Natality

INDICATORS OF BIRTHING TRENDS

In 1996, Oregon recorded 43,645 resident births. Though there were 930 more resident births than in 1995, the crude birth rate only slightly increased to 13.7 from 13.6 per 1,000 population. The fertility rate increased slightly to 63.2 per 1,000 women 15-44. [Table 1-2]. Oregon's crude birth rate (the number of babies born divided by the total state population) peaked in 1947 at 25.4 per 1,000 population. For the last quarter century, however, Oregon's rates have held in the mid-teens, ranging from the 1994-1995 low of 13.6 to a high of 16.9 in 1970. Except for the period between 1976 and 1981, Oregon's crude birth rate has remained lower than the national rate. In 1996, Oregon's rate was 7.4 percent lower than the nation's (13.7 vs. 14.8).[1] [Figure 1-1].

Both Oregon's crude birth rate and fertility rate remained below the national rates.

AGE-SPECIFIC BIRTH AND FERTILITY RATES

The fertility rate is based on the number of births per 1,000 women 15-44. Unlike the crude rate, it consists only of women who are of childbearing age making it a more precise measurement of changes in behavioral patterns. Oregon's 1996 fertility rate increased 1.4 percent from the 1995 rate (see sidebar). The largest increase in age specific birth rates was among women 35-39 (4.2%), followed by women 30-34 (2.9%). [Table 2-2]. The youngest mothers in 1996 were 12 years old; the oldest was 54. The teen birth rate declined from the high of 90.5 per 1,000 women 15-19 in 1950, to 42.3 in 1986. In 1996 the rate increased to 52.4 per 1,000 women 15-19. [Table 2-2; Figure 2-1]. (For more discussion, see the Teen Pregnancy Section of this report.)

FERTILITY RATES PER 1,000 FEMALES 15-44, OREGON VS. U.S.

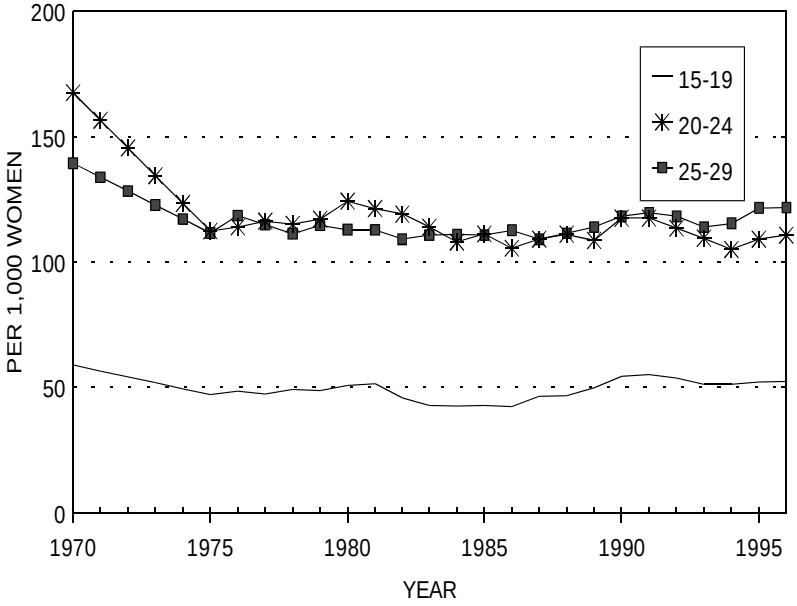
YEAR	OREGON	U.S.
1980	69.3	68.4
1981	68.1	67.4
1982	65.2	67.3
1983	64.1	65.8
1984	62.8	65.4
1985	62.2	66.2
1986	61.8	65.4
1987	60.9	65.7
1988	61.8	67.2
1989	63.3	68.2
1990	65.1	71.1
1991	63.7	69.6
1992	62.5	69.3
1993	61.1	67.6
1994	61.0	65.8
1995	62.3	65.6
1996	63.2	65.7*

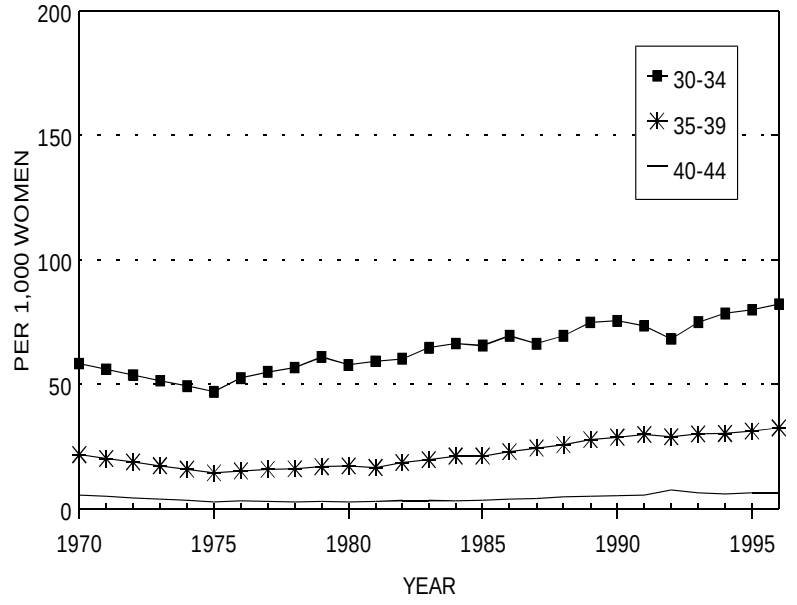
*Provisional data.

MARITAL STATUS OF MOTHER

Unmarried mothers as a group have poorer birth outcomes than married women. They generally have a greater proportion of babies with low birthweight and low Apgar scores than do their married counterparts. Their infants are also more likely to require neonatal intensive care, to have congenital anomalies, or to die before age 1. Over the last 20 years, the percentage of births to unmarried mothers has nearly tripled in Oregon. [Figure 2-2]. In 1996, 29.7 percent of all Oregon births were to unmarried mothers, an all-time high. [Table 1-2]. Although Oregon has consistently had lower unmarried rates than the U.S., the gap between the two rates has narrowed in recent years. In 1983, the U.S. rate was 26 percent higher than the Oregon rate; in 1996, it was 9 percent higher.[1] [Figure 2-2]. Among women giving birth in 1996, the percentage who were unmarried varied widely by ethnic and racial group (see sidebar). Non-Hispanic African American mothers had the highest percentage of unmarrieds (69.7%), followed by non-Hispanic American Indian mothers (60.6%). Non-Hispanic Chinese mothers were least likely to be unmarried (6.2%). Younger mothers were very

FIGURE 2-1
AGE-SPECIFIC BIRTH RATES, OREGON RESIDENTS, 1970-1996





likely to be single, since Oregon law prohibits marriage under age 17. Although 74 percent of mothers 15-19 were unmarried, this percentage dropped by 47 percent for women 20-24, and by another 51 percent for women 25-29. Further decreases occurred in the two older age groups: Mothers 30-34 were least likely to be unmarried (13.3%), while 14.1 percent of mothers 35-39 were unmarried. [Table 2-3]. Thirteen of Oregon's 36 counties had significantly higher rates of unmarried mothers to total births compared to the state average. [Table 2-7]. Jefferson had the highest rate (409.8 per 1,000), followed by Klamath (383.1 per 1,000). Five Oregon counties had unmarried rates significantly lower than the state average, with the lowest rate in Grant County (153.1). A county's unmarried rate should be viewed in part as a function of its own specific population mix. Younger mothers, mothers with a lower level of education, and mothers from certain racial/ethnic groups (see sidebar) often have higher unmarried rates. Variations in population composition involving any of these factors will likely result in significant differences between counties.

MATERNAL RACE/ETHNICITY

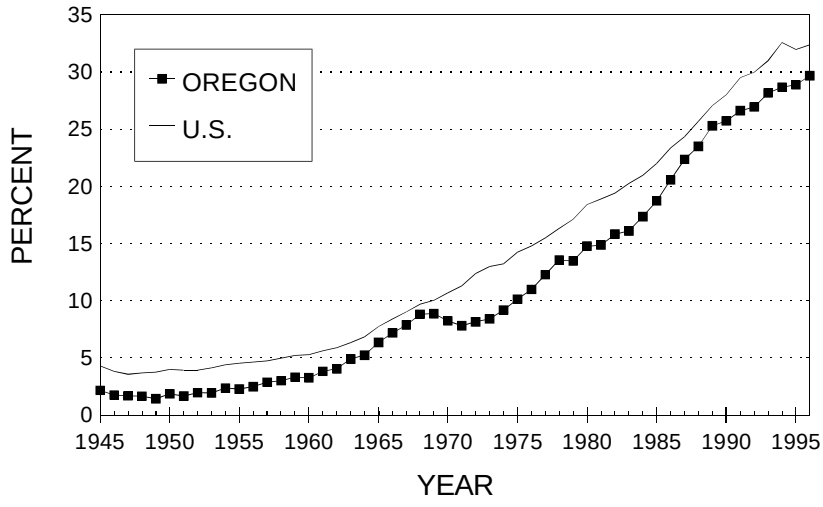
Because precise population data are available only for Census years, it is not possible to calculate birth rates by racial and ethnic group, only the number of births. Beginning in 1981 and continuing through 1988, Hispanic ethnicity was classified as a race category on the birth certificate. Since 1989, there has been a separate question about Hispanic ethnicity. These changes are associated with some of the increase in reporting of births to Hispanic mothers. An increased willingness to self-report minority affiliation may also be occurring among all groups. The number of resident births to

UNMARRIED MOTHERS BY RACE/ETHNICITY, 1996

RACE/ETHNICITY	PERCENT UNMARRIED
TOTAL	29.7
AFRICAN AMERICAN*	69.7
AMERICAN INDIAN*	60.6
HISPANIC (ALL RACES)	36.8
WHITE*	27.5
OTHER ASIAN & PACIFIC ISLANDER*	20.8
FILIPINO*	18.1
JAPANESE*	8.0
CHINESE*	6.2

* Non-Hispanic

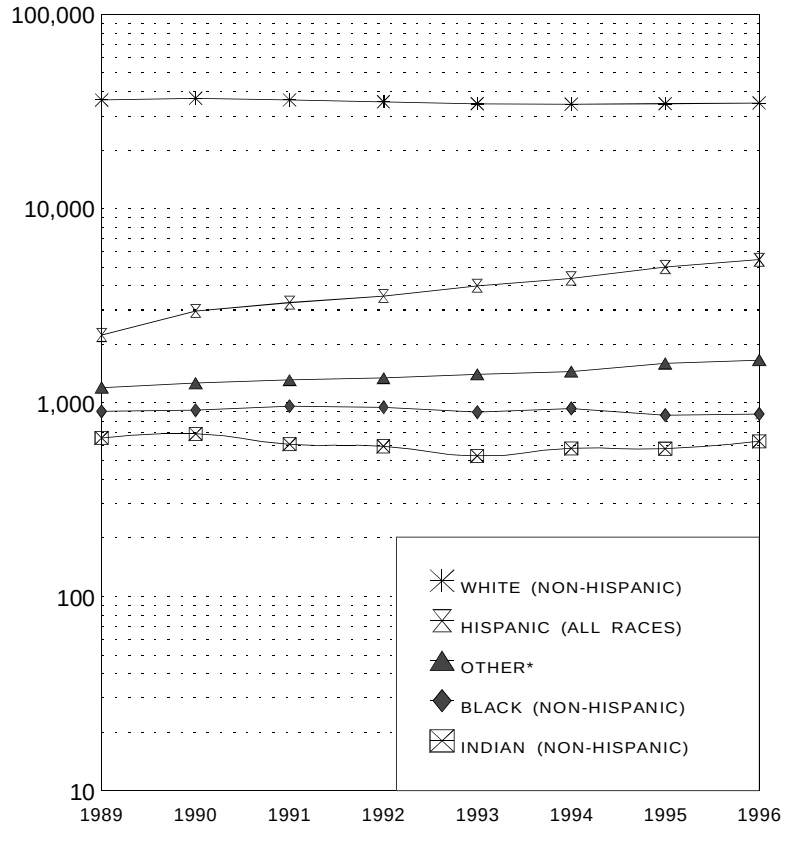
FIGURE 2-2.
PERCENT OF BIRTHS TO UNMARRIED WOMEN
OREGON AND THE U.S., 1945-1996*



*U.S. data for 1996 not final.

non-Hispanic white women decreased 3 percent since 1989. There have also been decreases in the number of births to non-Hispanic American Indian mothers (4%) and non-Hispanic African American mothers (3%). [Figure 2-3]. The number of births to mothers of Hispanic ethnicity increased 147 percent since 1989. [Table 2-4]. In three Oregon counties, over 40 percent of residents giving birth in 1996 identified themselves as Hispanic: Malheur (42.8%), Morrow (43.4%), and Hood River (40.7%). [Table 2-6]. However, the 393 births to Hispanic residents of these counties represented less than one percent of the state's total births and 7.2 percent of the state's births to Hispanic mothers.

FIGURE 2-3.
BIRTHS BY RACE AND ETHNICITY OF MOTHER
OREGON RESIDENTS, 1989-1996



* Other race, unknown race, or unknown Hispanic ethnicity.
Note: A logarithmic scale is used for the vertical axis.

LOW BIRTHWEIGHT

National Healthy People 2000 Objective

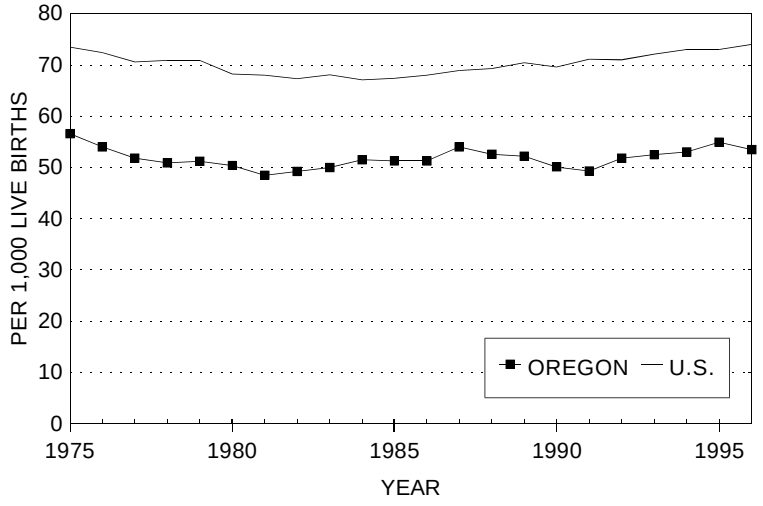
Reduce low birthweight to an incidence of no more than 5.0 percent of live births.
Percentage of Oregon low birthweight births, 1996: 5.4%

Of the thousands of infants born every year, not all thrive and become healthy adults. Birth outcome may be measured by several indicators, but the best predictor of an infant's future health is its birthweight. The low birthweight rate is the proportion of infants who weigh less than 2,500 grams (5.5 pounds) at birth. These infants are more likely to need extensive medical treatment, and some may have lifelong disabling conditions.

There were 2,336 low birthweight babies born to Oregon mothers.

The National Public Health Service has set a Year 2000 objective to reduce the percentage of low birthweight infants to 5 percent. The 1996 percentage of low birthweight infants in Oregon was slightly above the objective at 5.4 percent. In 1996, there were 2,336 low birthweight babies born to Oregon mothers, a rate of 53.5 per 1,000 live births. This is slightly lower than the 1995 figure of 54.9, but the rate has fluctuated little over the last 15 years. [Table 1-6; Figure 2-4]. Oregon's low birthweight rates are typically 25 percent lower than those of the U.S. In 1987, this difference had narrowed to 22 percent. [Tables 1-5 and 1-6]. In 1996, Oregon's rate was 28 percent lower than the nation's. Since 1992, both the state and national low birthweight rates have increased with the exception of 1996 in which Oregon's rate decreased slightly. Major

FIGURE 2-4.
LOW BIRTHWEIGHT RATES
OREGON AND THE U.S., 1975-1996*



*U.S. data for 1996 is not final.

factors contributing to the risk of having a low birthweight baby are multiple births, tobacco use, and chronic hypertension. Other factors include: non-white race, mother's age (younger than 18 or older than 35), lack of prenatal care, low income, single marital status, a previous fetal or infant death, low maternal education, and short spacing between births.[2] Low birthweight is the major predictor of infant death, which in turn is a fundamental measure of the health of a population. (For more information, see the Fetal and Infant Mortality section to be published in Volume 2 of the Oregon Vital Statistics Annual Report.)

The low birthweight rate remained below the national average.

TOBACCO USE

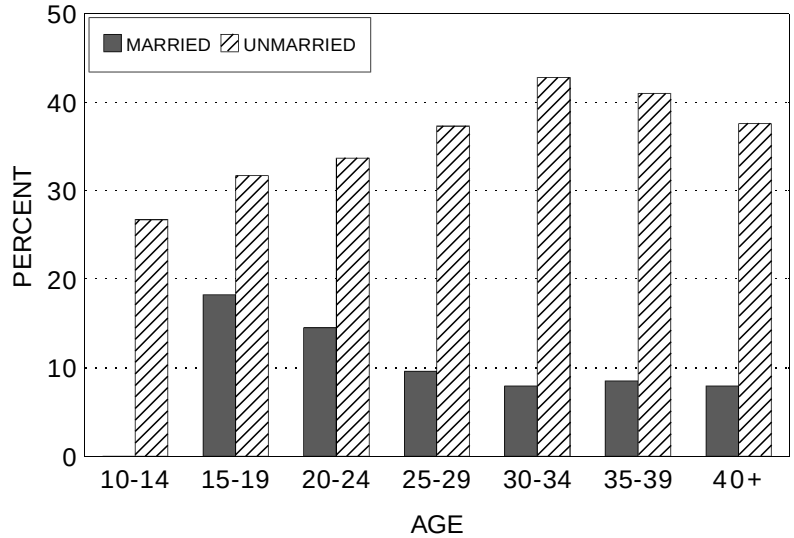
Oregon Benchmark for the year 2000

Percentage of infants whose mothers (self-reported) used tobacco during pregnancy.

Year 2000 Goal:	*15.0 percent*
1996:	*17.7 percent*

Women who smoke when pregnant have a far higher incidence of low birthweight babies than nonsmokers.[3] In 1996, the difference was 77.8 per 1,000 live births vs. 47.8. Nearly one out of five mothers (17.7%) reported using tobacco during pregnancy, a rate virtually unchanged in the last three years. Unmarried mothers were over three times more likely to smoke than married mothers (35.1% vs. 10.5%). Smoking trends by marital status differed according to age. [Figure 2-5]. The rates for married mothers declined

FIGURE 2-5.
MOTHERS WHO SMOKED DURING PREGNANCY
BY AGE AND MARITAL STATUS, OREGON RESIDENTS, 1996



with age. Among unmarried mothers, the rate was highest in the 30-34 year old age group. The lowest smoking prevalence rates were among married women 30-34 and 40 or older (both 7.9%). Smoking prevalence as reported on birth certificates varied among racial and ethnic groups. When reviewing these prevalence rates, note that data gathering procedures may not have been uniform. Consequently, the figures may not reflect the extent to which smoking rates varied among these groups. It is possible that physicians, practitioners, and birth certificate clerks may have been more diligent in investigating smoking practices for racial/ethnic groups considered at higher risk for delivery of low birthweight infants. This may be true for other behavioral risk factors as well. Non-Hispanic American Indians had the highest reported smoking rate, where race was known, (32.5%). Non-Hispanic Chinese women reported the lowest tobacco use during pregnancy (1.5%). [Table 2-20].

Mothers whose delivery was paid by Medicaid/ Oregon Health Plan were over three times more likely to smoke than those with private insurance.

ALCOHOL USE

Oregon Benchmark for the year 2000

Percentage of infants whose mothers used alcohol (self-reported) during pregnancy.

Year 2000 Goal:	*2.0 percent*
1996:	*2.3 percent*

Used during pregnancy, alcohol can cause deformity, mental retardation, and other severe developmental problems.[4] Low birthweight rates were 1.4 times higher for mothers who consumed alcohol than those who did not (73.8 per 1,000 vs. 52.8). Based on self-reporting from birth certificates, 2.3 percent of Oregon mothers (1,003 women) drank alcohol during pregnancy in 1996. This represents a 56 percent decline from 1990, when 5.2 percent of mothers reported alcohol use. Non-Hispanic American Indian women were most likely to have reported using alcohol during pregnancy (5.4%), followed by non-Hispanic African American women (3.6%). Both non-Hispanic Chinese women and non-Hispanic Filipino women reported no alcohol use during pregnancy. [Table 2-20].

The number of women who reported alcohol use during pregnancy has declined by more than half since 1990.

PRENATAL CARE

Oregon Benchmark for the year 2000

Percentage of infants whose mothers received early prenatal care (first trimester).

Year 2000 Goal:	*90.0 percent*
1996:	*79.7 percent*

Public health services and private care providers seek to minimize the risk of death and disability, and to reduce costs associated with low birthweight infants by providing comprehensive prenatal care services. There are two preferred ways to measure prenatal care: 1) "inadequate prenatal care," defined as no care until the third trimester or fewer than five prenatal visits; and 2) "early care," defined as care beginning during the first three months of pregnancy, regardless of the number of total prenatal visits. Early or first trimester care has been adopted as an Oregon Benchmark with a goal to ensure that 90 percent of pregnant women begin prenatal care in the first three months by the year 2000.

Five percent of 1996 mothers giving birth received inadequate care. They were 2.1 times more likely to give birth to a low birthweight child. In 1996, 20.3 percent of mothers did not receive first trimester care. In 1996, the number of women who received early care totaled 34,767, a slight increase from 1995. The percentage (79.7%) was also slightly higher than in 1995. [Figure 2-6]. The proportion who received no prenatal care or who received third trimester care decreased. [Figure 2-7]. Women under 15 were least likely to have obtained first trimester care and those 30-34 were most likely (41.8% vs. 86.3%). [Table 2-15].

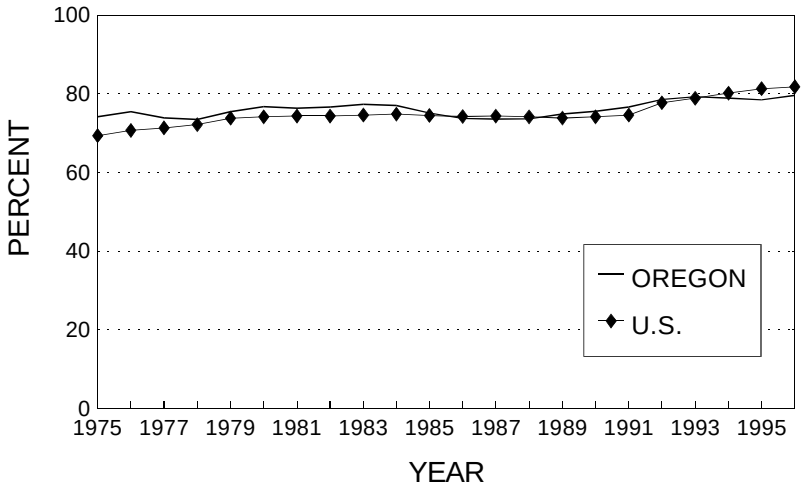
NO FIRST TRIMESTER CARE BY MOTHERS' EDUCATION, 1996

YEARS OF EDUCATION	PERCENT NO FIRST TRIMESTER CARE
< 12	36.7
12	21.5
> 12	11.1

The mother's level of education was closely related to patterns of prenatal care. [Table 2-11]. Women with less than a high school education were least likely to obtain first trimester prenatal care; those who had college degrees or higher were most likely to have first trimester care.

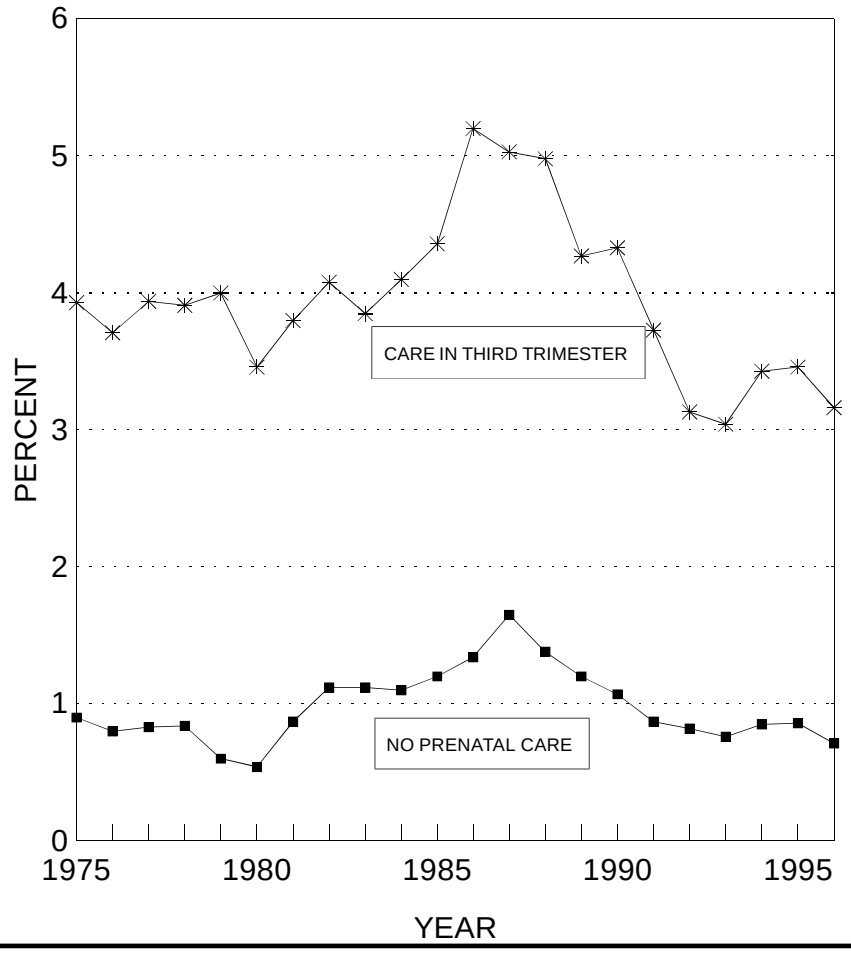
Thirteen of Oregon's 36 counties had first trimester care rates significantly lower than the statewide rate: Coos, Crook, Jackson, Jefferson, Josephine, Klamath, Lane, Linn, Malheur, Marion, Morrow, Umatilla and Yamhill. Nine counties had rates significantly

FIGURE 2-6.
FIRST TRIMESTER CARE
OREGON AND THE U.S., 1975-1996*



*U.S. data for 1996 is not final.

FIGURE 2-7.
NO CARE AND LATE CARE
OREGON RESIDENTS, 1975-1996



higher than the statewide rate: Benton, Clackamas, Columbia, Deschutes, Douglas, Multnomah, Polk, Tillamook, and Washington. [Table 2-13].

BIRTH ATTENDANT

A major shift over the past few years has been the increasing prevalence of births attended by certified nurse midwives (CNM). In 1996, the percentage of CNM-attended deliveries was 13.2 percent, an increase of 5 percent over 1995, and over twice the percent in 1988 (5.9%). Most in-hospital births (83.2%) were delivered by MDs, a slightly lower rate than in 1995. Certified nurse midwives delivered 13.1 percent of in-hospital births, a 4.8 percent increase over 1995. [Table 2-23].

OUT-OF-HOSPITAL BIRTHS

In 1991, Oregon had a higher proportion of out-of-hospital births (2.2%) than any other state. In 1996, the figure was 2.1 percent of Oregon occurrence births. Outcomes have generally been positive for out-of-hospital births, which may reflect the

CERTIFIED NURSE MIDWIFE DELIVERIES

YEAR	DELIVERIES		
	TOTAL	IN-HOSPITAL	OUT-OF-HOSPITAL
1984	1,912	1,567	374
1985	2,022	1,661	390
1986	1,984	1,607	400
1987	1,843	1,483	385
1988	2,345	2,133	259
1989	2,886	2,706	244
1990	3,660	3,539	226
1991	4,262	4,096	166
1992	4,498	4,319	179
1993	4,784	4,618	173
1994	4,931	4,772	159
1995	5,601	5,441	160
1996	6,019	5,871	148

OUT-OF-HOSPITAL BIRTHS (Oregon Occurrence)		
YEAR	DELIVERIES	RATE
1982	2,069	49.2
1983	2,060	50.2
1984	1,786	43.7
1985	1,772	43.5
1986	1,520	37.9
1987	1,361	34
1988	1,217	29.4
1989	1,117	26.2
1990	1,077	24.2
1991	979	22.2
1992	996	22.8
1993	936	21.6
1994	979	22.5
1995	967	21.7
1996	979	21.4
Rates per 1,000 births.		

FINANCIAL SOURCE OF PAYMENT			
YEAR	PRIVATE INSUR.	SELF PAY	PUBLIC INSUR.
	%	%	%
1989	59.6	9.3	27.0
1990	60.3	8.5	28.1
1991	57.1	6.4	32.6
1992	56.2	5.7	34.6
1993	55.1	5.8	35.5
1994	57.5	5.6	34.9
1995	57.9	4.9	35.5
1996	57.2	5.6	34.3

screening process used by out-of-hospital birth providers. The mothers who delivered out-of-hospital were generally not high-risk patients. In 1996, only 10 infants born out of hospital in Oregon had low birthweights (1.0%). However, ten (1.0%) were reported to have a congenital anomaly, which is nearing the percentage for in-hospital births (1.5%). The type of attendant varies by birth setting. Licensed direct entry midwives, a new category of attendant in 1995, were predominant in out-of-hospital births, delivering just over one-third (36.4%) of these births in 1996. Licensed direct entry midwives are lay midwives who have volunteered for state licensure to provide natality care for Oregon women. Lay midwives delivered 27.5 percent of out-of-hospital births. In addition, certified nurse midwives delivered one in six babies (15.1%), and naturopathic physicians delivered one in eleven babies (9.3%). [Table 2-23].

SOURCE OF PAYMENT

Primary source of payment for delivery is noted on Oregon birth certificates under four categories: 1) private insurance, 2) self-pay [no insurance], 3) public insurance [Medicaid/Oregon Health Plan], and 4) other [other public insurance]. The specific type of private insurance coverage or public health payor source is not defined. Multiple payment sources can be indicated. The majority of deliveries in Oregon were paid for by private insurance companies (57.2%), decreasing from 1995 (see sidebar). [Table 2-17]. More than one-third of Oregon resident births (34.3%) were paid for by Medicaid (e.g., Oregon Health Plan). This percentage has decreased from 1995. In 1989, public insurance programs paid for just over one-fourth of total births. Delivery costs were more likely to be paid for by public insurance if the mother was not married or under 18 . In 1996, among mothers 25 or older, unmarried women were over four times more likely than married women to report payment by public insurance (60.8% vs. 14.4%). [Table 2-17].

REFERENCES

1 Ventura SJ, Peters KD, Martin JA, and Maurer JD. Births and Deaths: United States, 1996. Hyattsville, Maryland: National Center for Health Statistics. 1997.

2 National Center for Health Statistics. Healthy People 2000 Review, 1995-96. Hyattsville, Maryland: Public Health Service. 1996.

3 Tobacco and Oregonians, A Legacy of Illness and Death. Center for Health Statistics, Health Division, Oregon Department of Human Resources. Portland, Oregon. 1992.

4 Alcohol and Drugs in Oregon, 1989. Center for Health Statistics, Health Division, Oregon Department of Human Resources. Portland, Oregon. 1992.