

OREGON HEALTH TRENDS

Center for Health Statistics (503) 731-4354
STATE OF OREGON • HEALTH DIVISION • DEPARTMENT OF HUMAN RESOURCES

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MINORITY HEALTH 1994

Infants At Risk

Which of Oregon's minority groups are at risk of poor birth outcomes? This updated report¹ provides an overview of the health of the state's racial/ethnic minority populations as revealed by natality data.² Naturally, race/ethnicity by itself is rarely a determinant of good or poor health. Rather, it should be seen as a surrogate indicator of a complex interplay of cultural, biological and socioeconomic factors, as well as access to the health care system.

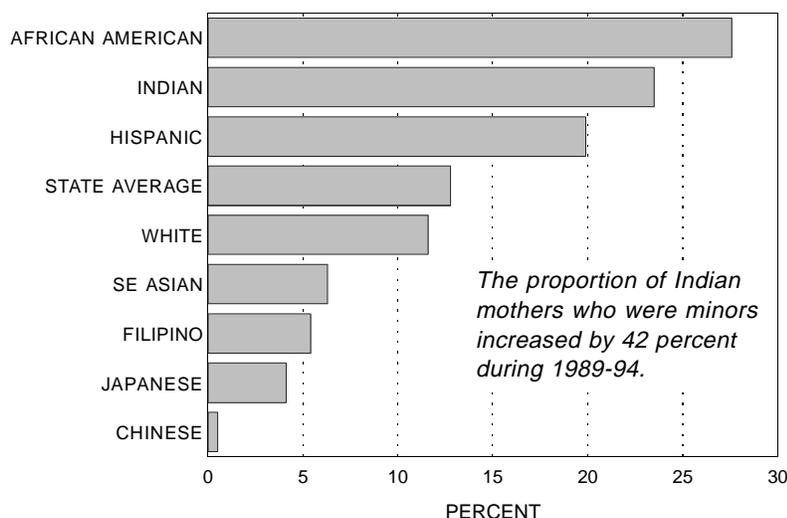
In 1994, over 7,000 Oregon infants were born to non-white and/or Hispanic mothers,³ many of whom had characteristics associated with

poor birth outcomes. Hispanic mothers accounted for 59 percent of all births to minority mothers, up from 45 percent in 1989.

Among Oregonians, African American and Indian mothers more often possessed characteristics linked to poor birth outcomes. These included: being teenaged, unmarried, smoking cigarettes and/or using alcohol or illicit drugs during pregnancy, having less than a high school education, and lacking private health insurance. Black infants were most apt to have a short gestation, a low birthweight, and to die before their first birthday.

The number of infants born to Hispanic mothers increased by 96 percent during 1989 - 1994.

PERCENTAGE OF MOTHERS WHO ARE TEENAGE OR YOUNGER, BY RACE/ETHNICITY, OREGON RESIDENTS, 1994



Maternal Characteristics

AGE

Teenage and younger mothers are more likely to experience poor birth outcomes. Statewide, 4.8 percent of all mothers giving birth in 1994 were age 17 or younger, up from 3.9 percent in 1989.⁴ One in nine (11.7%) African American mothers was under 18, a frequency almost three times that of whites (4.1%) and the highest observed in any racial/ethnic group. By comparison, just 0.5 percent of Chinese mothers gave birth as minors (Table 1).

Non-white and/or Hispanic mothers accounted for 29 percent of births to minors, compared to 18 percent of births to adult women.

Among Oregon mothers of all races/ethnicities, 13 percent were teenage or younger. Among African American mothers, however, fully 28 percent—more than one out of every four—was under 20.

EDUCATION

Maternal education is a predictor of infant birthweight, and the differences between the racial/ethnic categories are considerable (Table 1). Almost two-thirds (64%) of Hispanic mothers had less than 12 years of education. By contrast, less than one-fifth (16%) of whites did not complete high school. All but 5.2 percent of the Japanese mothers were high school graduates.

The disparity in educational levels among the racial/ethnic categories cannot be explained by the fact that many minority mothers were teenage or younger. The differences persisted even among mothers old enough (19+ years) to have graduated from high school. Most His-

panic mothers (60%) had less than 12 years of education.

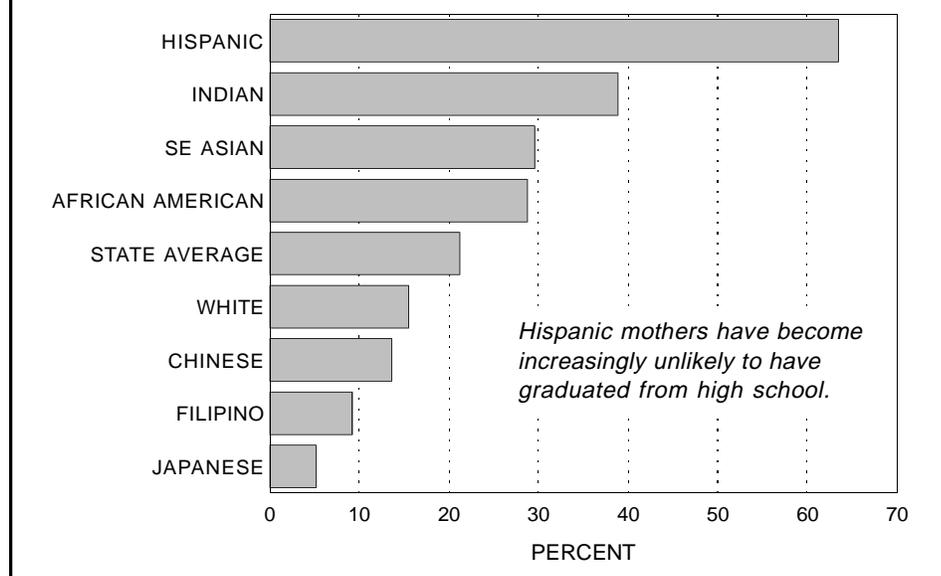
At the other end of the educational spectrum, Japanese mothers were most likely to be college graduates. Over one-half (61%) of those 25 or older held baccalaureate or postgraduate degrees. Among white mothers, one-third (32%) were college graduates.

MARITAL STATUS

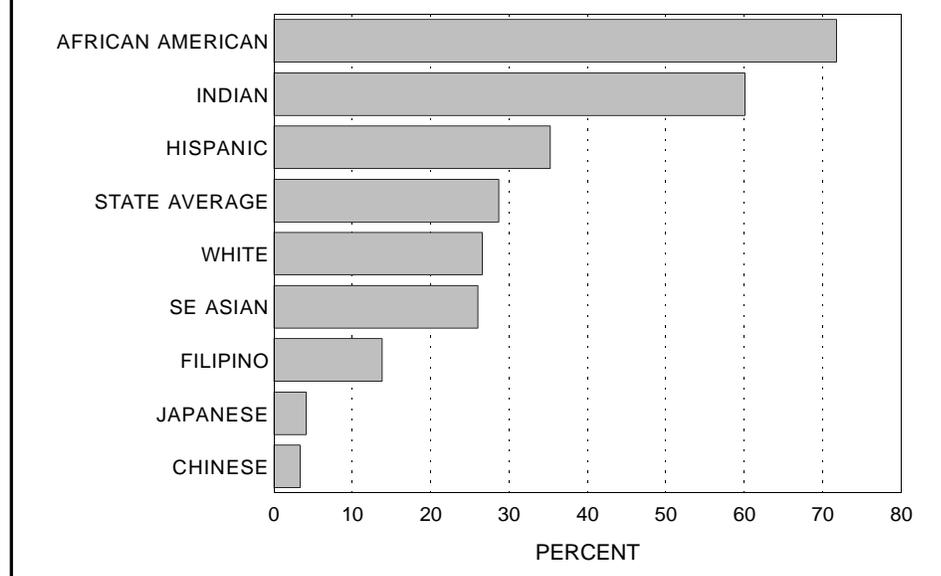
Like education, marital status is also a predictor of birthweight, with an effect independent of the fact that many unmarried mothers are teens.

The proportion of births to unmarried mothers has risen nearly every year since 1975, when the figure was 10 percent. During 1994, fully 29 percent of Oregon infants

PERCENTAGE OF MOTHERS WITH LESS THAN 12 YEARS OF EDUCATION, BY RACE/ETHNICITY, OREGON RESIDENTS, 1994



PERCENTAGE OF BIRTHS TO UNMARRIED MOTHERS, BY RACE/ETHNICITY, OREGON RESIDENTS, 1994



were borne by unmarried mothers. As with many other maternal characteristics, the differences observed among racial/ethnic categories are distinct. Seven of every ten (72%) African American women who gave birth in 1994 were unmarried, the highest proportion for any race and almost three times the state average. Most (60%) Indian mothers, too, were unmarried. Among white mothers, one-fourth (27%) were unmarried. Just 3.3 percent of Chinese mothers were unmarried, the lowest proportion of any group.

and child is widely recognized. Still, almost a fourfold difference existed between racial/ethnic categories in the likelihood of receiving adequate care.

Table 1 presents four measures of the adequacy of prenatal care: 1. no care; 2. late care (care starting in the third trimester); 3. inadequate care (care starting in the third trimester or consisting of four or fewer visits); and 4. first trimester care.

Eight of every ten Oregon mothers received prenatal care by the end of the first trimester. Many Indian mothers, however, did not; just 64 percent received early care. By comparison, 88 percent of Japanese mothers received first trimester care.

For the first time since 1987, the percentage of Oregon women receiving inadequate prenatal care increased: 2,376 mothers did not receive adequate care. Chinese mothers were the least likely (3.8%), while African American mothers were most likely (14%). By comparison, 4.4 percent of white mothers had inadequate care.

One-fourth of African American mothers were teenaged or younger.

African American mothers were four times more likely to receive inadequate prenatal care than Chinese mothers.

Pregnancy and Delivery

PRENATAL CARE

The mother's general health and the type of care she receives are material indicators of a population's health status. Women who do not receive adequate prenatal care are more likely to have complications of labor and delivery; their infants are also at increased risk. The importance of prenatal care to both mother

PERCENTAGE OF MOTHERS WHO RECEIVED INADEQUATE PRENATAL CARE, BY RACE/ETHNICITY, OREGON RESIDENTS, 1994

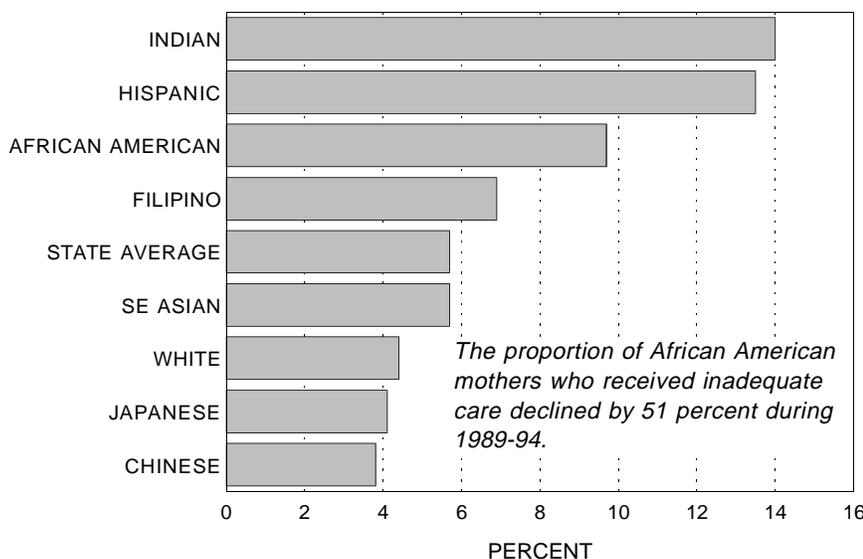


TABLE 1.
PERCENTAGE OF MOTHERS WITH SELECTED PREGNANCY RISK FACTORS AND
BIRTH OUTCOMES BY RACE/ETHNICITY,¹ OREGON RESIDENT BIRTHS, 1994

RISK FACTORS AND BIRTH OUTCOMES	TOTAL ²	WHITE	AFRICAN AMERICAN	INDIAN	HISPANIC	FILIPINO	JAPANESE	CHINESE	SOUTH-EAST ASIAN
NUMBER OF BIRTHS	41,832	34,475	929	579	4,368	130	97	213	442
MATERNAL CHARACTERISTICS									
AGE < 18	4.8	4.1	11.7	11.2	8.8	3.1	1.0	.5	1.6
AGE 18-19	8.0	7.4	15.8	12.3	11.1	2.3	3.1	-	4.8
AGE < 20	12.8	11.6	27.6	23.5	19.9	5.4	4.1	.5	6.3
< 12 YEARS OF EDUCATION	21.2	15.5	28.8	38.9	63.5	9.2	5.2	13.6	29.6
< 12 YEARS OF EDUCATION (AGE 19 OR OLDER)	16.4	11.2	18.5	29.8	60.0	6.5	3.2	13.2	28.4
>=16 YEARS OF EDUCATION (AGE 25 OR OLDER)	29.3	31.5	12.1	8.6	6.9	42.2	61.4	47.7	18.7
UNMARRIED	28.7	26.6	71.8	60.1	35.3	13.8	4.1	3.3	26.0
UNMARRIED (AGE 20 OR OLDER)	22.0	20.3	63.2	52.1	28.2	12.2	2.2	2.8	22.2
USED TOBACCO	18.1	20.0	23.9	28.7	4.6	9.2	13.4	.9	2.5
USED ALCOHOL	2.7	2.8	4.8	6.2	1.2	2.3	2.1	.5	.5
USED ILLICIT DRUGS ³	1.1	1.1	2.9	4.1	.4	-	-	-	-
USED TOBACCO, ALCOHOL OR DRUGS	19.5	21.5	26.0	32.5	5.2	10.0	14.4	.9	2.7
PREVIOUS LOSS *	1.9	1.7	1.6	2.6	3.3	1.5	1.0	.5	1.6
PREGNANCY AND DELIVERY									
NO PRENATAL CARE	.9	.7	1.8	2.9	2.0	-	1.0	-	-
LATE PRENATAL CARE	3.4	2.7	4.0	7.6	8.6	6.2	3.1	2.3	3.2
INADEQUATE PRENATAL CARE **	5.7	4.4	9.7	14.0	13.5	6.9	4.1	3.8	5.7
FIRST TRIMESTER CARE	78.9	81.8	71.0	64.4	60.9	73.8	87.6	81.7	73.3
>=4 LIVE BIRTHS	10.2	9.3	14.4	19.2	15.7	6.9	5.2	2.3	14.0
>=4 PREGNANCIES	22.3	22.2	29.6	32.6	22.4	13.8	11.3	10.3	20.4
PREVIOUS PRETERM OR LOW BIRTHWEIGHT INFANT	1.8	1.8	1.1	1.7	2.0	1.5	1.0	.5	1.8
MATERNAL ANEMIA	3.1	2.9	4.5	4.1	3.9	.8	-	1.4	2.3
GESTATIONAL DIABETES	3.0	3.0	2.4	3.8	3.0	3.1	1.0	8.0	3.8
HYDRAMNIOS ***	1.4	1.3	1.8	2.9	1.9	1.5	-	-	.9
DYSFUNCTIONAL LABOR	4.5	4.4	3.7	3.5	5.3	4.6	2.1	3.8	2.9
UTERINE BLEEDING	1.4	1.4	1.3	1.9	.9	3.1	-	3.3	1.6
MODERATE/HEAVY MECONIUM ****	5.0	4.9	5.0	5.0	6.7	2.3	4.1	5.2	3.8
FETAL DISTRESS	5.5	5.6	6.4	6.2	4.6	5.4	7.2	8.0	5.0
BIRTHSPACE < 15 MONTHS	2.5	2.1	4.4	4.8	4.0	3.1	2.1	3.3	4.1
DELIVERY COSTS PAID BY PUBLIC INSURANCE	35.1	31.5	63.5	57.7	57.1	16.9	17.5	17.8	35.3
BIRTH OUTCOMES									
GESTATION < 37 WEEKS	7.2	6.8	11.7	8.5	8.7	10.8	11.3	5.2	9.3
LOW BIRTHWEIGHT	5.3	5.1	10.3	5.9	5.6	6.9	9.3	2.3	4.8
APGAR <=7	3.5	3.4	5.4	3.8	3.6	6.2	4.1	2.8	2.3
NEONATAL INTENSIVE CARE	5.9	5.9	7.6	6.7	6.5	5.4	8.2	2.3	3.2

1 UNLESS OTHERWISE SPECIFIED, RACE CATEGORIES ARE NON-HISPANIC (E.G. "WHITE" MEANS NON-HISPANIC WHITES). THE CATEGORY "SOUTHEAST ASIAN" INCLUDES ONLY WOMEN BORN IN CAMBODIA (45), LAOS (114), AND VIETNAM (283). THE INFLUX OF REFUGEES FROM THESE COUNTRIES BEGAN IN 1975; ANY SECOND GENERATION MOTHERS WOULD NOT BE INCLUDED IN THIS CATEGORY.

2 INCLUDES BIRTHS BY WOMEN OF ALL RACES.

3 INCLUDES USE OF HEROIN, COCAINE, MARIJUANA, METHAMPHETAMINE, AND RELATED DRUGS. KNOWN TO BE GREATLY UNDER-REPORTED.

* DEATH OF A LIVE-BORN CHILD PRIOR TO THE CURRENT BIRTH.

** CARE BEGINNING IN THE THIRD TRIMESTER OR CONSISTING OF FEWER THAN FIVE VISITS.

*** HYDRAMNIOS IS AN EXCESS OF AMNIOTIC FLUID.

**** MECONIUM IS A DARK GREEN MUCILAGINOUS SUBSTANCE NORMALLY FOUND IN THE INTESTINE OF A FETUS. HOWEVER, WHEN MECONIUM IS PRESENT IN THE AMNIOTIC FLUID IN MODERATE TO HEAVY AMOUNTS DURING LABOR, IT CAN MEAN THAT THE INFANT IS IN DISTRESS. THE ASPIRATION OF MECONIUM BY THE INFANT CAN RESULT IN FAILURE OF THE LUNGS TO EXPAND, PNEUMONIA, AND DEATH.

While fewer than one in 100 of all Oregon mothers received no care whatsoever, 1.8 - 2.9 percent of the state's Hispanic, Indian and African American mothers had no prenatal care.

PREGNANCY HISTORY

Women in all racial/ethnic categories, except Japanese, waited a shorter period of time before giving birth again than did whites. Indian mothers were most apt to have had short interbirth periods. About one in 20 gave birth again within 15 months; that is, the mother became pregnant within six months of her previous delivery.

DELIVERY PAYMENT

The primary source of payment for delivery costs is an indicator of a mother's economic status. One-third (35%) of the births to all Oregon women were paid for through some form of public insurance. More than one-half of the births to African American (64%), Hispanic (57%), and Indian (58%) mothers were paid for in this way. Deliveries by Filipino

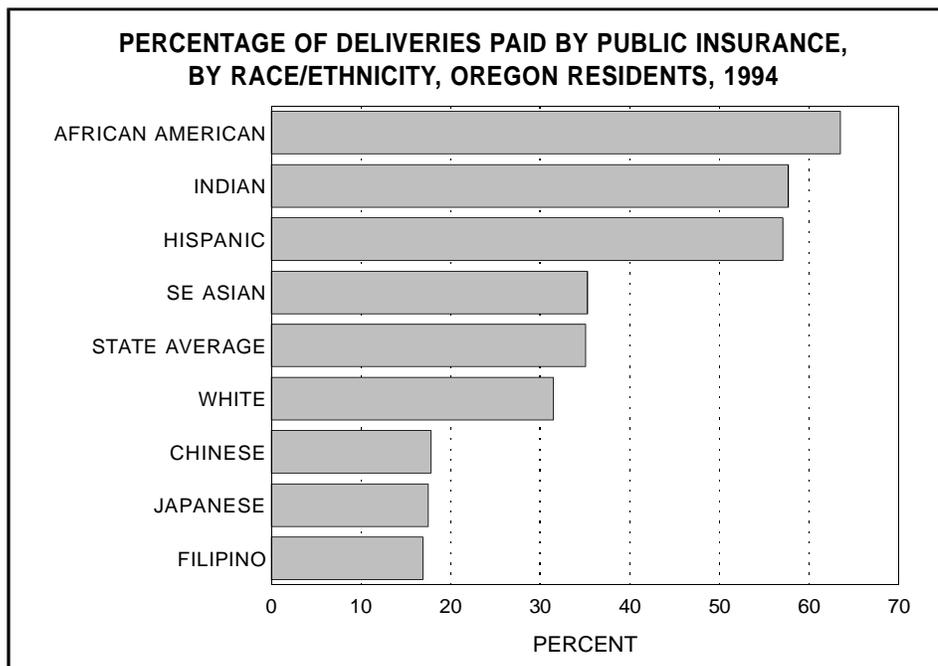
and Japanese mothers were least likely to be paid with public insurance, 17 and 18 percent, respectively.

SUBSTANCE USE

During 1994, no fewer than 20 percent (8,146) of Oregon infants were exposed prenatally to cigarette smoke, alcohol, and/or illicit drugs as a result of maternal use of these substances.⁵ Some experts believe that physicians are less apt to report substance use, when present, among non-Hispanic white women than among other women. If this is true, then the real differences may be less than the reported differences. Nonetheless, the data in Table 1 do represent at least a base minimum of Oregon infants exposed to certain hazardous substances prior to birth.

The mothers of 7,569 (18%) Oregon newborns reported smoking during pregnancy, putting both mother and child at increased risk of morbidity and mortality. Indian mothers (29%) were most likely to smoke. Least likely were Chinese (0.9%) and Southeast Asian (2.5%) moth-

Over 8,000 Oregon newborns were exposed prenatally to alcohol, tobacco combustion products, and/or illicit drugs.



One-third of the infants of Indian mothers were exposed prenatally to tobacco combustion products, alcohol, and/or illicit drugs.

Ten percent of the newborns of African American mothers had a low birthweight.

ers. By comparison, 20 percent of white mothers reported smoking. For more information about tobacco use by Oregonians, see *Oregon Health Trends*, Numbers 38 and 40.

Three percent of mothers (1,121) reportedly drank alcohol while pregnant. Reported use was highest among Indian mothers, 6.2 percent of whom drank. Southeast Asian and Chinese mothers were least likely to drink when pregnant; just 0.5 percent of each group did so. (Alcohol consumption, cigarette smoking, and illicit drug use are known to be under-reported on birth certificates.)

Many factors affect birth outcomes besides those previously discussed. Among these are: poor nutrition, inadequate housing and living conditions, stressful work environments, disrupted families, and lack of social supports. Although these factors cannot themselves be measured from birth certificate data, the end results can—low birthweight, the need for intensive care, and infant death.

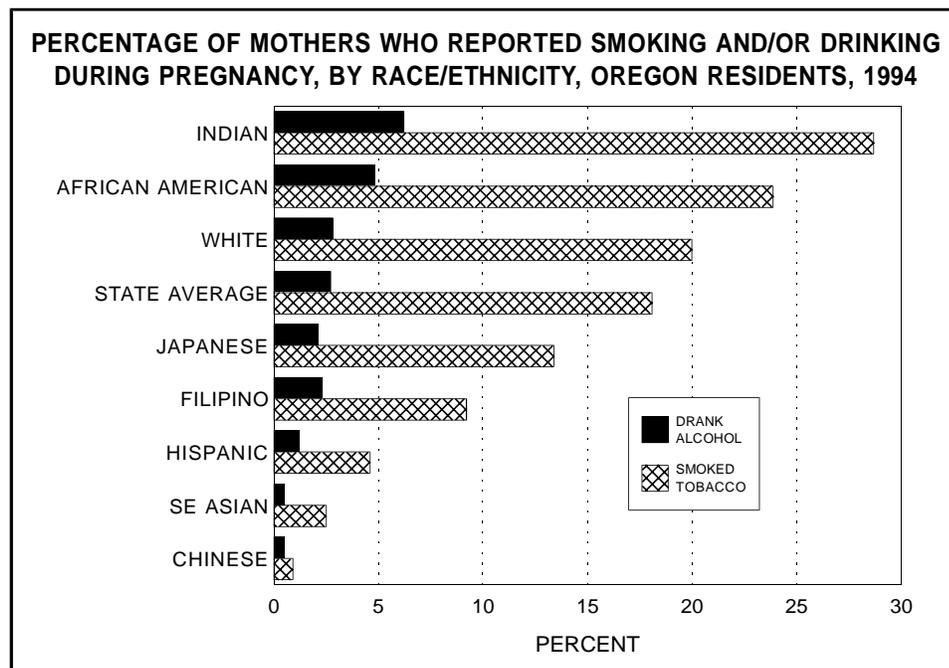
BIRTHWEIGHT

Neonates weighing less than 2,500 grams (5.5 pounds) are at increased risk not only of illness and death but also of mental retardation, birth defects, growth and development problems, learning disorders, chronic lung disorders, and child abuse and neglect. During 1994, the number of Oregon infants who had a low birthweight increased to 2,217, or 5.3 percent of all births.

Although nonwhite and/or Hispanic mothers accounted for 18 percent of all births, they accounted for 21 percent of all low birthweight infants. The frequency of underweight births among African Americans (10.3%), the group at greatest risk of low birthweight, was four times that for the Chinese (2.3%), the group at lowest risk.⁶

APGAR SCORE

The Apgar score is a numeric expression (0-10) of the condition of a neonate shortly after birth. It is the sum of points accumulated upon assessment of the heart rate, respiratory



effort, muscle tone, reflex irritability, and color. An Apgar score of seven or less measured five minutes after birth indicates that the infant is at increased risk of complications, illness, and death.

Filipino infants were more often evaluated to have a low Apgar score than infants in any other racial/ethnic group; 6.2 percent were so classed compared to 2.3 percent of Southeast Asians, the group at least risk. By comparison, 3.5 percent of white infants had a low score.

INTENSIVE CARE

While 5.9 percent of Oregon neonates required intensive care, 8.2 percent of the infants of Japanese mothers and 2.3 percent of those of Chinese mothers required it, the groups at greatest and least risk.

INFANT DEATH

Infant death rates are strikingly different between racial/ethnic populations. During 1991-94, African American infants were seven times more likely to die before their first birthday than were Chinese and Japa-

**TABLE 2.
PERCENTAGE OF INFANTS WITH LOW BIRTHWEIGHTS FOR FOUR RACIAL/ETHNIC GROUPS, OREGON MOTHERS WITH SELECTED RISK FACTORS, 1994**

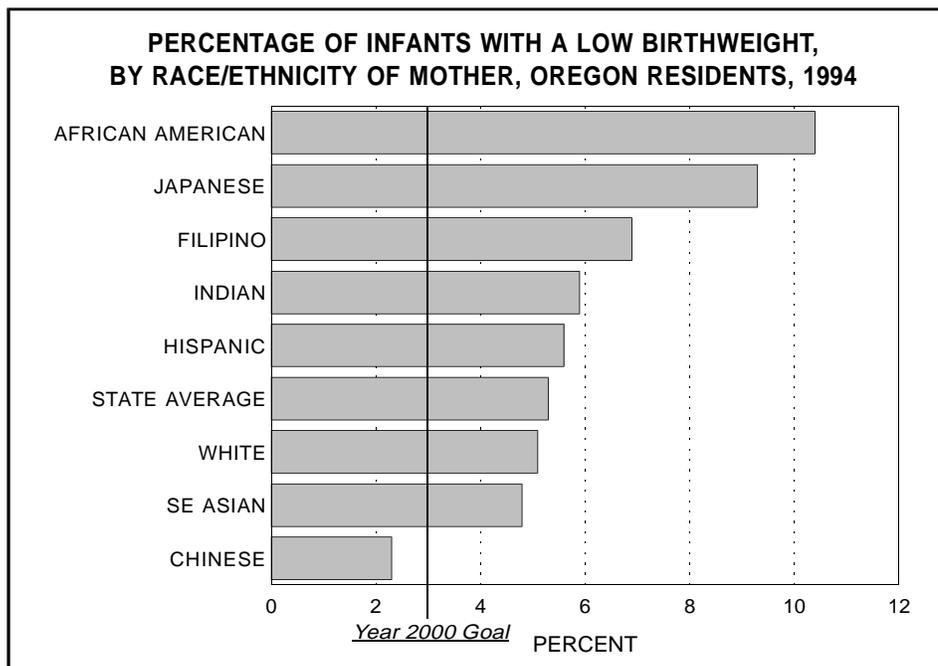
FACTOR	WHITE	AFRICAN AMERICAN	INDIAN	HISPANIC
TOTAL LOW BIRTHWEIGHT	5.1	10.3	5.9	5.6
AGE < 20	6.7	9.4	7.4	6.0
< 12 YEARS OF EDUCATION	7.1	10.1	6.2	5.7
UNMARRIED	7.1	11.1	5.5	7.0
USED TOBACCO	8.7	13.1	9.6	9.5
DELIVERY COSTS PAID BY PUBLIC INSURANCE	6.4	11.4	6.6	6.2
INADEQUATE PRENATAL CARE	11.1	18.9	16.0	10.0

nese infants, the groups with the highest and lowest death rates (Table 3).

Infant mortality is categorized into the neonatal (birth to 28 days of age) and the postneonatal (28 days up to one year) periods. Neonatal mortality, in general, reflects the preexisting health status of the mother and the medical care she and her infant received during pregnancy, delivery and post-delivery. Postneonatal mortality, however, is generally considered to be influenced by living conditions and quality of medical care for treatable illnesses, as well as

general care provided by the parents. These sources of risk are not entirely separable since the factors that affect the likelihood of a woman obtaining adequate prenatal care may also influence the quality of care a child received after birth. Both the neonatal and postneonatal death rates for African Americans are higher than the total infant death rate for any other race/ethnicity (Table 3).

African American infants were at greater risk of death than others for many causes. For example, they were five times more likely than whites to suffer violent deaths (2.2 vs. 0.4 per 1,000 births). African American infants were also five to six times more likely than whites to die from complications of pregnancy and delivery (1.9 vs 0.3) and prematurity (2.2 vs 0.4). The differences in the SIDS rates were not as great, but still substantial: 5.1 for African Americans versus 1.9 for whites. All of these differences are statistically significant.



Conclusion

These disparities in natality patterns are the product of many complex factors. Among them are socioeconomic differences, behav-

**TABLE 3.
INFANT DEATH RATES* FOR SELECTED RACIAL/ETHNIC
GROUPS, OREGON RESIDENTS, 1991-1994**

CLASSIFICATION	WHITE	AFRICAN AMERICAN	INDIAN	HISPANIC	CHINESE AND JAPANESE
YEAR 2000 GOAL	5.0	8.0	7.0	5.0	5.0
TOTAL INFANT	6.8	20.2	6.9	8.0	3.0
NEONATAL	3.6	10.2	3.5	4.9	1.5
POSTNEONATAL	3.2	10.0	3.5	3.1	1.5

* (Number of deaths by race of child/number of live births by race of mother) X 1,000.

ioral and cultural considerations, biological and physiological variables, and issues related to the access and utilization of the health care system. While progress has been made in some areas, such as maternal smoking prevalence, in others the number of mothers falling within certain risk groups (e.g. mothers less than 18 years old) has risen.

Clearly, Oregonians need to address the socioeconomic disparity and adverse health outcomes experienced by minorities. It is paramount that public and private health sectors work together to implement active health education approaches; to design effective, culturally appropriate services and programs; and to improve access to the health care

system for minorities and others with poor health.

Endnotes

- 1 Reports on Southeast Asians, Indians, African Americans, and Hispanics have been published previously. Summary articles have been published annually in *Oregon Health Trends* since 1991.
- 2 Some of the measures of health in this article are based on relatively few events and should be used with caution.
- 3 Unless otherwise stated, references by an individual race refer to non-Hispanics. For example, references to whites mean non-Hispanic whites. The term "Hispanic" includes persons of all races, although the vast majority are white.
- 4 Age-specific birth rates can not be calculated by race/ethnicity because population data by age and race/ethnicity are not available. The increasing proportion of

births to young mothers is not, however, due to a decrease in the number of births among older mothers. See the January 1991 issue of this publication for 1989 data by race. Because the number of events in some groups is small, the percentages are subject to considerable random statistical variation from year to year.

- 5 Specific questions on alcohol and cigarette use are included on the birth certificate. However, there is no specific question about other substance abuse (e.g., marijuana, heroin).
- 6 Some researchers suggest the need for low birthweight standards that make adjustments for the inherent biological variations of individual racial/ethnic groups.

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