

**Title V  
Needs Assessment  
2011-2015**

**Maternal and Infant Health Data**



Wyoming Department of Health  
Community and Public Health  
Division

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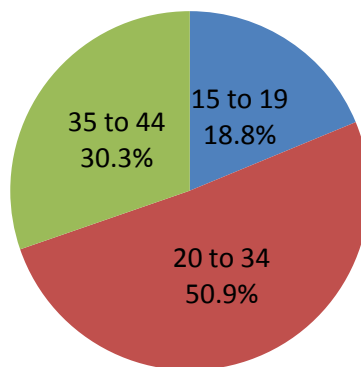
## POPULATION PROFILE

### AGE

#### Wyoming women of reproductive age, ages 15 to 44, 2007:

- 40% of Wyoming's total population<sup>1</sup>
- 81% of the state's female population<sup>1</sup>

Wyoming women of reproductive age  
by age group, 2007

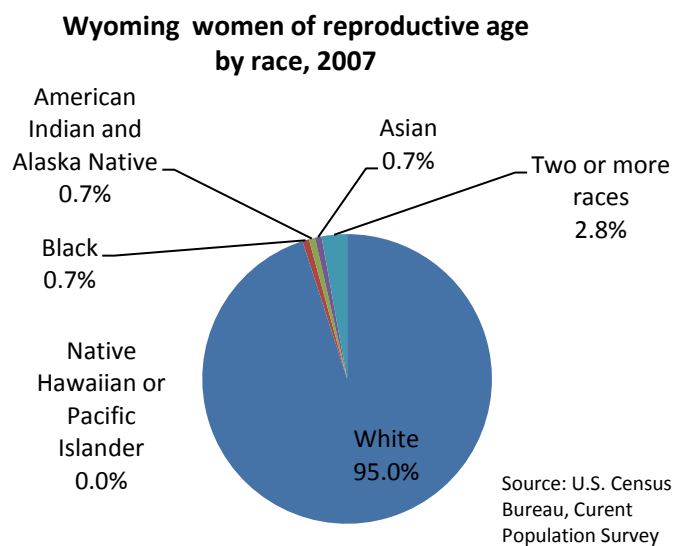


Source: U.S. Census  
Bureau

## RACE

In 2007, the distribution of race among Wyoming women ages 15 to 44 years of age differed from that of the United States.

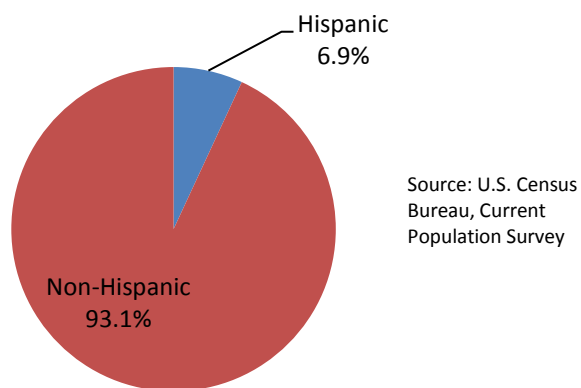
<u>Race</u>	<u>Wyoming</u> <sup>1</sup>	<u>U.S.</u> <sup>1</sup>
White	95.0%	79.5%
Black	0.7%	13.2%
American Indian/Alaskan Native	0.7%	0.8%
Asian	0.7%	4.5%
Native Hawaiian/Pacific Islander	0.0%	0.2%
Two or more races	2.8%	1.7%



## ETHNICITY

In 2007, 6.9% of Wyoming women 15 to 44 years of age were Hispanic compared to 14.4% of U.S. women of reproductive age.<sup>1</sup> More than a third (35.8%) of American Indian (AI)/ Alaskan Native (AN) women in Wyoming were Hispanic.<sup>1</sup>

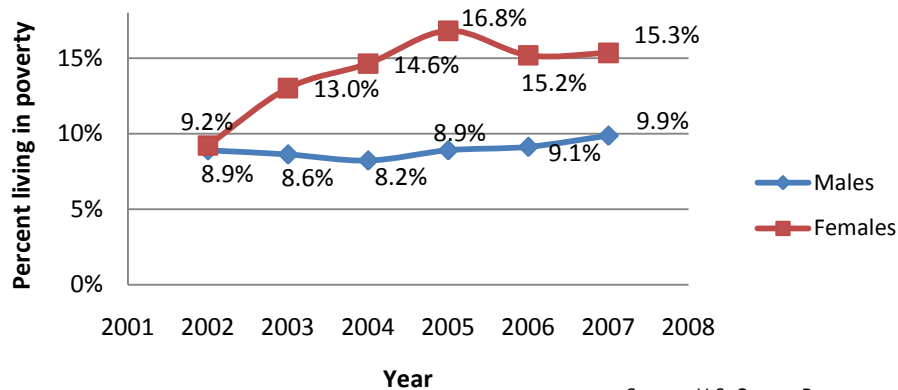
**Wyoming women of reproductive age  
by ethnicity, 2007**



## POVERTY

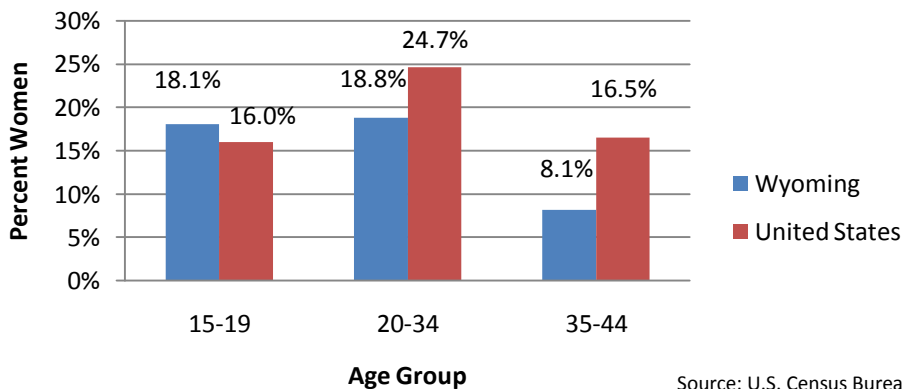
In 2002, the percentage of men and women of reproductive age living at or below 100% of the Federal Poverty Level was similar.<sup>1</sup> Since 2002, the gap between the groups has widened. The percentage of women living in poverty has increased, while the percentage of men living in poverty has remained relatively stable.<sup>1</sup> In 2007, a smaller percentage of Wyoming women aged 20 through 44 years lived at or below 100% of poverty compared to all women in the United States.<sup>1</sup> A higher percentage of Wyoming female teens aged 15 through 19 years, however, lived at or below 100% of poverty than female teens of the same age within the United States.<sup>1</sup>

**Percent of Wyoming population ages 15 to 44 years living at or below 100% of the Federal Poverty Level, by gender, 2002-2007**



Source: U.S. Census Bureau

**Percent of Wyoming women living at or below 100% of the Federal Poverty Level, by age group, 2007**



Source: U.S. Census Bureau

## HOMELESSNESS IN WYOMING SUMMARY

An interim Interagency Council on Homelessness in Wyoming was created in 2003 to determine the extent of homelessness in Wyoming. The council also wanted to examine factors contributing to being

homeless and the services sought and needed by this population. To gain information about Wyoming's homeless population, the council surveyed organizations that focused on serving the homeless population. The council's findings were reported in the "Homelessness in Wyoming, Wyoming Interagency Council on Homelessness, May 2005." Of the 340 people reported to be chronically homeless in Wyoming in 2004, an estimated 22% of these were women and 26% were children under 18 years of age. Of the children, 40% were preschool age and 60% between the ages of 5 and 18; 95% of school-aged children were actively enrolled in school.<sup>2</sup>

## ACCESS TO CARE

### FAMILY PLANNING

#### WYOMING FAMILY PLANNING CLINICS

- Approximately 83% of visits in 2008 were for contraceptive services.<sup>3</sup>
- Approximately 8% of visits included pregnancy tests; fewer than 1/4 of these tests were positive.<sup>3</sup>
- 12% of all visits were for counseling for sexually transmitted infections (STI) and Human Immunodeficiency Virus (HIV).<sup>3</sup>
- Approximately 1% of counseling services concerned sexual violence or abuse. In 2008, there was one referral for domestic abuse and none for sexual coercion or abuse.<sup>3</sup>

#### NATIONAL DATA

According to the Guttmacher Institute, over half of U.S. women aged 13-44 years needed contraceptive services in 2006.<sup>4</sup> Among these women, nearly half needed publicly supported contraceptive services and supplies, and of these, 27% received Title X services.<sup>4</sup>

### PERINATAL CARE

#### PRENATAL CARE

The Healthy People (HP) 2010 goal is for 90% of pregnant women to begin prenatal care in the first trimester.<sup>5</sup> Wyoming has not attained the HP 2010 goal. From 2003 to 2005 in Wyoming, new mothers were surveyed through the Wyoming Maternal Outcome Monitoring System (MOMS). When asked about prenatal care, 78.6% of women reported receiving prenatal care in the first trimester.<sup>6</sup> Entry into prenatal care in the first trimester increased with maternal age and education level.<sup>6</sup>

#### NURSE HOME VISITING

Wyoming Statute 35-27-101 through 35-27-104 authorizes Public Health Nurses Infant Home Visitation Services. These services include prenatal education and care coordination, postnatal "Welcome Home Visits," and other client driven services.<sup>7</sup> Services are provided by Public Health Nursing (PHN) to women eligible for the Temporary Assistance to Needy Families (TANF) program. The primary focus groups are premature infants and women in their first pregnancy who are eligible for assistance under the Wyoming Medical Assistance and Services Act ("Medicaid") or the Women, Infants, and Children (WIC) supplemental food program.<sup>7</sup>

In 2008<sup>8-9</sup>:

- Number of TANF-eligible pregnant/postpartum women: 3,588 women
- Number of TANF-eligible pregnant/postpartum women seen at least once by PHN: 3,109 women or 86.7% (Statutory goal is 95%.)
- Number of TANF-eligible postpartum “Welcome Home” clients: 892 clients
- Number of premature infants seen by PHN: 158 infants
- Number of TANF-eligible premature infants seen by PHN: 95 infants

## BEST BEGINNINGS

Best Beginnings (BB) is a comprehensive, coordinated, community-based system of perinatal services for pregnant and postpartum women.<sup>10</sup> BB is available to all Wyoming women during pregnancy, and to mothers, parents, and guardians following the birth of a baby. The program assures early and continued prenatal education and coordination of services appropriate for all Wyoming pregnant and postpartum women and their families.<sup>10</sup> At the community level, Best Beginnings works to build systems of perinatal services for pregnant and postpartum women and infants throughout Wyoming. Efforts are undertaken to improve the referral process so medical care providers and other organizations can serve this population.

The services offered through BB include<sup>10</sup>:

- Home visits for pregnant women, infants, and families
- Financial assistance, counseling, and referral for eligible women
- Pregnancy counseling and teaching
- Referrals to appropriate resources in the community
- Educational materials relating to pregnancy
- Smoking cessation assistance and referral
- Prenatal classes and support groups
- Parenting classes for parents of newborns
- Breastfeeding support

In 2008, 5,981 women were referred to the BB program; of these, 2,986 were TANF-eligible.<sup>8</sup> Nearly two thirds of women referred to BB (66.0% or 3,945 women) were contacted for follow up at least once.<sup>8</sup>

- Of TANF-eligible pregnant/postpartum women, 86.7% were seen at least once by PHN; 1,268 received at least one prenatal visit, 1,475 received at least one postnatal visit, and 618 received at least one prenatal and one postnatal visit.<sup>8</sup>
- Of women not eligible for TANF, 81.3% were seen at least once by PHN; 473 received at least one prenatal visit, 1,279 received at least one postnatal visit, and 301 received at least one prenatal and one postnatal visit.<sup>8</sup>

## WELL BABY VISITS

From 2003 to 2005, 97.9% of Wyoming mothers reported that their infant received at least one well baby visit.<sup>6</sup>

## WYOMING PUBLIC TRANSPORTATION

In a rural and frontier state such as Wyoming, transportation can be an important factor in accessing healthcare. Public transportation in Wyoming is provided by the Wyoming Public Transit Association also called WYTRANS.<sup>11</sup> WYTRANS is a private, non-profit organization that is funded through local businesses, the Wyoming Department of Transportation, and the Federal Transit Administration.<sup>11</sup> WYTRANS provides services in every county through senior centers, rehabilitation agencies, and transit-only systems.<sup>11</sup> Transit only systems exist in a limited capacity in Casper, Laramie, Jackson, Sweetwater County, and Fremont County.<sup>11</sup> All agencies require a fee for each trip, but some may operate on a donation basis.<sup>11</sup> The average fare requested by transit agency is \$1.56, which is an average of 30% less than a full fare.<sup>11</sup>

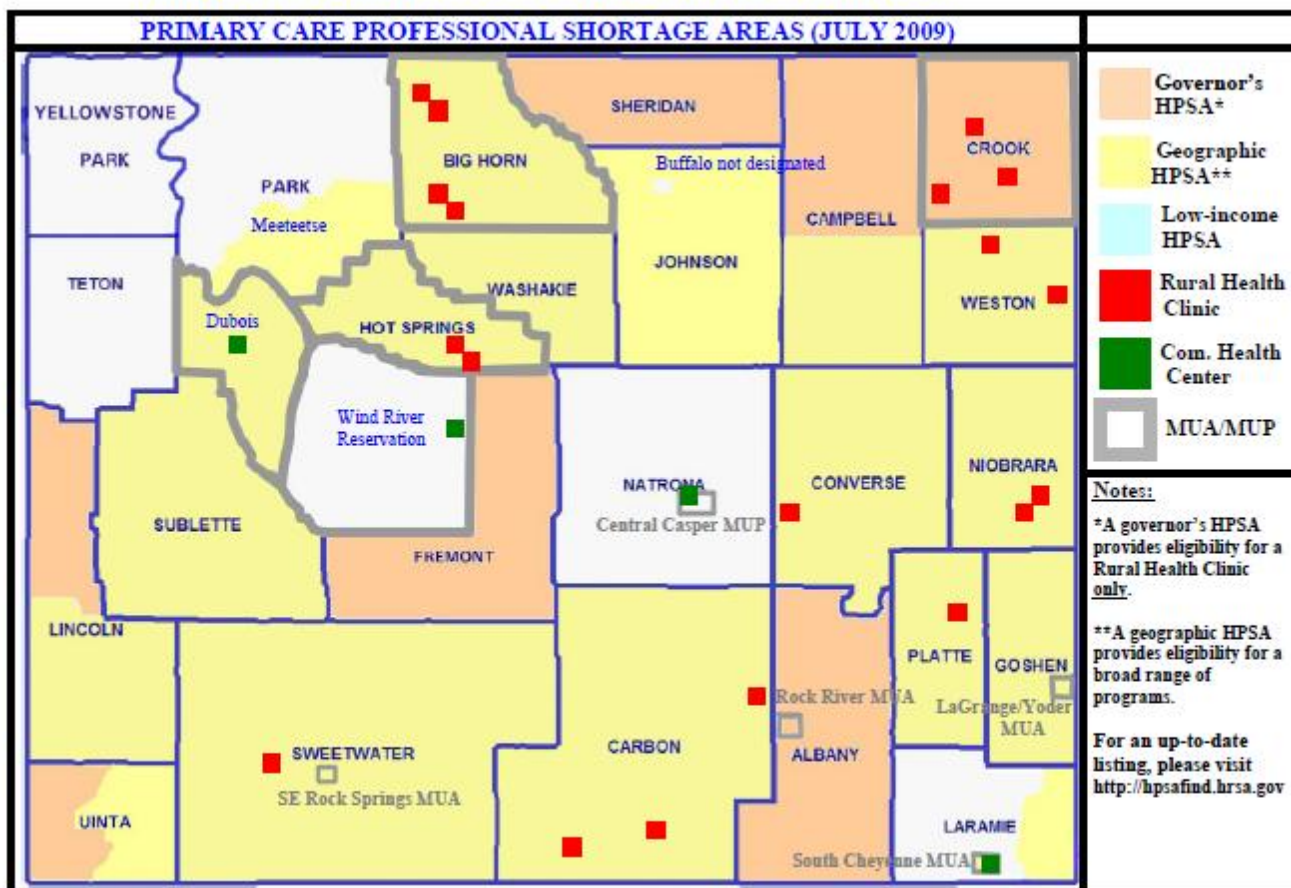
The 2004 Wyoming Department of Transportation Report stated<sup>11</sup>:

- WYTRANS assisted about 900 senior citizens who would otherwise have to move to a more restrictive environment due to lack of transportation.
- WYTRANS provided 165,000 rides to clients for vocational rehabilitation, developmental disability, Headstart, public health, and others.
- WYTRANS provided service for over 66,000 individuals; of these, over 21,000 had no other form of transportation.
- The estimated number of rides included: 106,412 for nutrition; 67,322 for medical; 504,704 for educational needs; 92,114 for employment; 79,690 social trips; 170,961 for personal needs; and 1,031,504 for other purposes.

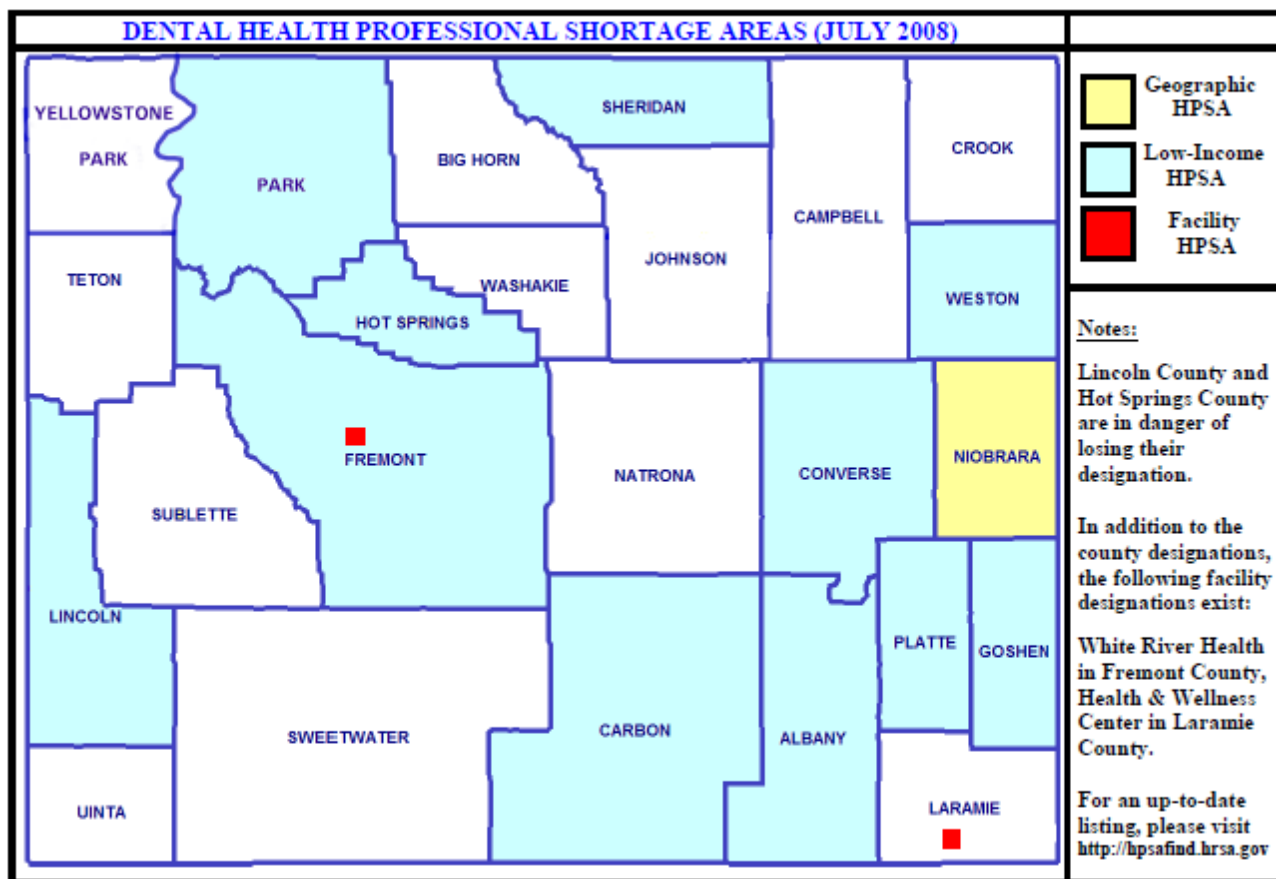
There are not enough transportation services available to meet demand. WYTRANS agencies have an average shortfall of \$28,400 annually to meet demand for their services.<sup>11</sup>

## HEALTH PROFESSIONAL SHORTAGE AREAS:

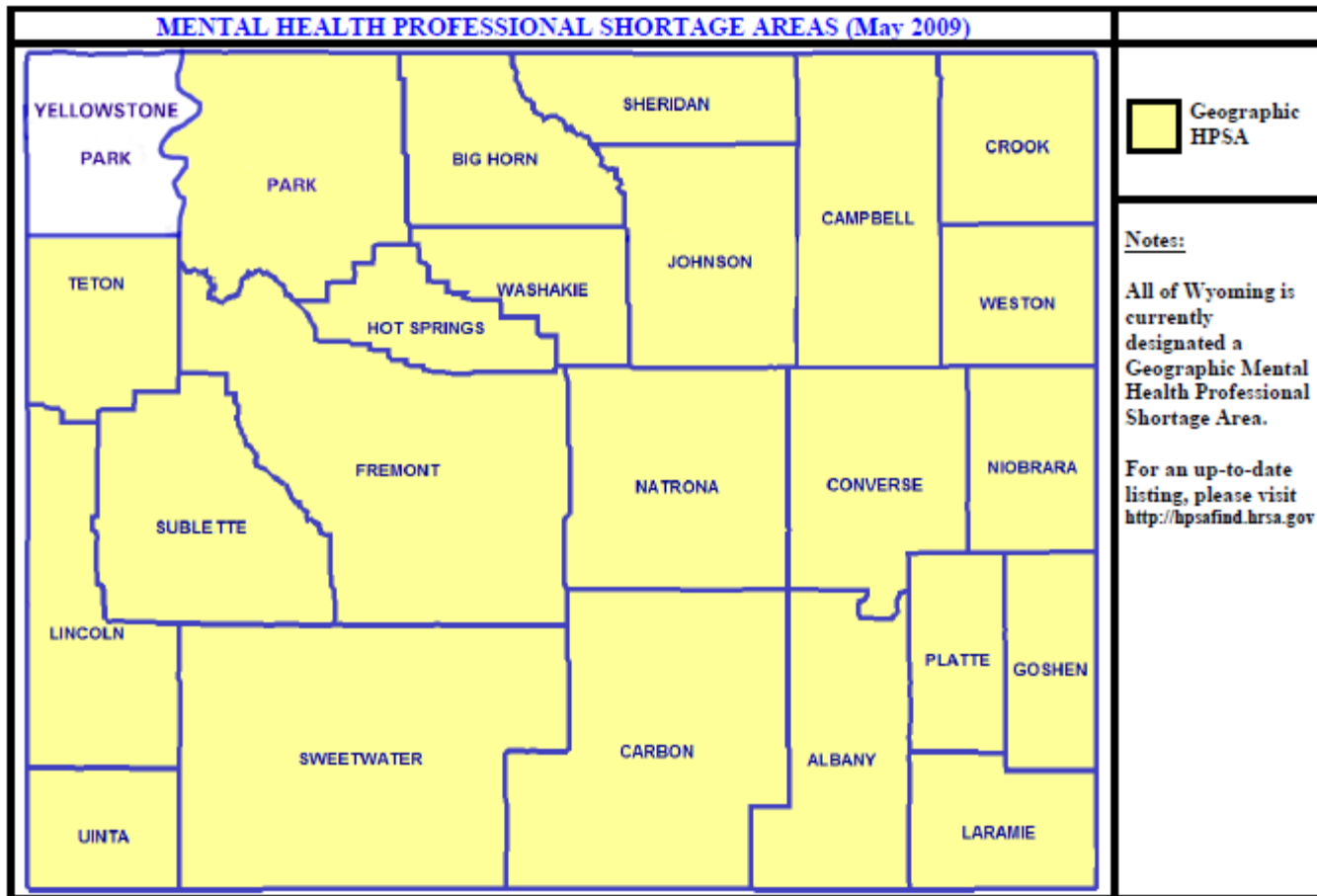
The Health Resources and Service Administration (HRSA) is the federal agency within the U.S. Department of Health and Human Services that helps improve “access to health care services for people who are uninsured, isolated or medically vulnerable.”<sup>12</sup> HRSA’s mission is to “provide national leadership, program resources and services needed to improve access to culturally competent, quality health care.”<sup>12</sup> Three types of healthcare that HRSA monitors include primary care, dental health, and mental health.<sup>13</sup> If an area does not have adequate medical coverage, it can be designated as a Health Professional Shortage Area (HPSA).<sup>13</sup> This designation may allow the area to receive federal assistance from HRSA to recruit and employ a needed medical professional.<sup>13</sup> There are currently 85 designated HPSA sites in Wyoming for primary care, dental health, and mental health.<sup>14</sup> These areas are indicated on the following maps.



Source: Health Resources and Services Administration. *HRSA Geospatial Data Warehouse (HGDW): Wyoming*. [database on the Internet] [cited 2009 Oct 1]; Available from: <http://hpsafind.hrsa.gov/HPSASearch.aspx>



Source: Health Resources and Services Administration. *HRSA Geospatial Data Warehouse (HGDW): Wyoming*. [database on the Internet] [cited 2009 Oct 1]; Available from: <http://hpsafind.hrsa.gov/HPSASearch.aspx>

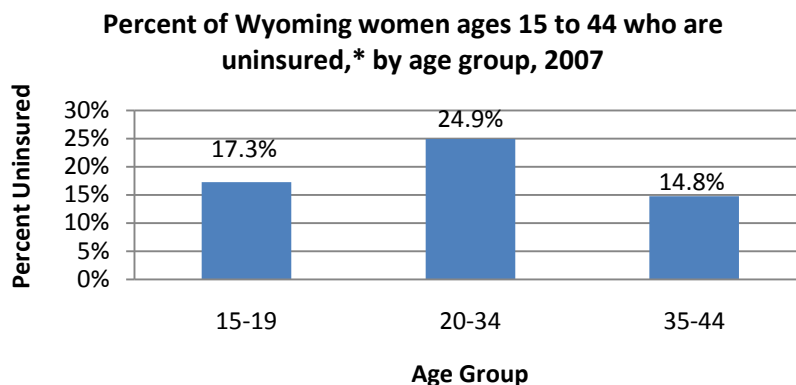


Source: Health Resources and Services Administration. *HRSA Geospatial Data Warehouse (HGDW): Wyoming*. [database on the Internet] [cited 2009 Oct 1]; Available from: <http://hpsafind.hrsa.gov/HPSASearch.aspx>

## INSURANCE

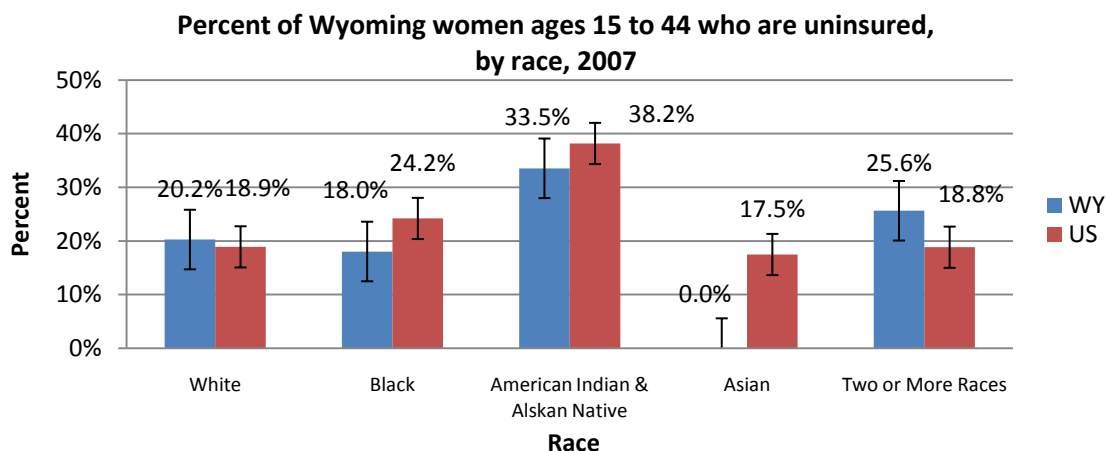
### UNINSURED AMONG WOMEN OF REPRODUCTIVE AGE

Among Wyoming pregnant women from 2003-2005, MOMS data report that 58.6% had insurance prior to pregnancy, 47.4% of deliveries were paid for by private health insurance, and 45.7% of deliveries were paid for by Medicaid.<sup>6</sup> In 2007, the highest percentage of uninsured Wyoming women was among those ages 20-34 years; this age group also had the highest percentage of births in 2007.<sup>1</sup>

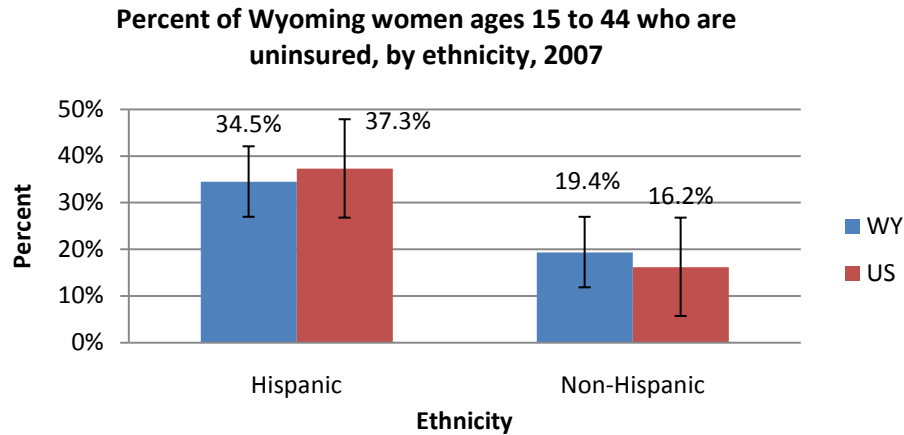


\*Uninsured = no health insurance at the time of the survey

Among Wyoming women of reproductive age, 15 to 44 years, the highest percentage of uninsured occurred among American Indian/Alaskan Native women (38.2%) while the lowest rate occurred among Asian women (0%).<sup>1</sup> Although the proportion of uninsured women of reproductive age varies by race, there is no statistical difference between white women, black women and women of two or more races.<sup>1</sup> The proportion of uninsured American Indian/Alaskan Native women is significantly greater than that for women of any other race.<sup>1</sup> Data were unavailable for Native Hawaiian and Pacific Islander women of reproductive age in Wyoming.<sup>1</sup>



Among Wyoming women of reproductive age, a higher percentage of Hispanic women were uninsured in 2007 than non-Hispanic women (34.5% versus 19.4% respectively).<sup>1</sup> This difference is not statistically significant. The proportion of uninsured Wyoming women of reproductive age is not statistically different from that in the U.S. regardless of ethnicity.

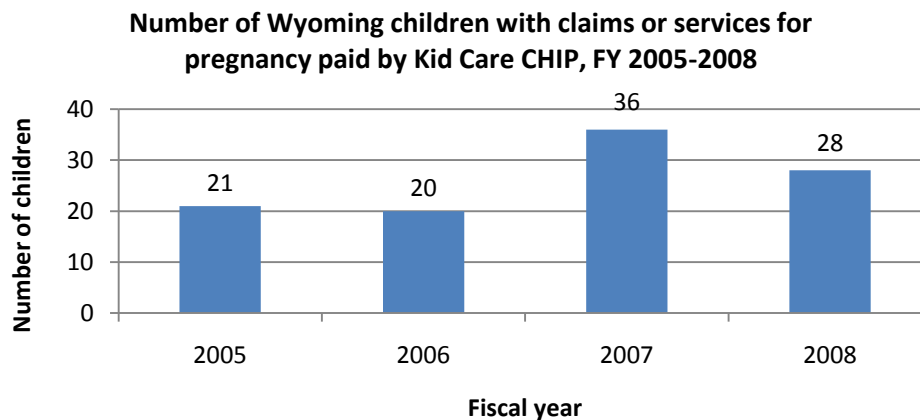


Source: U.S. Census Bureau Current Population Survey, Annual Social and Economic Supplement, 2008

## WYOMING KID CARE CHIP PREGNANCY CLAIMS AND SERVICES

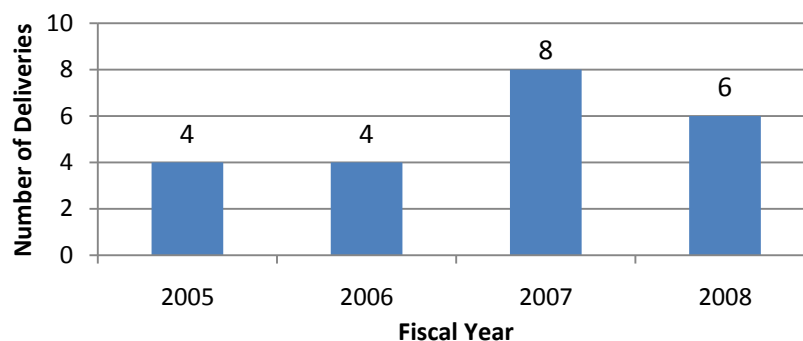
Kid Care CHIP, Wyoming's Children's Health Insurance Program, provides health insurance coverage for children and adolescents from 0 to 18 years of age that meet income and eligibility guidelines.<sup>15</sup> To be eligible for Kid Care CHIP a child must be: a U.S. citizen or lawful, permanent resident who has lived in the U.S. for at least 5 years; a Wyoming resident residing in the state of Wyoming; under 19 years of age; and income eligible.<sup>15</sup>

From 2005 to 2008, Kid Care CHIP paid 105 claims related to pregnancy and paid for 22 deliveries. The majority of these claims were for children 16 to 18 years of age.<sup>16</sup>



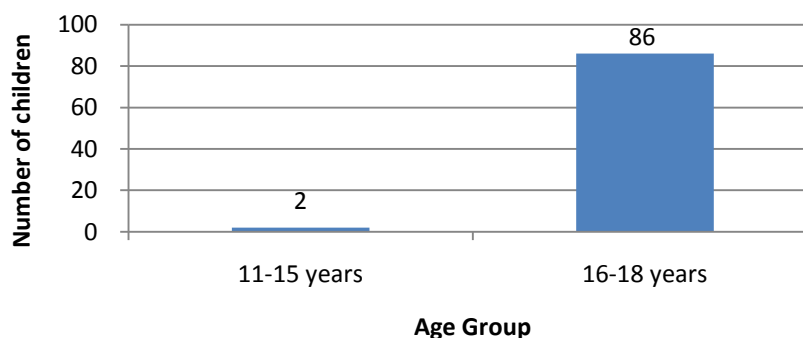
Source: Wyoming Kid Care CHIP

**Number of deliveries paid by Kid Care CHIP, Wyoming, FY 2005-2008**



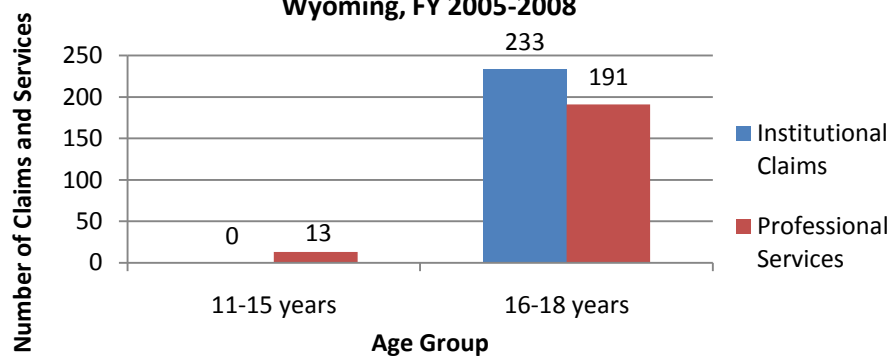
Source: Wyoming Kid Care CHIP

**Number of children with pregnancy claims or services paid by Kid Care CHIP by age group, Wyoming, FY 2005-2008**



Source: Wyoming Kid Care CHIP

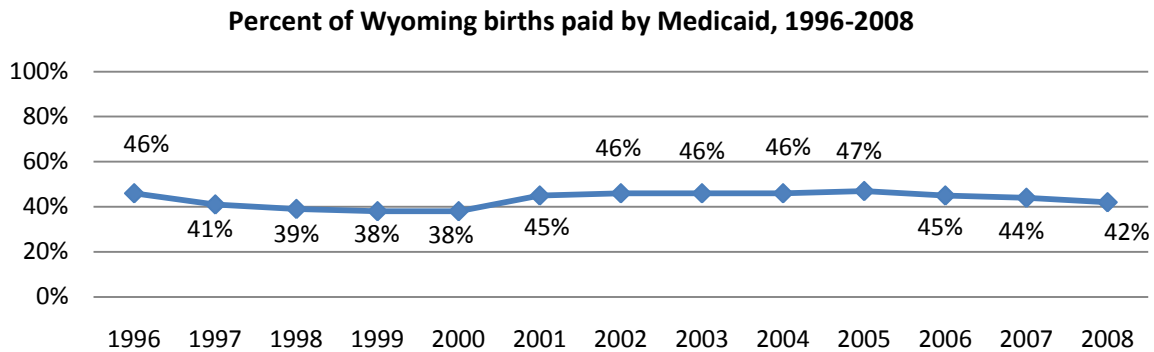
**Number of pregnancy claims or services paid by Kid Care CHIP by age group, Wyoming, FY 2005-2008**



Source: Wyoming Kid Care CHIP

## BIRTHS PAID BY MEDICAID:

In 2008, 42% of births were paid by Medicaid.<sup>17-18</sup> This percentage has remained relatively stable since 1996. Approximately 9% of the 2008 Medicaid-paid deliveries were to non-citizens eligible only for emergency delivery services.<sup>18</sup>



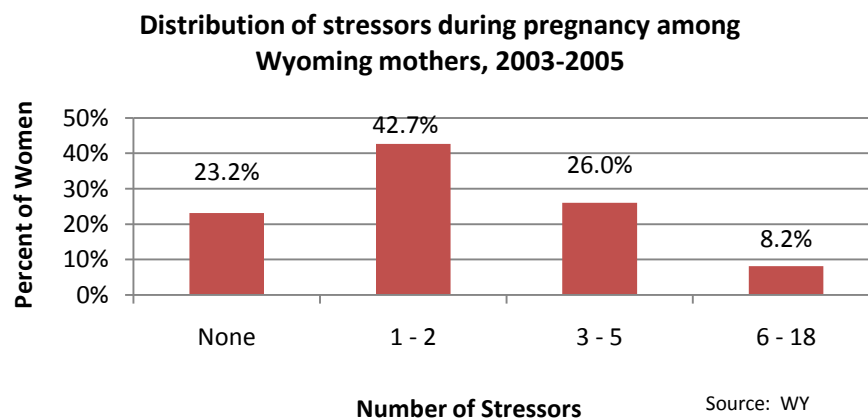
Source: Wyoming Vital Statistics Services,  
EqualityCare Wyoming Medicaid

## EMOTIONAL AND MENTAL HEALTH

**Stressors are life events that include, but are not limited to<sup>6</sup>:**

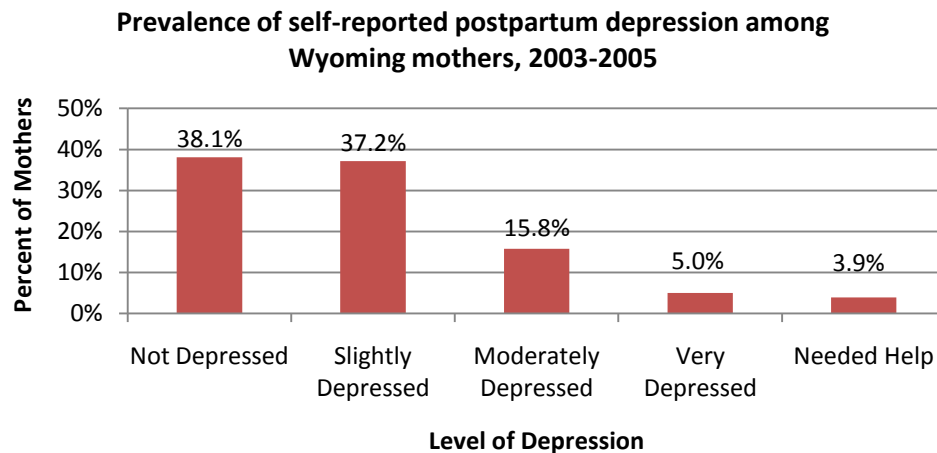
- Legal conflicts
- Financial difficulties
- Physical conflicts
- Family illness or death
- Changes in relationships

When pregnant women were surveyed through MOMS from 2003-2005, a majority (42.7%) reported having one or two stressors in their lives, while 8.2% had six to eighteen stressors.<sup>6</sup>



Source: WY  
MOMS

Postpartum depression is disabling for a new mother and can compromise her ability to care for her infant.<sup>19</sup> Approximately 25% of Wyoming mothers responding to MOMS reported being moderately depressed, very depressed, or needing help after a pregnancy in 2003-2005.<sup>6</sup>



Source: WY MOMS

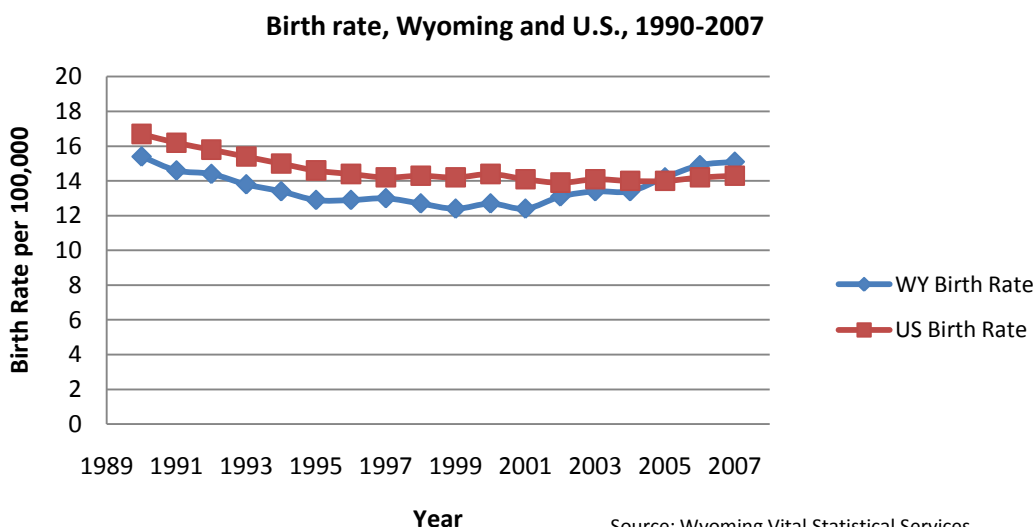
## MENTAL HEALTH SERVICES IN WYOMING

The Mental Health and Substance Abuse Service Division (MHSASD) of the Wyoming Department of Health currently contracts with 15 mental health providers to service a combination of 30 facilities and offices in Wyoming.<sup>20</sup> Seven of the providers are funded to offer services around Supported Independence Projects (SIP).<sup>20</sup> There is not a common definition of SIP; however, many of the SIP are considered residential treatment programs. Five providers are funded to offer group homes.<sup>20</sup> These group homes are located within each of MHSASD five regions of care.<sup>20</sup> In addition to MHSASD funds, all state funded mental health providers accept Medicaid.<sup>20</sup>

## PREGNANCY

### BIRTH RATES

The birth rate in Wyoming was relatively stable between 1990 and 2007 and was similar to the U.S. birth rate.<sup>21</sup>



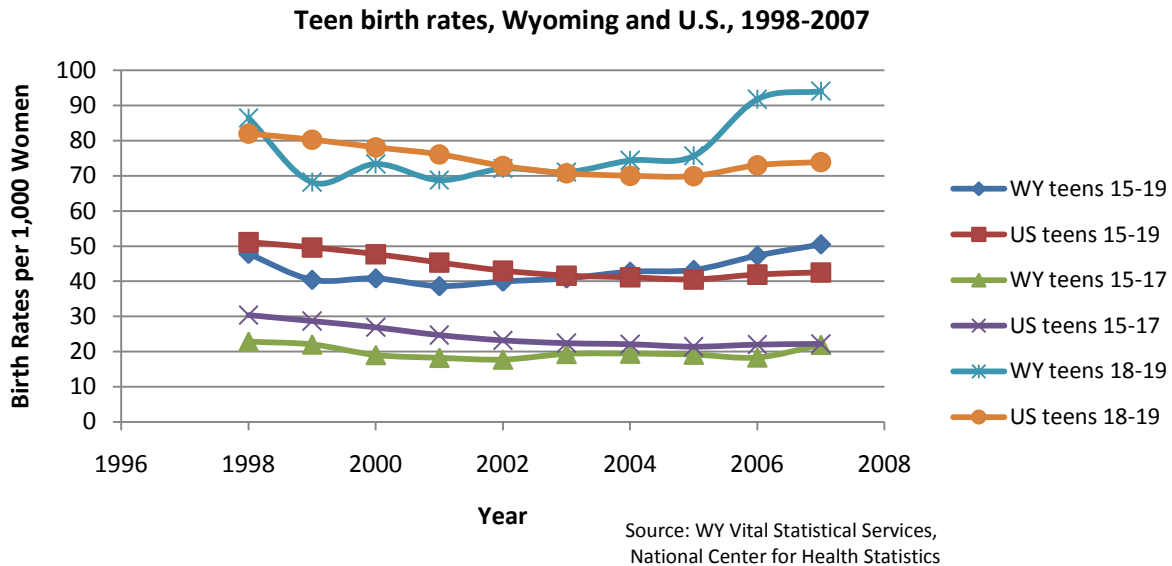
Source: Wyoming Vital Statistical Services,  
National Center for Health Statistics

### TEEN BIRTH RATES

The teen birth rate for Wyoming women aged 15 to 19 years declined between 1998 and 2002, but has increased since 2002.<sup>17</sup> The U.S. rate declined from 1998-2005, but has increased since 2006.<sup>21</sup> Wyoming's rate (50.5 per 1,000 women ages 15 to 19) was higher than the U.S. rate (42.5 per 1,000) in 2007.<sup>17, 22</sup>

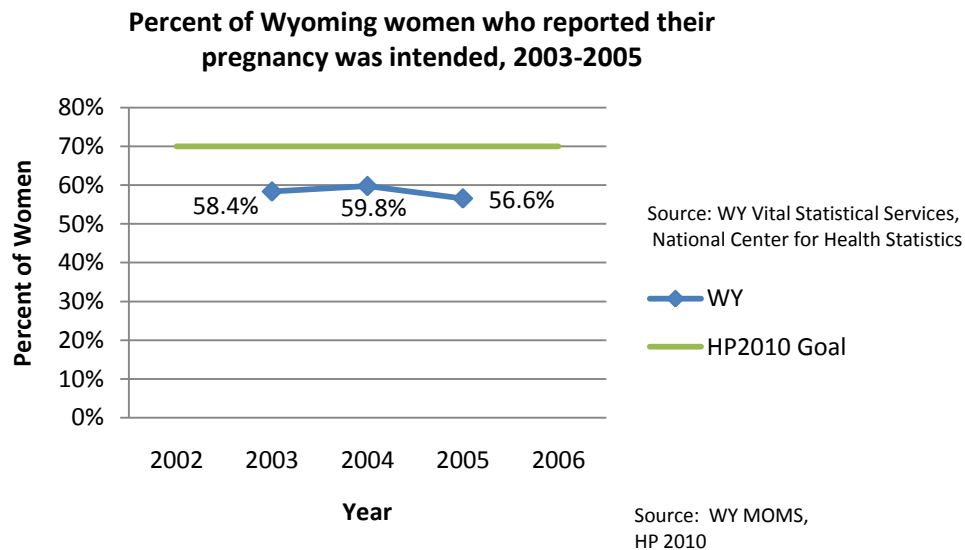
The birth rate among younger Wyoming teens ages 15-17 years also decreased between 1998 (22.8 per 1,000) and 2002 (17.7 per 1,000), and increased starting in 2003.<sup>17</sup> In 2007, Wyoming's rate of 21.9 per 1,000 women ages 15 to 17 was similar to the U.S. rate of 22.2 per 1,000.<sup>17, 22</sup>

Wyoming's teen birth rate among women ages 18 to 19 years has been higher than the U.S. rate.<sup>17, 21</sup> The rate steadily decreased between 1998 and 2001, but has been increasing since 2004 with a large increase from 2005 to 2006.<sup>17</sup> The Wyoming rate in 2007 was 94.1 per 1,000 women compared to the U.S. rate of 73.9 per 1,000.<sup>17, 22</sup>



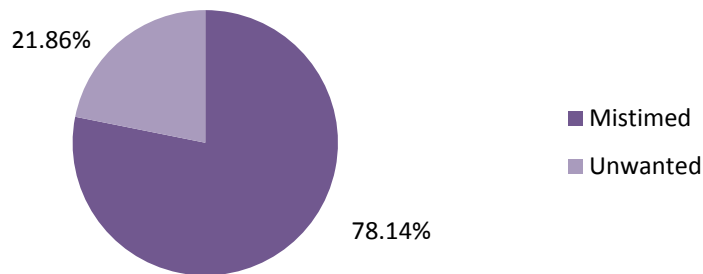
## PREGNANCY INTENTION

The Wyoming MOMS survey collected information from new mothers from 2003-2005. Women who participated in MOMS were asked about when they discovered they were pregnant and how they felt about being pregnant. From this survey data, pregnancies were classified as intended if the woman indicated that she wanted to be pregnant then or sooner. From 2003-2005, 58.38% of pregnancies were classified as intended.<sup>6</sup> The Healthy People 2010 goal is for 70% of births to be intended.<sup>5</sup> Wyoming has not met this goal.



Pregnancies were classified as unintended if a woman indicated that she wanted to be pregnant later or never. Over the study period, 41.62% of pregnancies were classified as unintended.<sup>6</sup> For 78.14% of the unintended pregnancies, the mother indicated that she wanted to be pregnant later, and for 21.86%, the mother indicated that she never wanted to be pregnant.<sup>6</sup>

**Distribution of mistimed and unwanted pregnancies among unintended pregnancies, Wyoming 2003-2005**

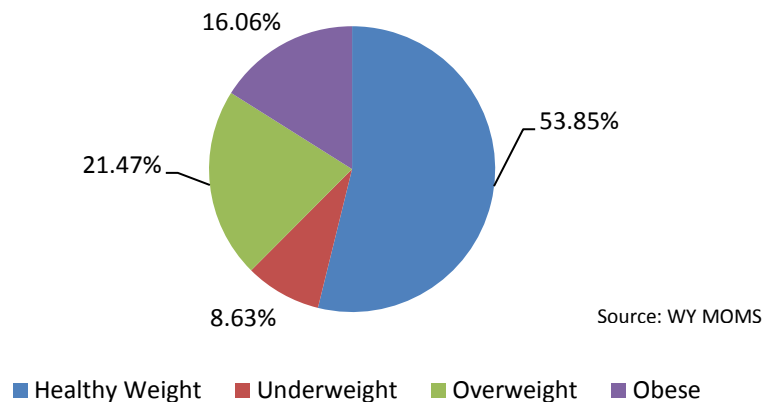


Source: WY MOMS

## PRE-PREGNANCY BODY MASS INDEX

From 2003-2005, new mothers surveyed through the Wyoming MOMS survey were asked to report their height and pre-pregnancy weight. Just over half of the women were classified as being a healthy weight prior to pregnancy, 21% were overweight, 16% were obese and 9% were underweight.<sup>6</sup>

**Pre-pregnancy Body Mass Index, Wyoming MOMS, 2003-2005**



Source: WY MOMS

BMI Category	Prevalence	95% Confidence
		Interval
Healthy Weight	53.85%	52.82-54.87
Underweight	8.63%	8.07-9.22
Overweight	21.47%	20.63-22.33
Obese	16.06%	15.32-16.83

## Weight Gain during Pregnancy

Adequate weight gain during pregnancy is important. Women who gain insufficient weight during pregnancy are at an increased risk of delivering preterm and of having a low birth weight infant.<sup>23</sup> Conversely, women who gain excessive weight during pregnancy are at an increased risk for gestational diabetes and hypertension during pregnancy, have an increased risk of postpartum obesity, are more likely to deliver preterm, have a large baby, and deliver by cesarean section.<sup>23</sup> In 2009, the Institute of Medicine (IOM) released new guidelines about the amount of weight women should gain during their pregnancy.<sup>23</sup> The guidelines are based on pre-pregnancy body mass index (BMI) and listed in Table 1.

**Table 1. New Recommendations for Total Weight Gain During Pregnancy, by Pre-pregnancy BMI<sup>23</sup>**

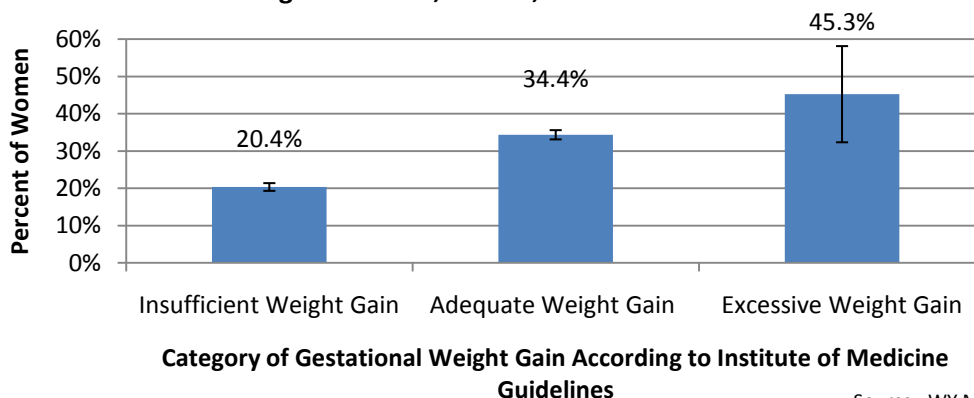
Pre-pregnancy BMI	BMI+ (kg/m2) (WHO)	Total Weight Gain Range (lbs)
Underweight	<18.5	28–40
Normal weight	18.5-24.9	25–35
Overweight	25.0-29.9	15–25
Obese (includes all classes)	≥30.0	11–20

The Wyoming MOMS survey of new mothers was conducted from 2003 to 2005. Women were asked to report their pre-pregnancy height and weight and the amount of weight that they gained during their pregnancy. Adequacy of weight gain during pregnancy was determined based on IOM guidelines. Among Wyoming women, excessive weight gain during pregnancy was more common than insufficient or adequate gain.<sup>24</sup> The following data are results from the survey, among women who delivered a singleton baby who was at least 37 weeks gestation<sup>6</sup>:

Nearly half of Wyoming women (45.3%) gained an excessive amount of weight during pregnancy. Women who were pregnant with their first child were more likely to gain excessive weight than women who had one or more previous live births. Teen mothers were more likely to gain excessive weight than women who were 20 years of age or older. American Indian mothers were more likely to gain excessive weight than white mothers or women of other races. Finally, obese and overweight women were more likely to gain excessive weight than healthy weight women.

One in five Wyoming women (20.4%) gained insufficient weight during pregnancy. Women who had at least one previous live birth were more likely to gain insufficient weight than women who were pregnant with their first child. Women who had less than a high school education were more likely to gain insufficient weight than women who had at least a high school education. Women who were obese prior to pregnancy were more likely to gain insufficient weight than women of a healthy weight. Women who were underweight prior to pregnancy were more likely to gain insufficient weight than women of a healthy weight.

**Weight gain during pregnancy among Wyoming women with singleton births, MOMS, 2003-2005**



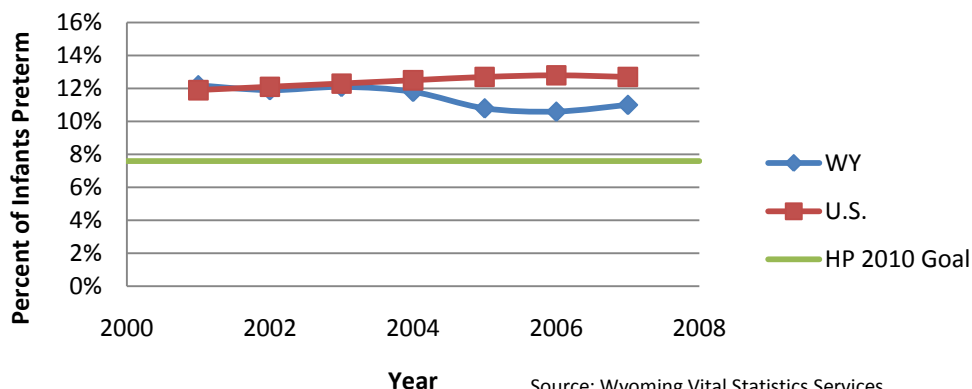
## PATERNAL INFORMATION FROM THE BIRTH CERTIFICATE:

Information about father involvement is not readily available from existing data sources. In an effort to measure father involvement at birth, some states have analyzed the presence of the father's signature on the birth certificate. The father signing the birth certificate is a surrogate measure for involvement, and may not be an accurate indicator as a missing signature may also be a case of missing data within the vital records system. In 2007, the father's signature was present on 20.88% of Wyoming birth certificates, with the father's age group on 88.5% of the birth certificates and the father's race/ethnicity on 89.75%.<sup>17</sup>

## PRETERM BIRTH

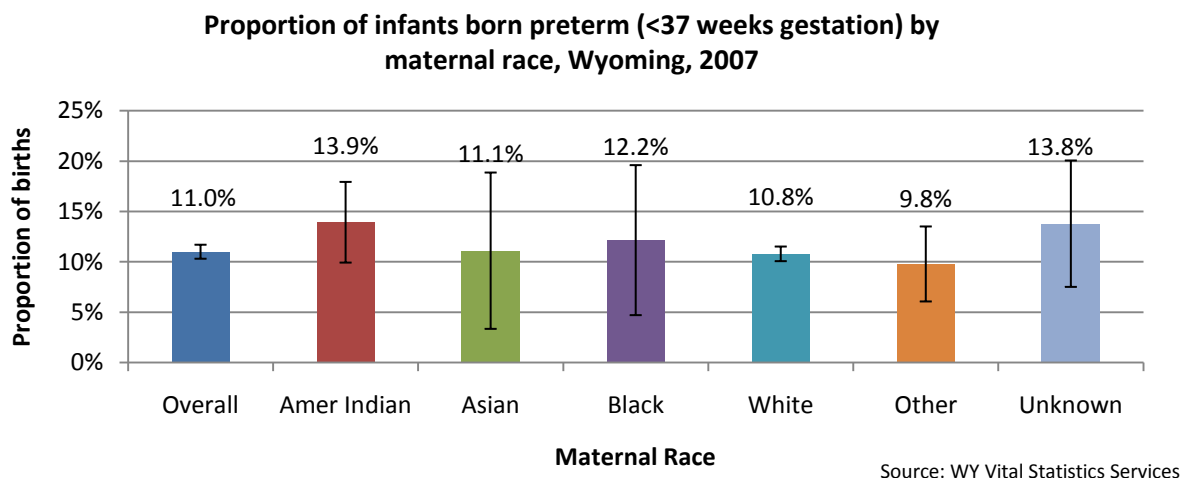
Babies born before 37 completed weeks of gestation are considered to be preterm. Preterm delivery and low birth weight are major factors in neonatal and infant morbidity and mortality. The percent of Wyoming infants born preterm has been less than the national percentage since 2004.<sup>17, 21</sup>

**Percent of infants born preterm (before 37 weeks gestation), Wyoming and U.S., 2001-2007**

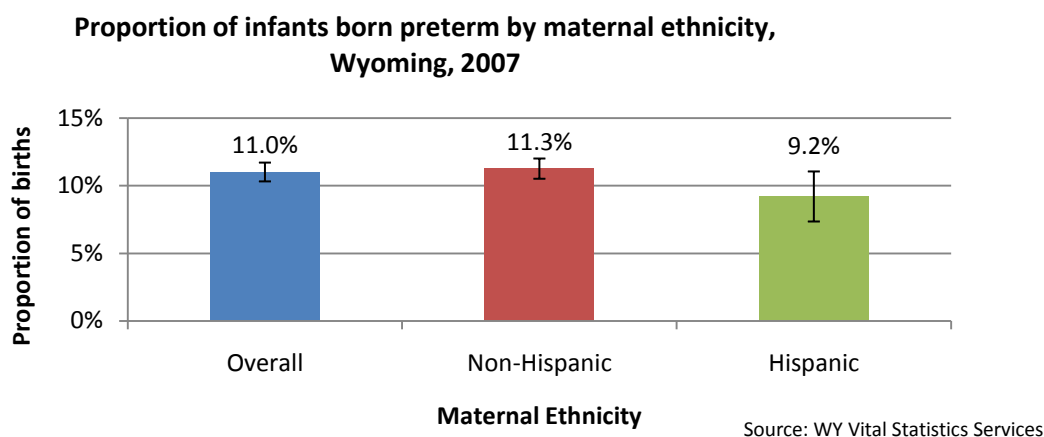


Source: Wyoming Vital Statistics Services,  
National Center for Health Statistics, HP 2010

Among Wyoming women of all races in 2007, the proportion of babies born preterm was 11.04%.<sup>17</sup> Although 2007 rates of preterm birth varied by maternal race in Wyoming, the differences were not statistically significant.

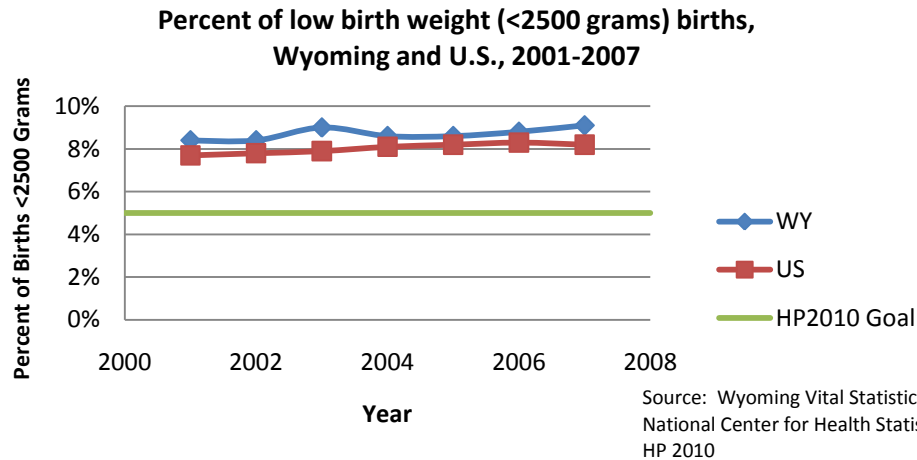


Although the proportion of preterm births was higher among non-Hispanic women in 2007 compared to Hispanic women, the difference was not statistically significant.<sup>17</sup>

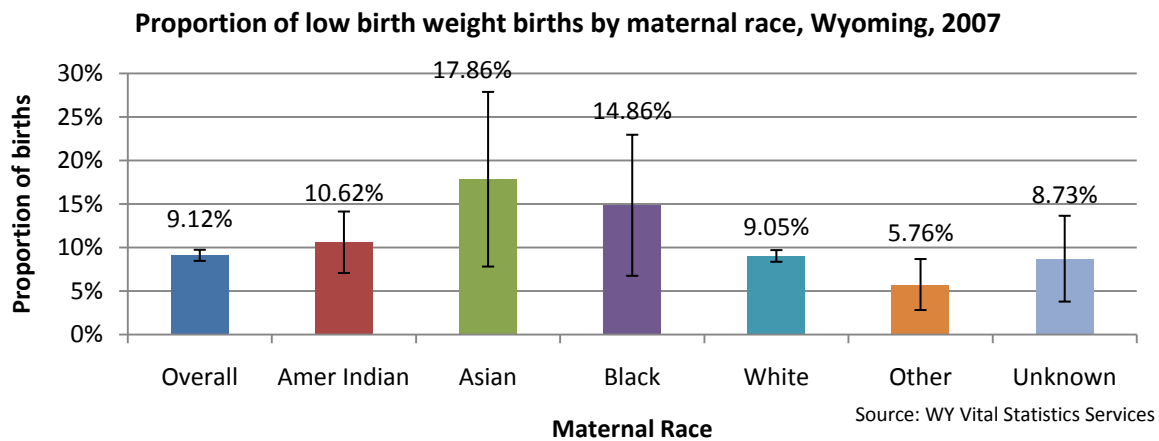


## LOW BIRTH WEIGHT

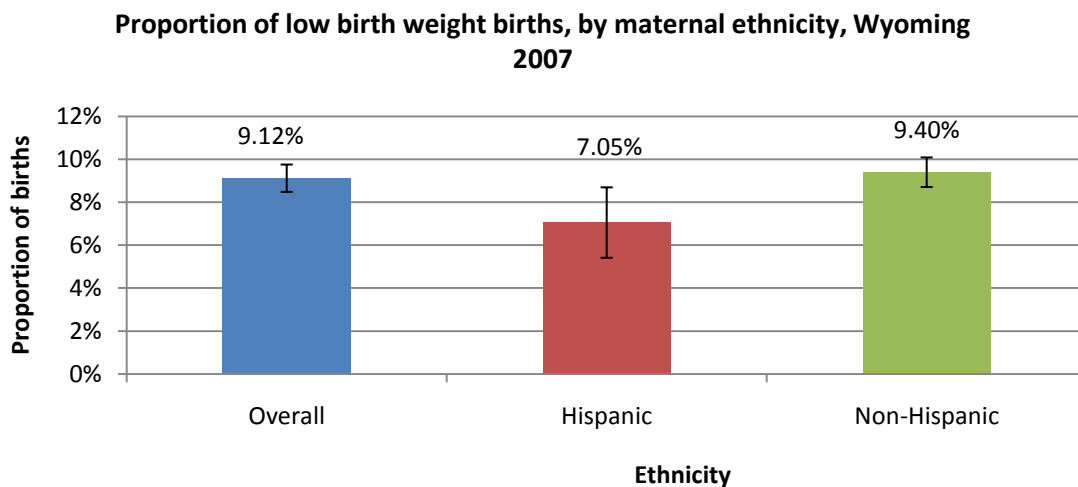
Infants weighing less than 2500 grams (5 pounds, 8 ounces) at birth are considered low birth weight. Low birth weight is associated with cerebral palsy, infant death, deafness, blindness, hydrocephalus, child respiratory problems, and seizure disorders. Preterm delivery and low birth weight are major factors in neonatal and infant morbidity and mortality. The percent of low birth weight infants has been consistently higher in Wyoming than in the U.S. since 2001.<sup>17, 21</sup> In 2007, among Wyoming women of all races, the proportion of babies born low birth weight was 9.12%.<sup>17</sup>



Although the percent of low weight births in Wyoming varied by maternal race in 2007, the differences were not statistically significant.



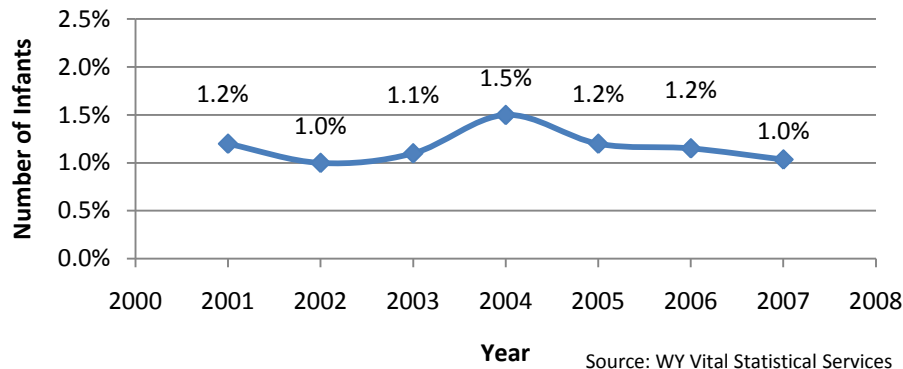
The proportion of low weight births was significantly higher among non-Hispanic women (9.4%) than among Hispanic women (7.05%).<sup>17</sup>



## Very Low Birth Weight

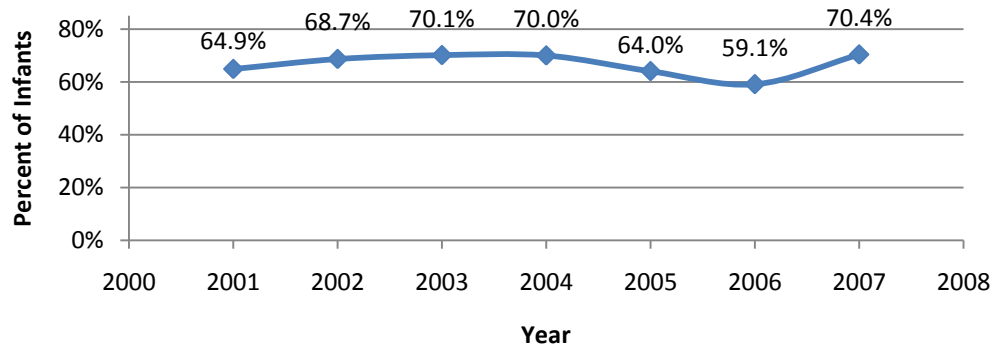
Infants weighing less than 1500 grams (3 pounds, 4 ounces) at birth are considered to be very low birth weight. The prevalence of very low birth weight in Wyoming remained relatively stable between 2001 and 2007. In 2007, 1% (n=81) of all infants born to Wyoming residents were considered to be very low birth weight.<sup>17</sup> The national prevalence of very low birth weight in 2007 was 1.5%.<sup>22</sup>

**Percent of Wyoming infants born at very low birth weight,  
2001-2007**



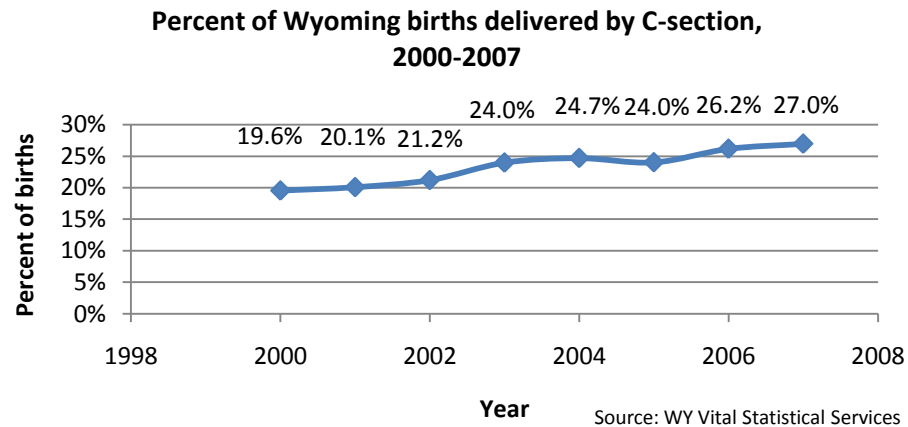
Level III hospitals have the equipment and staff to handle very complicated or high-risk births. These hospitals can care for mothers and/or newborns who have serious illnesses or abnormalities requiring intensive care before, during, or after delivery. Level III hospitals also provide care for uncomplicated births. Wyoming does not have a hospital with a Level III nursery. In 2007, the percent of VLBW infants born at high-risk facilities was 70.4%.<sup>17</sup> This represents a statistically significant increase from 59.1% in 2006.<sup>17</sup>

**Percent of very low birth weight infants born at level III hospitals,  
Wyoming, 2001-2007**

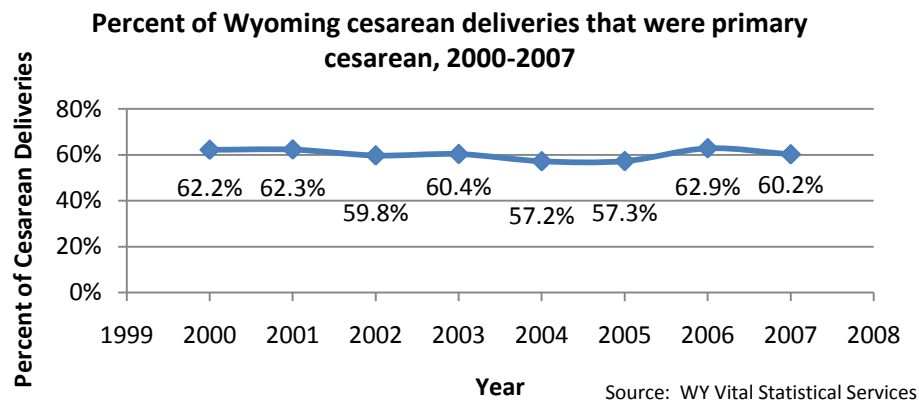
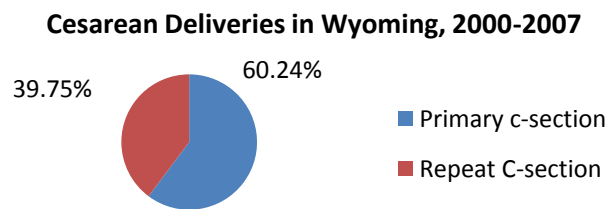


## CESAREAN DELIVERIES

The percent of Wyoming births delivered via cesarean section (C-section) increased significantly between 2000 and 2007.<sup>17</sup>



Of all of the births delivered via C-section from 2001-2007 (n=12,859), a majority were primary, meaning that the woman had not had a previous birth delivered via C-section.<sup>17</sup> The percentage of primary C-sections remained relatively stable during this time period.

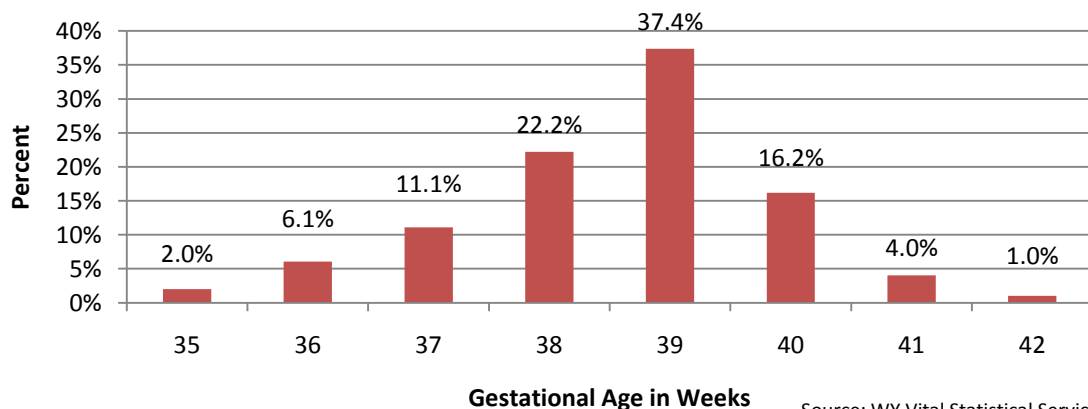


An analysis was conducted to determine the gestational age of infants delivered by C-section to women with no medical indication listed on the birth certificate. In 2007, 27% (n=2,113) of the births in Wyoming were reported to be delivered via Cesarean section.<sup>17</sup> In this analysis, women whose birth certificate indicated that she had any of the following were removed to determine the number of births delivered via Cesarean section that did not have a medical indication listed on the birth certificate:

- A previous Cesarean birth
- An infection during pregnancy (gonorrhea, syphilis, Chlamydia, hepatitis B/C)
- Morbidity during pregnancy (hypertension, diabetes, eclampsia)
- Prolonged labor (>12 hours)
- An infant who was Macrosomic (infant >4500 grams)
- Fetal intolerance
- Assisted reproductive therapy
- Multiples
- Non-vertex presentation of infant
- Breech infant
- An infant with a congenital anomaly
- Premature rupture of membranes
- Infant born before 34 weeks
- Cervical cerclage

Of the women who received a C-section in 2007, 26.7% (n=565) did not have a condition/indication listed above.<sup>17</sup> Of those 565 deliveries, 54.2% (n=306) indicated that labor was attempted before the C-section, 35.4% (n=200) indicated that labor was NOT attempted before the C-section and the remaining 10.4% (n=59) did not have trial labor information.<sup>17</sup> The gestational age of infants born without one or more of the conditions/indications, and without trial labor is illustrated below; gestational age was available for 198 deliveries.

**Gestational age of infants born via C-section where trial labor was not attempted and there was not a listed indication for a C-section on the birth certificate, Wyoming, 2007**



## ORAL HEALTH IN PREGNANT WOMEN

The Wyoming MOMS survey asked new mothers questions related to oral health. From 2003-2005, 29.6% of women reported they had seen a dentist for a dental problem during their pregnancy.<sup>6</sup> Nearly half of women (42.7%) reported that their dentist or other healthcare worker talked with them about how to care for their teeth and gums, and 42.8% of women reported they went to the dentist or to a dental clinic during their pregnancy.<sup>6</sup>

## GESTATIONAL DIABETES

Gestational diabetes develops during pregnancy and affects nearly 4 out of every 100 pregnant women.<sup>25</sup> Beginning in 2006, Wyoming began collecting information about gestational diabetes on the birth certificate. According to Wyoming's Vital Statistical Services, 1.8% (n=139) of women who had a birth in 2006 reported having gestational diabetes.<sup>17</sup> The percent of Wyoming women with gestational diabetes only increased to 1.9% (n=152) in 2006.<sup>21</sup>

The Healthy People 2010 objective is to decrease the proportion of pregnant women with gestational diabetes.<sup>5</sup> Of new mothers who responded to the Wyoming MOMS survey from 2003-2005, 5.9% reported having diabetes during their pregnancy.<sup>24</sup> The national prevalence is estimated to be between 3% and 5%.<sup>5</sup>

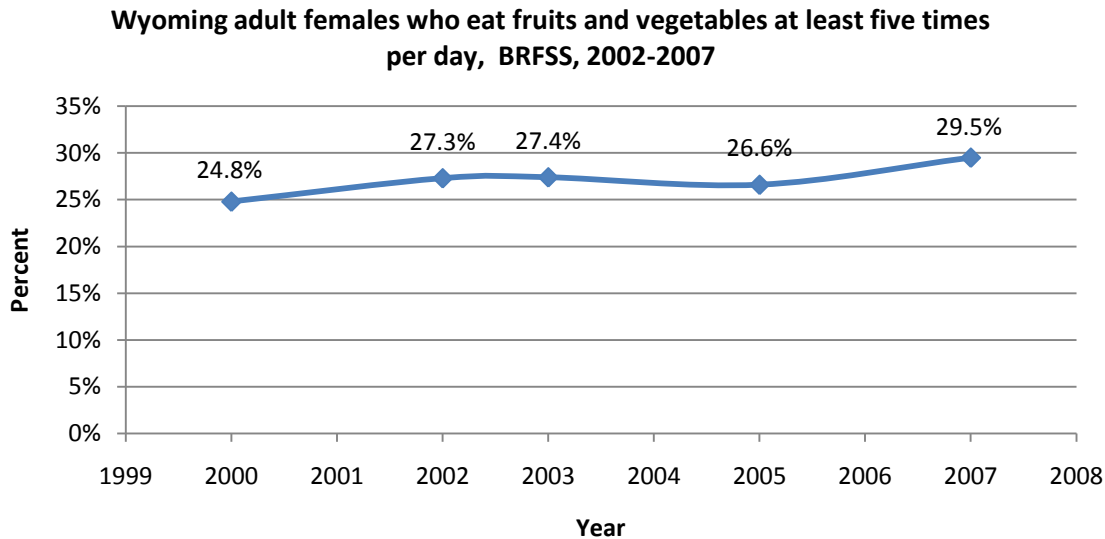
## HYPERTENSION

According to MOMS data from 2003-2005, 21.8% reported having high blood pressure during their pregnancy.<sup>6</sup> This percentage includes hypertension before pregnancy and pregnancy induced hypertension. High blood pressure during pregnancy can lead to preeclampsia, eclampsia, preterm delivery, fetal growth retardation, abruption placentae, and fetal death.

## NUTRITION

### FRUIT AND VEGETABLE CONSUMPTION

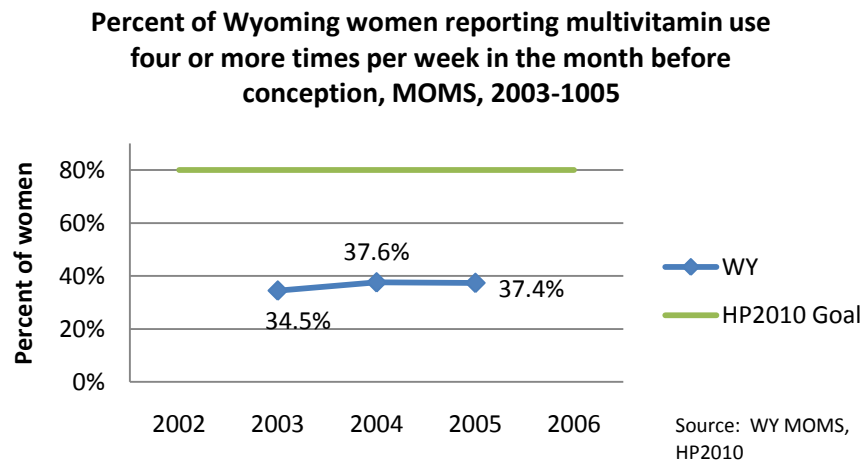
The Healthy People 2010 goal is that at least 75% of people over the age of two years will consume at least two daily servings of fruit and three daily servings of vegetables.<sup>5</sup> The Wyoming Behavioral Risk Factor Surveillance System (BRFSS) assessed fruit and vegetable consumption in Wyoming adults.<sup>26</sup> Fruit and vegetable consumption was determined using responses to six questions about consumption of separate items. The majority of Wyoming women have not met the recommended amount of fruits and vegetables although the prevalence has increased since 2000.



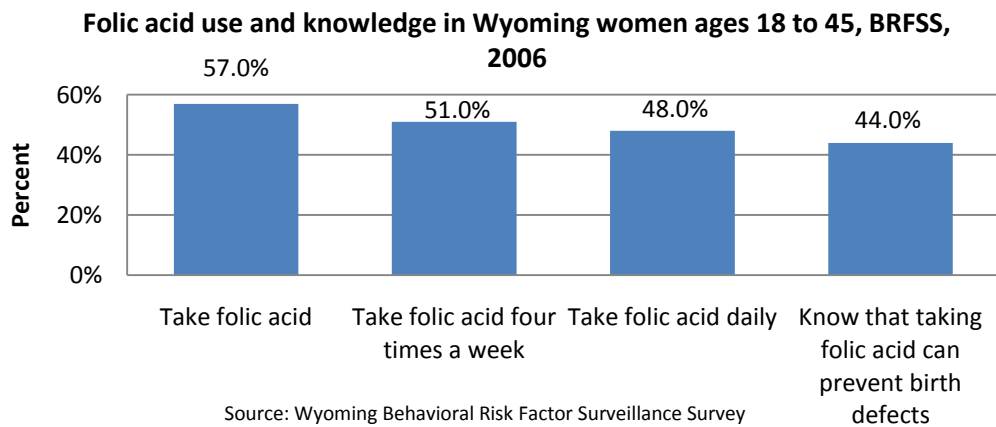
Source: Behavioral Risk Factor Surveillance System. Wyoming Prevalence and Trends Data. National Center for Chronic Disease Prevention and Health Promotion. 2009

## MULTIVITAMIN INTAKE

Multivitamins contain the recommended daily amount of folic acid for women of reproductive age. Ideally, multivitamins should be taken daily for at least three months prior to conception. Folic acid reduces neural tube defects such as spina bifida during fetal development. Wyoming MOMS data from 2003 to 2005 show approximately one third of mothers report using a multivitamin four or more times per week in the month before conception.

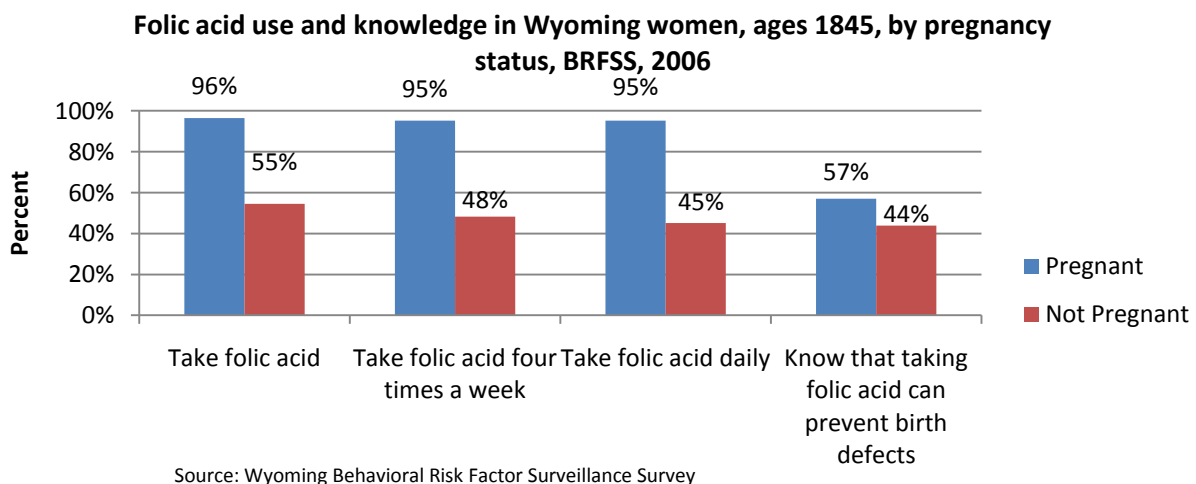


In 2006, the Wyoming BRFSS asked women of reproductive age (18-45 years of age) about folic acid use. This was the only time that these questions have been part of the survey. Over half (57%) of women reported taking folic acid either in a multivitamin or separately.<sup>27</sup> Approximately 51% of women reported taking folic acid at least four times a week; however, fewer (48.2%) of the women reported daily folic acid intake.<sup>27</sup> Less than half (44%) of the women reported that they knew that taking folic acid can prevent birth defects.<sup>27</sup>



When comparing among the 12 states that used the BRFSS Folic Acid Module in 2006, Wyoming adults, women ages 18-45 years and pregnant women were well above the median for vitamin, multivitamin and folic acid use; but were below the median in terms of their knowledge of why folic is needed.<sup>26</sup>

Wyoming women who took folic acid were significantly more likely to know why folic acid was needed than those who did not (49% versus 38% respectively).<sup>27</sup> The majority of pregnant women (96%) reported taking folic acid, and 95% reported taking it daily.<sup>27</sup> Among Wyoming women who were not pregnant, 55% reported taking folic acid with 48% taking folic acid daily.<sup>27</sup> Over half (57%) of pregnant women reported that they knew taking folic acid was important to prevent birth defects. This percentage was significantly higher among pregnant women than non-pregnant women.<sup>27</sup>



## BREASTFEEDING

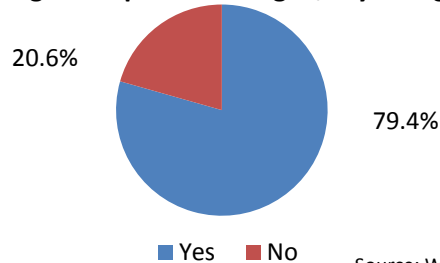
### BENEFITS

For infants, breast milk provides perfectly matched nutrition and is filled with antibodies that protect against infection.<sup>19</sup> For mothers, breastfeeding is convenient, economical and has documented health benefits. In addition, breastfeeding provides a bonding experience for the mother and child.<sup>19</sup>

### BREASTFEEDING AT HOSPITAL DISCHARGE

Wyoming exceeded the HP2010 Goal that 75% of mothers breastfeed in the early postpartum period.<sup>5</sup> A majority of Wyoming mothers (79.4%) reported on the birth certificate in 2007 that they were breastfeeding at hospital discharge.<sup>17</sup> Breastfeeding at hospital discharge is highest among women ages 25-39 years.<sup>17</sup>

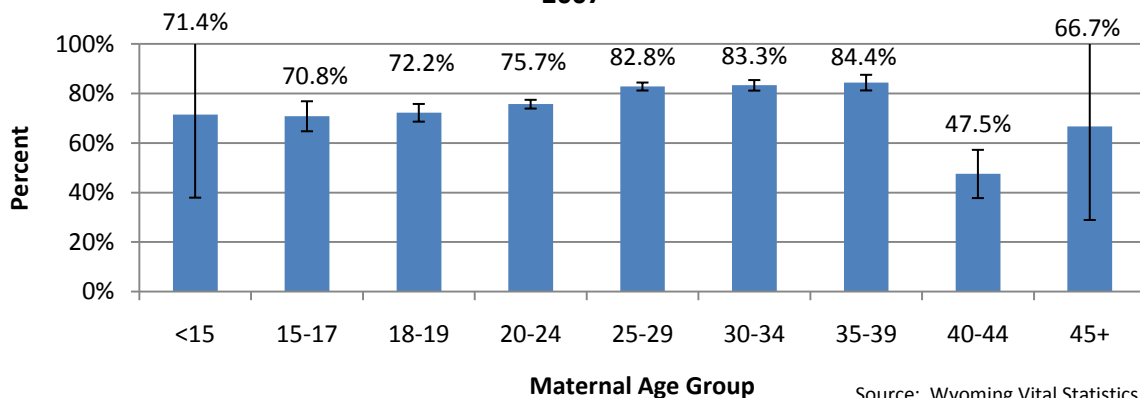
**Breastfeeding at hospital discharge\*, Wyoming, 2007**



Source: Wyoming Vital Statistics Services

\*Note: Data is based upon 6,984 births; 10.8% of the birth certificates were missing information about breast feeding.

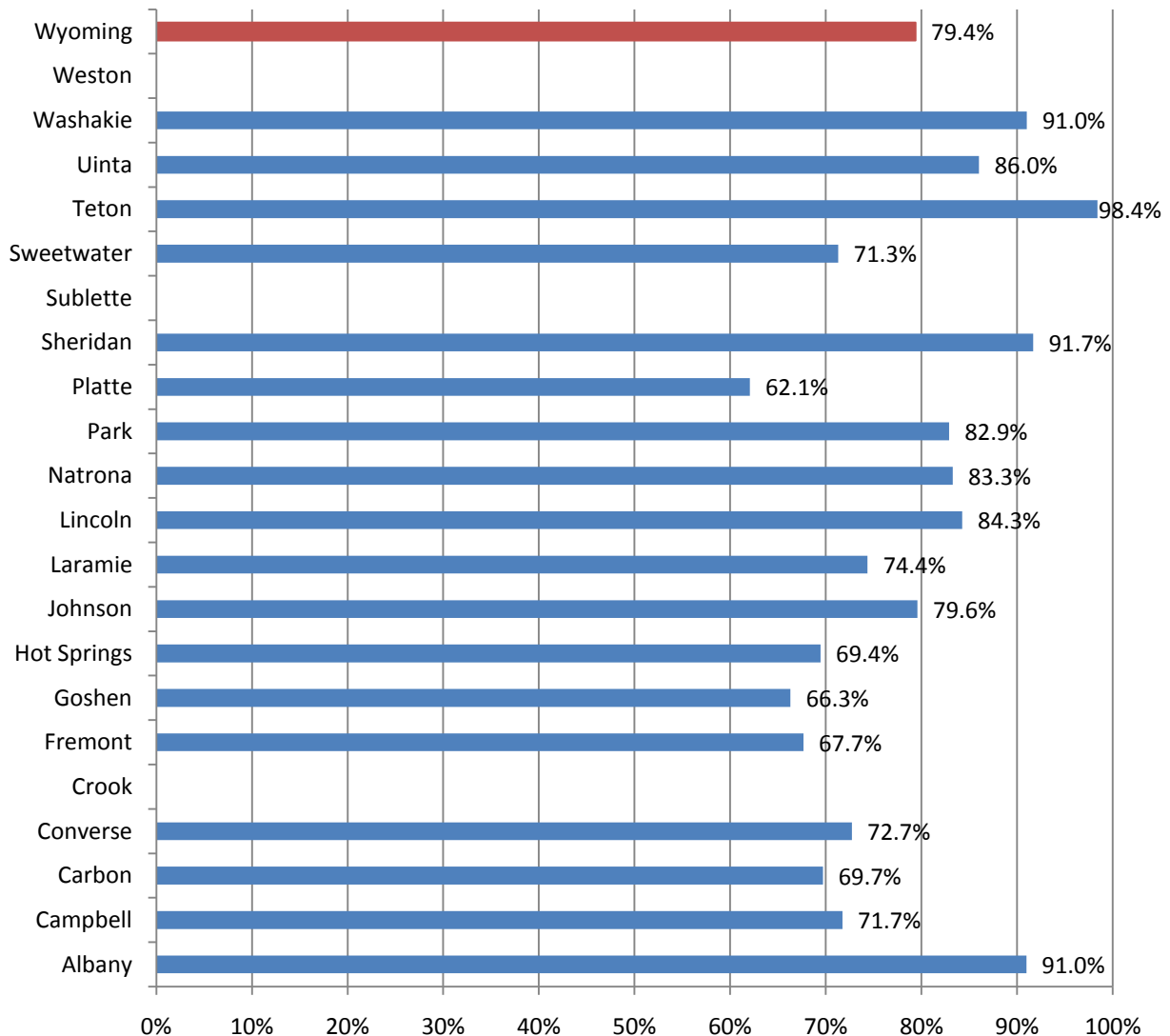
**Percent of Wyoming mothers who were breastfeeding at hospital discharge, 2007**



Source: Wyoming Vital Statistics

The percentage of Wyoming women breastfeeding at hospital discharge varies by county. It is important to note that these percentages are based on the county of maternal residence, which may be different than the county in which the birth occurred.

**Breastfeeding at hospital discharge, by county of maternal residence, Wyoming  
2007**

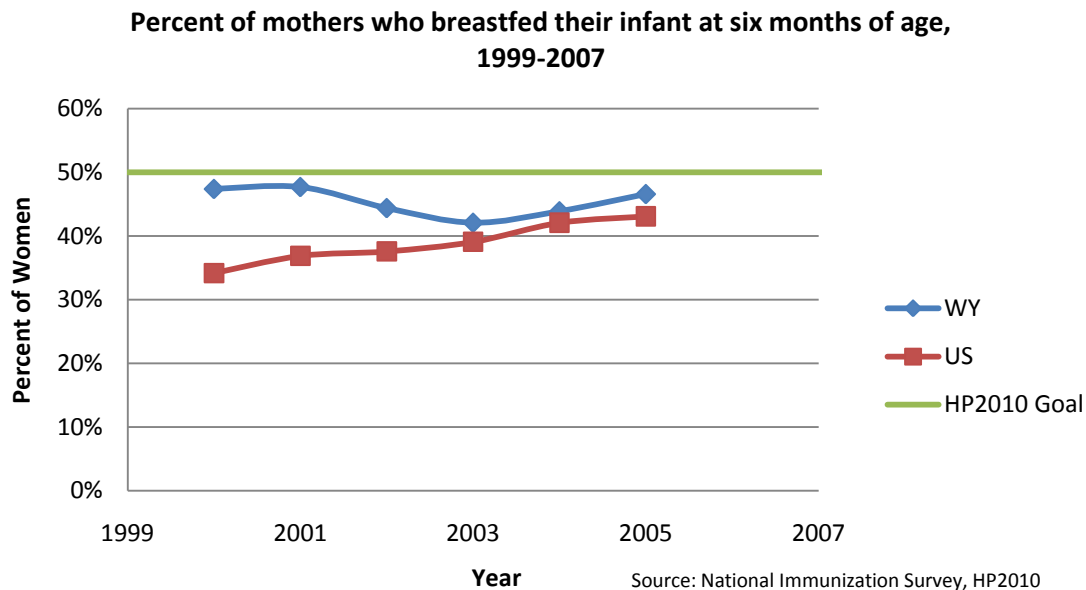


Source: Wyoming Vital Statistics Services

\*Weston, Sublette, and Crook Counties had fewer than five births with information about breastfeeding; data for these counties is not reported.

## BREASTFEEDING AT SIX MONTHS

The American Academy of Pediatrics (AAP) recommends infants be exclusively breastfed for the first six months and that breastfeeding be continued until the infant reaches one year of age.<sup>28</sup> The percentage of Wyoming mothers who breastfed their infants at six months of age increased significantly from 42.9% in 2007 to 46.6% in 2008 ( $p=0.013$ ).<sup>29</sup> This is slightly higher than the U.S. percentage.<sup>21</sup> The Healthy People 2010 goal is for 50% of postpartum mothers to be breastfeeding their infant at six months.<sup>5</sup> This goal was nearly reached in 2008.



## INFANT SCREENINGS

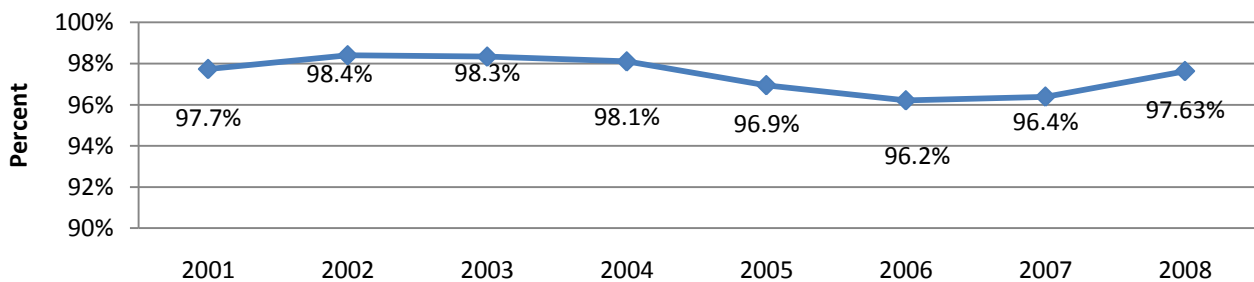
### NEWBORN METABOLIC SCREENING

From 2007-2008, 98% of newborns in Wyoming were screened for metabolic disorders.<sup>30</sup>

### NEWBORN HEARING DETECTION AND INTERVENTION

Currently there are 21 birthing hospitals in Wyoming. Each of these hospitals participated in the Early Hearing Detection and Intervention (EHDI) program and has equipment available on site to perform newborn hearing screening.<sup>31</sup> In 2008, 97.6% of newborns were screened for hearing before hospital discharge.<sup>31</sup> This represents a statistically significant increase in the proportion of newborns screened prior to hospital discharge from 96.4% in 2007.<sup>31</sup> The percentage of newborns screened for hearing before hospital discharge has remained below Wyoming's stationary goal of 100% of newborns screened.

**Percent of Wyoming newborns screened for hearing before hospital discharge, 2001-2008**



Source: Wyoming Early Hearing Detection and Intervention (EHDI) Program and Wyoming Vital Statistics Service

## WYOMING LION'S EARLY CHILDHOOD VISION PROJECT DATA:

The Wyoming Lions Early Childhood Vision Project trains screeners to conduct screening activities.<sup>32</sup> When a child fails a vision screening, families are encouraged to take their child to a professional eye care provider for a comprehensive eye exam.<sup>32</sup> The purpose of vision screening is to prevent serious vision problems through early detection.<sup>32</sup>

Wyoming Lion's Club Vision Screening Data		
	Current Year	Trend
	2008	2001-2008
Number of sessions	436	2815
Number of children screened	5,936	44,036
*Children screened ages 6-36 months	2,432 (41%)	17,124 (39%)
*Children screened >36 months	3,453 (58%)	26,486 (60%)
Number screened by Lion's volunteers	317	7,257
Number screened at developmental centers/Head Start	5,492	37,902
Number referred for follow-up due to a failed screening	477	4,109
Number receiving follow-up	161	1,985
Number of children with amblyopia	16	274
Number of children with other diagnosis	120	1,326

\*Age unknown for remainder of children screened

Source: Wyoming Early Hearing Detection and Intervention (EHDI) Program and Wyoming Vital Statistics Service

## INJURY

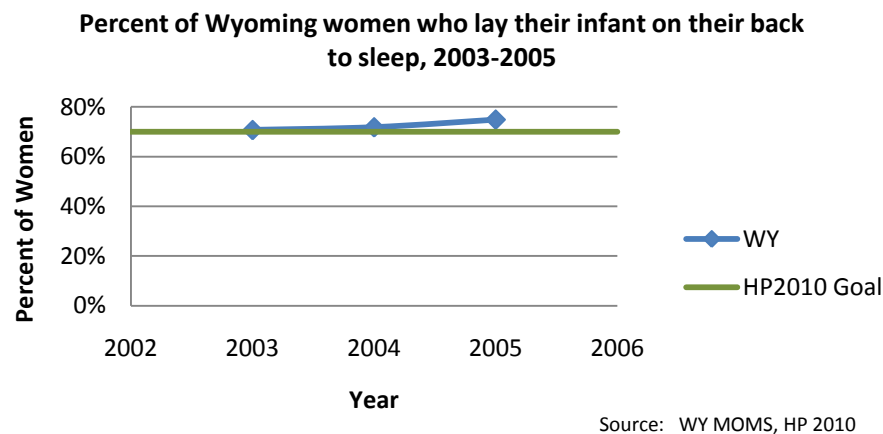
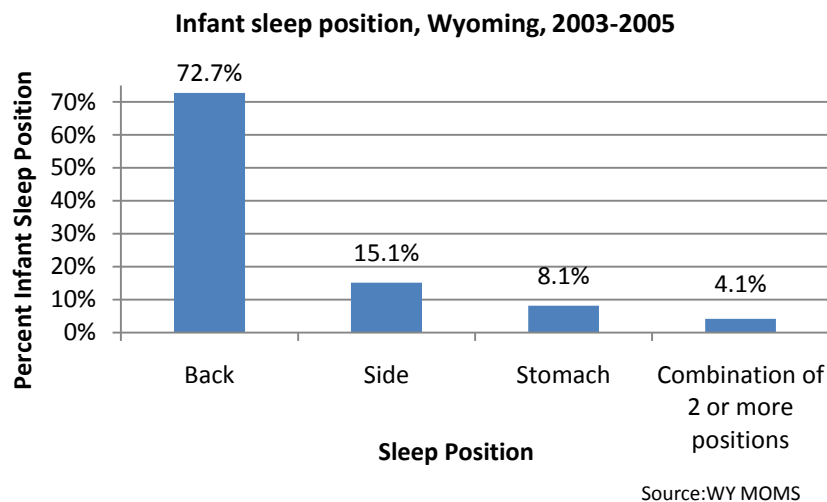
### DOMESTIC VIOLENCE

The Wyoming MOMS survey asked women about abuse before and during their most recent pregnancy. Women were asked to report abuse by their husband/partner and by someone else. Data show that 4.19% reported being abused by their husband/partner, and 2.16% reported being abused by someone other than their husband/partner before pregnancy.<sup>6</sup> In addition, 2.95% reported being abused by their husband/partner during pregnancy, and 1.27% reported being abused by someone other than their husband/partner during pregnancy.<sup>6</sup>

In the U.S., one in four women (25%) has experienced domestic violence in her lifetime; with women of all races almost equally vulnerable to violence by an intimate partner.<sup>33-34</sup> Average annual rates of intimate partner victimization from 1994-2004 were approximately the same for non-Hispanic and Hispanic females and males.<sup>35</sup> Intimate partner violence affects people regardless of income. People with annual incomes below \$25,000 are at three times higher risk of intimate partner violence than people with annual incomes over than \$50,000.<sup>35</sup> However, those with fewer resources are more likely to report incidents of violence.<sup>35</sup> Residents of urban areas experienced the highest levels of nonfatal intimate partner violence; suburban and rural area residents were about 20% less likely to experience such violence.<sup>35</sup> About one in five female high school students reports being physically and/or sexually abused by a dating partner.<sup>36</sup> In a national survey of American families, 50% of the men who frequently assaulted their wives also frequently abused their children.<sup>37</sup> Between 1993 and 2004, 43% of incidents of domestic violence involving female victims and 25% of incidents involving male victims were in households with children under age 12.<sup>35</sup>

## INFANT SLEEP POSITION

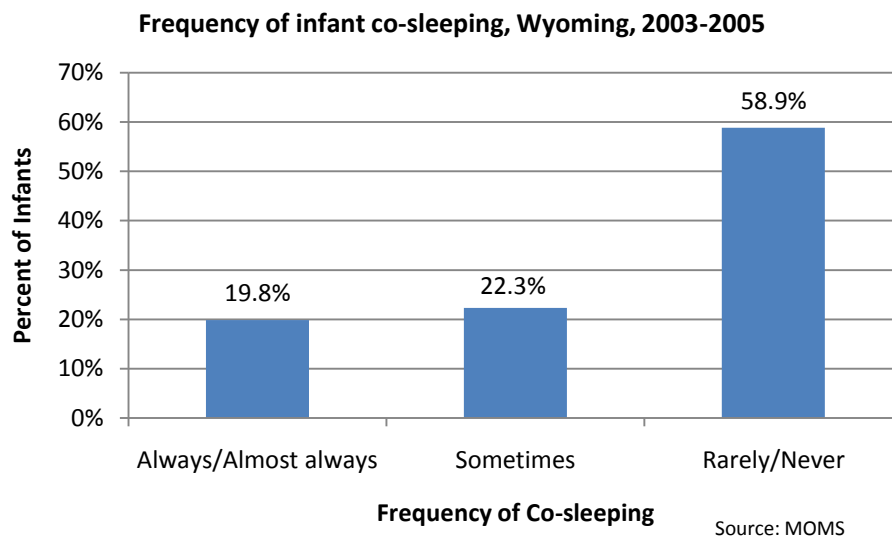
Sudden Infant Death Syndrome (SIDS), also known as “crib death,” is the term used to describe the sudden, unexplained death of a baby under one year of age, and is the national leading cause of death in babies over one month of age.<sup>38</sup> Babies placed to sleep on their backs are less likely to die from SIDS than those placed on their stomachs to sleep, and babies are more likely to die from SIDS when they are placed on or covered by soft bedding.<sup>38</sup> Data from 2003-2005 Wyoming MOMS show that the majority of Wyoming women (72.7%) reported placing their infants on their back to sleep.<sup>6</sup> Wyoming has attained the HP2010 goal of 70% of infants put to sleep on their back.<sup>5</sup>



## CO-SLEEPING

According to Wyoming MOMS data, the percentage of women who reported their baby never slept in the same bed as someone else increased from 26.4% in 2003 to 28.5% in 2004 to 32.7% in 2005.<sup>6</sup>

Although bed sharing rates are increasing in the United States, evidence is growing that bed sharing is more hazardous than allowing an infant to sleep on a separate sleep surface. Infants can be trapped between the bed and other objects, such as the wall or the headboard. They can also suffocate on soft bedding or if an impaired parent rolls on them. [https://www.marchofdimes.com/pnhec/298\\_29656.asp](https://www.marchofdimes.com/pnhec/298_29656.asp) (March of Dimes)



## CAR SEAT USE

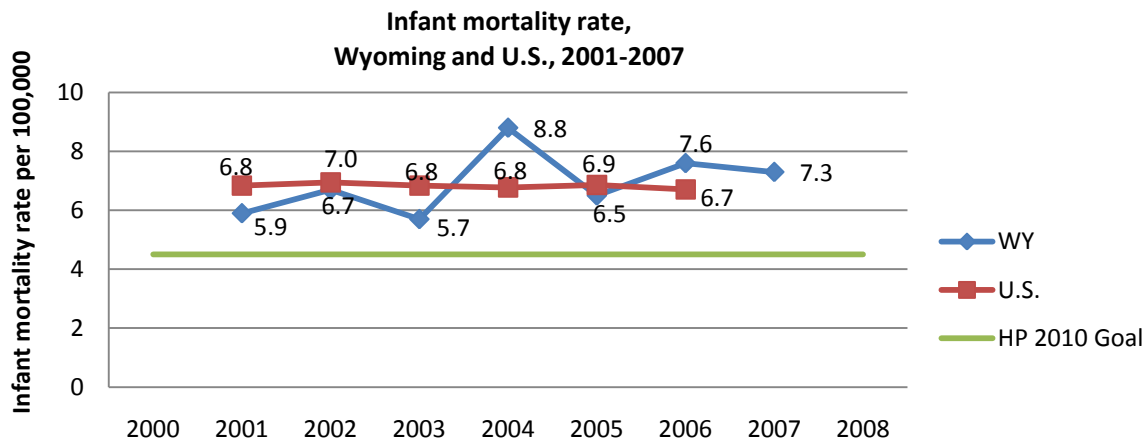
The National Highway Traffic Safety Administration reports using child safety seats reduces motor vehicle fatalities by 71% for infants and by 54% for toddlers.<sup>39</sup> In 2006, there were 452 passenger vehicle occupant fatalities among U.S. children under 5 years of age.<sup>39</sup> Of those 452 fatalities, restraint use was known for 427, and of these, 149 (35%) were totally unrestrained.<sup>39</sup>

Wyoming MOMS data from 2003 to 2005 show that 99.75% of mothers report that their infant rides in a car seat.<sup>6</sup> In addition, 99% of women agreed their baby should be in a rear facing car seat, and 98.3% of women agreed that their baby should not be in front of the air bag.<sup>6</sup>

## MORTALITY

### INFANT MORTALITY

The HP 2010 goal is to reduce infant mortality to 4.5 per 1,000. Wyoming has not met this goal.<sup>5</sup> Wyoming's infant mortality rate was 7.3 per 1,000 live births in 2007.<sup>17</sup> This rate has increased since 2001 and was higher than the U.S. average in 2006.<sup>40</sup>



Source: Wyoming Vital Statistics Services,  
National Center for Health Statistics

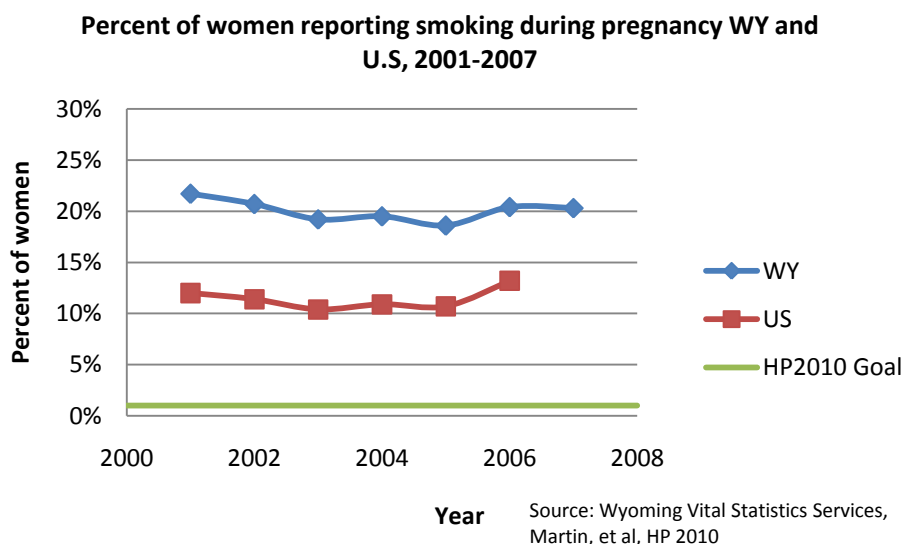
### MATERNAL MORTALITY

According to data from the Wyoming Vital Statistical Services from 2001 to 2007, there were a total of six maternal deaths attributed to complications of pregnancy, childbirth and the early postnatal period.<sup>17</sup> The maternal mortality rate in Wyoming (the number of deaths per live births) in 2007 was 0.26 per 1,000 live births.<sup>17</sup> The HP 2010 goal is to reduce the maternal mortality rate to no more than 3.3 per 1,000 live births.<sup>5</sup>

## AT-RISK BEHAVIOR

### MATERNAL SMOKING

Infants whose mothers smoked during pregnancy are 30% more likely to be born premature, are more likely to be born at low birth weight, and be 1.4-3.0 times more likely to die of SIDS.<sup>41</sup> From 2003 to 2005, 16.6% of pregnant women in Wyoming reported smoking during the last three months of pregnancy.<sup>6</sup> From 2001 to 2007, the percentage of Wyoming women who reported smoking during pregnancy was consistently higher than the U.S. percentage of women who reported smoking during pregnancy.<sup>17, 40</sup>



### MATERNAL ALCOHOL USE

According to Wyoming MOMS data from 2003-2005, 3.7% of women reported drinking alcohol in the last three months of their pregnancy.<sup>6</sup> The Healthy People 2010 goal is for 95% of pregnant women to abstain from alcohol.<sup>5</sup>

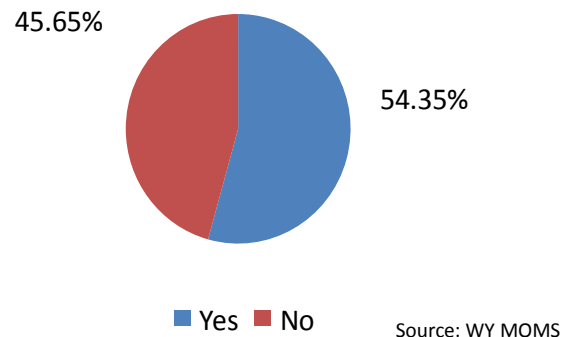
### SUBSTANCE ABUSE TREATMENT SERVICES IN WYOMING

The Mental Health and Substance Abuse Services Division (MHSASD) of WDH contracts with 19 substance abuse treatment providers who service a combination of 31 facilities or offices.<sup>20</sup> Some of these providers offer both mental health and substance abuse treatment services. There are a total of 255 state-funded residential treatment beds, 38 state-funded transitional beds, and 38 state-funded social/medical detox beds.<sup>20</sup> All but two of the 19 state-funded substance abuse treatment providers accept Medicaid.<sup>20</sup> The two providers that do not accept Medicaid are smaller practices, and many of the services they offer are not covered by Medicaid.<sup>20</sup>

## CONTRACEPTION USE AMONG WOMEN WHO HAD AN UNINTENDED PREGNANCY

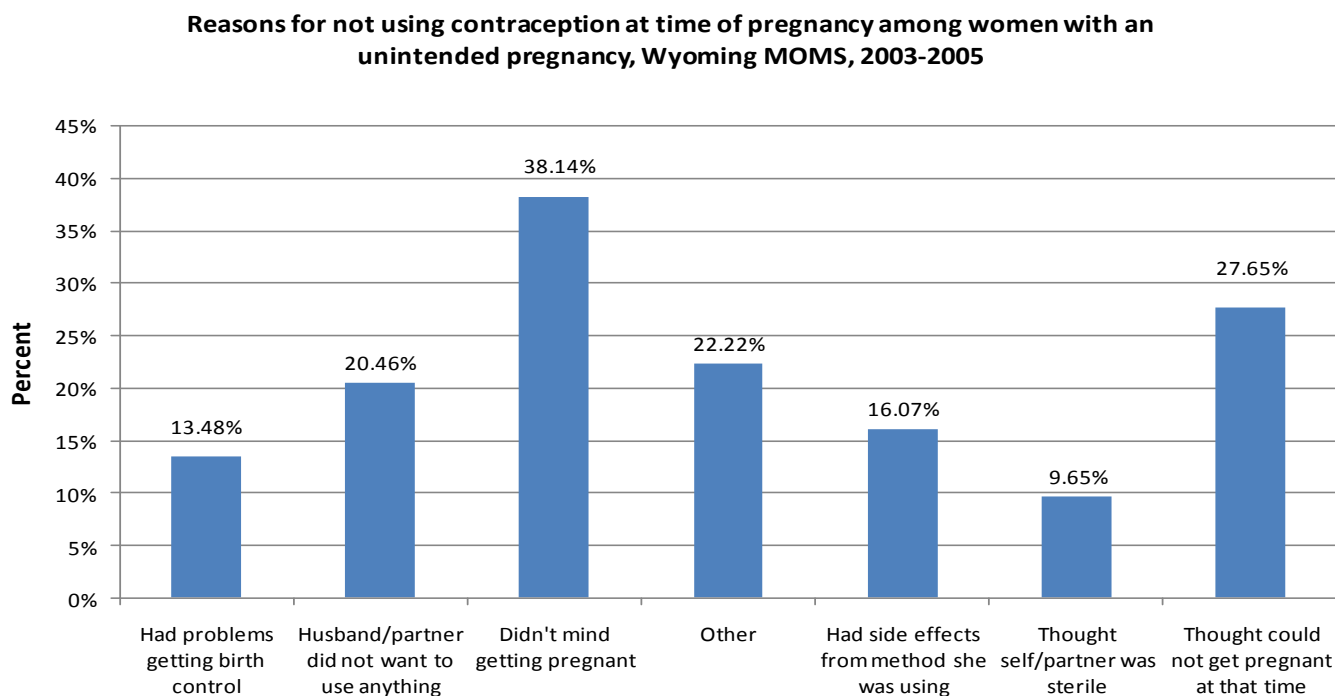
In the 2003 to 2005 Wyoming MOMS survey, participants were asked how they felt about being pregnant. Their response choices were: “wanted to be pregnant then/sooner,” “wanted to be pregnant later,” or “never wanted to be pregnant.” Women who responded that they wanted to be pregnant later or that they never wanted to be pregnant were classified as having an unintended pregnancy. Contraception use was examined among these women. About half of these women reported using some form of contraception at the time they became pregnant.

**Contraception use among Wyoming women with an unintended pregnancy, MOMS, 2003-2005**



Contraception Use	Percent <sup>6</sup>	95% Confidence Intervals <sup>6</sup>
Yes	54.35%	52.66-56.02
No	45.65%	43.98-47.34

Reasons for not using contraception are illustrated in the following chart. The most commonly cited reasons included: the woman did not mind becoming pregnant, thought that she could not get pregnant at that time, and other reasons. <sup>6</sup>



Source: MOMS

According to Wyoming MOMs data 2003-2005, 54.5% of women with unintended pregnancies reported not using birth control at the time they conceived. <sup>6</sup> Inconsistent, improper use or failure of contraception may have been the reason for the 45.5% of women with an unintended pregnancy and reported birth control use. <sup>6</sup> Women who reported not using contraception at the time of conception were more likely to be Native American, Hispanic or have greater than a high school education. <sup>6</sup> A majority (87.6%) of MOMS respondents were using some form of birth control at the time of the survey. <sup>6</sup>

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