

# Natality

## INDICATORS OF BIRTHING TRENDS

In 1998, Oregon recorded 45,228 resident births. There were 1,463 more resident births than in 1997 and the crude birth rate increased slightly, from 13.6 to 13.8 per 1,000 population. [Table 1-2]. The fertility rate increased from 63.0 to 64.2 per 1,000 women 15-44. [Table 2-2]. 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 past 30 years, however, Oregon's rates have held in the mid-teens, ranging from the 1994-1995 low of 13.6 to a high of 16.4 in 1980. Except for the period between 1976 and 1981, Oregon's crude birth rate has remained lower than the national rate. In 1998, Oregon's rate was 5.5 percent lower than the nation's (13.8 vs. 14.6).<sup>1</sup> [Figure 1-1].

## 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 1998 fertility rate increased slightly (1.9%) from the 1997 rate (see sidebar). The largest increase in age-specific birth rates was among women 20-24 (10.1%), followed by women 35-39 (2.1%). [Table 2-2]. Birth rates decreased among women 30-34 (-1.9%) and women 40-44 (-1.5%). [Table 2-2; Figure 2-1]. The youngest mothers in 1998 were 12 years old; the oldest was 52. (For more detailed information, see the Teen Pregnancy section of this report.)

## MARITAL STATUS OF MOTHER

Traditionally, unmarried women as a group have had 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 one. Over the last 20 years, the percentage of births to unmarried women has more than doubled in Oregon. [Figure 2-2]. In 1998, 29.8 percent of all Oregon births were to unmarried women, an increase of 3.5 percent. [Table 1-2]. Oregon has consistently had lower non-marital birth rates than the nation; Oregon's rate in 1998 was 9.1 percent lower. [Figure 2-2]. Among women giving birth in 1998, the percentage who were unmarried varied widely by ethnic and racial group (see sidebar). African American women had the highest rate of non-marital births (65.4%), followed by American Indian women (58.4%), and Hispanic women

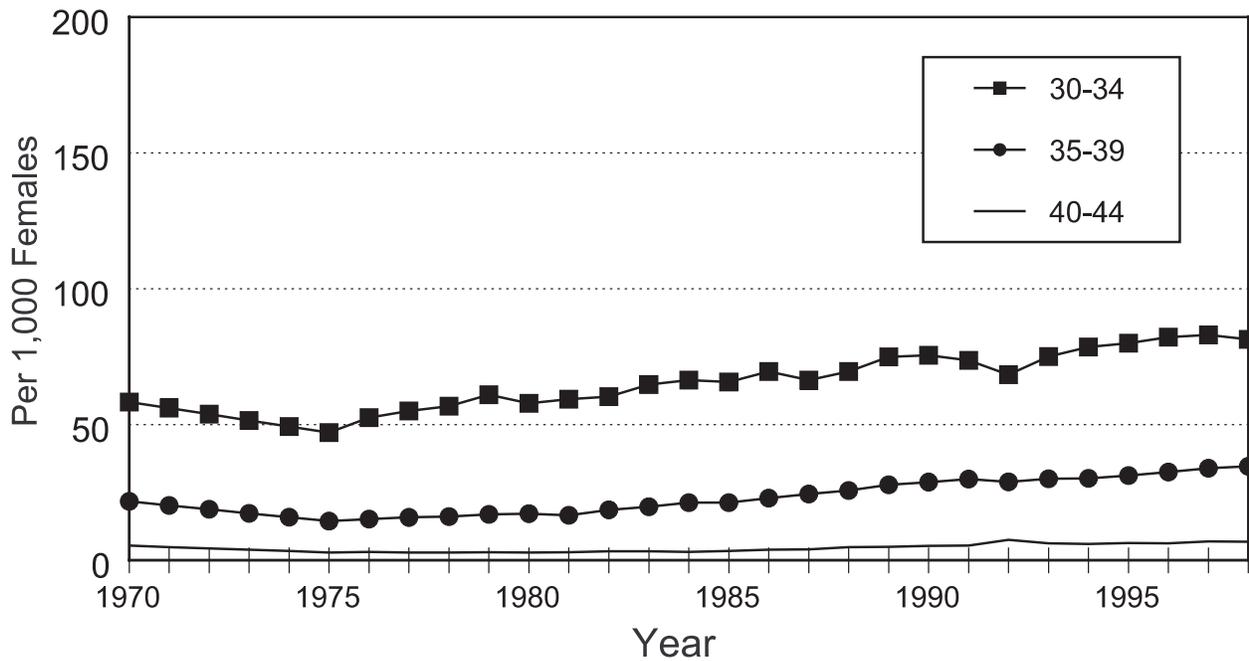
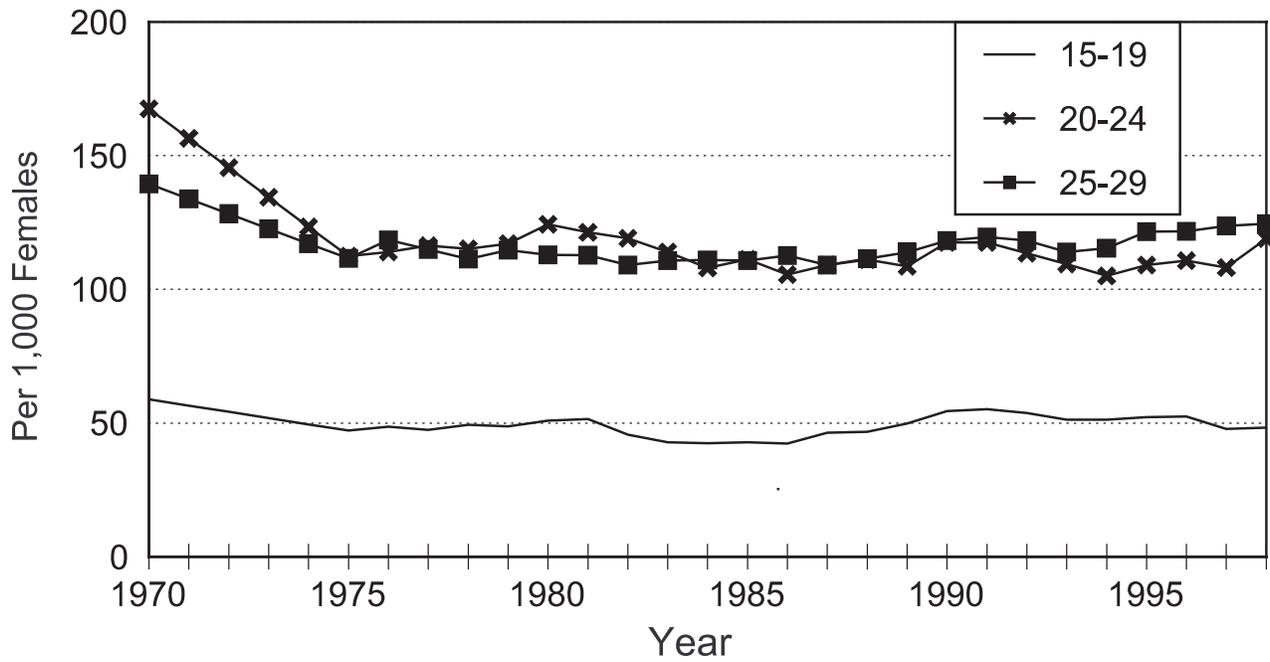
***Oregon's crude birth rate and fertility rate both remain below the national rates.***

| 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   | 65.3  |
| 1997 | 63.0   | 65.0  |
| 1998 | 64.2   | 65.6* |

\*Provisional data.

| Race/Ethnicity                 | Unmarried (%) |
|--------------------------------|---------------|
| <b>Total</b>                   | 29.8          |
| African American               | 65.4          |
| American Indian                | 58.4          |
| Hispanic (All Races)           | 38.3          |
| White                          | 28.9          |
| Filipino                       | 22.3          |
| Other Asian & Pacific Islander | 18.8          |
| Japanese                       | 7.9           |
| Chinese                        | 4.4           |

Figure 2-1.  
Age-Specific Birth Rates,  
Oregon Residents, 1970-1998

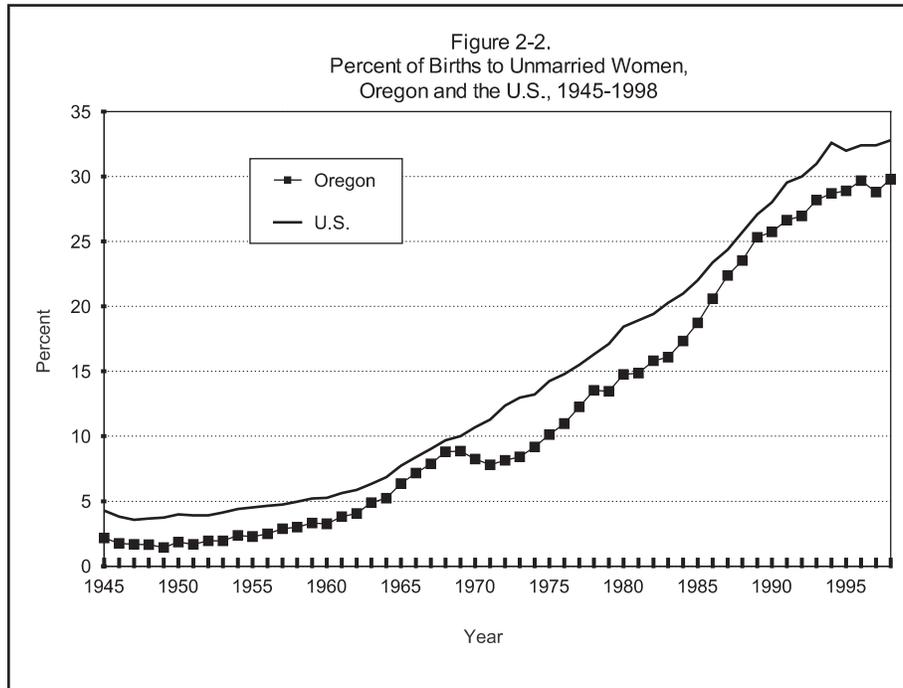


(38.3%). Japanese women (7.9%) and Chinese women (4.4%) were least likely to be unmarried. Young mothers were also likely to be unmarried since Oregon law prohibits marriage before age 17. Although 75.6 percent of births to teens 15-19 were non-marital, this percentage decreased to 39.5 percent for women 20-24 and to 19.5 percent for women 25-29. Mothers 30-39 were least likely to be unmarried (13%), while 16 percent of mothers 40 and older were unmarried. [Table 2-3]. Twelve of Oregon's 36 counties had significantly higher rates of non-marital births compared to the state average. [Table 2-7]. Among counties with statistically significant differences, Lincoln had the highest rate (452.8 per 1,000) followed by Jefferson (427.2 per 1,000). Three Oregon counties had non-marital birth rates significantly lower than the state average. The lowest rate was in Benton County (192.1). A county's non-marital birth rate should be viewed in part as a function of its own specific population mix, especially age and race. Variations in population composition will likely result in significant differences among counties.

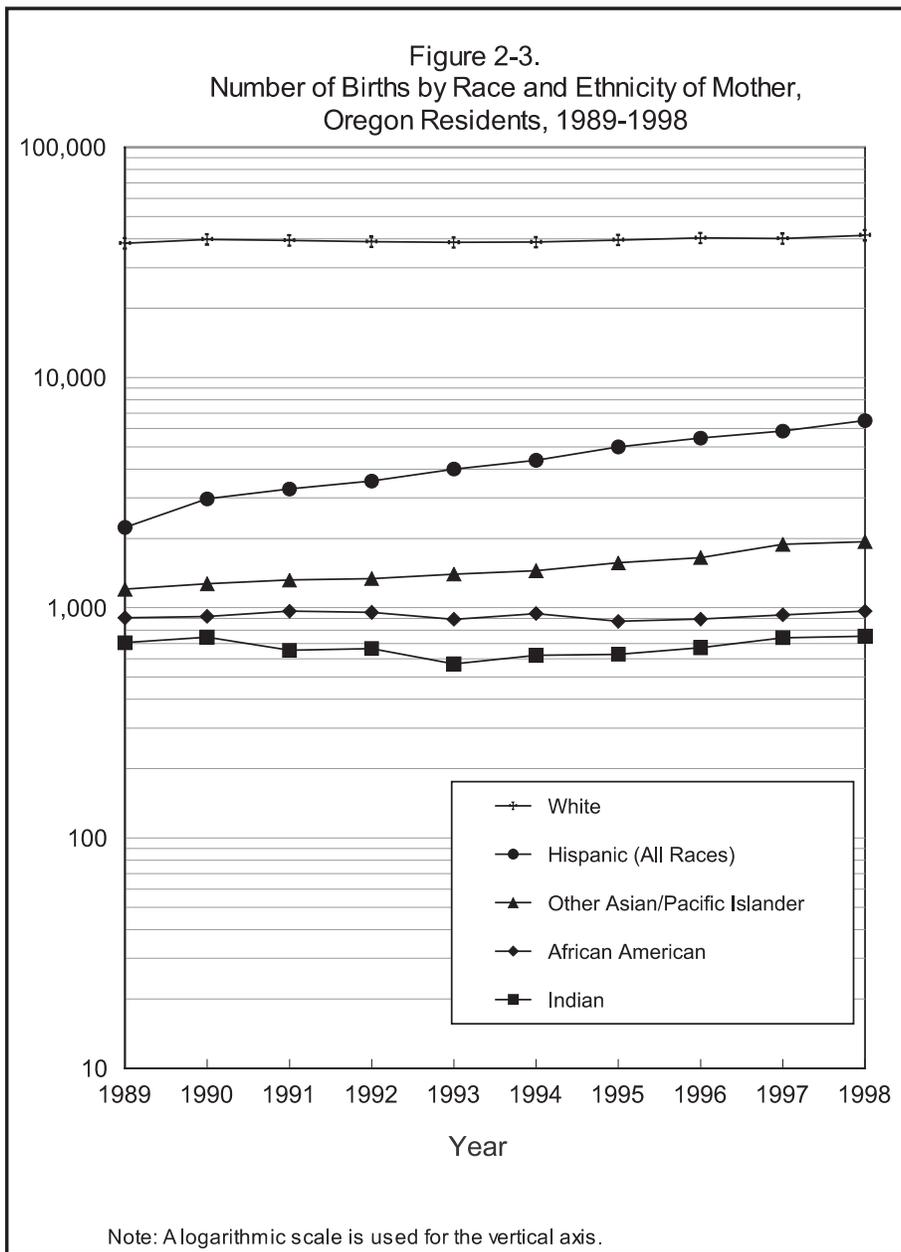
**MATERNAL RACE/ETHNICITY**

Because precise population data are available only for census years, birth rates cannot be calculated by racial and ethnic group, only by the number of births. Beginning in 1981 and continuing through 1988, 'Hispanic' was a race category on the birth certificate. Since 1989, information regarding Hispanic ethnicity is reported separately from race. This change addressed the complexity of race and ethnicity and increased accuracy when self-reporting. These

Figure 2-2.  
Percent of Births to Unmarried Women,  
Oregon and the U.S., 1945-1998



changes are associated with some of the increase in reporting of births to Hispanic women. Births to Hispanic women increased by 36.7% between 1988, when Hispanic was last categorized as race, and 1989, when Hispanic was first categorized as an ethnic group. Since 1989, the number of births to women of Hispanic ethnicity has increased 191 percent to 13.2 percent of total births.[Table 2-4]. In two Oregon counties, almost half of the residents giving birth in 1998 identified themselves as Hispanic: Hood River (48%) and Malheur (47%). [Table 2-6]. An increased willingness to self-report minority affiliation may also be occurring among all groups.



The number of resident births to white women (Hispanic and non-Hispanic) has increased 8.3 percent since 1989, while the number of births to African American and American Indian women both increased 6.7 percent. [Table 2-4, Figure 2-3].

**LOW BIRTHWEIGHT**

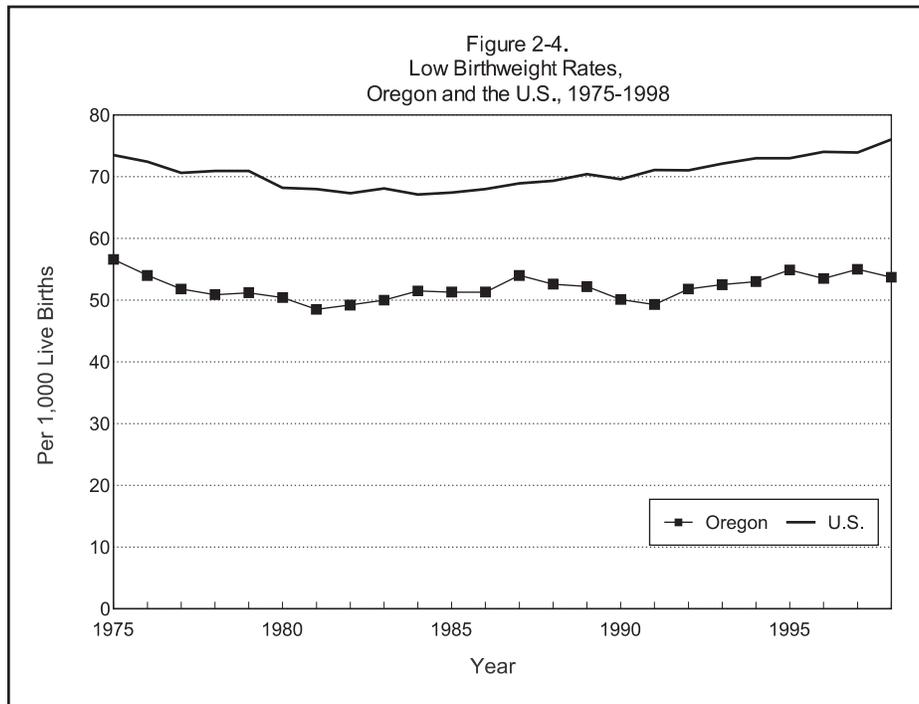
**National Healthy People 2000 Objective**

*Reduce low birthweight to an incidence of no more than 5.0 percent of live births.  
Percentage of Oregon low birthweight births, 1998: 5.4%*

**There were 2,428 low birthweight babies born to Oregon mothers in 1998.**

Of the thousands of infants born every year, not all thrive and become healthy adults. 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.

In 1998, there were 2,428 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 5.0 percent.<sup>2</sup> In 1998, the percentage of low birthweight births in Oregon was slightly above the objective at 5.4 percent, or 53.7 per 1,000 live births. This rate is slightly lower than the 1997 figure of 55.0, but the



rate has fluctuated relatively little over the last 15 years. [Table 1-6; Figure 2-4]. The lowest rate was recorded in 1981 (48.5) and the highest in 1975 (56.6). Oregon's low birthweight rates are typically 25 percent lower than those of the U.S. In 1998, Oregon's rate was 29 percent lower than the national rate. Major 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.<sup>2</sup>

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.)

### TOBACCO USE

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**Oregon Benchmark for the Year 2000**

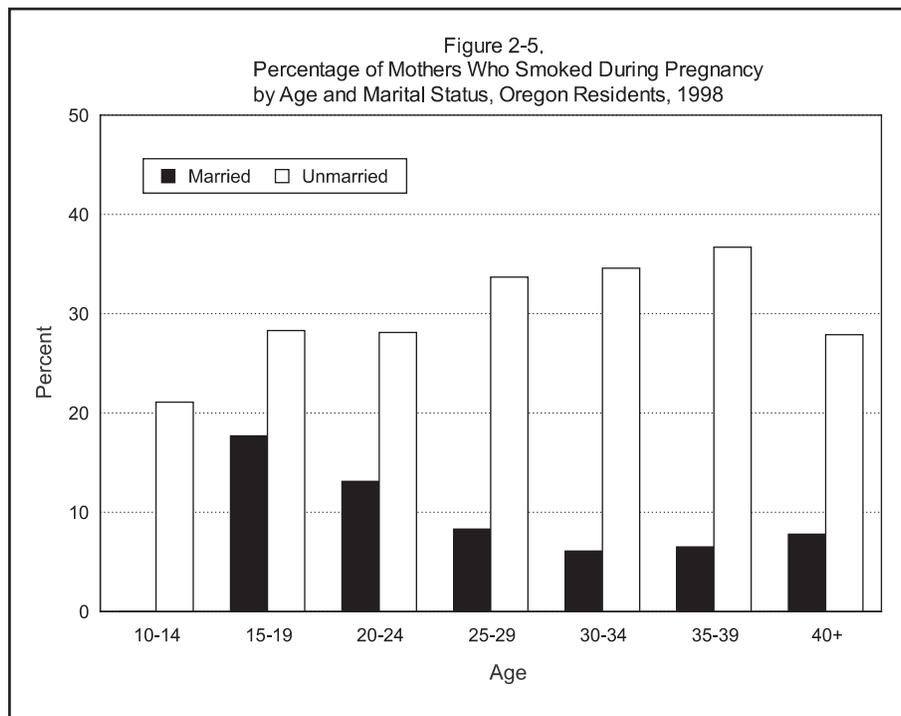
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*Percentage of infants whose mothers (self-reported) used tobacco during pregnancy.*

|                 |              |
|-----------------|--------------|
| Year 2000 Goal: | 15.0 percent |
| 1998            | 15.2 percent |

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Women who smoke when pregnant have a far higher incidence of low birthweight babies than nonsmokers.<sup>3</sup>



In 1998, women who smoked had a low birthweight rate of 80.9 per 1,000 live births, compared to 48.4 per 1,000 among women who did not smoke. One out of six mothers (15.2%) reported using tobacco during pregnancy, a rate that has declined since 1997 by 6 percent. Unmarried women were over three times more likely to smoke than married women (30% vs. 9%). Smoking trends by age differed according to marital status. For unmarried women, the smoking rate was highest among those 35-39 (36.7%). [Figure 2-5]. The rates for married women generally declined with age. The lowest smoking prevalence rates were among married women 30-34 (6.1%). Smoking prevalence as reported on birth certificates also varied among racial and ethnic groups. In 1998, American Indian women (26.3%) and African American women (17.9%) had the highest reported smoking rates during pregnancy, while Chinese women reported the lowest (2.5%). [Table 2-20].

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**Women who smoked had a low birthweight rate of 80.9 per 1,000.**

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**ALCOHOL USE**

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***Oregon Benchmark for the Year 2000***

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

|                        |                    |
|------------------------|--------------------|
| <i>Year 2000 Goal:</i> | <i>2.0 percent</i> |
| <i>1998:</i>           | <i>1.6 percent</i> |

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Used during pregnancy, alcohol can cause deformity, mental retardation, and other severe developmental problems.<sup>4</sup>

Low birthweight rates were 42 percent higher for mothers who consumed alcohol than those who did not (75.2 per 1,000 vs. 53.0). Based on birth certificate data, 1.6 percent of Oregon mothers (731 women) drank alcohol during pregnancy in 1998. This represents a 69 percent decline from 1990, when 5.2 percent of mothers reported alcohol use. American Indian women (4.4%) were most likely to have reported using alcohol during pregnancy. Chinese women and Filipino women reported no alcohol use during pregnancy. [Table 2-20].

**PRENATAL CARE**

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***Oregon Benchmark for the Year 2000***

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

|                        |                     |
|------------------------|---------------------|
| <i>Year 2000 Goal:</i> | <i>90.0 percent</i> |
| <i>1998:</i>           | <i>80.2 percent</i> |

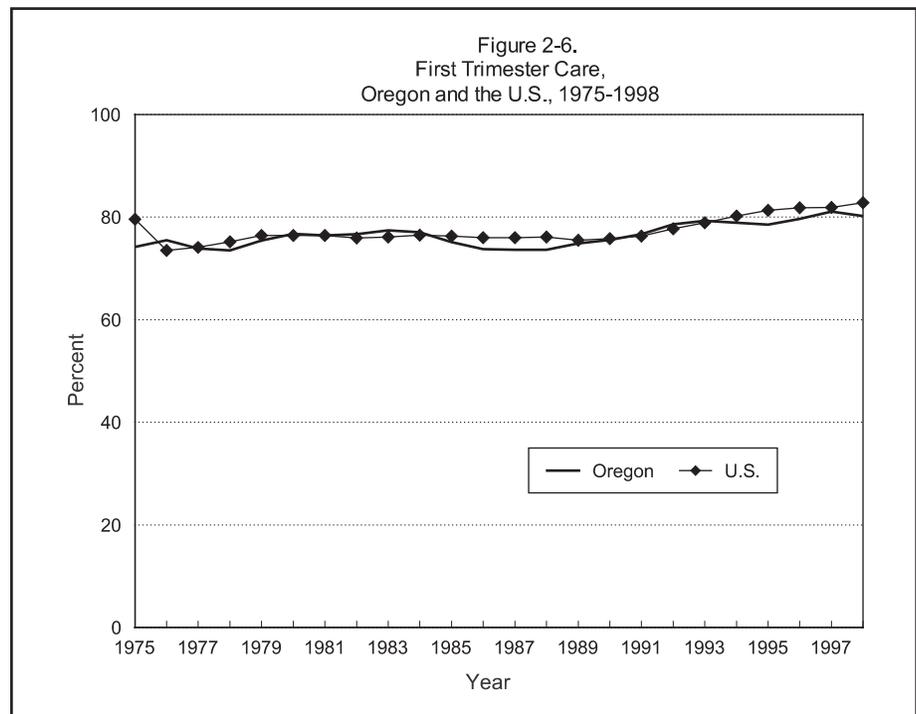
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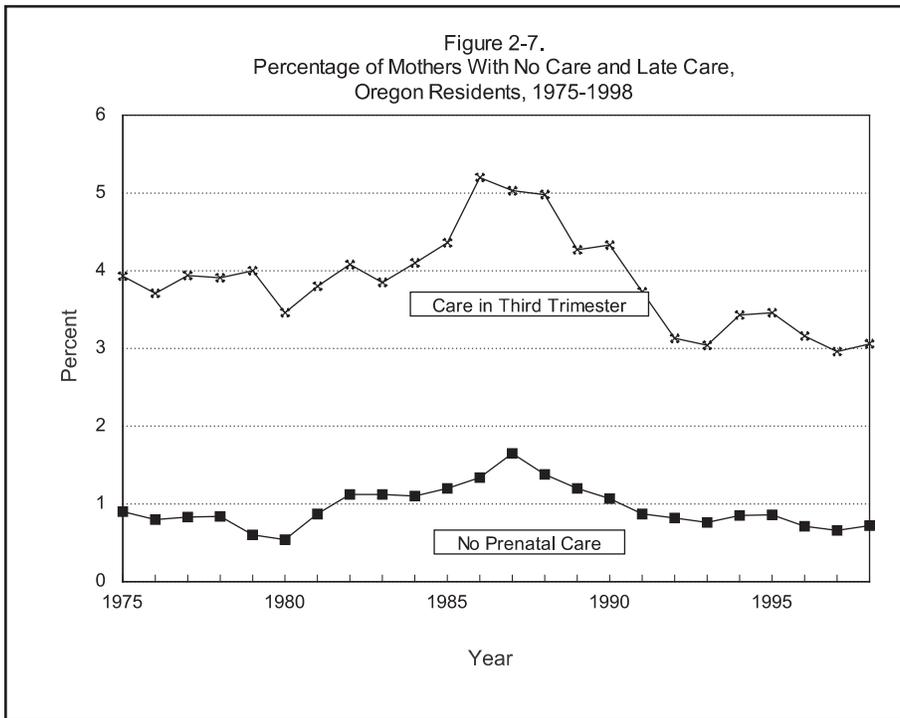
Public health services and private care providers seek to minimize the risk of death and disability, and to reduce costs associated with low birthweight infants by providing comprehensive prenatal care services. Two ways to measure prenatal care are: 1) “inadequate prenatal care,” defined as no care 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.

| Years of Education | No First Trimester Care (%) |
|--------------------|-----------------------------|
| < 12               | 36.6                        |
| 12                 | 27.0                        |
| > 12               | 10.2                        |

Five percent of women giving birth during 1998 received inadequate care. They were 2.2 times more likely to give birth to a low birthweight child. In 1998, 19.8 percent of mothers did not receive first trimester care. The percentage (80.2) of women who received early care decreased compared to 1997. [Figure 2-6]. The proportion who received no prenatal care was less than one percent (0.7%); and the proportion who received third trimester care remained about the same (3.0%). [Figure 2-7]. Women under 15 were least likely to have obtained first trimester care and those 30-34 were most likely (45% vs. 87%). [Table 2-15].

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, while those who had college degrees or higher were most likely to have first trimester care. (See sidebar and Table 2-11).





Nine of Oregon’s 36 counties had first trimester care rates significantly lower than the statewide rate: Coos, Curry, Jackson, Jefferson, Klamath, Lane, Malheur, Marion, and Umatilla. Two counties had rates significantly higher than the statewide rate: Clackamas, and Washington. [Table 2-13].

| 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             |
| 1997 | 5,853      | 5,734       | 119             |
| 1998 | 6,152      | 6,004       | 148             |

**BIRTH ATTENDANT**

A major shift over the past few years has been the increasing prevalence of births attended by Certified Nurse Midwives (CNM). In 1998, 13.2 percent of hospital deliveries were CNM-attended, a slight increase from 1997, but over twice the proportion in 1988 (5.8%). Most in-hospital births (82.8%) were delivered by MDs, a slightly lower proportion than in 1997. [Table 2-23].

**OUT-OF-HOSPITAL BIRTHS**

In 1998, Oregon had a higher proportion of out-of-hospital births (2.0%) than the U.S. as a whole (1.0%). Outcomes have generally been positive for out-of-hospital births, which may reflect the screening process used by out-of-hospital birth providers. The mothers who delivered out of hospital were generally not high-risk patients. In 1998, only 11 infants born out of hospital in Oregon had low birthweights (1.2%). However, nine (0.9%) were reported to have a congenital anomaly, which is still a third lower than the percentage for in-hospital births (1.3%). The type of attendant varies by birth setting. Licensed Direct Entry Midwives (LDEM) were predominant in out-of-hospital births,

| 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      | 34.0 |
| 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 |
| 1997 | 970        | 21.5 |
| 1998 | 914        | 19.8 |

Rates per 1,000 births.

| Primary Source of Payment for Delivery, Oregon Residents |                   |          |              |
|--|-------------------|----------|--------------|
| Year   | Private Insurance | Self Pay | Medicaid/OHP |
|  | %                 | %        | %            |
| 1989   | 60.7              | 9.5      | 27.5         |
| 1990   | 60.4              | 8.7      | 28.7         |
| 1991   | 58.2              | 6.5      | 33.2         |
| 1992   | 57.2              | 5.8      | 35.2         |
| 1993   | 56.2              | 5.9      | 36.2         |
| 1994   | 57.5              | 5.6      | 34.9         |
| 1995   | 57.9              | 4.9      | 35.5         |
| 1996   | 58.3              | 5.7      | 35.0         |
| 1997   | 60.8              | 6.3      | 31.9         |
| 1998   | 62.2              | 6.3      | 30.7         |

NOTE: Denominator excludes births with unknown payor source and multiple payor source.

delivering over one-third (38.7%) of these births in 1998. LDEMs are lay midwives who have volunteered for state licensure to provide natality care for Oregon women. Non-licensed lay midwives delivered 22.3 percent of out-of-hospital births. In addition, Certified Nurse Midwives delivered one in eight babies (16.2%), and naturopathic physicians delivered one in nine babies (11.8%). [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 public insurance. The specific type of private insurance coverage is not defined. Multiple payment sources can be indicated. The majority of deliveries in Oregon were paid for by private insurance companies (62.2%), up slightly from 60.8 percent in 1997 (see sidebar). Slightly under one-third of Oregon resident births (30.7%) were paid for by Medicaid (e.g., the Oregon Health Plan). Delivery costs were more likely to be paid for by public insurance if the mother was not married or was under 18. [Table 2-17].

## REFERENCES

- 1 Ventura SJ, Martin JA, et al. Births: Final Data for 1998. National Vital Statistics Report; vol 48, no. 3. Hyattsville, Maryland; National Center for Health Statistics. 1998.
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- 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.