# 4 Reproductive Health

The concept of reproductive health represents a new approach to research and policy regarding maternal and infant health and women's health in the 1990s. This approach articulates the totality of health needs in reproduction by women and men. It encompasses, among other things, family planning, quality of health care services, prevention and treatment of sexually transmitted diseases and other reproductive tract infections, and prevention and management of infertility.[1] Also, socioeconomic factors are considered along with health factors.[2] Evidence suggests that the various elements of reproductive health are strongly interrelated, and that improvements in one area will result in gains in other areas as well.

Reproductive health is an important topic for Utah women. In 1994, Utah ranked first in the U.S. with a general fertility rate of 85.9. (The general fertility rate is the number of live births per 1,000 females, 15 to 44 years of age.) Utah's fertility rate has been higher than the national rate since 1970.

## Prenatal Care

The Healthy People 2000 goal is for 90 percent of all pregnant women to begin prenatal care in the first trimester. According to the American Public Health Association's Public Health Report Card, Utah ranks third in the nation for adequate prenatal care. During 1995, 84 percent of mothers delivering in Utah received prenatal care in the first trimester, 13 percent in the second, and 3 percent in the third trimester. Women who received no prenatal care accounted for 0.4 percent (152 births) of all live births during 1995.[3] While the Utah rate of first trimester prenatal care remains below the Healthy People 2000 goal, some health care delivery systems have achieved or are close to achieving that goal (see figure below).

**Percentage of Mothers Receiving Prenatal Care in the First Trimester, Utah 1995**

| | Percent |
|---|---|
| State Total | 84% |
| Healthy People 2000 Goal | 90% |
| Two Utah Health Plans | 88-91% |

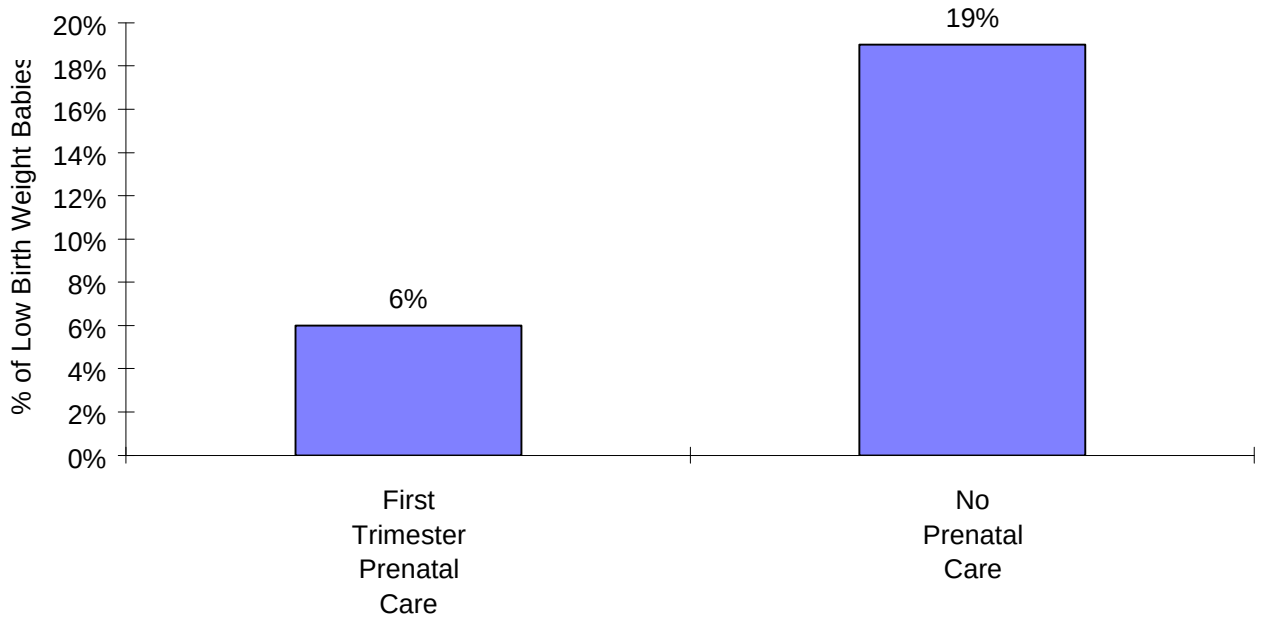
Source: Bureau of Vital Records, Utah Department of Health; FHP of Utah and IHC Health Plans, Inc.

Women of other racial/ethnic backgrounds are less likely to receive early prenatal care than are white women. Among white women, 86 percent enter care early, while only 71 percent of Asian/ Pacific Islander, 70 percent of African American, and 59 percent of American Indian women enter care in the first trimester.[3]

Women who enter care late or not at all are more likely to be less educated, from racial/ethnic minority populations, unmarried, to report alcohol and tobacco use during pregnancy, and have had more pregnancies than women who enter care early. Among white women, 0.2 percent reported no prenatal care, while 2 percent of American Indian, 1 percent Asian/Pacific Islander, and 0.7 percent of African American women reported no care. Of women entering prenatal care in the first trimester, 87 percent were married and 13 percent unmarried. Women receiving no prenatal care, were equally divided between married (48%) and unmarried (52%) women. Early entry into prenatal care is also related to age; mothers under age 18 and those older than 44 are less likely to enter prenatal care early. Women in rural communities are also less likely to access early prenatal care.

Prenatal care is an important predictor of pre-term delivery and low birth weight, which strongly influence infant health. The risk of a low birth weight infant is three times higher for women not receiving prenatal care as for women who begin prenatal care in the first trimester (19% versus 6%).

Percentage of Babies That Were Low Birth Weight
by the Mother's Prenatal Care Status, Utah, 1992-1994



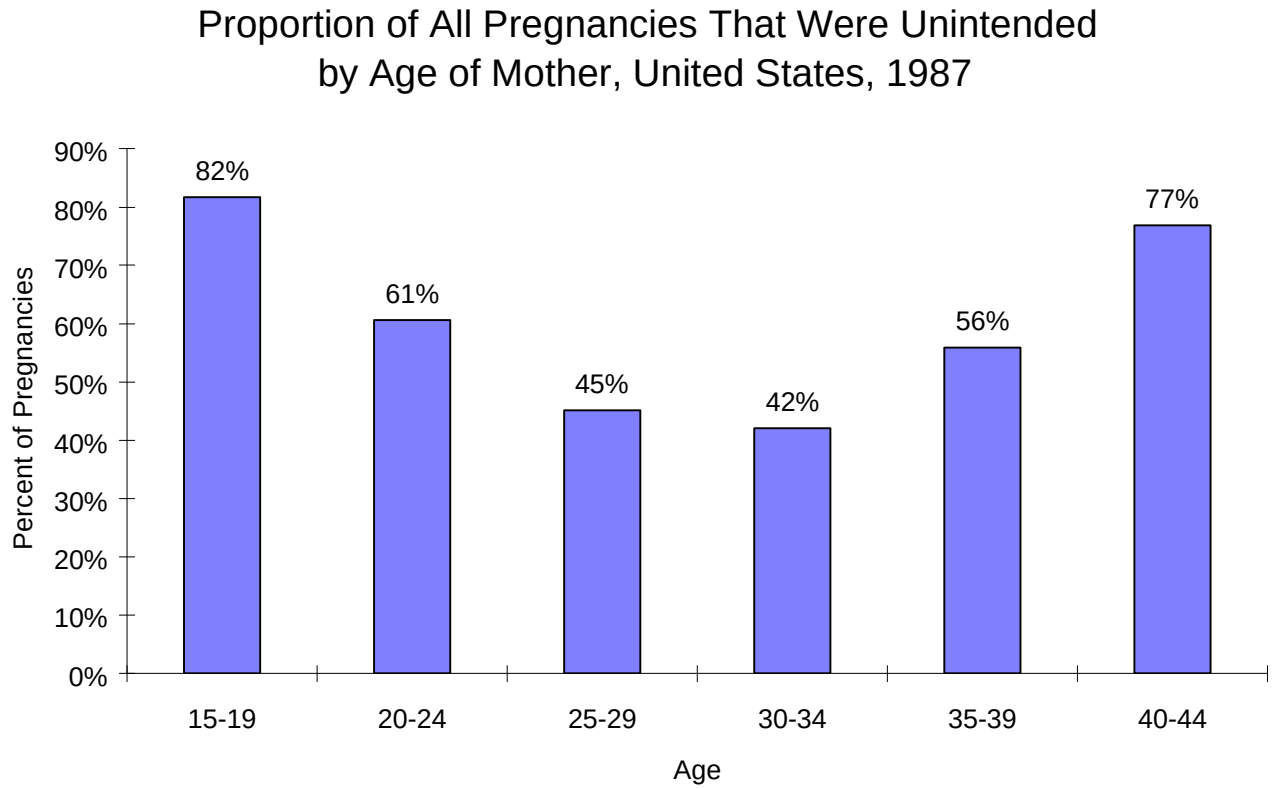

Source: Bureau of Vital Records, Utah Department of Health

# Family Planning

## Unintended Pregnancies

Unintended pregnancy includes those that are not planned, but desired (mistimed), and those that are unplanned and not desired (unwanted). National data for 1987 indicate that 57 percent of all pregnancies were unintended at the time of conception.[4] In that study, a little more than half (51%) of unintended pregnancies ended in abortion.

Unintended pregnancies occur among women of all childbearing years, but higher proportions of pregnancies are unintended for older and younger women. The percentage of births from unintended pregnancies has been increasing. Of unintended pregnancies, 47 percent occur among women using reversible contraception and 53 percent occur among women using no contraception.[4]




Sources: USA Data: The Best Intentions Unintended Pregnancy and the Well-Being of Children and Families, Institute of Medicine, 1995, Table 2-2, p. 32.

## Spacing of Pregnancies

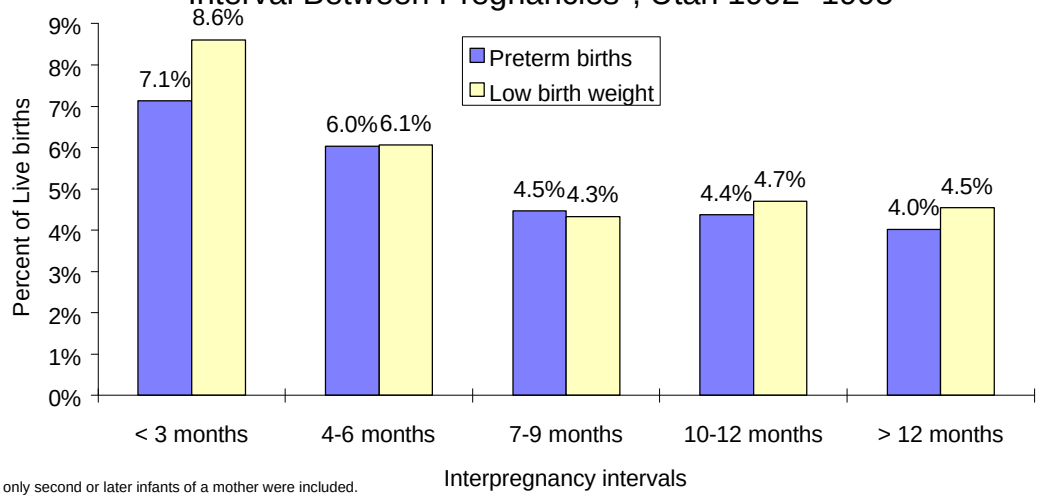
Close spacing of pregnancies can contribute to poor pregnancy outcomes. In a recent study, short intergestational periods resulted in an increased incidence of low birth weight and preterm births.[5] Appropriate spacing of pregnancies can contribute to a healthy outcome for mother and infant, optimize the parent-child relationship, and contribute to the child's development.

Of 79,312 (other than first born) infants born between 1992 and 1995 for whom the date of the previous child's birth was known, 19 percent (15,316) were born within 12 months of an older sibling's birth. Infants born after a short interpregnancy interval were at higher risk of preterm birth and low birth weight. Utah mothers who were delivered of infants after a short interpregnancy interval were more likely to be unmarried, to have less education, gained less weight during pregnancy, and were more likely to use tobacco or alcohol than other Utah mothers.

Family planning allows women and their partners to choose the timing of a pregnancy. Family planning services in Utah are available through local health departments and community and private providers. In 1991, oral contraceptives were the most frequently selected method of contraception among women seeking family planning services.

Utah Medicaid covers family planning services for eligible women. Women of child-bearing years are eligible for Medicaid if they are receiving a financial payment such as Aid for Families with Dependent Children (AFDC), have a disability, or are pregnant. Women who qualify for Medicaid because they are pregnant only maintain eligibility for two months after the birth of the baby. They can only receive family planning services through Medicaid for those two months and are not eligible again until they become pregnant once again. Hence, many women in need of family planning services to adequately space pregnancies, cannot recieve family planning through Medicaid.

Proportion of Utah Live Born Infants[a] With Low Birth Weight[b] or Who Were Delivered Prematurely[c] According to Interval Between Pregnancies[d], Utah 1992--1995




[a] only second or later infants of a mother were included.
[b] < 2500 grams
[c] < 36 weeks gestation
[d] interval between pregnancies is the time from one live birth to the estimated data of conception of the pregnancy resulting in the next live born infant

Source: Bureau of Vital Records, Utah Department of Health

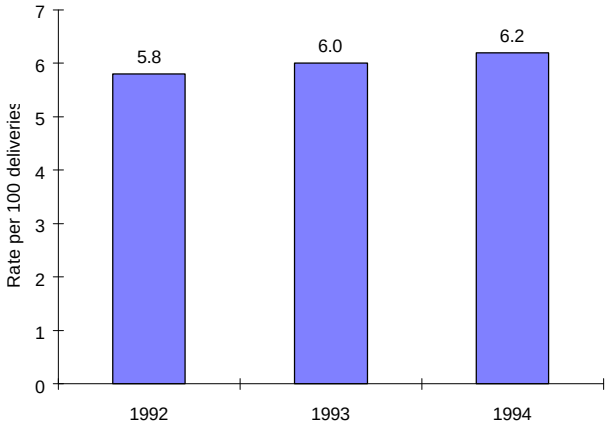
# Obstetric Complications

Obstetric complications may contribute to maternal, fetal, and neonatal morbidity and mortality. Such complications are largely preventable through appropriate prenatal and obstetric care.

A recent study by the Agency for Health Care Policy and Research (AHCPR) compiled obstetric complication rates from 13 states. The rate of complications of obstetric care was defined as the number of patients out of every 100 deliveries with a diagnosis or procedure code indicating fourth degree lacerations, hemorrhage or transfusions, pulmonary, cardiac, central nervous system, or anesthesia complications obstetric shock, renal failure, puerperal infection, air embolism, disruption of cesarean or perineal wound, breast abscess, or other obstetric complications. (Note: This definition differs from that used for the Healthy People 2000 objective for obstetric complications.)

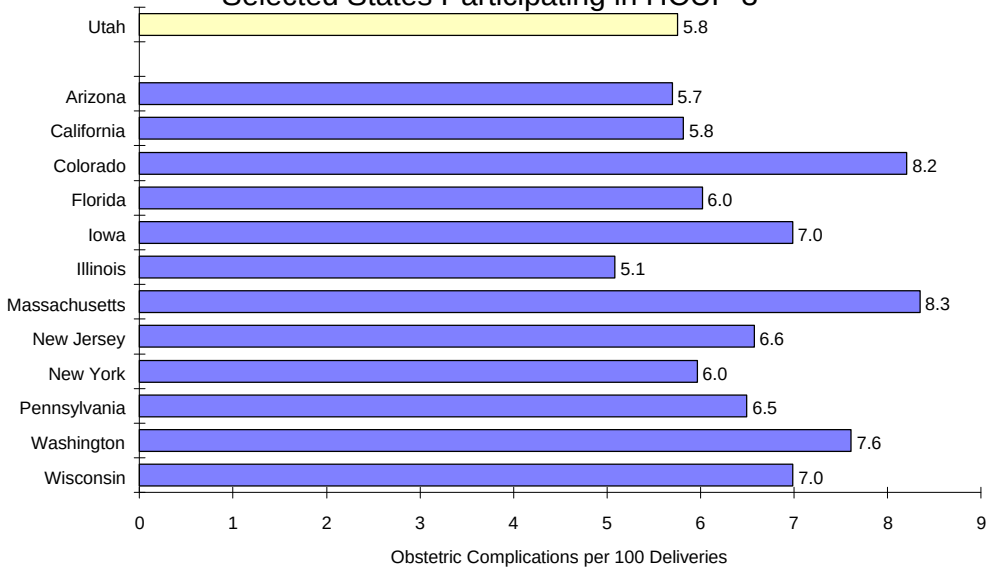
Illinois had the lowest obstetric complication rate among the thirteen selected states in that 1992 study. Of western states participating in that study, the rates for Utah, Arizona, and California were comparable, ranging from 5.70 to 5.82 per 100 deliveries, while Colorado and Washington rates were substantially higher. The rate of obstetric complications in Utah increased slightly from 1992 to 1994.

Trend of Obstetric Complication Rate in Utah
1992-1994




Obstetric complications were defined as for HCUP-3, AHCPR study.
Source: Utah Hospital Discharge Database.
Office of Health Data Analysis, Utah Department of Health

1992 Rates of Obstetric Complications for Utah and Selected States Participating in HCUP-3*




Source: AHCPR HCUP-3 Quality Indicators Project, Utah Hospital Discharge Database

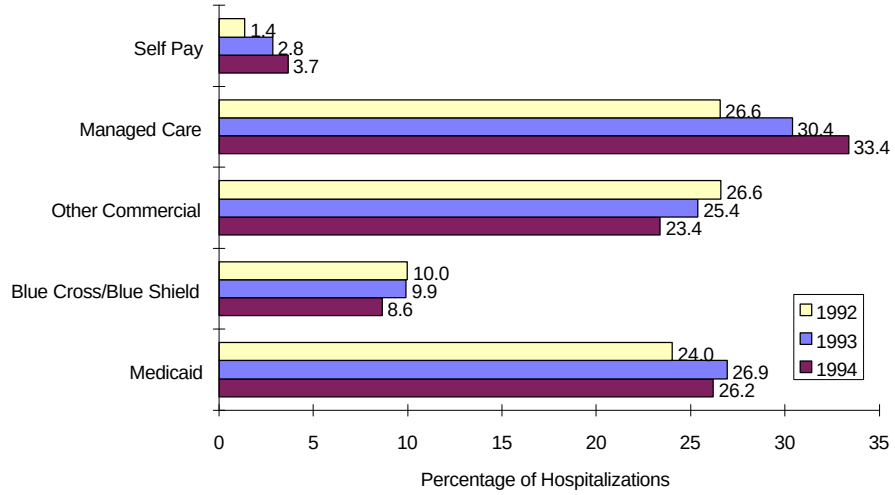
* Note: This indicator was developed by the Agency for Health Care Policy and Research (AHCPR) through the Healthcare Cost and Utilization Project (HCUP-3). The benchmark results for the twelve states that participated in HCUP-3 are reprinted here with permission from AHCPR.

# Insurance and Hospital Care

Most Utah women have insurance that covers maternity care. In 1994, managed care health plans covered 33.4 percent and Medicaid 26.2 percent of maternity hospitalizations in Utah; indemnity insurance (Blue Cross/Blue Shield and other commercial) covered 32.0 percent. The proportion covered by indemnity insurance declined from 36.6 percent in 1992. Self-paid maternity hospitalizations increased from 1.4 percent in 1992 to 3.7 percent in 1994.

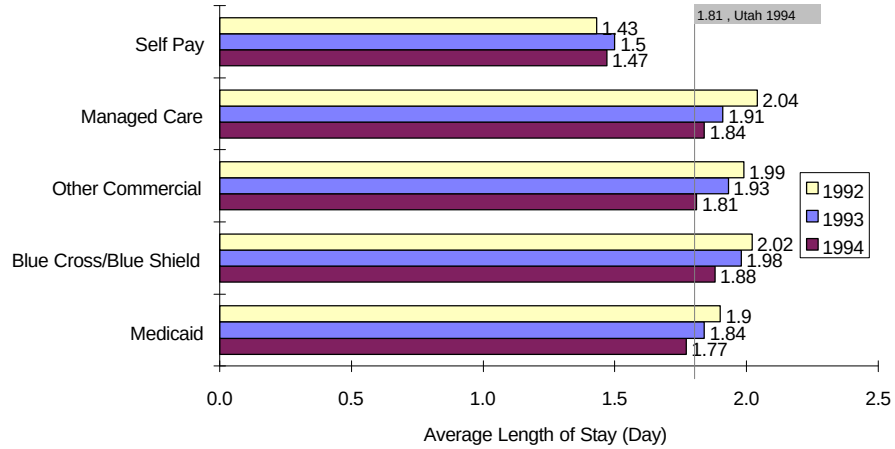
The average length of stay for maternity hospitalizations decreased in Utah from 1992 to 1994. On average, Utah women spent 2 days in the hospital for maternity-related conditions in 1992, and 1.8 days in 1994. Self-paid mothers had the shortest hospital stays. Medicaid mothers were also discharged slightly earlier than those covered by other types of payers. This decrease has caused public concern about the health impact that shorter hospital stays might have on mothers and infants.

Percentage of Maternity Hospitalizations by the Primary Payer, Utah 1992-1994




Source: Utah Hospital Discharge Database.
Maternity Hospitalization is defined as major diagnostic category (MDC) 14.

Average Length of Stay For Maternity Hospitalization by Primary Payer, Utah 1992-1994




Source: Utah Hospital Discharge Database.
Maternity Hospitalization is defined as major diagnostic category (MDC) 14.
Outliers were excluded.

# Maternal Mortality

Maternal death is a devastating event due to the relatively young age and lost potential of it's victims. Children of families experiencing maternal death are left without the support and guidance of their mothers. Thorough identification and review of maternal deaths is critical in order to define strategies for prevention. This section compares the results of maternal death reviews for the United States and Utah.

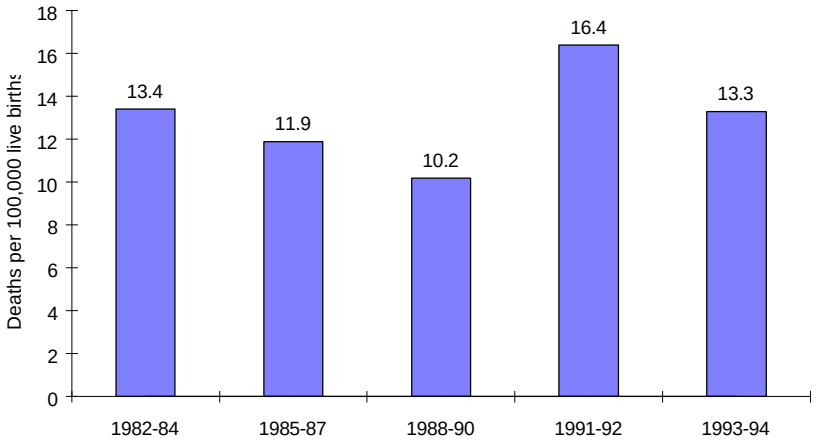
The 1991 Centers for Disease Control and Prevention (CDC) maternal mortality review guidelines defined a maternal death as any death occurring during pregnancy, or within one year after termination of pregnancy, resulting from complications of the pregnancy itself, by a chain of events initiated by the pregnancy, or by the aggravation of an unrelated condition by the physiologic or pharmacologic effects of the pregnancy.[6]

The CDC study reviewed all maternal deaths identified in the U.S. from 1979 through 1986. The maternal mortality ratio for that time period was 9.1 deaths per 100,000 live births. The risk of maternal death increased with age and was higher among women of black and other minority races than among white women for all age groups. The risk of maternal death was higher for those with less education in all age groups. The leading cause of death after the delivery of a live birth was pulmonary embolism.[7]

The CDC published findings from their ongoing review of maternal deaths for the years 1987 through 1990.[6] From 1987 to 1990, the maternal mortality ratio increased from 7.2 to 10.0 per 100,000 live births. It is thought that increased efforts to improve reporting of maternal deaths contributed to that increase.

A retrospective review of maternal deaths in Utah for the years of 1982 to 1994 was recently completed. The CDC's definition of maternal mortality was used to allow comparisons between Utah and U.S. data. During the thirteen years included in this review 62 maternal deaths were identified in Utah. During that same interval, 484,789 live births were registered in the state of Utah, resulting in an overall maternal mortality ratio of 12.8 per 100,000 live births, somewhat higher than for the overall U.S.[8] The higher risk of maternal mortality found in Utah may be due to more complete ascertainment of pregnancy-related deaths.

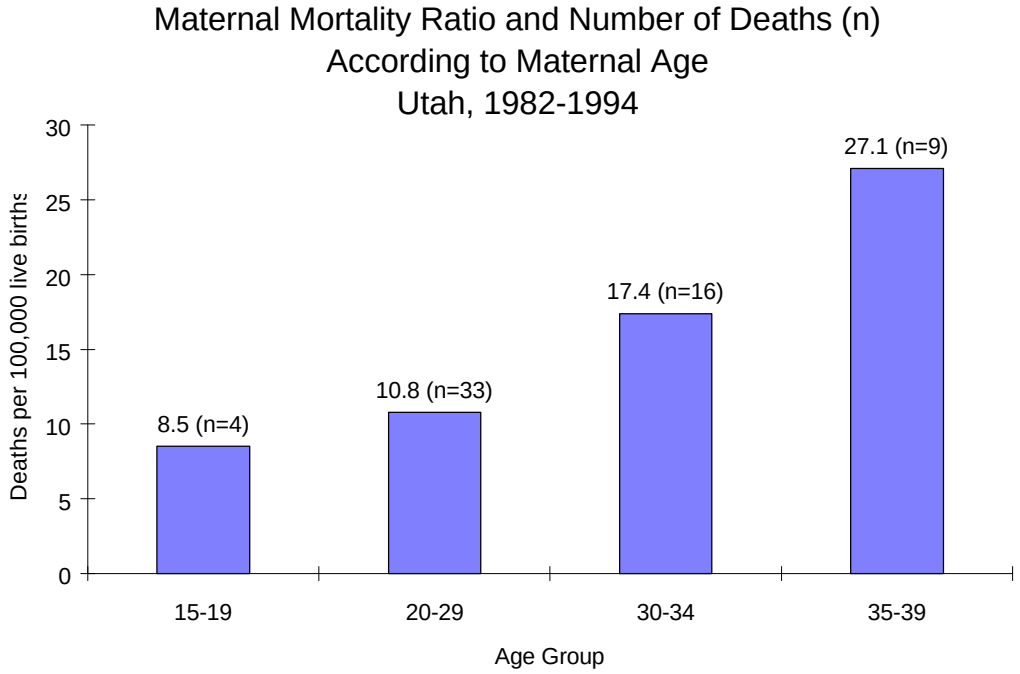
Maternal Deaths per 100,000 Live Births*
Utah, 1982-1994




* maternal mortality ratio
Source; Perinatal Mortality Review Database, Utah Department of Health

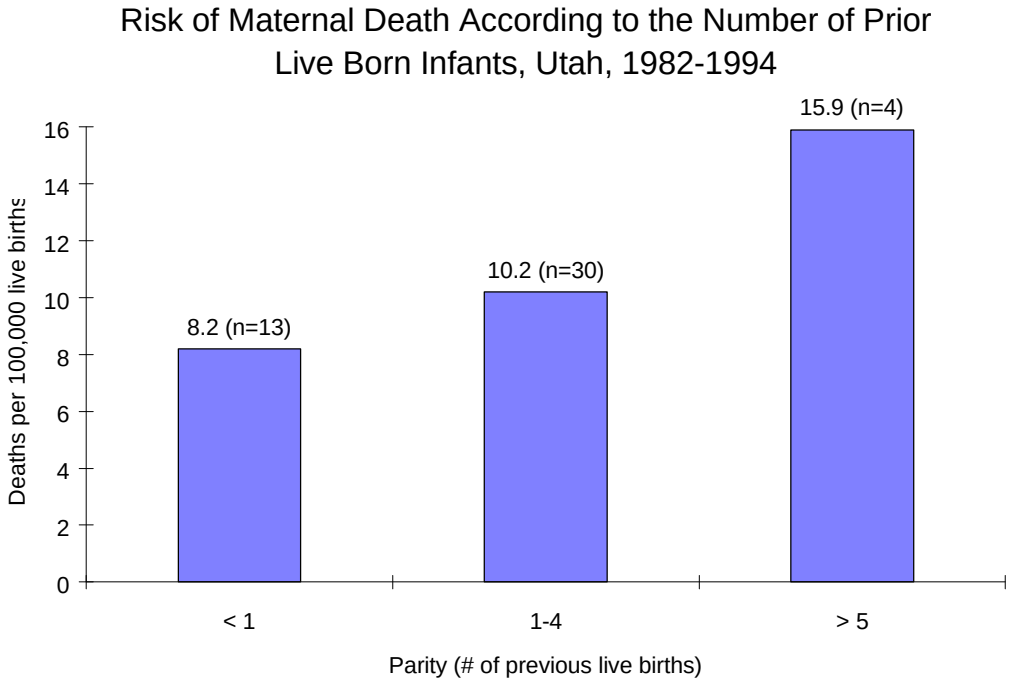
The ages of women who died of pregnancy related complications during the Utah review ranged from 15 to 39, with a mean of 27.7 years.

The risk of maternal death increased with increasing maternal age (see figure below).




Source: Perinatal Mortality Review Database, Utah Department of Health

On average, women dying of pregnancy related complications had been pregnant 3.1 times (including the pregnancy resulting in death). The risk of maternal death increased with an increasing number of previous births (see figure below).




Source: Perinatal Mortality Review Database, Utah Department of Health

Of the 62 women who died, 85.5% (N=53) were married; 87.3% (N=54) were white, 4.8% (N=3) Asian-American, 4.8% (N=3) Hispanic, 1.6% (N=1) Native American and 1.6% (N=1) Iranian. The average education was 12.4 years for women in this review.

The classic triad of causes of maternal death; hemorrhage (N=8), infection (N=5) and pre-eclampsia/eclampsia (N=3) remained important contributors (16/62 or 26%). However, trauma (N=10), pulmonary embolism (N=10) and maternal cardiac disease (N=9) accounted for 47% (29/62) of maternal deaths in the Utah study. Improvements in prevention, earlier diagnosis and aggressive treatment of these conditions will be needed to achieve the Public Health Service objective, a 50 percent reduction in the maternal mortality ratio by the year 2000.

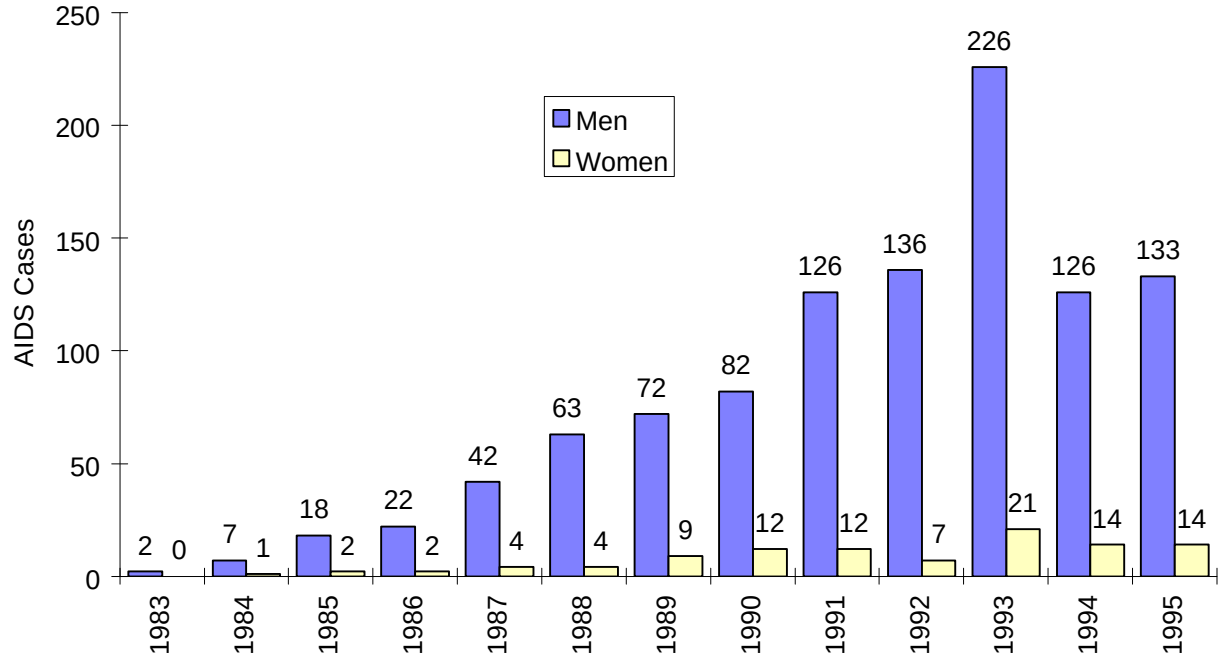
# HIV/AIDS and Other Sexually Transmitted Diseases

## HIV/AIDS

Through June 30, 1996, 111 Utah women have been reported to have AIDS; this represents 8.6 percent of the 1,289 AIDS cases reported in Utah since 1983. An additional 76 HIV infections have been reported in Utah women, 12.2 percent of the 622 total HIV infection cases reported.

Nationally, AIDS and HIV infection rates have been increasing more rapidly among women than among men. In Utah, the proportion of AIDS occurring among women has remained stable, at about 10 percent, since the beginning of the epidemic.

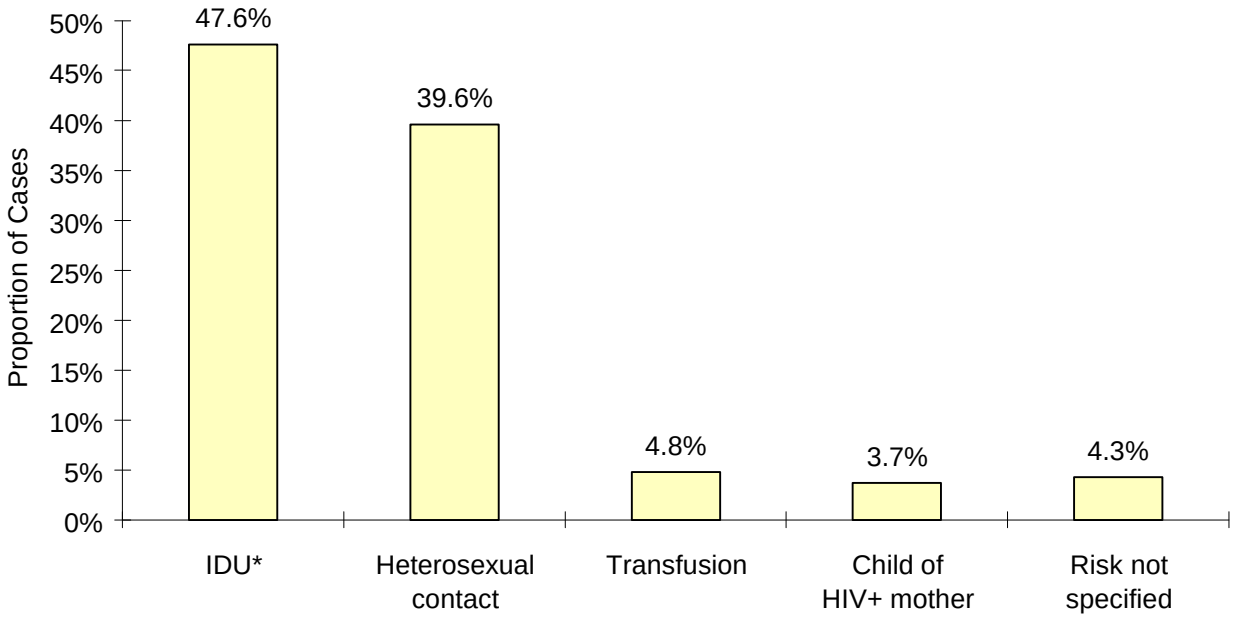
### Reported AIDS Cases in Utah, by Gender, 1983-1995




Source: Bureau of HIV/AIDS, Tuberculosis/Refugee Health, Utah Department of Health

HIV/AIDS among Utah men is most often acquired by same-sex contact (68 percent of 1,724 HIV and AIDS cases reported through June 1996), In contrast, HIV/AIDS among Utah women is most often acquired by heterosexual contact or injecting drug use (IDU) (see figure on next page). Most women who acquired HIV through heterosexual contact had a sex partner who injected drugs.

## Reported Cases of HIV or AIDS Among Utah Females by Risk Group, 1983 to June 1996




* Injection drug use

Source: Bureau of HIV/AIDS, Tuberculosis/Refugee Health, Utah Department of Health

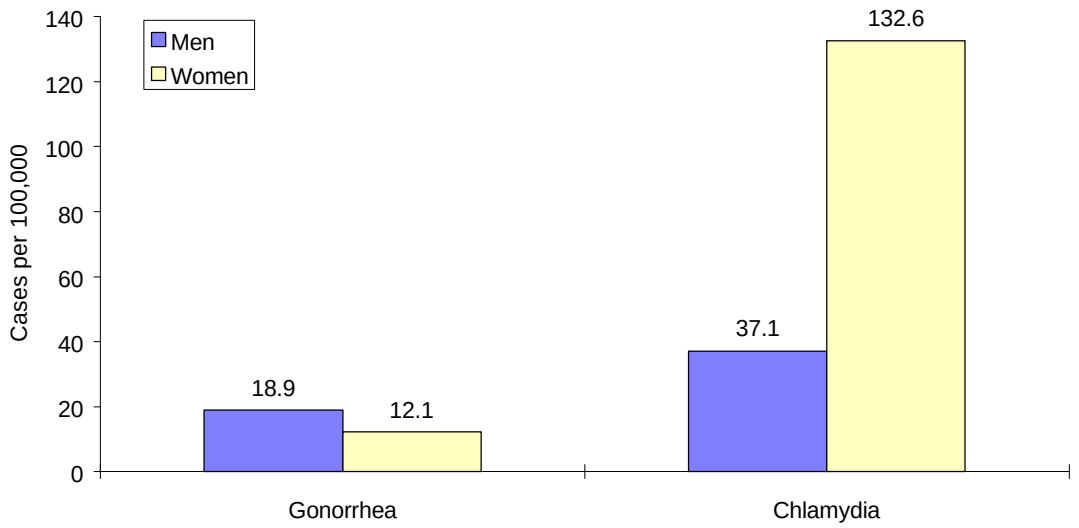
HIV and AIDS disproportionately affect Utah women of color. Of HIV and AIDS cases reported through June 1996, 19 percent were among black women, and 11.8 percent among Hispanic women. By contrast, of the estimated 1994 Utah population, only 0.7 percent were black and 6.1 percent Hispanic.

### Gonorrhea and Chlamydia

Gonorrhea and chlamydia cause female cervical infections that are usually asymptomatic, but if untreated, those infections can progress to pelvic inflammatory disease (PID). PID can result in tubal scaring and infertility, increase the risk of ectopic pregnancy, and cause chronic pelvic pain that can necessitate hysterectomy.[9]

In 1995, 120 uncomplicated gonorrhea cases (12.1 per 100,000 women) and 1,310 chlamydia cases (132.6 per 100,000 women) were reported in Utah women (see figure on next page). Despite its serious sequelae, chlamydia has been an under-recognized problem, partly because diagnostic tests have not been widely available until recently.

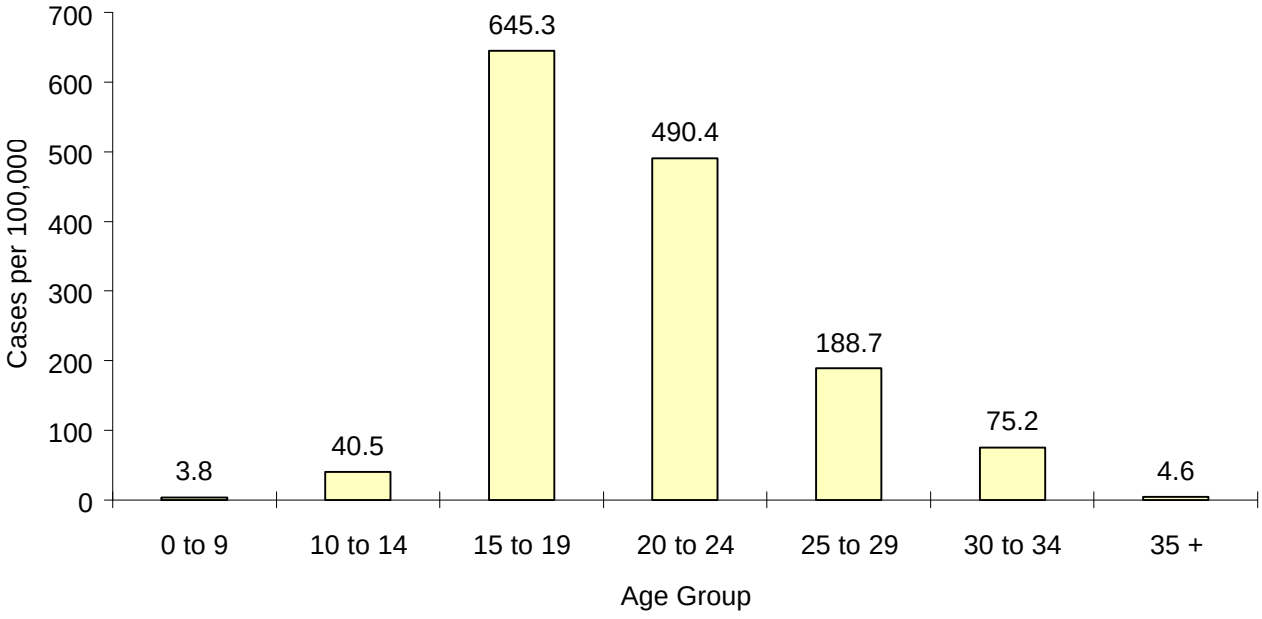
Reported Gonorrhea and Chlamydia Rates
Utah Men and Women, 1995




Source: Bureau of Epidemiology, Utah Department of Health

The actual number of Utah women affected by chlamydia is certainly much higher, because most women are asymptomatic, screening tests are underutilized, and currently used tests miss up to one third of infections. Both chlamydia and gonorrhea rates are highest among adolescent girls and young women (see figure below).

Reported Chlamydial Infection Rates Among Utah Womer
by Age, 1995




Source: Bureau of Epidemiology, Utah Department of Health

Pelvic inflammatory disease is also substantially under-recognized. While some women become severely ill and require hospitalization, others have much less severe symptoms, although the damage to fertility can be just as serious for women with apparently mild illness as for those who are severely ill.[10]

In 1992 through 1993, about 2 in every 10,000 Utah women were hospitalized for PID, resulting in nearly $1.7 million in hospital charges.[9]

## Sexual Behavior

Data on sexual behavior of Utah women and girls are inadequate. An important source might be the CDC-sponsored Youth Risk Behavior Survey, but in Utah, that survey does not ask questions about sexual behavior that are asked in other states.

A survey of women receiving reproductive health care services in Utah was conducted by the Bureau of HIV/AIDS, Utah Department of Health, in conjunction with an anonymous HIV seroprevalence study (1988 to 1992). Characteristics of the women in that survey are provided in the table below.

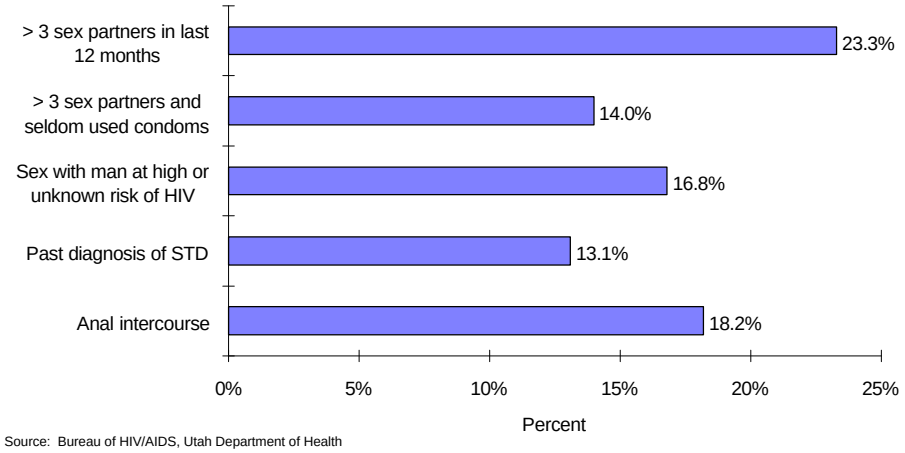
**Characteristics of Women in the Utah Department of Health's Anonymous HIV Seroprevalence and Sexual Behavior Survey, 1988-1992**

| Respondents' Characteristics | Percent of Respondents |
|---|---|
| White Race | 85% |
| Age | |
| < 20 years | 24% |
| 20-24 years | 34% |
| 25-29 years | 21% |
| 30 + years | 21% |
| Education | |
| Less than High School | 21% |
| High School Graduate | 35% |
| Some College | 33% |
| College Graduate | 12% |
| Married | 16% |
| HIV-infected* | 0.03% |

* HIV seroprevalence rate is for the entire survey; not all participated in the sexual behavior study.
Source: Bureau of HIV/AIDS, Utah Department of Health

Though only 0.03 percent of women in the seroprevalence survey were HIV-infected, a substantial proportion of those who participated in the behavioral survey reported sexual behaviors that would place them at risk of acquiring HIV or other sexually transmitted diseases (see figure below).

High Risk Sexual and Other Behaviors Reported by 7,412 Women Participating in Anonymous Sexual Behavior Study July 1, 1988-June 30, 1992




Source: Bureau of HIV/AIDS, Utah Department of Health

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