

Natality

NATALITY

In 1999, Oregon recorded 45,193 resident births. There were 35 fewer resident births than in 1998 and the crude birth rate decreased slightly, from 13.8 to 13.7 per 1,000 population. [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 past thirty years however, Oregon's rates have held in the mid-teens, ranging from a high of 16.4 in 1980 to a low of 13.6 in 1994, 1995 and 1997. Except for the period between 1976 and 1981, Oregon's crude birth rate has remained lower than the national rate. In 1999, Oregon's rate was 5.5 percent lower than the nation's (13.7 vs. 14.5). [Figure 1-1].

Oregon's fertility rate remained at 64.2 per 1,000 women age 15-44. [See sidebar, Table 2-2]. The fertility rate is based on the number of births per 1,000 women age 15-44. The fertility rate is a more precise measurement of changes in behavioral patterns because it consists only of women who are of childbearing age while the crude rate is based on the entire population. Age-specific birth rates increased for women over age 30 and decreased for women age 15-29. The largest percentage increase in birth rates was among women age 40-44 (8.8%). The largest percentage decrease was among women age 15-19 (3.5%). [Table 2-2, Figure 2-1]. The two youngest mothers in 1999 were 13 years old; the oldest was 51. [See the Teen Pregnancy section of this report for detailed information on births and pregnancies among women less than twenty years of age.]

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, 1999: 5.4

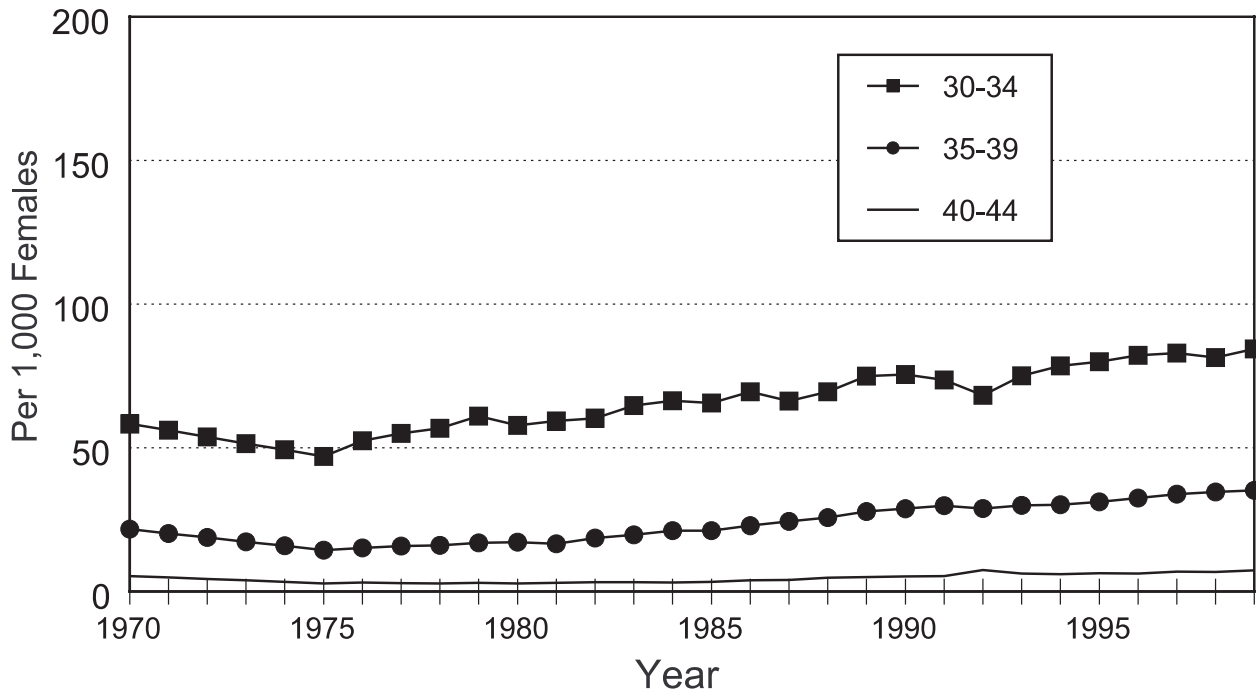
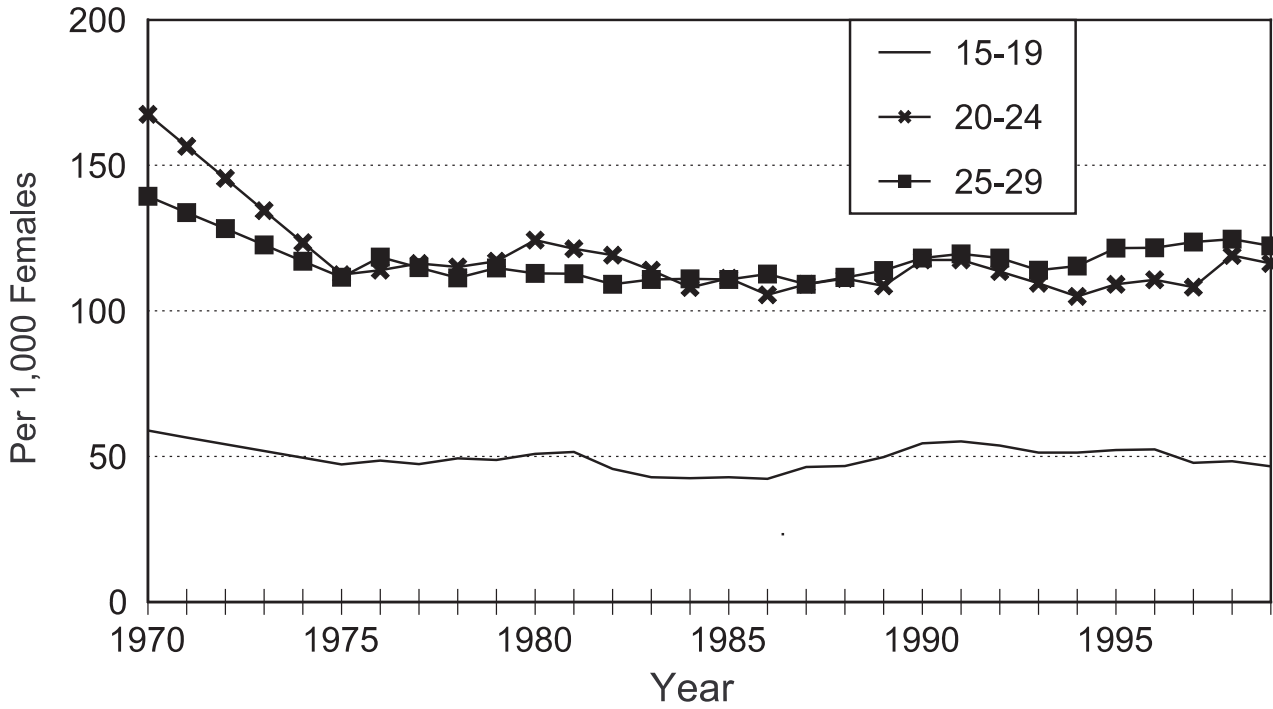
Of the thousands of infants born each year, not all thrive and become healthy adults. Low birthweight is the major predictor of infant death, which in turn is a fundamental measure of the health of a population. Infants with low birthweight are more likely to need extensive medical treatment and to have lifelong disabling conditions. (For more information, see the Fetal and Infant Mortality section published in Volume 2 of the Oregon Vital Statistics Annual Report.). The low birthweight rate is the proportion of infants who weigh less than 2,500 grams (5.5 pounds) at birth.

In 1999, there were 2,436 low birthweight babies born to Oregon mothers. [Table 2-25]. One of the National Public Health Service Year 2000 Objectives is to reduce the percentage of low birthweight infants nationwide to 5.0 percent. In 1999, the percentage of low birthweight births in

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
1999	64.2	65.9

Figure 2-1.
Age-Specific Birth Rates,
Oregon Residents, 1970-1999

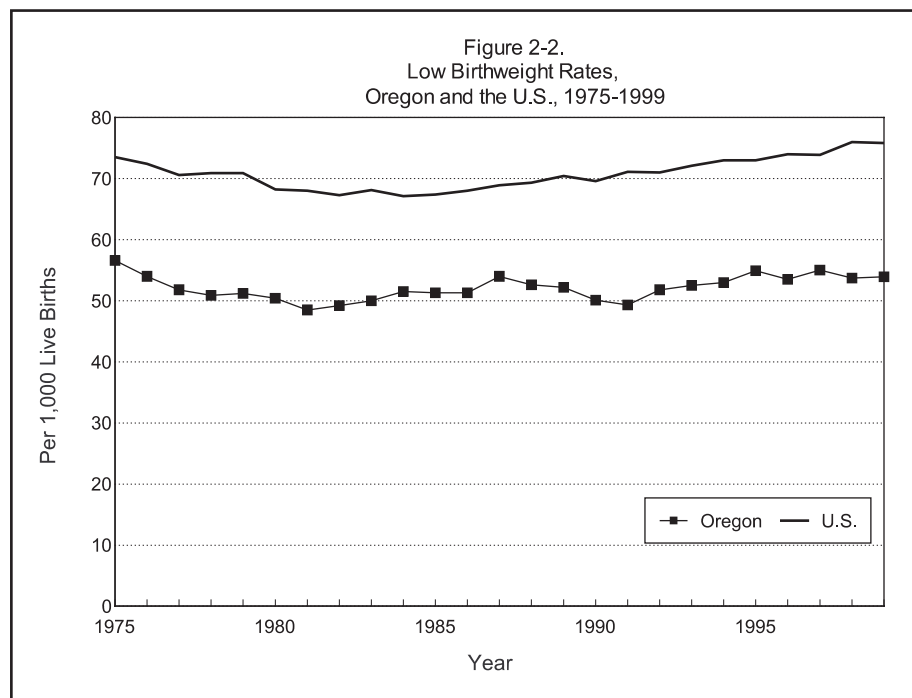


Oregon remained slightly above the objective at 5.4 percent, or 53.9 per 1,000 live births. This rate is slightly higher than the 1998 figure of 53.7, but the rate has fluctuated relatively little over the last twenty years. [Table 1-6; Figure 2-2]. The lowest rate was recorded in 1981 (48.5) and the highest in 1975 (56.6). Oregon's low birthweight rates are typically 25 percent lower than the U.S. national rate. In 1999, Oregon's rate was 29 percent lower than the national rate.

There were 2,436 low birthweight babies born to Oregon mothers in 1999.

RISK FACTORS

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 of mother, mother's age (younger than 18 or 35 and older), lack of prenatal care, low income, single marital status, a previous fetal or infant death, low maternal education, and short spacing between births. As an example of risk factors, women over age 35 have the second-highest rate of first trimester care (85.2%) and the lowest rate of inadequate prenatal care (4.4%). (Table 2-15). Nevertheless, women over age 40 continue to have a higher percentage of low birthweight babies. [Table 2-26]. In 1999, most women (64.1%) had at least one risk factor for their pregnancy. Statewide over fifteen percent of the women had three or more risk factors. [Table 2-21; Table 2-22]. The percentage of births with three or more risk factors had a broad range among counties, from 5.6% in Gilliam to 34.7% in Jefferson. The prevalence of specific risk factors by county is reported in Table 2-19.



PRENATAL CARE

Oregon Benchmark for the Year 2000:

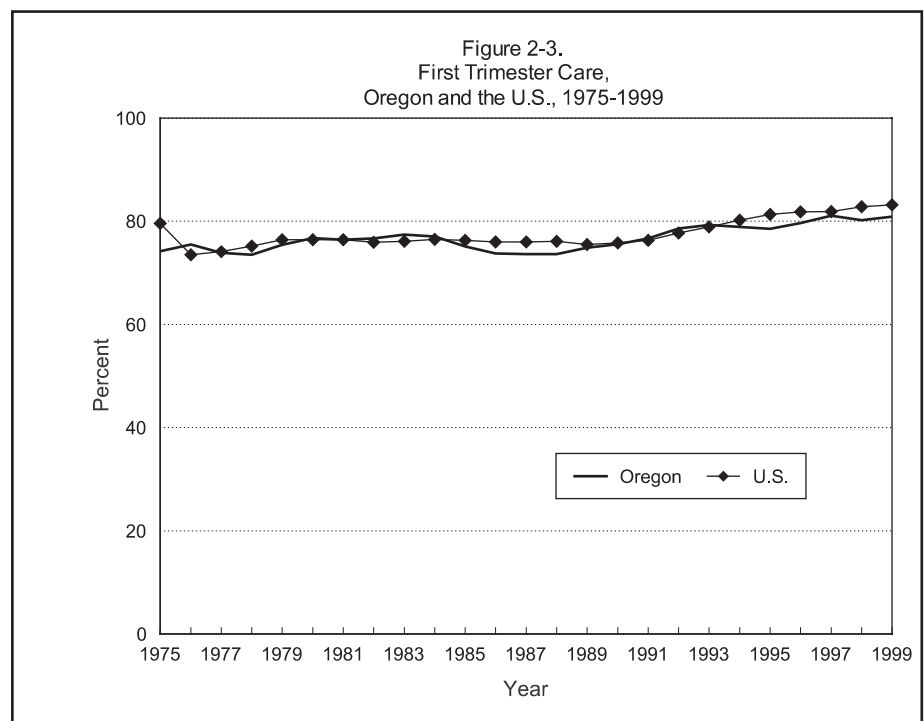
Percentage of infants whose mothers received prenatal care beginning in the first trimester.

Year 2000 Goal: 90 percent

1999: 81 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. 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) "first trimester care," defined as care beginning during the first three months of pregnancy, regardless of the number of total prenatal visits. First trimester care has been adopted as an Oregon Benchmark with a goal to ensure that at least 90 percent of pregnant women begin prenatal care in the first three months. Overall, 81 percent of women who gave birth during 1999 received early prenatal care. [Table 2-13; Figure 2-3]. This is a slight increase over the 1998 rate and continues the upward trend in Oregon. [Table 1-6].

In 1999, five percent of women giving birth received inadequate prenatal care and nineteen percent received no first trimester care. Women who received inadequate prenatal care were twice as likely to give birth to a low birthweight child as those who received adequate prenatal care. [Table 2-12]. The proportion that received no prenatal care or third trimester care only remained about the same as previous years (0.7% and 3.0% respectively). [Figure 2-4]. Inadequate or no prenatal care is frequently associated with other risk factors. Women who received inadequate prenatal care were



four times as likely to have three or more risk factors indicated in their pregnancy than women who received adequate prenatal care (64.7% vs. 15.7%). Age, marital status, education and race/ethnicity continue to show important differences in accessing prenatal care. [Tables 2-15, 2-14, 2-11, 2-10]. Six of Oregon's 36 counties had first trimester care rates significantly lower than the statewide rate: Coos, Jefferson, Malheur, Marion, Morrow and Umatilla. Washington County was the only county that had a rate significantly higher than the statewide rate. [Table 2-13]. (See Appendix B: Technical Notes for information on statistical significance.)

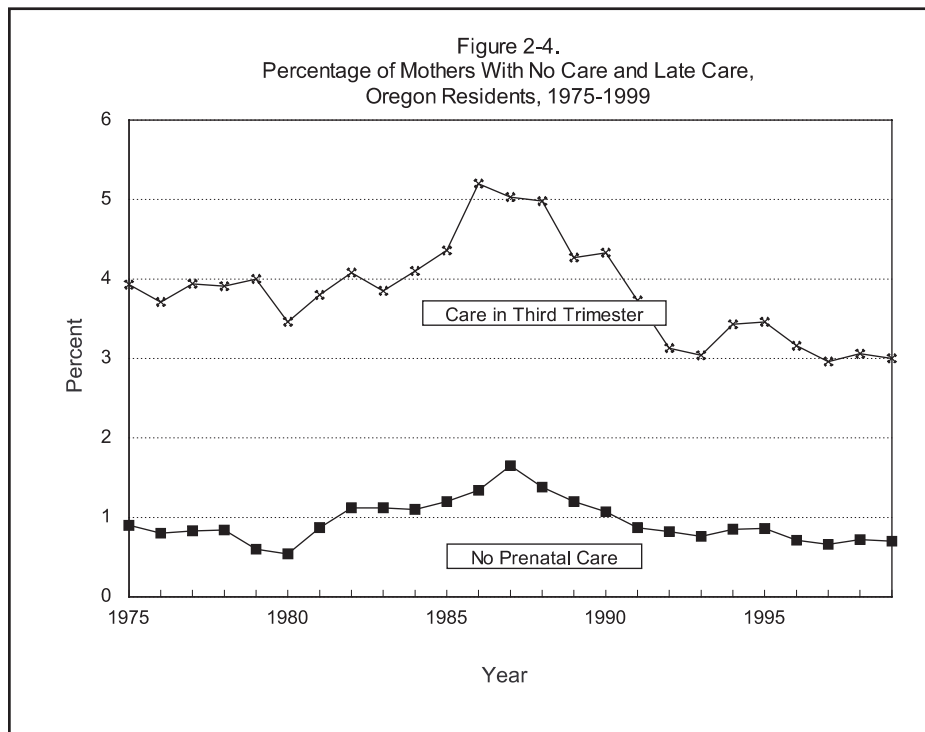
Years of Education	No First Trimester Care (%)
< 12	36.6
12	27.0
> 12	10.2

MATERNAL EDUCATION

Mother's level of education was closely related to patterns for prenatal care. 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).

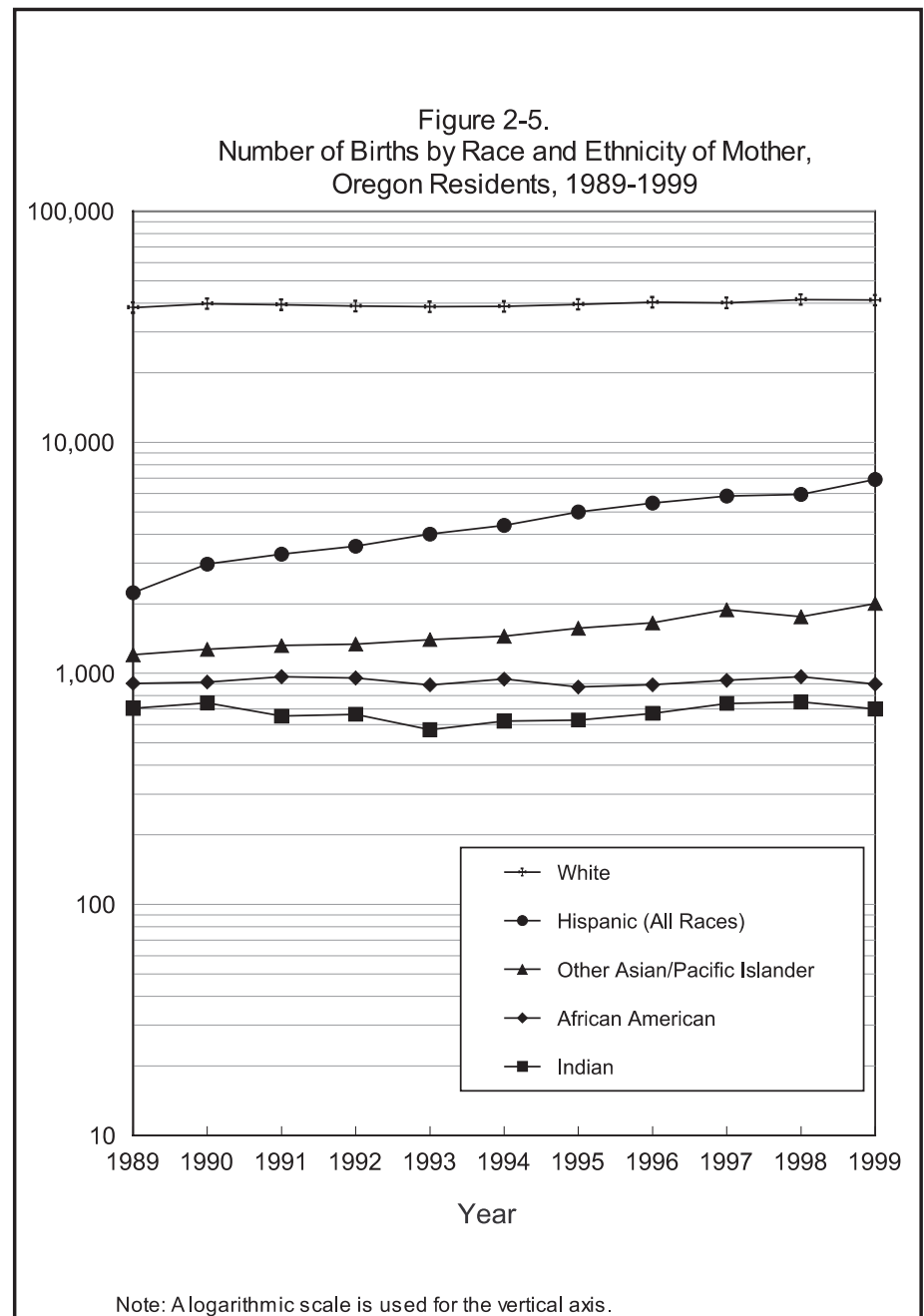
MATERNAL RACE/ETHNICITY

Birth rates for racial and ethnic groups are not calculated in this report because precise population data by racial and ethnic group are available only for census years. Instead this report focuses on the race and ethnicity of women who gave birth as a proportion of total births. Since 1989, the number of births to women of Hispanic ethnicity has more than tripled to 15.4 percent of total births. [Table 2-4]. From 1981 to 1988, 'Hispanic' was a race category on the birth certifi-



cate. Since 1989, information regarding Hispanic ethnicity is reported separately from race. This change addressed the complexity of race and ethnicity and increased the accuracy when self-reporting. The number of resident births to white women (Hispanic and non-Hispanic) has increased 7.7 percent since 1989; After several years of increased numbers of births, births to African American and American Indian women both decreased slightly in 1999. [Table 2-4; Figure 2-5].

American Indians and White Hispanics were far more likely to receive inadequate prenatal care than other groups. Chinese women were least likely to receive inadequate care (1.5%) and had the lowest percentages in five of the remain-



ing seven risk categories. [Table 2-10; 2-20]. American Indians had the highest proportion of risk factors with more than ten percent of mothers at risk in six of the eight risk factor categories.

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. (Table 2-27, Table 2-14). Their infants are also more likely to require neonatal intensive care, to have congenital anomalies, or to die before age one. Between 1973 and 1993, the ratio of births to unmarried mothers tripled in Oregon. Since the mid-1990s, the ratio has stabilized. [Table 1-2, Figure 2-6]. While there hasn't been a matching increase in low birthweight rates and other indicators of health, the disparity in birth outcomes between married and unmarried women continues.

In 1999, 30.4 percent of all Oregon births were to unmarried women, an increase of 2.0 percent from the previous year. [Table 1-2]. Oregon has consistently had lower non-marital birth rates than the nation; Oregon's rate in 1999 was 7.9 percent lower. [Figure 2-6]. Among women giving birth in 1999, the percentage of women who were unmarried varied widely by ethnic and racial group (see sidebar). African American women had the highest rate of non-marital births (63.0%), followed by American Indian women (58.8%), and Hispanic women (39.6%). Japanese women (8.4%) and Chinese women (5.6%) were least likely to be unmarried. (Table 2-20). Young mothers were also likely to be unmarried since persons younger than age 17 cannot be married in Oregon. More than three-fourths of the teens age 15-19 who gave birth in 1999 were unmarried (76.2%). This percentage decreased to 40.7 percent for women age 20-24 and to 20.3 percent for women age 25-29. Mothers age 30-39 were least likely to be unmarried (13.3%), while 15.5% of mothers age 40 and older were unmarried. (Table 2-3).

Ten of Oregon's 36 counties had proportions of non-marital births that were statistically significantly higher than the state average. (Table 2-7). Among counties with statistically significant differences, Lincoln had the highest percentage (46.1%) followed by Jefferson (39.1%) and Josephine (38.9%). Five Oregon counties had percentages of non-marital births that were significantly lower than the state average. The lowest was in Hood River County (14.2%). A county's non-marital birth proportion should be viewed in part as a function of its own specific population mix, especially age and race. Variations in population composition among counties will likely result in significant differences in non-marital births.

Women who smoked had a low birthweight rate of 77.5 per 1,000.

Race/Ethnicity	Unmarried (%)
Total	30.4
African American	63.0
American Indian	58.8
Hispanic (All Races)	39.6
White	29.9
Filipino	22.7
Other Asian & Pacific Islander	17.5
Japanese	8.4
Chinese	5.6

REPORTED SUBSTANCE USE DURING PREGNANCY

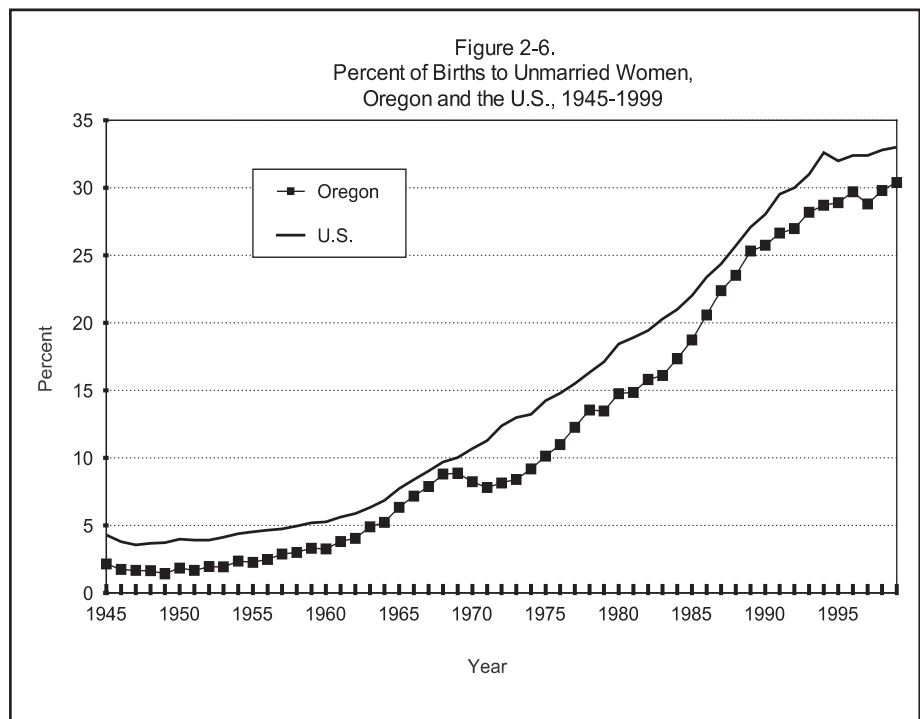
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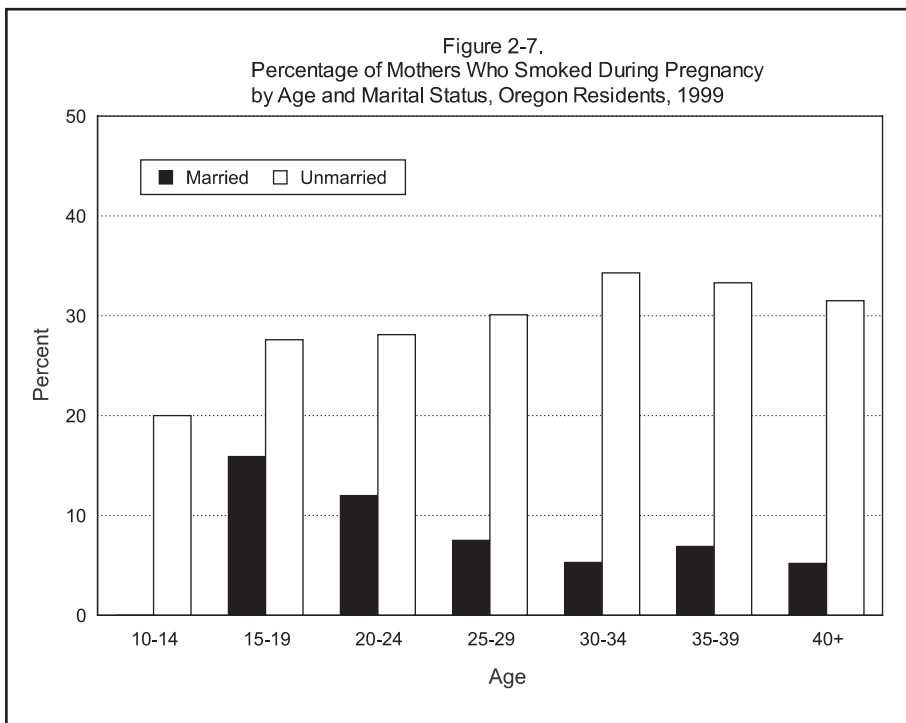
Oregon Benchmark for the Year 2000:

Percentage of infants whose mothers did not use tobacco during pregnancy (self-reported).

Year 2000 Goal:	85 percent
1999:	86 percent

Women who smoke when pregnant have a far higher incidence of low birthweight babies than nonsmokers. In 1999, women who smoked had a low birthweight rate of 77.5 per 1,000 live births, compared to 49.1 per 1,000 among women who did not smoke. Less than one out of six mothers (14.5%) reported using tobacco during pregnancy, a proportion that has declined by 18.5% since 1995 and 4.6% since 1998. [Table 2-18]. Unmarried women were over three times more likely to smoke than married women (29.1% vs. 8.2%). For unmarried women, the smoking rate was highest among women age 30-34 (34.3%), while for married women the lowest smoking prevalence rates were for women age 30-34 and age 40 and older (both 5.3%). [Figure 2-7]. Smoking prevalence as reported on birth certificates also varied among racial and ethnic groups. In 1999, American Indian women (26.2%) and African American women (16.4%) had the highest reported proportions for smoking during pregnancy, while Chinese women reported the lowest (none). [Table 2-20].





ALCOHOL AND ILLICIT DRUGS

Oregon Benchmark for the Year 2000:

Percentage of infants whose mothers did not use alcohol during pregnancy (self-reported).

Year 2000 Goal: 98 percent

1999: 98 percent

Used during pregnancy, alcohol can cause deformity, mental retardation, and other severe developmental problems. Based on birth certificate data, 1.9 percent of Oregon mothers (824 women) drank alcohol during pregnancy in 1999. Although this represents a 63 percent decline from 1990, when 5.2 percent of mothers reported alcohol use, it is an increase of 18.8 percent since 1998 when 1.6 percent of mothers reported using alcohol. Hawaiian women (6.1%) and American Indian women (6.0%) were most likely to have reported using alcohol during pregnancy. Chinese women and Filipino women reported no alcohol use during pregnancy. [Table 2-20].

Oregon also records information on use of illicit drugs during pregnancy including heroin, cocaine, marijuana and methamphetamine. In 1999, illicit drugs were mentioned in 1 percent of resident births. [Table 2-18]. Although this is a small percentage, it is a 41 percent increase from 1998 (0.7%) and follows a three-year decline.

Certified Nurse Midwife Deliveries Oregon Occurrence			
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
1999	6,357	6,193	164

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	34.0
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
1999	948	20.6

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
1999	61.1	5.9	32.4

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

BIRTH ATTENDANT

HOSPITAL BIRTHS

A major shift over the past few years has been the increasing prevalence of births attended by Certified Nurse Midwives (CNM). In 1999 13.7 percent of hospital deliveries were CNM-attended, only a slight increase from 1998, but more than twice the proportion in 1988 (5.8%). Most in-hospital births (82.0%) were delivered by MDs, a slightly lower proportion than in 1998. [Table 2-23].

OUT-OF-HOSPITAL BIRTHS

In 1999, 2.1 percent of Oregon births occurred out-of-hospital. Oregon generally has a higher proportion of out-of-hospital births than the U.S. as a whole. In 1998 (last U.S. data available), Oregon's proportion of out-of-hospital births was double that of the U.S. (2.0% vs. 1.0%). Outcomes have generally been positive for out-of-hospital births, which may reflect the screening process used by out-of-hospital providers. Women who delivered out of hospital were generally not high-risk patients. In 1999, only 17 infants born out-of-hospital in Oregon had low birthweights (1.8%). Twelve infants (1.4%) were reported to have a congenital anomaly, which is slightly higher than the percentage for in-hospital births (1.2%). The type of attendant varied by birth setting. Licensed Direct Entry Midwives (LDEM) were predominant in out-of-hospital births, delivering over one-third (37.6%) of those births in 1999. LDEMs are lay midwives who have volunteered for state licensure to provide natality care for Oregon women. In addition, Certified Nurse Midwives delivered one in six out-of-hospital births (17.3%), and naturopathic physicians delivered one in nine (11.3%). Non-medical attendants, including non-licensed lay midwives, delivered 304 babies, 32.1 percent of the out-of-hospital births. [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. Private insurance companies paid for the majority of deliveries in Oregon (61.1%), down slightly from 62.2 percent in 1998 (see sidebar). Medicaid programs (e.g. the Oregon Health Plan) paid for slightly less than one-third of Oregon resident births (32.4%). Delivery costs were more likely to be paid for by public insurance if the woman was unmarried or under age 18. [Table 2-17].