a concern among public health officials because it is strongly related to infant mortality. Furthermore, infants of low birth weight are likely to have medical and developmental problems.

From 1988 through 1992, low birth weight (births under 2,500 grams, or about 5 1/2 pounds) averaged 5.8% of all births to Montana mothers.



Special report Feb. 1996	Inside ...	
Montana KIDS COUNT Special Reports are published by the KIDS COUNT Collaborative of Healthy Mothers, Healthy Babies, The Montana Coalition. The project is funded through a grant from the Annie E. Casey Foundation. For more information contact HMHB in Helena, Montana at (406) 449-8611.	*Ethnic Distribution of Low Birth Weight and Infant Mortality*	*Page 2*
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Review of Possible Factors and Adverse Outcomes

Race of Mother

During the period from 1988-1992, 87% of Montana births were births to white mothers, 12% to Native American Indian mothers, and only 1% to all other mothers. Due to the small number of "other" births, only whites and Indians are compared.

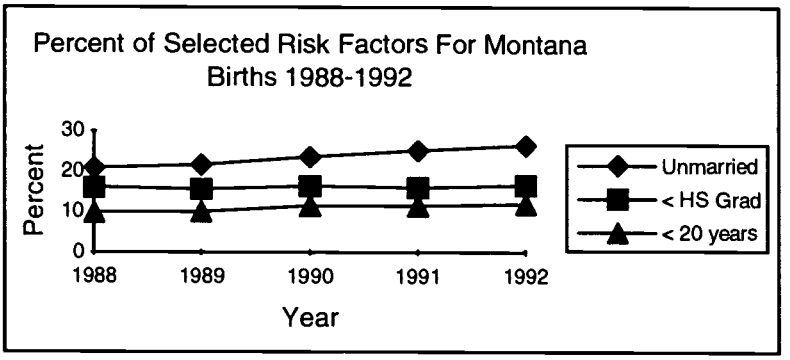
☺ For Indian mothers, the average percent of low birth weight babies has declined from 6.3% in 1988 to 5.7% in 1992. The rate of low birth weight infants born to white mothers has remained relatively stable over the last five years: 5.8% in 1988 and 5.9% in 1992.

☹ How do white and Indian babies fare with respect to mortality rates and low birth weight? The rates are high for both whites and Indians when an infant is of low birth weight. In addition, there is no substantive difference in the infant mortality rate for whites and Indians where low birth weight is involved. For whites the rate was 52.6 deaths per thousand live births, and for Indians it was 51.7 per thousand live births.

In Montana, the infant mortality rate for women who have maternal risk factors is markedly higher in every category

Selective Risk Factors

Commonly used maternal risk factors are: being unmarried at time of birth; having less than a complete high school education; and being less than 20 years old. Over the past five years, all of these risk factors appear to be rising slowly.



- Indian mothers who are least educated have the highest percent of low birth weight infants for the five-year period. For whites, mothers who are unmarried have higher levels of low birth weight infants (Table 1).
- How do these risk factors relate to infant mortality? The infant mortality rate for both whites and Indians who have maternal risk factors is markedly higher in *every* category than it is for mothers who are not characterized by these maternal risk factors (Table 1).

Table 1. Percent of Low Birth Weight and Infant Mortality Rates by Maternal Risk Factor and Race 1988-92

	Percent Low Birth Weight		Infant Mortality Rate	
At-risk Indicator	Whites	Indians	Whites	Indians
< 20 years old	7.7	5.4	11.7	14.2
< H.S. Education	8.6	6.6	11.8	15.4
Unmarried Status	8.8	6.4	8.54	14.2
No Risk Factors	4.7	4.5	5.0	5.2

Substance Use Among Montana Pregnant Mothers Contributes to Adverse Outcomes

Two important risk factors are maternal smoking and/or drinking during pregnancy. For all births, five-year averages for these additional risk factors is as follows:

- 17.3% of the mothers reported smoking during pregnancy
- 2.1% reported drinking while pregnant; and
- 2.8% of mothers both smoked and drank during pregnancy.

Overall, most Montana mothers report they do not drink or smoke during pregnancy (67.7%).

In general, Indian mothers report higher levels of smoking and drinking during pregnancy than whites, as shown in the Table 2 below:

Table 2. Substance Use Among Montana Pregnant Women 1988 - 1992

Substance Use	White	Indians
None	79.7	61.3
Smoke	16.1	26.9
Drink	2.0	3.3
Smoke and Drink	2.1	8.4

Mothers who report they do not smoke or drink during pregnancy are more likely to have infants of normal birth weight

Substance Use and Adverse Outcomes

- Mothers who report they do not smoke or drink during pregnancy are more likely to have infants of normal birth weight. Of the mothers who both smoke and drink during pregnancy, 12.7% have infants of low birth weight — more than double the overall rate of 5.8%.
- For both whites and Indians, low birth weight infants are more likely if mothers both smoke and drink during pregnancy (Table 3).
- Higher infant mortality rates are associated with mothers who both smoke and drink during pregnancy. This rate is pronounced among infants born to Indian mothers (Table 3).

Table 3. Percent of Low Birth Weight and Infant Mortality Rates by Maternal Risk Factor and Race 1988-92

	Percent Low Birth Weight		Infant Mortality Rate	
Substance Use	Whites	Indians	Whites	Indians
None	4.6	4.7	5.4	9.8
Smoke	9.7	6.4	10.2	10.4
Drink	5.2	8.1	5.0	[43.1]
Smoke and Drink	13.5	11.2	9.4	21.3

NOTE: rate in brackets is based on an at-risk population less than 500.

Risk Factors, Prenatal Visits and Low Birth Weight

- Many health care providers and public health officials agree that the more prenatal visits a woman has, the more likely she is to have an infant of normal birth weight and the less likely it is that there will be adverse birth outcomes. This view is supported by the information in Table 4.
- Attention is limited only to those mothers characterized as having one or more of the selected risk factors: low education, being young or being unmarried. As already seen, adverse outcomes are generally high among such women. Here, the concern is whether or not there are lower rates of adverse outcomes associated with prenatal visits for those who are known to be characterized by risk factors. In other words, do relatively many prenatal visits provide some resiliency in the face of risk factors.

At-risk mothers who report no prenatal care (no visits) have the highest rates of low birth weight infants.

- At-risk mothers who report no prenatal care (no visits) have the highest rates of low birth weight infants. As the number of prenatal visits increases, so does the likelihood of delivering a child of normal birth weight. This remains true for all at-risk mothers, regardless of race.
- While these rates may in part, be mediated by gestational age, it is clear, even among mothers with selected risk factors present, that increased prenatal visits lower the rate of low birth weight.

Table 4. Percent Low Birth Weight by the Number of Prenatal Visits for At-risk Mothers

	Births to Teen Mothers (-20 years)		Less than H.S. Graduate		Unmarried	
Prenatal Visits	White	Indian	White	Indian	White	Indian
No Visits	23.3	13.9	18.0	13.3	23.5	17.9
1-8 Visits	13.2	7.5	12.1	8.0	13.2	7.7
9-12 Visits	5.0	2.3	6.4	4.2	6.3	3.4
13 or More Visits	3.6	2.2	5.0	1.9	5.0	3.7

DATA NOTES AND SOURCES

Low Birth Weight Is any birth that is recorded less than 2500 grams or approximately 5.5 pounds.

Infant Mortality is the number of infants born alive and die within a given year divided by the number of infants born to residents in that year (as a rate per thousand)

NOTE: Information is for births occurring to Montana residents during 1988-1992. Infant mortality rates may appear exceedingly high in some categories due to the low number of births.

Source: All data used in this report have been provided by the Department of Public Health and Human Services, Helena, MT. Their use here does not represent an official report of the State of Montana, nor does it necessarily reflect the views of DPHHS. The analyses were furnished by The Center for Population Research, The University of Montana — Missoula

Infant Mortality Rates (IMR) By County for 1993

Montana has a compelling small numbers problem which accounts for the strikingly high rates in some of the smaller population counties.

To illustrate this, assume that a county has exactly 500 births and exactly five infant deaths. This would yield an infant mortality rate of 10 per thousand live births. Had there been one more infant death the rate would have increased to 12 deaths per thousand live births and with one less death it would have decreased to eight deaths per thousand live births.

Some counties have substantially fewer than 500 live births per year, for example there were 40 babies born in Broadwater County in 1993. A single death would have yielded an infant mortality rate of 25 per thousand live births and two deaths would have produced a rate of 50 per thousand live births.

To alert the reader to this small number problem, all rates based on fewer than 500 births are placed in brackets.

Montana has a compelling small numbers problem which accounts for the strikingly high rates in some of the smaller population counties.

Infant Mortality Rates (IMR) by County for 1993*

County	IMR	County	IMR	County	IMR
MONTANA	7.7	Golden Valley	[0.0]	Powder River	[0.0]
Beaverhead	[8.0]	Granite	[0.0]	Powell	[13.7]
Bighorn	[12.2]	Hill	[14.1]	Prairie	[0.0]
Blaine	[16.7]	Jefferson	[0.0]	Ravalli	[6.1]
Broadwater	[0.0]	Judith Basin	[0.0]	Richland	[25.9]
Carbon	[23.5]	Lake	[13.1]	Roosevelt	[20.2]
Carter	[0.0]	Lewis and Clark	7.6	Rosebud	[5.5]
Cascade	4.7	Liberty	[0.0]	Sanders	[0.0]
Chouteau	[0.0]	Lincoln	[9.1]	Sheridan	[0.0]
Custer	[5.7]	McCone	[40.0]	Silver Bow	[11.2]
Danials	[0.0]	Madison	[15.6]	Stillwater	[0.0]
Dawson	[10.0]	Meagher	[0.0]	Sweet Grass	[0.0]
Deer Lodge	[0.0]	Mineral	[0.0]	Teton	[12.7]
Fallon	[0.0]	Missoula	9.9	Toole	[0.0]
Fergus	[0.0]	Musselshell	[0.0]	Treasure	[0.0]
Flathead	5.8	Park	[5.3]	Valley	[0.0]
Gallatin	7.4	Petroleum	[0.0]	Wheatland	[0.0]
Garfield	[0.0]	Phillips	[0.0]	Wibaux	[0.0]
Glacier	[8.1]	Pondera	[0.0]	Yellowstone	7.1

** NOTE: Infant Mortality Rates For State and by County for 1993 should be considered provisional because the mother's county of residence was not available in the data set, county of residence as shown on the death record was used.*

Montana Outreaches to High Risk Women

MIAMI Projects Coordinate Care

Montana's Initiative for the Abatement of Mortality in Infants (MIAMI) is Montana's effort to improve pregnancy outcomes and decrease infant mortality in the state by supporting and coordinating the public health system in Montana to more effectively serve pregnant women. The MIAMI Project was legislatively mandated in 1987 to develop local projects which provide direct services to high risk pregnant women and their infants; implement Medicaid changes which improve access to services; conduct an ongoing fetal and infant mortality review to examine the causes of death; and conduct a public education and outreach effort to inform the public about the need for early and continuous prenatal care. MIAMI started with 4 pilot projects in 1986 and in 1996 there are 31 communities which are operating or developing MIAMI projects.

BABY YOUR BABY Reaches Out To Pregnant Women

BABY YOUR BABY (BYB) is the statewide education component of the MIAMI Project. Through Healthy Mothers, Healthy Babies, BYB is a public/private partnership which maximizes the outreach efforts through the utilization of Federal Medicaid match dollars with private contributions. The BYB multi-media campaign, which started in 1990, provides outreach, incentives, educational materials and referrals to families with pregnant women and children through age two. Blue Cross and Blue Shield of Montana was one of the original sponsors of the Baby Your Baby Program and has provided the printing of this report.

Medicaid Increased Options for Pregnant Women

In April of 1990, Medicaid eligibility was expanded for pregnant women and children up to age six years with incomes up to 133% of the federal poverty level. Reimbursement rates for obstetricians and pediatricians were increased. Presumptive and continuous eligibility, and Targeted Case Management for high risk pregnant women became available during 1991. Medicaid changes have contributed to the improved access of prenatal and obstetrical services in the state.

COIC Offers Support To Native American Women

Cherish Our Indian Children is a project which provides support services to Native American pregnant women and young children through projects on 4 reservations and 7 urban communities. The project was funded through a grant from the W.K Kellogg Foundation to Healthy Mothers, Healthy Babies. COIC has now become its own entity, COIC, Inc., headquartered in Kalispell.

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EFF-089 (9/97)