ALABAMA MATERNAL AND CHILD HEALTH CHART BOOK 2008



Alabama Department of Public Health Center for Health Statistics Division of Statistical Analysis

This publication was produced by: DIVISION OF STATISTICAL ANALYSIS CENTER FOR HEALTH STATISTICS

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PREFACE

This chart book is intended to be a supplement to the *Selected Maternal and Child Health Statistics Alabama* 2008 book published in January 2010. This is the third time this chart book has been produced. It includes general data with trends over time on birth characteristics, teen pregnancy, and infant mortality. Charts are presented along with commentary about the data.

Data used to prepare the charts in this publication can be found in *Selected Maternal and Child Health Statistics Alabama 2008* book as well as other annual publications produced by the Center for Health Statistics. See these publications for more detailed technical notes, including definitions and formulas. Issues, such as the change in population figures with the 2000 census, are addressed in the technical notes of each publication.

This book provides information for policymakers and planners on topics of maternal and child health interest. It is published as a service to the Bureau of Family Health Services in the Alabama Department of Public Health, but also contains information that others having an interest in maternal and child health will find useful.

Alabama Maternal and Child Health Chart Book 2008

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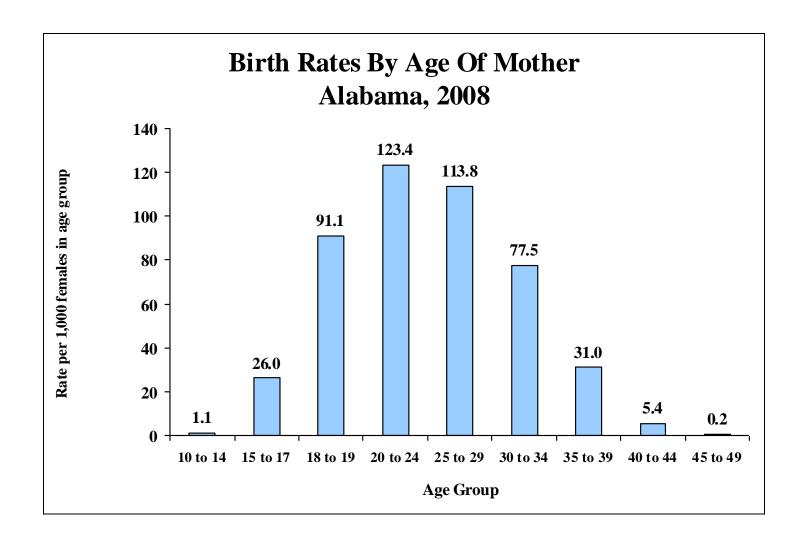
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SELECTED

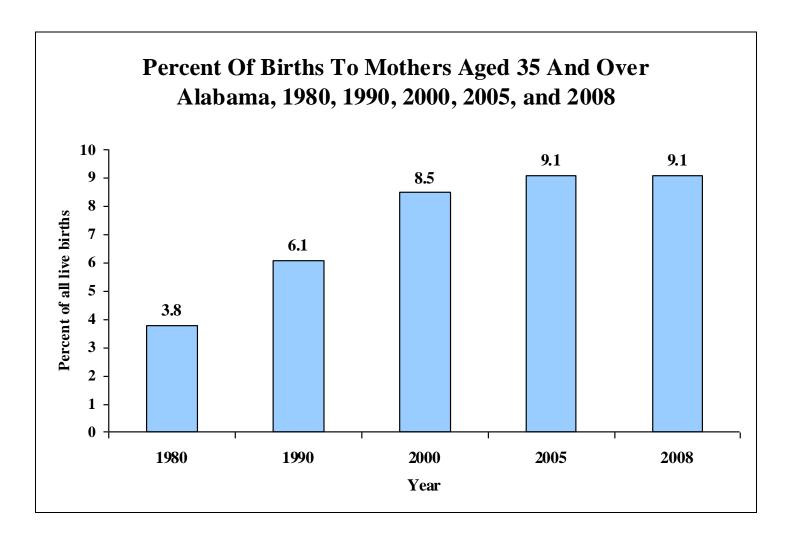
BIRTH

CHARACTERISTICS

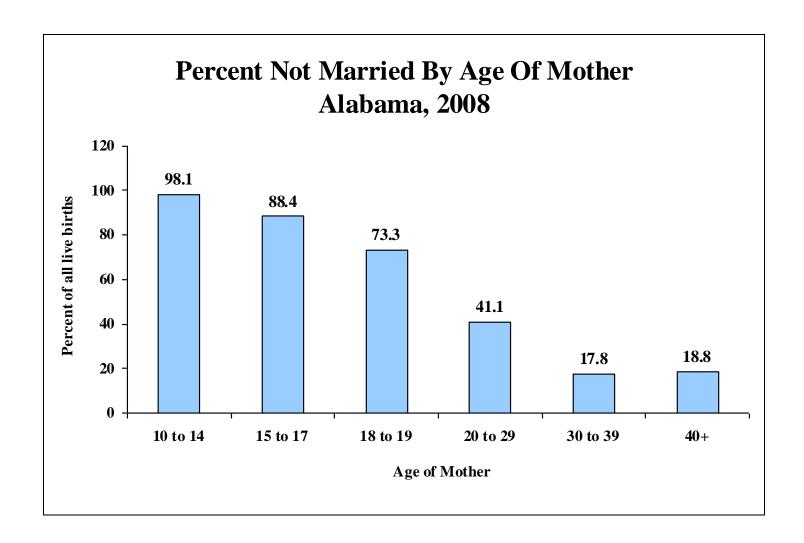
IN ALABAMA



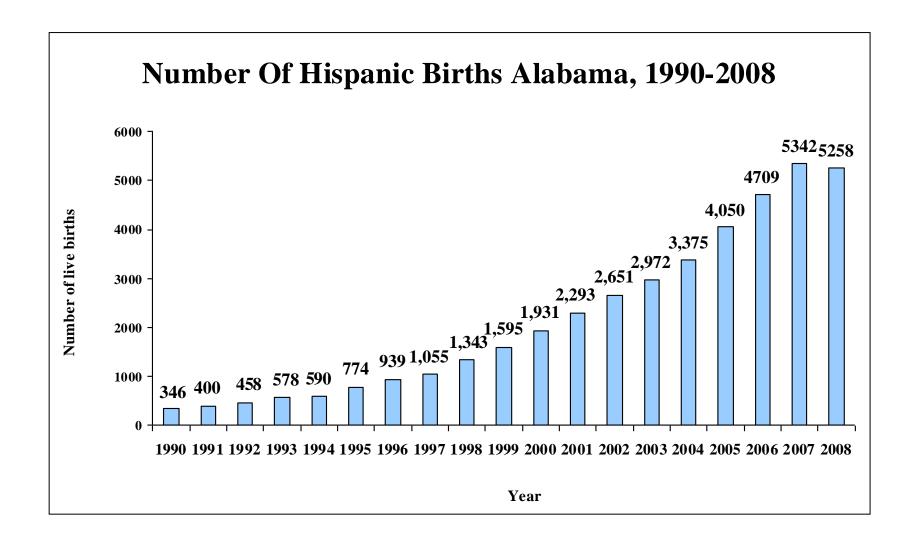
- The birth rate in 2008 was highest for 20-24 year olds and lowest for 45-49 year olds.
- One in 1,000 females age 10 to 14 gave birth in Alabama in 2005.
- Birth rates increased with age until they peaked in the early twenties age group, then declined as the mother's age increased.



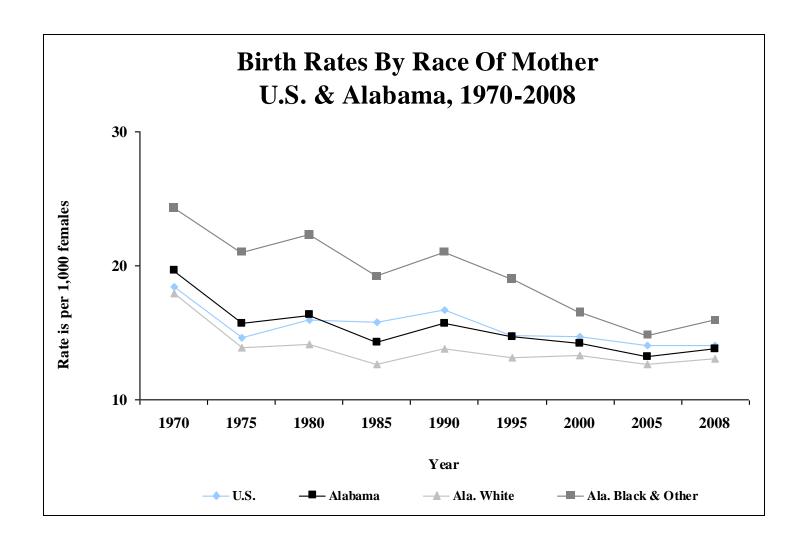
- During the last twenty-five years, the percentage of births to older women has been increasing.
- From 1980 to 2008, the number of births to women age 35 years or older have increased by 139 percent.



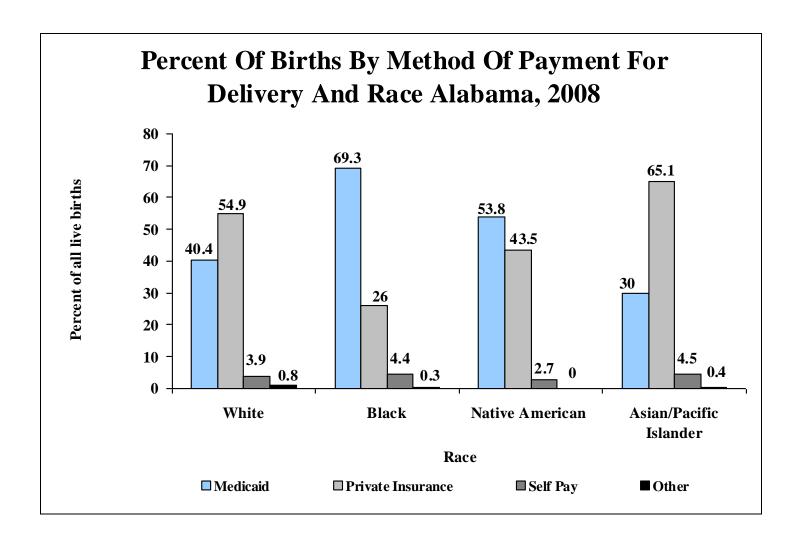
- Only 2 percent of mothers under 15 years of age were married.
- The percent not married decreased as the age of the mother increased until the age 40+ group.



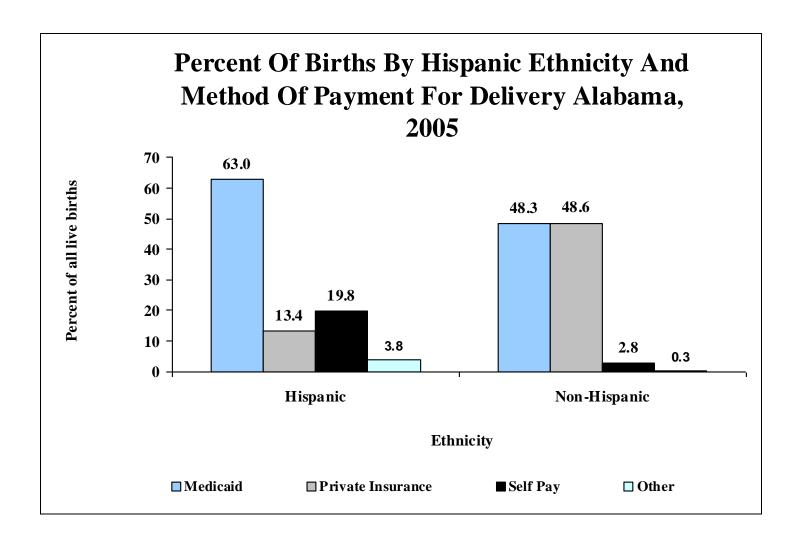
- The Hispanic population is the fastest growing population in Alabama. Since 1990, the number of Hispanic births has increased by 1,420 percent.
- In 2008, Jefferson County had the largest number of Hispanic births at 800.
- The number of Hispanic births declined slightly between 2007 and 2008.



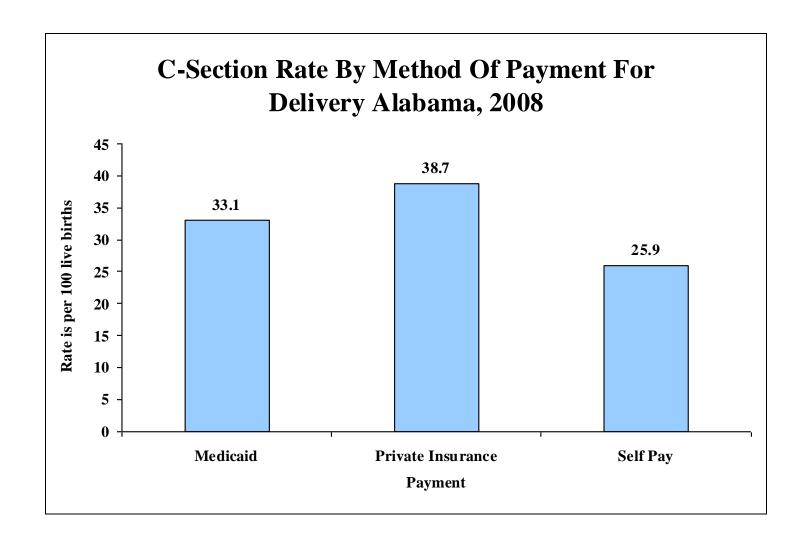
- Birth rates have declined since 1970 for the United States and Alabama.
- The birth rate for Alabama Black and Other women has remained above the U.S. rate for the past 38 years, but has had the greatest decrease (35 percent) during those years.
- The decrease in the birth rate for Alabama White women from 1970 to 2008 was 27 percent.



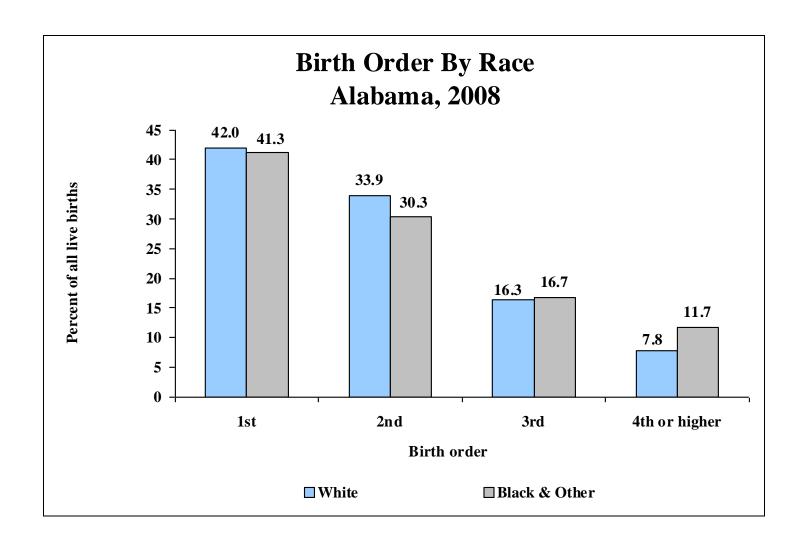
- White and Asian/Pacific Islander mothers were most likely to have their deliveries paid by private insurance.
- Black and Native American mothers were most likely to be covered by Medicaid.



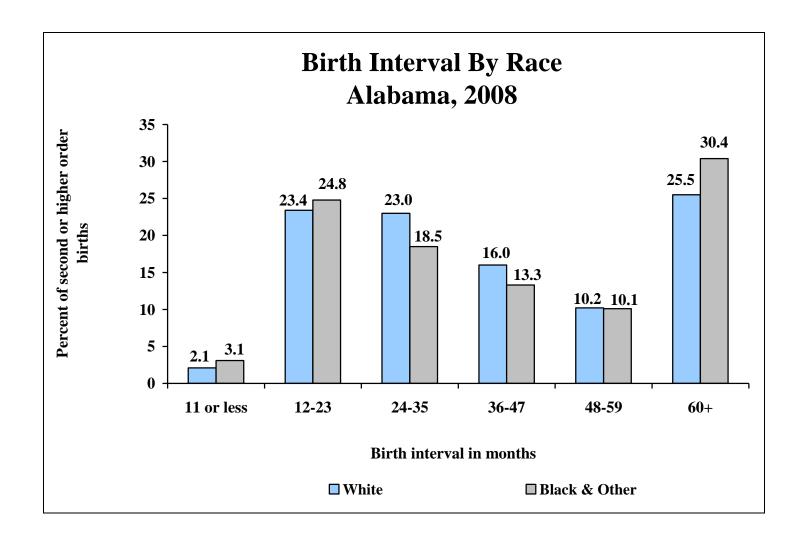
- In 2008, one in four Hispanic births were paid by personal income or sources.
- One in seven Hispanic births were paid by private insurance compared to one in two non-Hispanic births.



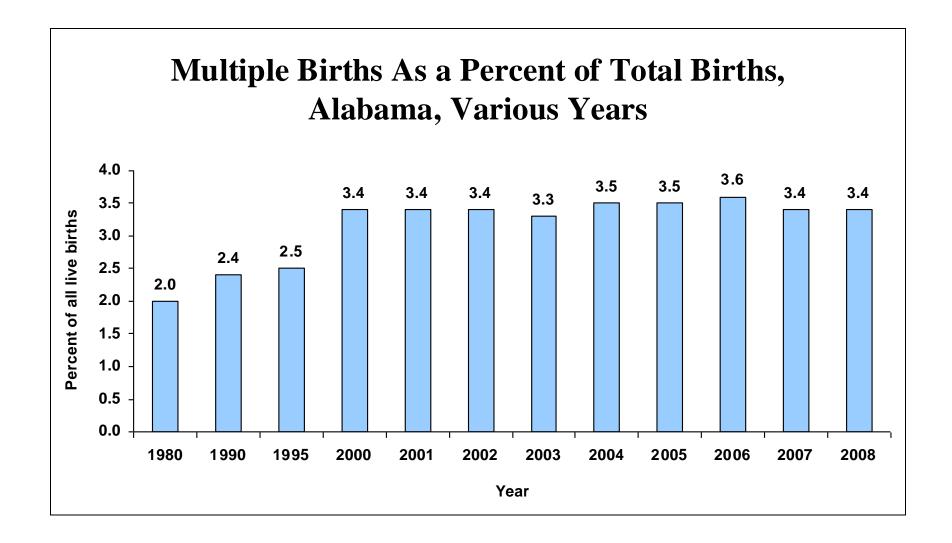
• Mothers whose deliveries were paid by private insurance were 17 percent more likely to have a Cesarean delivery than mothers covered by Medicaid and 49 percent more likely than mothers with no insurance coverage.



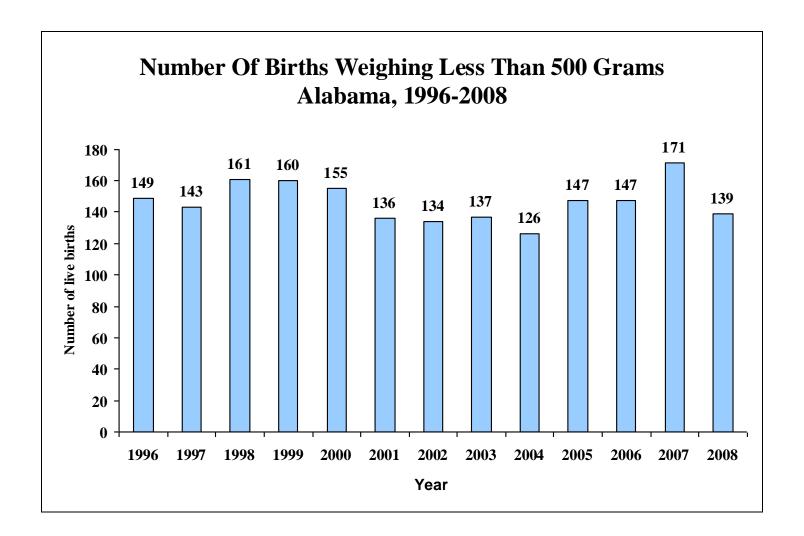
- Over 70 percent of births in 2008 were either first or second order births.
- Among Black and Other births, 28.4 percent more were third or higher order births compared to 24.1 percent third or higher order births to White mothers.



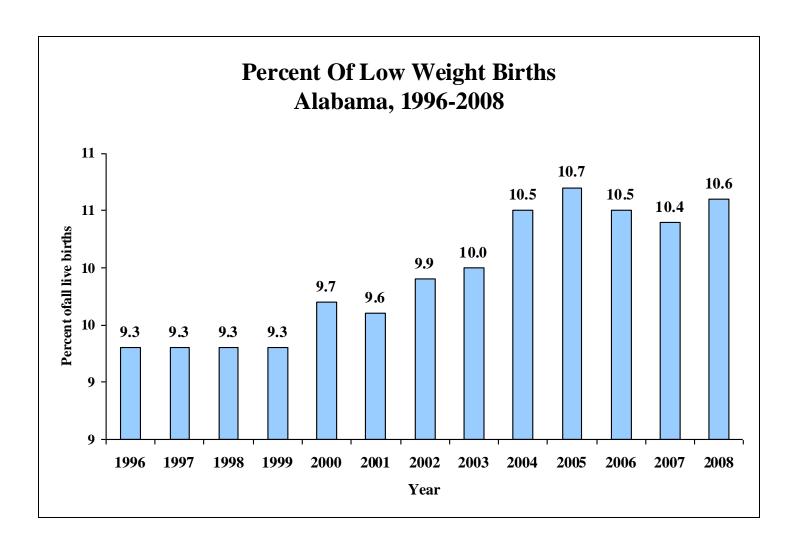
- In 2008, more than half of all births occurred at a 3-year or greater interval since the mother had last given birth.
- In both populations, approximately one in four births occurred 5 years since the mother last gave birth.
- Black and Other mothers were one and a half times as likely to have a baby less than one year from their previous delivery than White mothers.



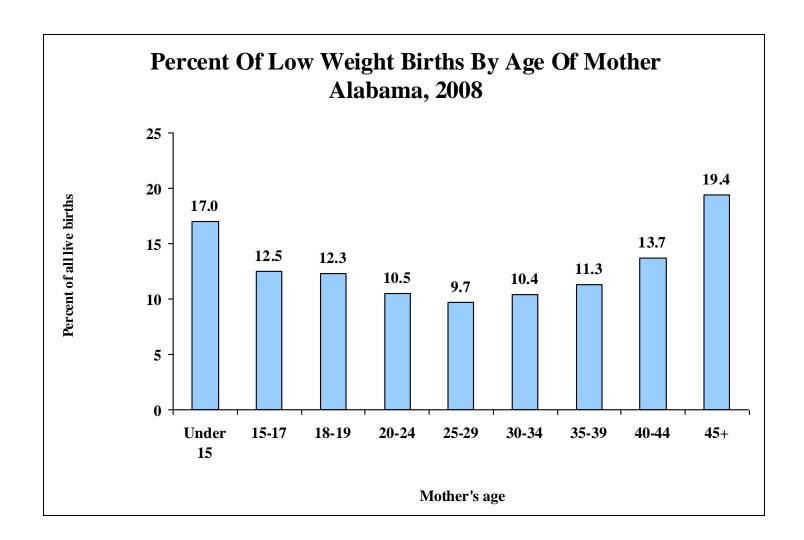
- Since 1980, the percent of multiple births has increased by 70 percent in Alabama. Since 2000, the percentage of multiple births has remained relatively stable.
- The increase in the number of multiple deliveries in Alabama and nationwide is attributable to two factors: women are waiting until older to have children (older mothers are more likely than younger mothers to spontaneously conceive multiple babies) and the increased use of fertility therapies.



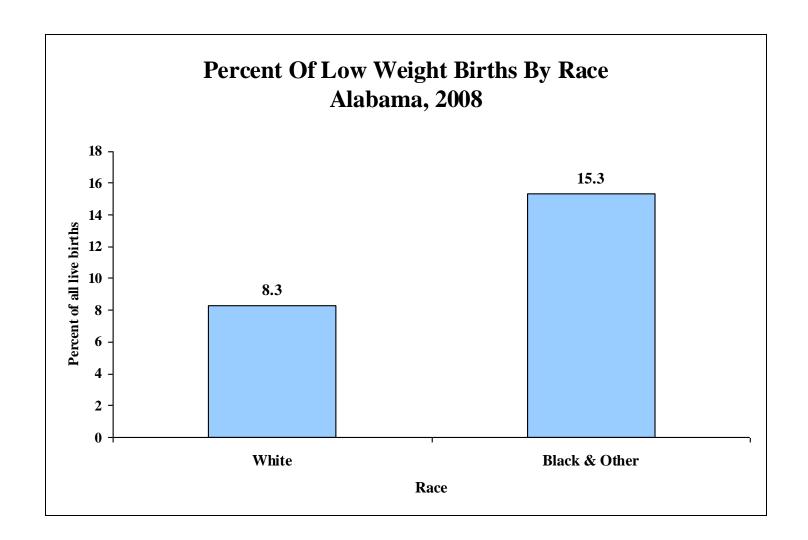
• The number of births weighing less than 500 grams has fluctuated over the last 10 years.



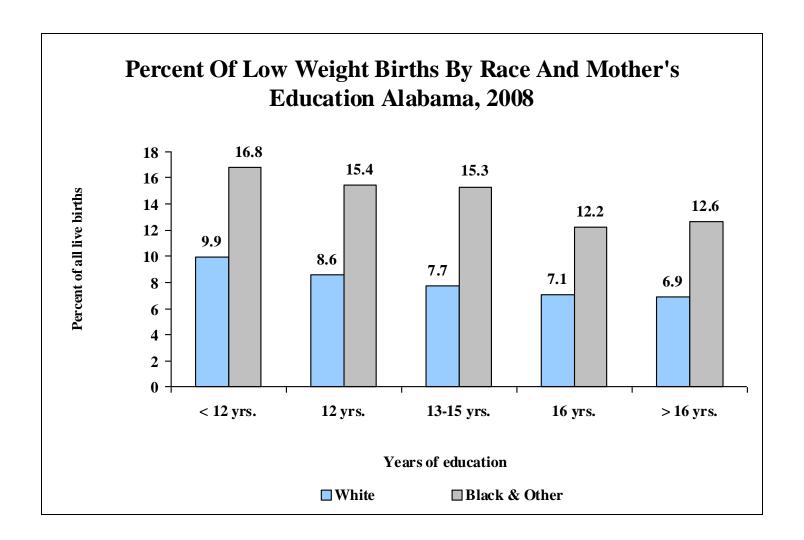
- Low birth weight is equal to birth weight less than 2,500 grams.
- The percentage of low birth weight births has generally been increasing since 1960 when the LBW percentage was 8.5. The 10.7 percent recorded in 2005 was the highest recorded in 45 years.
- From 1996 to 2008, the percentage of LBW births increased by 14 percent.



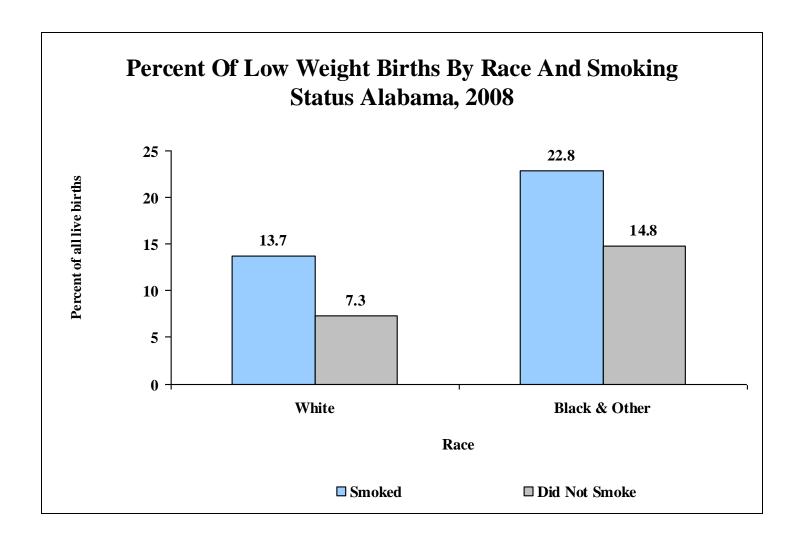
- The mothers with the highest percentage of low birth weight infants were in the 45+ age group (19.4 percent), followed by the under 15 age group (17.0 percent) in 2008.
- Mothers age 25-29 had the lowest risk of having a low birth weight infant.



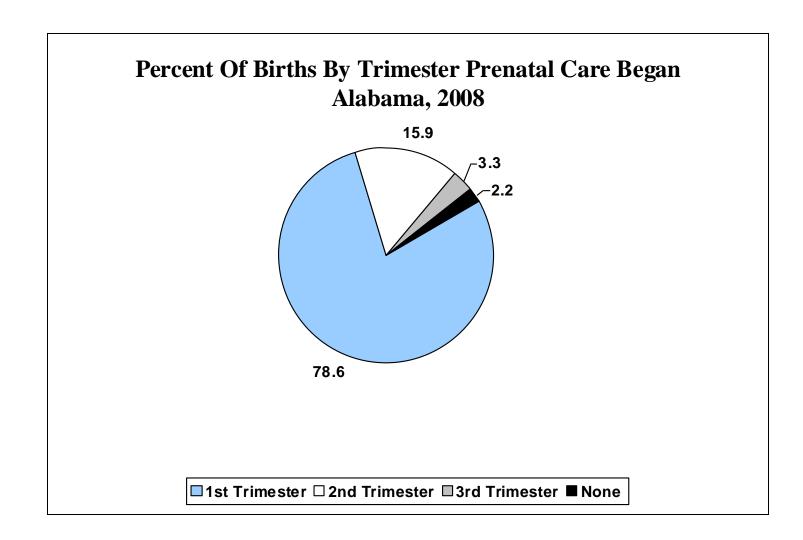
Black and Other race mothers were 84.3 percent more likely than White mothers to have delivered a low birth weight infant in 2008.



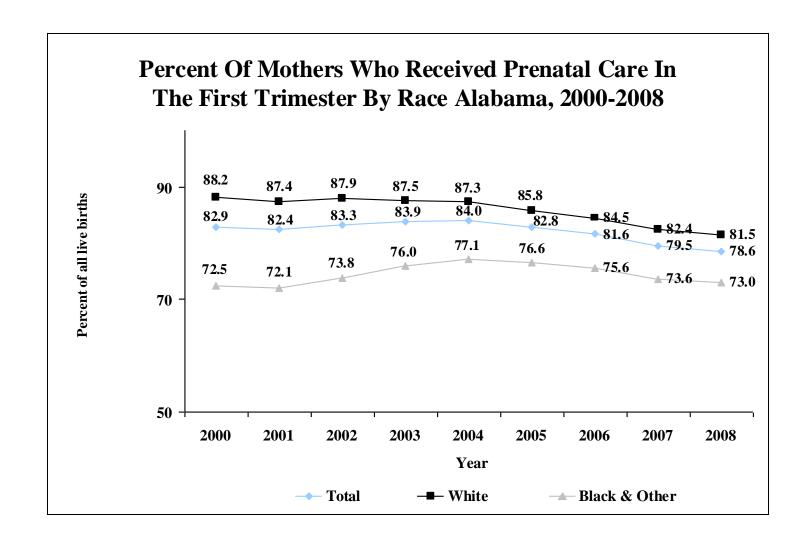
- Black and Other mothers were more likely to deliver a low birth weight infant than White mothers regardless of educational attainment.
- In both populations, the highest percentage of low weight babies were born to mothers who had not completed high school.



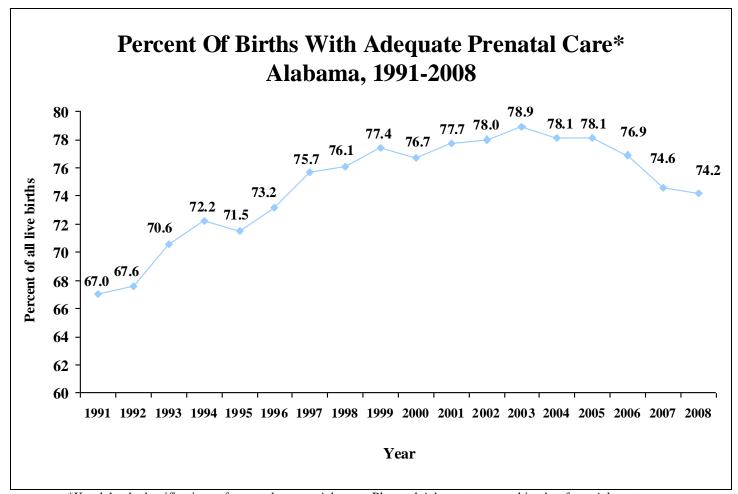
- Black and Other mothers were more likely to deliver a low birth weight infant than White mothers regardless of their smoking status during pregnancy.
- The percent of low birth weight infants born to White women who smoked while pregnant was 87.7 percent higher than for those White mothers who did not smoke during pregnancy.
- The percent of low birth weight infants born to Black and Other women who smoked during pregnancy was 54.1 percent higher than for Black and other women who did not smoke during pregnancy.



- In 2008, 78.6 percent of Alabama mothers began their prenatal care in the first trimester of their pregnancy.
- Over 19 percent began their prenatal care late, in the second or third trimester.
- More than 2 percent received no prenatal care at all.

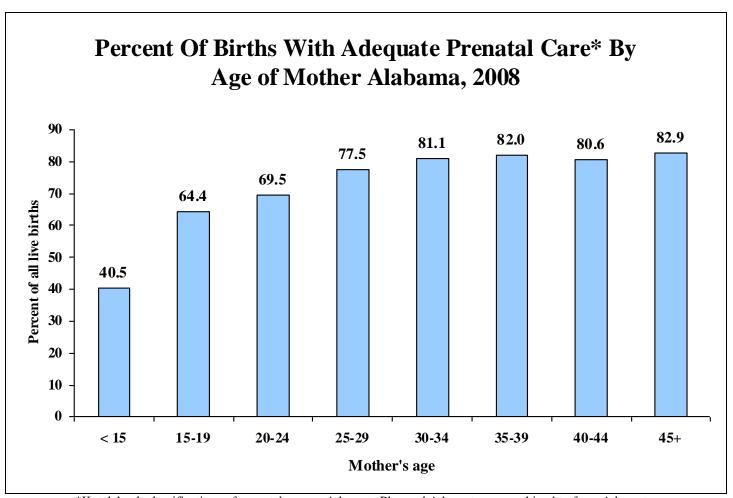


- Since 2000, the percentage of mothers receiving prenatal care in their 1st trimester of pregnancy has declined by 5.2 percent.
- From 2000 through 2008, the percentage of Black and Other mothers receiving 1st trimester prenatal care has increased by 0.7 percent while decreasing by 7.6 percent for White mothers.



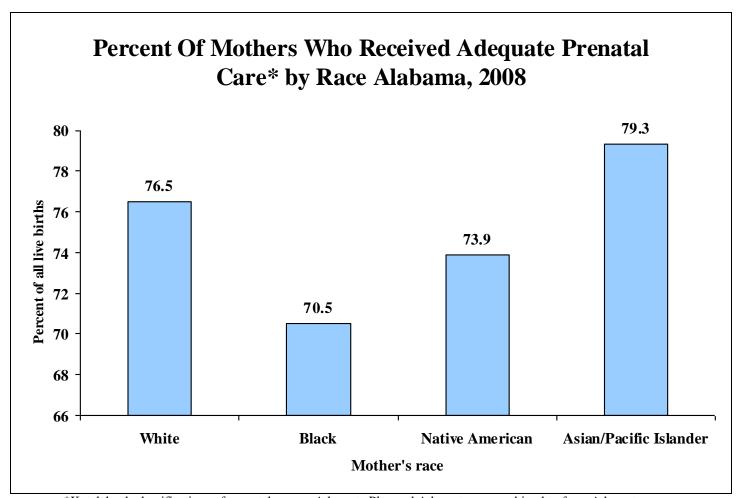
*Kotelchuck classifications of prenatal care as Adequate Plus and Adequate are combined to form Adequate.

- From 1991 to 2003, the percentage of women getting adequate prenatal care increased by 17.8 percent.
- Since a high of 78.9 percent in 2003, there has been a 6 percent decline in the percent of mothers receiving adequate prenatal care.



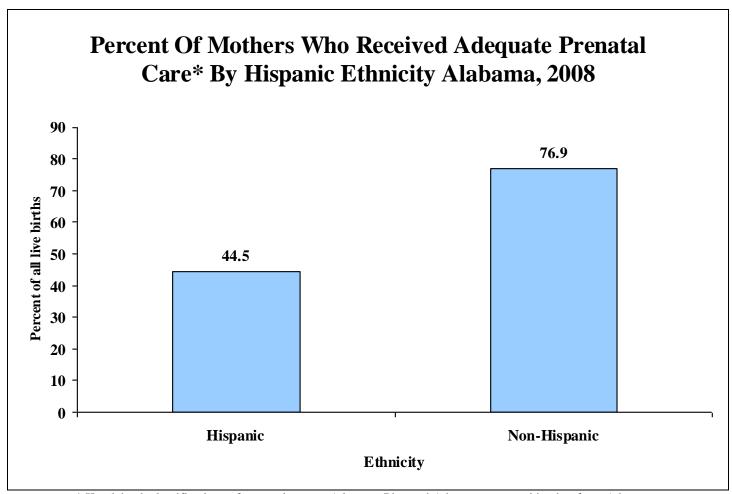
*Kotelchuck classifications of prenatal care as Adequate Plus and Adequate are combined to form Adequate.

- Only 40.5 percent of mothers less than 15 years of age received adequate prenatal care in 2008. These pregnancies are considered high risk pregnancies because of the young age of the mothers.
- The percentage of mothers receiving Adequate prenatal care increased with mother's age through the 35-39 age group, then declined slightly for older mothers, except those 45 and older who had the highest rate of adequate prenatal care.



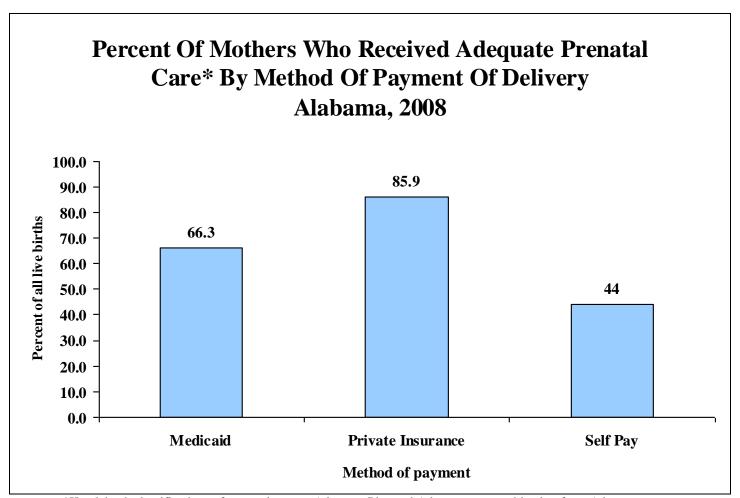
*Kotelchuck classifications of prenatal care as Adequate Plus and Adequate are combined to form Adequate.

- When examining racial groups, Black mothers were lowest in the receipt of adequate prenatal care.
- Asian/Pacific Islanders received the highest percent of adequate prenatal care was highest.



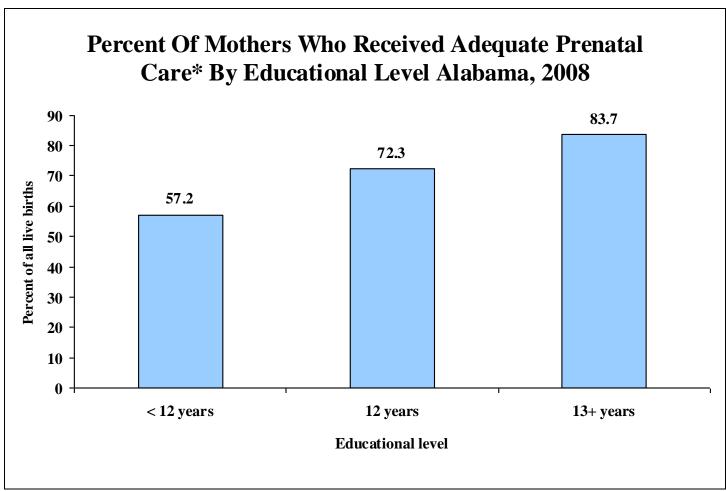
* Kotelchuck classifications of prenatal care as Adequate Plus and Adequate are combined to form Adequate.

- Non-Hispanic mothers were 72.8 percent more likely to have adequate prenatal care as Hispanic mothers in Alabama in 2008.
- Less than half of Hispanic mothers received adequate prenatal care.



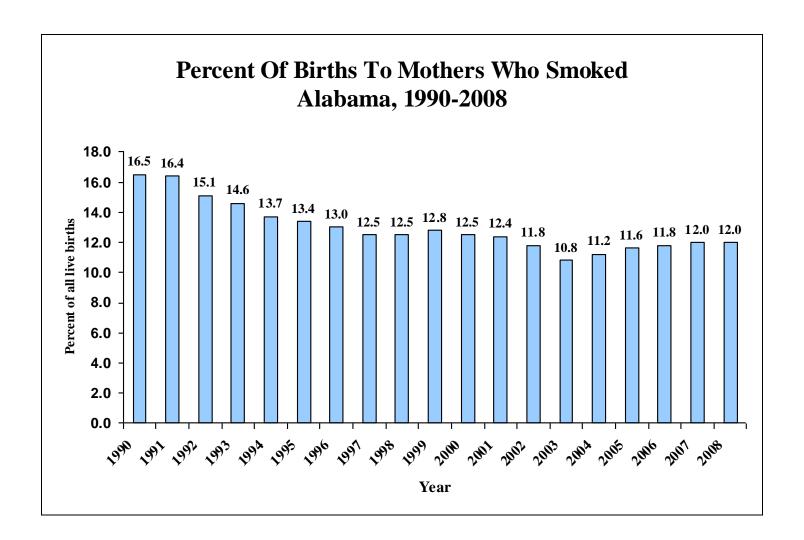
*Kotelchuck classifications of prenatal care as Adequate Plus and Adequate are combined to form Adequate.

- Mothers covered by private insurance were 29.6 percent more likely to receive adequate prenatal care than those women covered by Medicaid and 95.2 percent more likely than those women with no insurance coverage.
- Only 44 percent of women who paid for their delivery with personal income received adequate prenatal care.

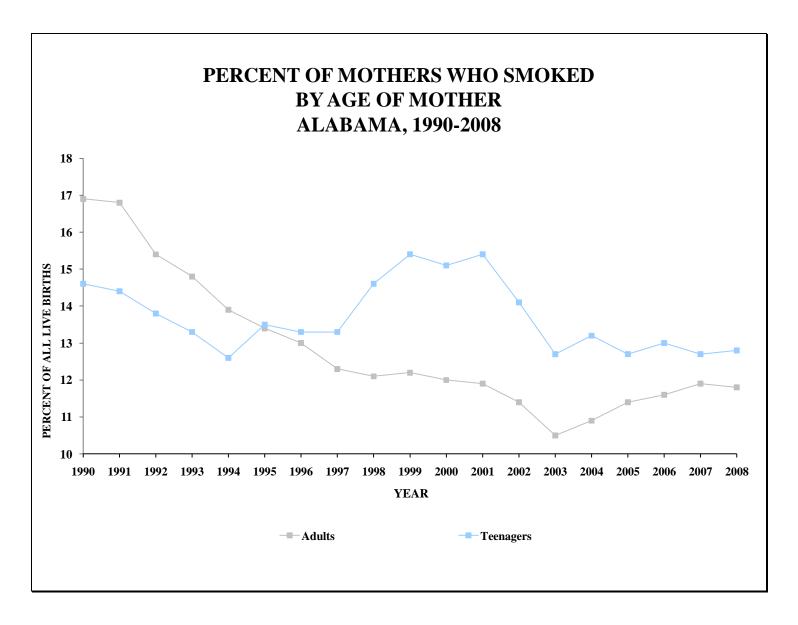


*Kotelchuck classifications of prenatal care as Adequate Plus and Adequate are combined to form Adequate.

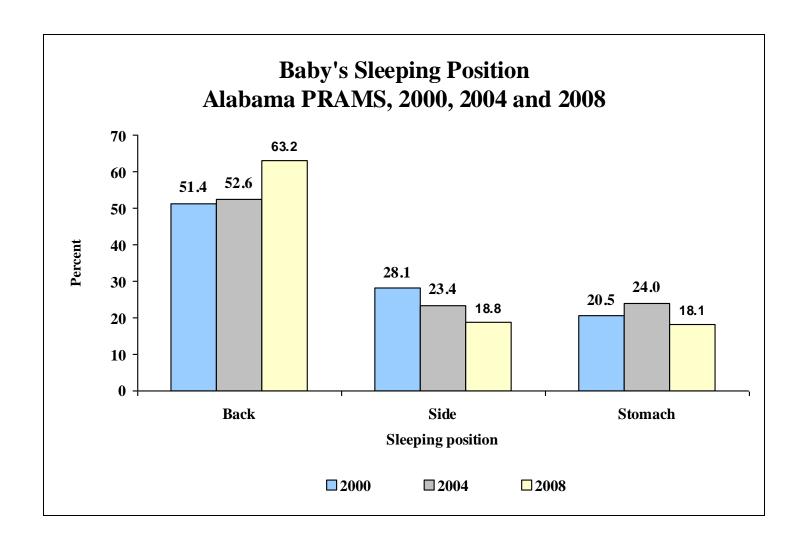
• The percent of mothers who received adequate prenatal care was directly proportional to the educational attainment of the mother.



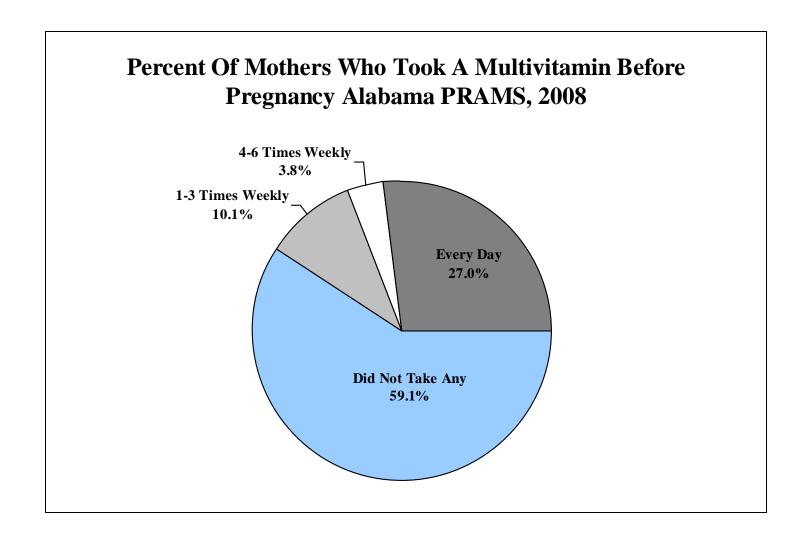
- Smoking by pregnant women in Alabama has been basically decreasing since 1990, with the lowest percentage recorded in 2003 (10.8 percent).
- Since 2003, the percent smoking has increased by 11 percent.



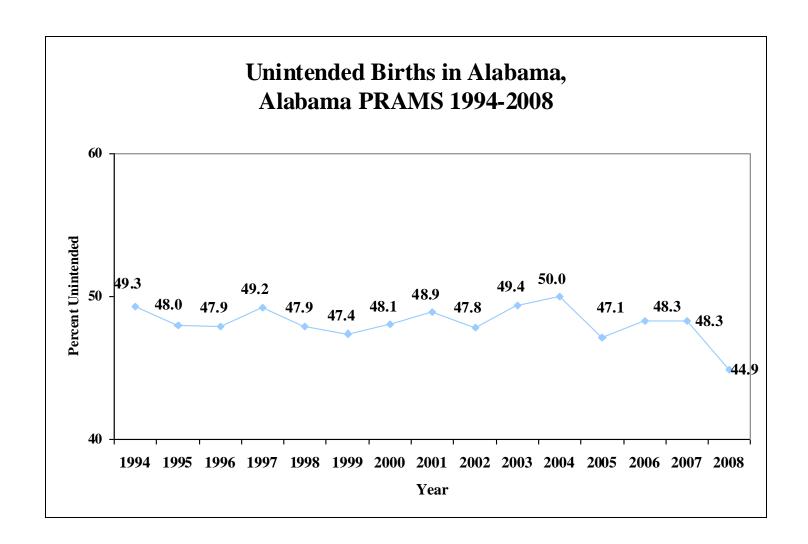
- In 1995, the percentages of adult and teenage mothers who smoked during pregnancy were about the same. From then on, the percentage of teenage smokers during pregnancy has been consistently higher than among adult mothers.
- From 2003 through 2008, there was an increase of 12.4 percent in the number of adult mothers who smoked during their pregnancy.



- Health providers recommend placing an infant on his/her back for sleeping to reduce the risk of Sudden Infant Death Syndrome (SIDS).
- From 2000 to 2008, an increase of 23 percent in placing a baby on its back for sleeping was noted; there was an 11.7 percent decrease in the number of mothers placing their babies on their stomachs for sleeping.



- Studies have shown that women who consume 400 micrograms of folic acid daily before becoming pregnant can reduce the risk of their infant developing a neural tube defect, such as spina bifida or anencephaly. (400 micrograms is the amount of folic acid found in multivitamins)
- In 2008, only 27 percent of Alabama mothers reported taking a multivitamin daily in the month prior to becoming pregnant, even though 80 percent of Alabama mothers had heard or read that taking folic acid before pregnancy could prevent some birth defects in babies.



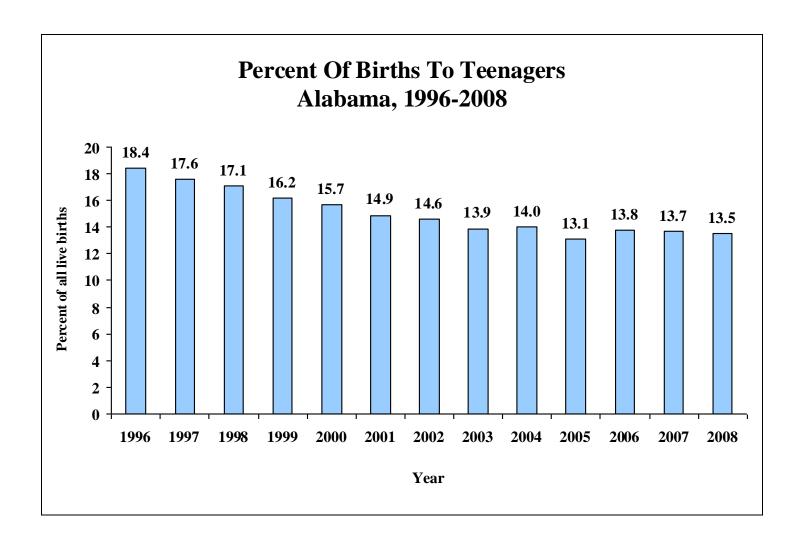
• During the past 15 years, the highest percentage of unintended births in Alabama occurred in 2004, when 50 percent of mothers reported they did not want to be pregnant at the time when conception occurred or at any time in the future.

TEEN

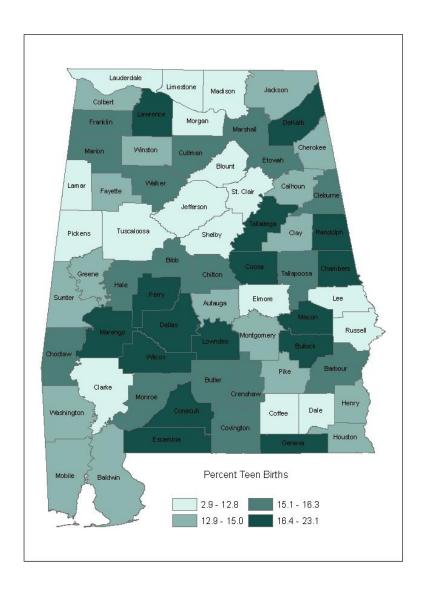
PREGNANCY

IN

ALABAMA

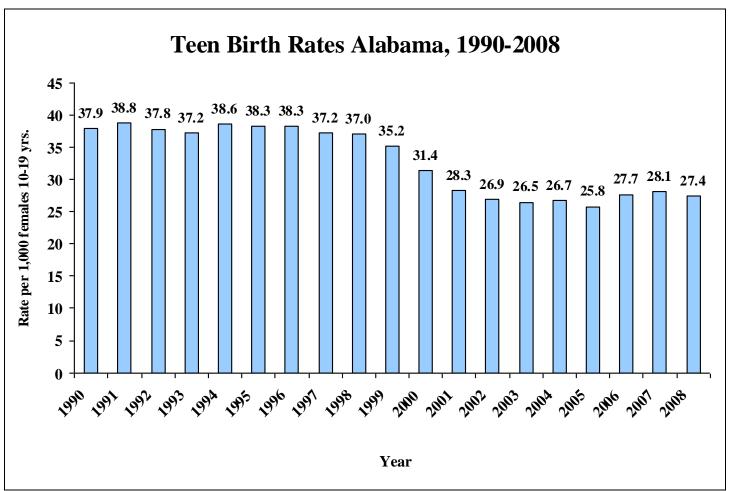


- From 1996-2008, the lowest number of births to teenage mothers, 10-19 years old, occurred in 2005 (13.1 percent).
- Since 1996, the percentage of births to teenage mothers decreased by 26.6 percent.



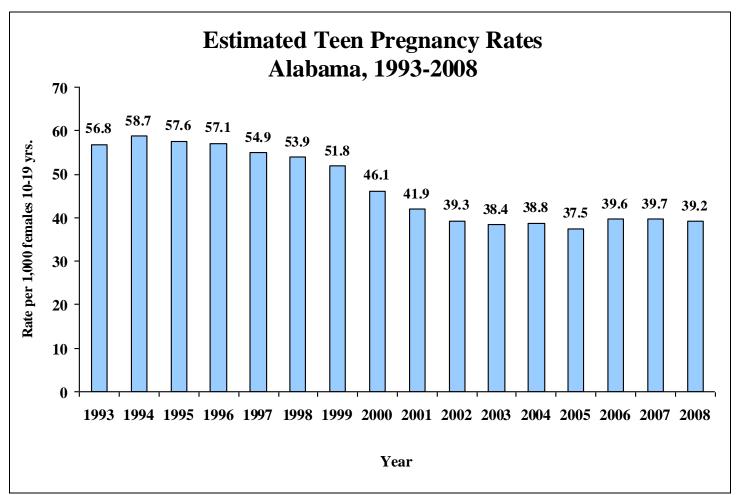
Births To Teenagers As A Percent Of All Births By County Of Residence Alabama, 2008

- Teenage pregnancy is an important health issue in Alabama and nationally. Teen pregnancies are often high risk, because many young girls do not have health insurance, often do not get proper prenatal care, are unmarried, and are not financially stable.
- Alabama PRAMS 2008 data reported that 69.0 percent of births to teenage mothers were unintended.
- The Alabama County with the highest percentage of births to teenage mothers was Bullock County (23.1 percent).
- Shelby County had the lowest percent of births to teen mothers at 5.5 percent.



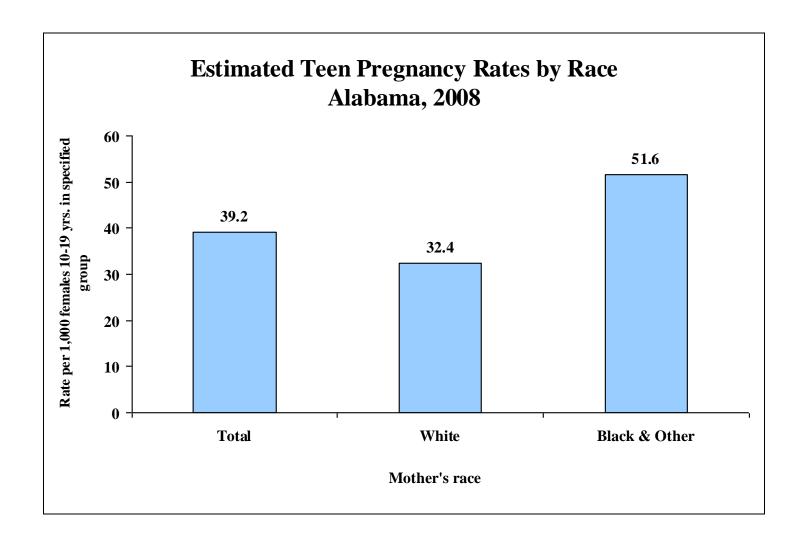
Rates for years 1990 and 2000 were based on census data. Other years were based on population estimates.

• During the period from 1990-2008, the teen birth rate has declined by 27.7 percent.



Rate for 2000 was based on census data. Other years were based on population estimates. Teen pregnancy rates are not available before 1993 because of incomplete abortion reporting.

• During the period from 1993 through 2008, the estimated teen pregnancy rate has declined by 31 percent.

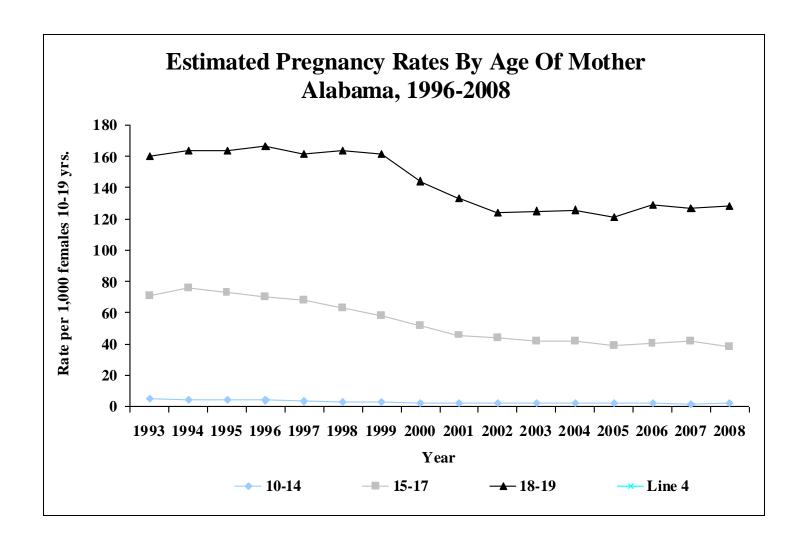


• Comparing the two populations, the White teen birth rate was 24.0 percent lower than the birth rate for Black and Other teens.

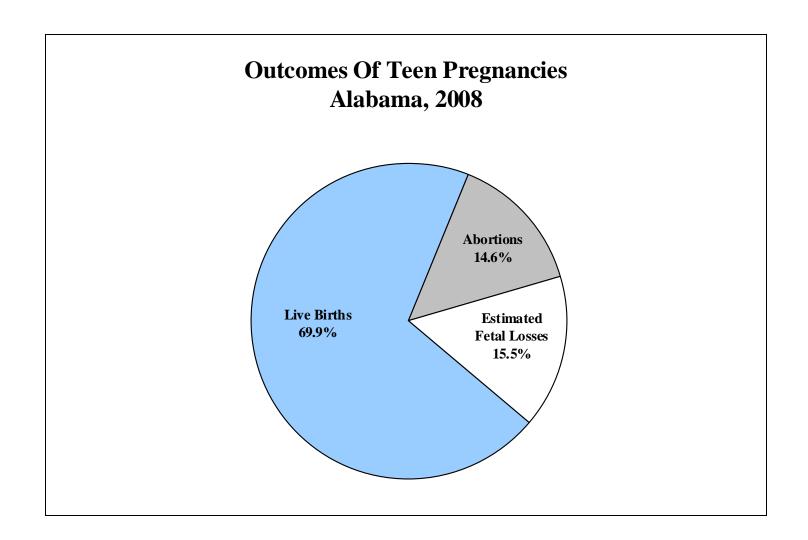


Estimated Teen Pregnancy Rates By County Of Residence Alabama, 2008

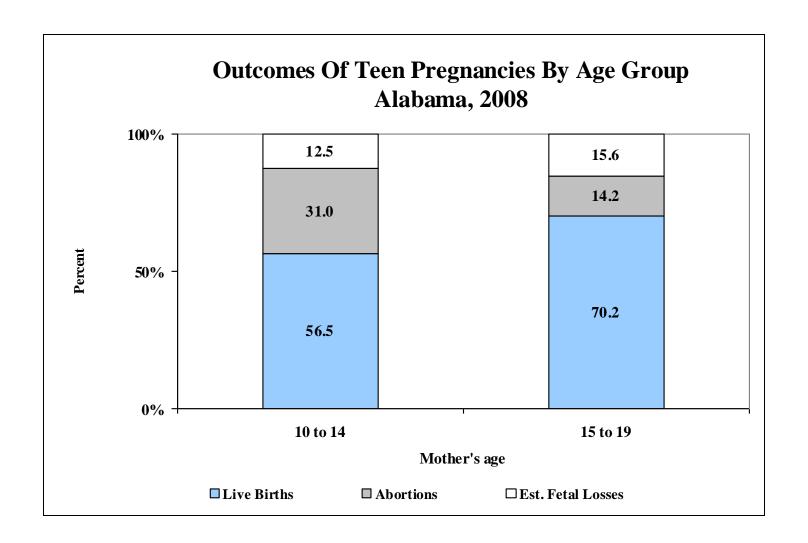
- Bullock County had the highest teen pregnancy rate of 95.7 per 1,000 females 10-19 years of age in 2008.
- Shelby County had the lowest at 18.4 teen pregnancies per 1,000 females 10-19 years of age.



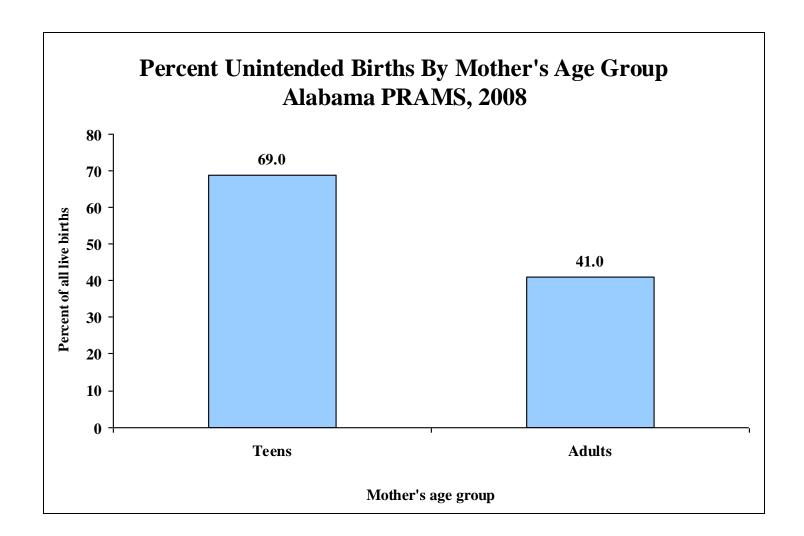
- From 1993 to 2008, there was a decrease of 59.6 percent in rate of pregnancies to 10-14 year olds.
- During the same period, there was also a decrease of 46.3 percent and 20.0 percent in the rates of pregnancies to 15-17 and 18-19 year olds, respectively.



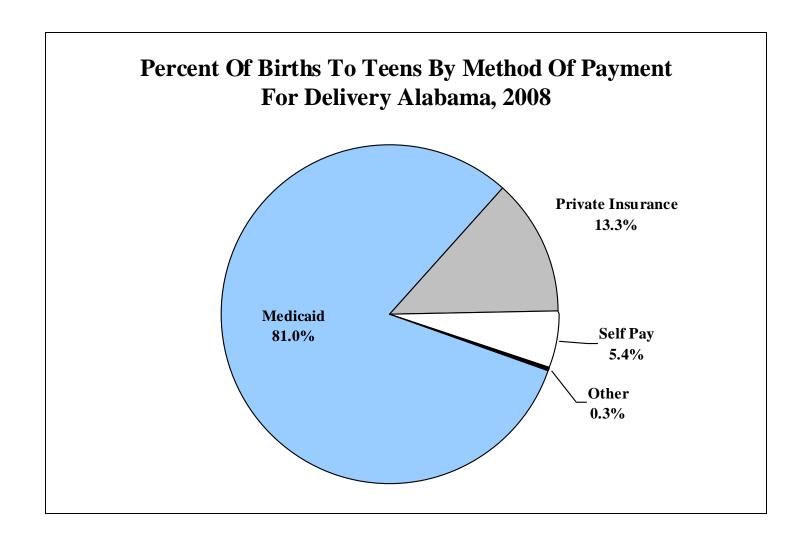
• Over two-thirds of teen pregnancies in 2008 resulted in a live birth, one-seventh ended in abortion, and about one-sixth ended as a fetal loss.



- In 2008, pregnancies to teens ages 10 to 14 were more than twice as likely to end in abortion as pregnancies to teens 15 to 19 years old.
- Pregnancies to older teens, 15-19 years, were 24.2 percent more likely to result in a live birth.



• Teens were 68.3 percent more likely to have an unintended birth than adult women in Alabama in 2008.



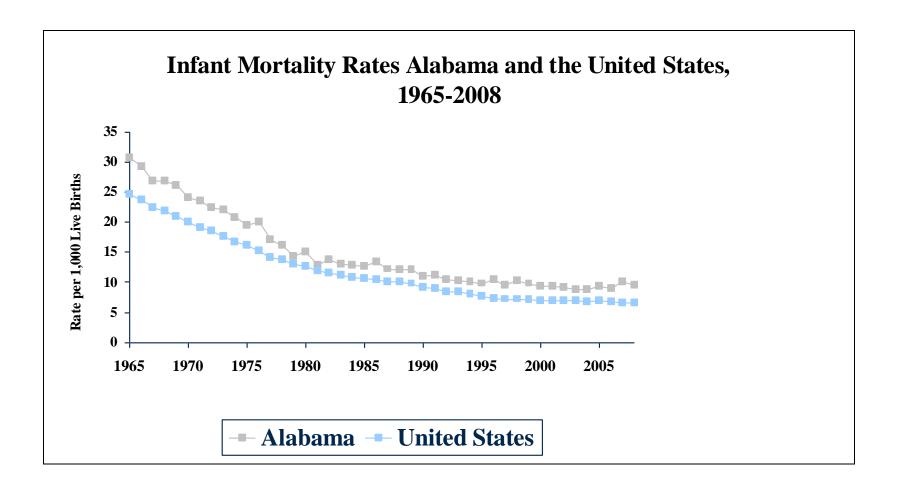
- In 2008, the vast majority of births to teen mothers were paid for by Medicaid.
- Private insurance paid for 13.3 percent of teen births while 5.4 percent of teen births were paid from personal income.

INFANT

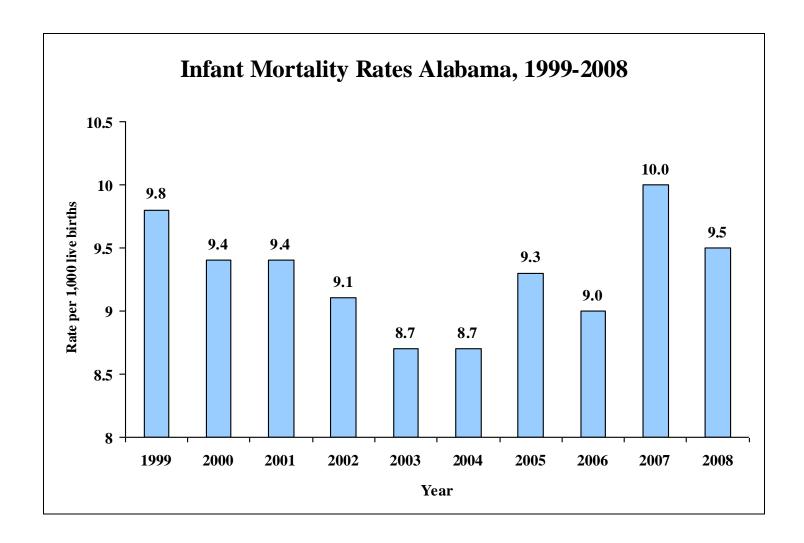
MORTALITY

IN

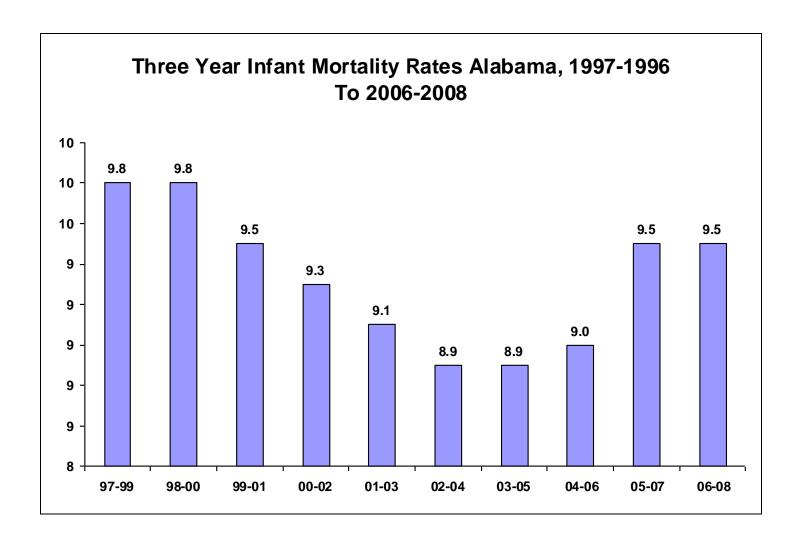
ALABAMA



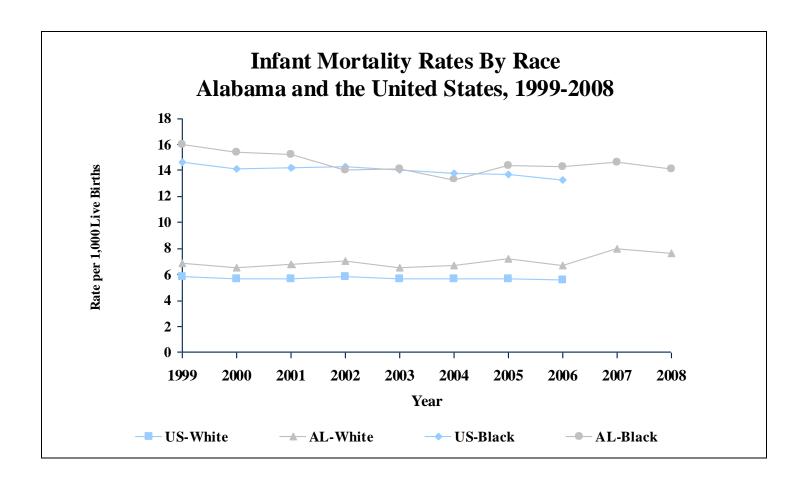
- One Healthy People 2010 objective is to reduce the infant mortality rate to 4.5 infant deaths per 1,000 live births.
- The Alabama infant mortality rate in 2008 was 9.5 infant deaths per 1,000 live births.
- During the past forty years, Alabama's infant mortality rate has consistently been higher than the rate for the U.S.
- US data for 2007 and 2008 are provisional.



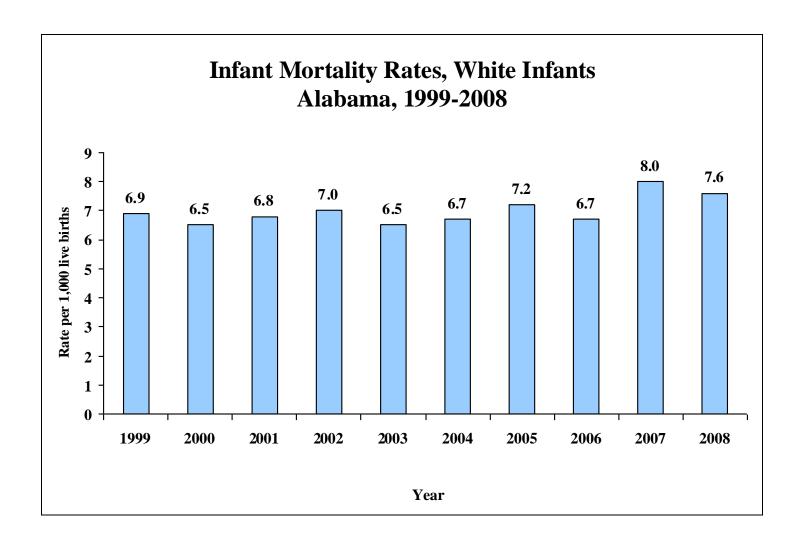
- In 2008, Alabama's infant mortality rate was 5 percent lower than in 2007.
- In 2008, 612 infants died in Alabama, an increase of 18.6 percent over 2004, when there were only 516 infant deaths.



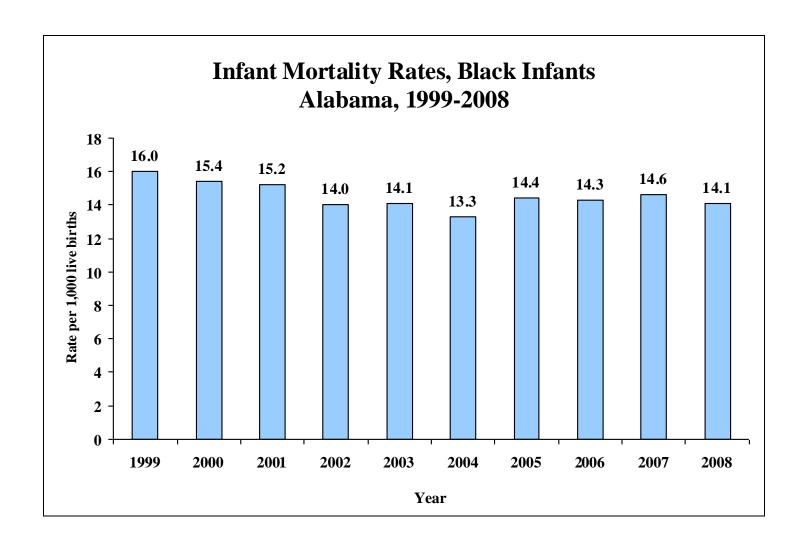
• The lowest 3 year infant mortality rate was 8.9 in 2002-2004 and 2003-2005.



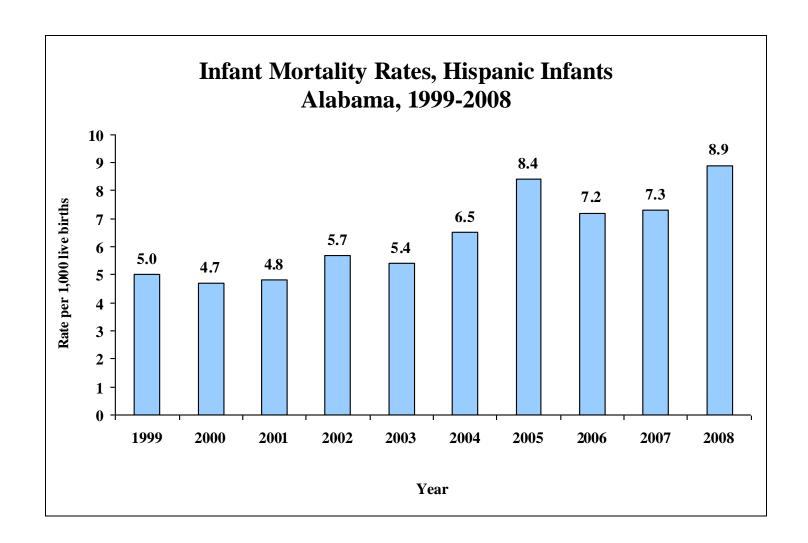
- When comparing infant mortality rates of Alabama Whites and Blacks to U.S. Whites and Blacks, the same pattern is noted: infant mortality rates for Blacks are twice or higher than those for Whites.
- Alabama Whites have consistently had a higher infant mortality rate than U.S. Whites.
- The infant mortality rate for Alabama Blacks fell below the U.S. Black rate in 1997, 2002, and 2004. The Black rate for Alabama and the U.S. in 2003 was the same, 14.1 infant deaths per 1,000 live births.



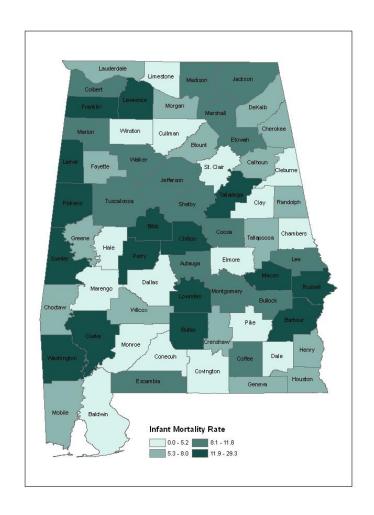
• The White infant mortality rate in Alabama was higher in 2007 and 2008 than it has been over the last 10 years.



- Alabama's Black infant mortality rate has decreased by 11.9 percent since 1999.
- In 2008, the Black infant mortality rate (14.1) was almost two times as high as the White infant mortality rate (7.6).

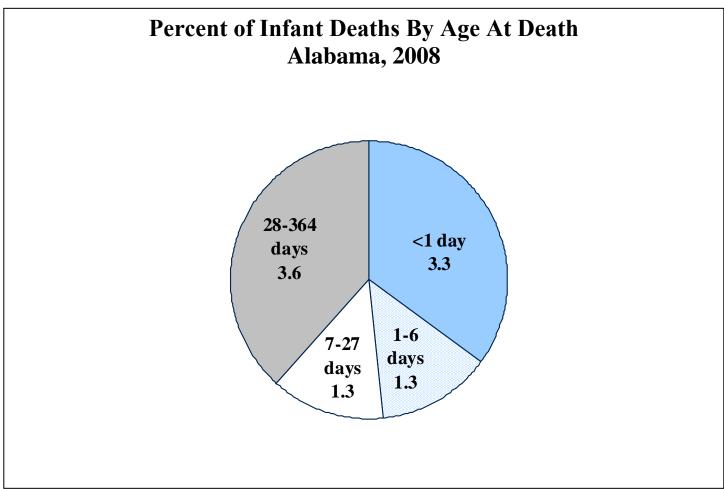


- For the majority of the last decade, the Alabama Hispanic infant mortality rate was lower than the rates for Alabama Whites and Blacks.
- From 2007 to 2008, there was an increase of 21.9 percent in the Hispanic infant mortality rate.



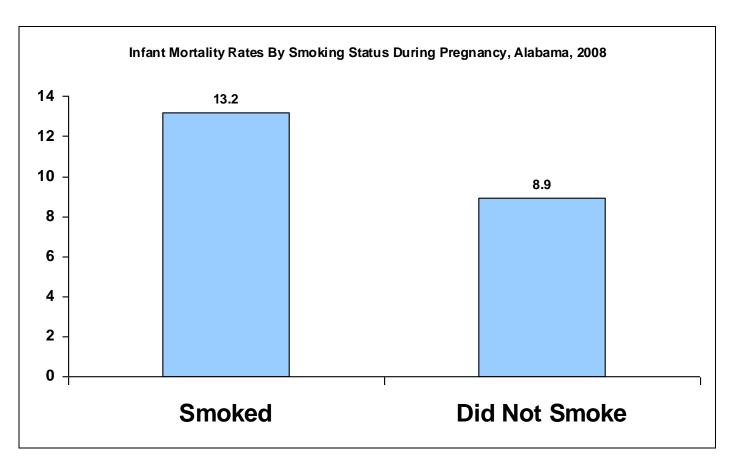
Infant Mortality Rates By County Of Residence Alabama, 2006-2008 Combined

- Pickens County had the highest infant mortality rate, 20.7 infant deaths per 1,000 live births for 2006-2008.
- Choctaw County had the lowest infant mortality rate during this period at 2.1 infant deaths per 1,000 live births.
- Those counties with the highest infant mortality rates are scattered throughout the State.

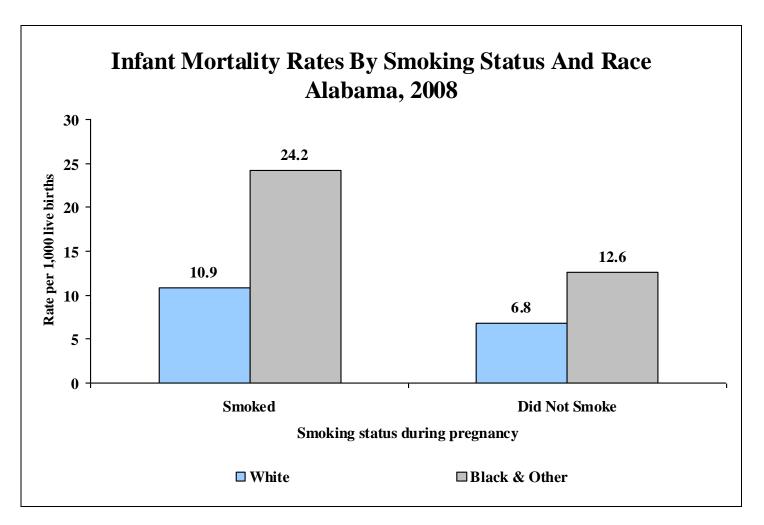


Rates are per 1,000 live births.

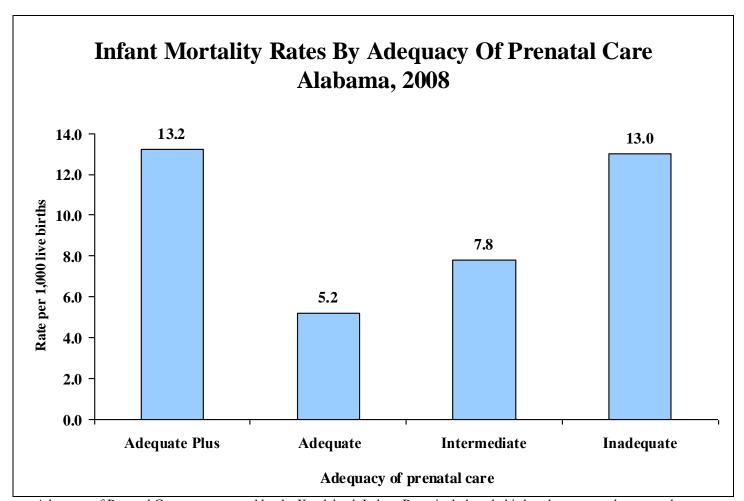
- In 2008 in Alabama, the Neonatal infant mortality rate was 5.9 infant deaths per 1,000 live births compared to the 2006 U.S. rate of 4.5 for the same age group (less than 28 days old).
- Alabama's Postneonatal infant mortality rate was 3.6 compared to the U.S. 2006 rate of 2.2. (2008 U.S. data was not available)
- More than a third of infant deaths occur in the first day of life, almost equal to the percentage dying in the second through twelfth months of life.



- Mothers who smoked during pregnancy in 2008 were 48.3 percent more likely to have their infant die during its first year of life, making maternal smoking a significant risk factor for infant mortality.
- Smoking during pregnancy is a preventable factor in low birth weight infants who are at greater risk for death or serious health problems during their lifetime.

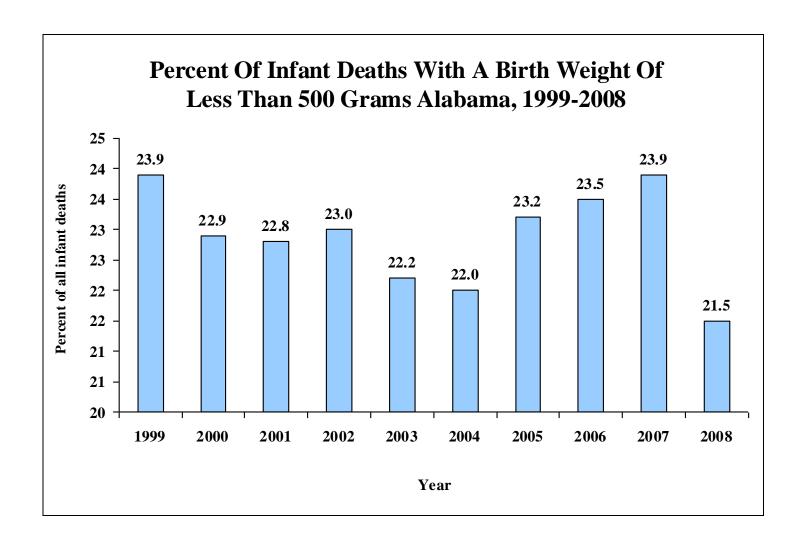


- Mothers who smoked during pregnancy were more likely to lose their infants than those mothers who did not smoke while pregnant.
- White mothers who smoked while pregnant were 60.3 percent more likely to lose their infants than those white mothers who did not smoke during pregnancy.
- Black and Other mothers who smoked while pregnant were 92.1 percent more likely to lose their babies than those Black and Other mothers who did not smoke.

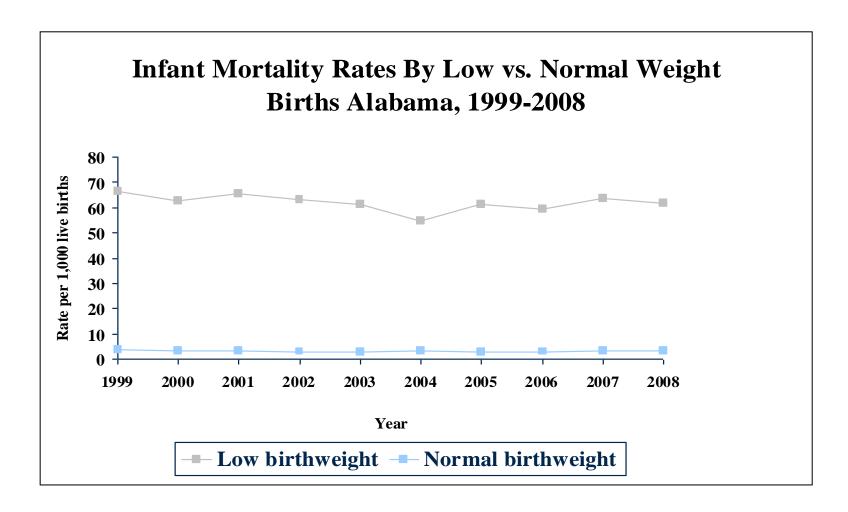


Adequacy of Prenatal Care was measured by the Kotelchuck Index. Rates include only births where prenatal care was known.

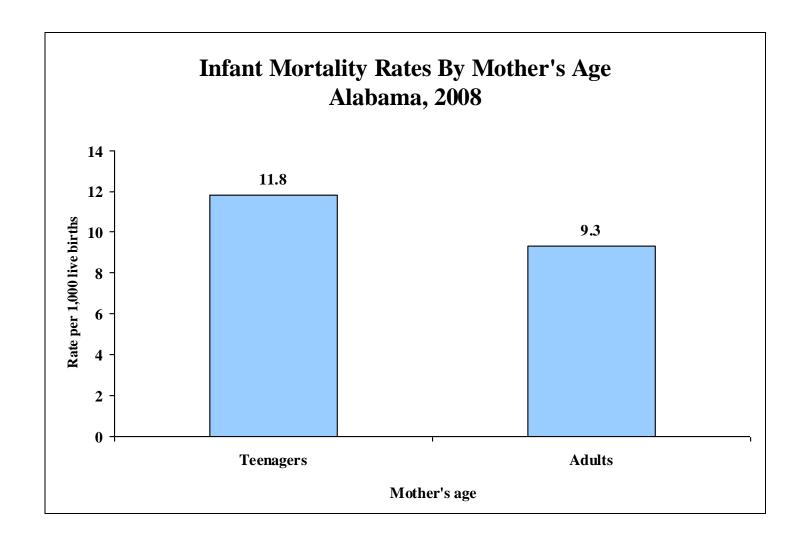
- In 2008, infant deaths were over twice as likely to occur when the mother had Inadequate prenatal care compared to those mothers who received Adequate prenatal care.
- Women who received more than the recommended number of prenatal visits (Adequate Plus) were more likely to be at "high risk" for complications leading to increased infant mortality.



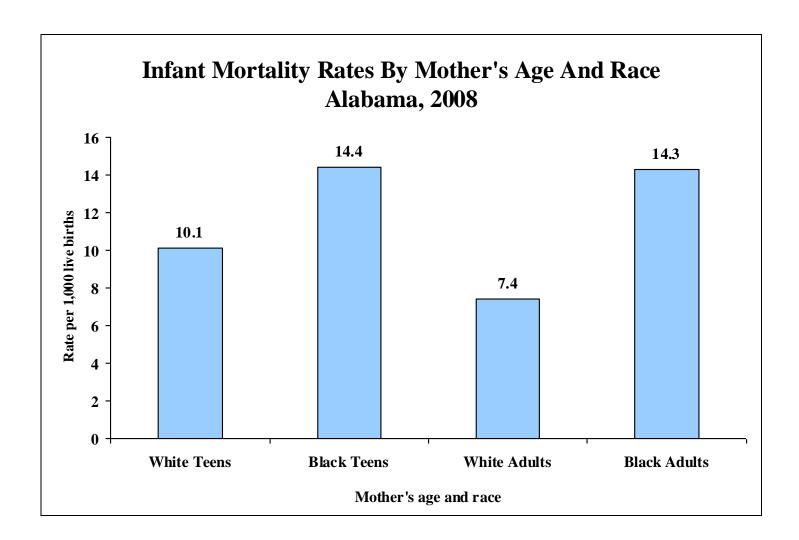
• From 1999-2008, approximately one in five infants who died had a birth weight of less than 500 grams.



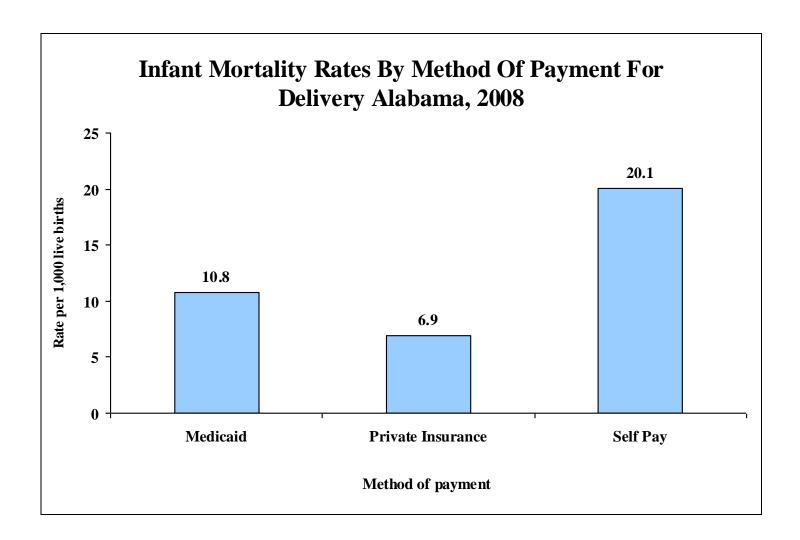
• Low birth weight babies (less than 2,500 grams) in 2008 were 20 times as likely to die as babies born at a normal birth weight.



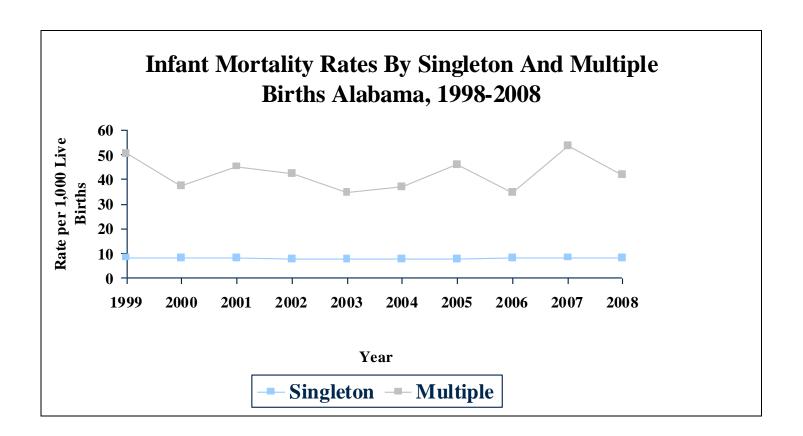
■ Babies born to teenage mothers, ages 10-19, in 2008 had a 26.9 percent higher infant mortality rate than infants born to adult mothers.



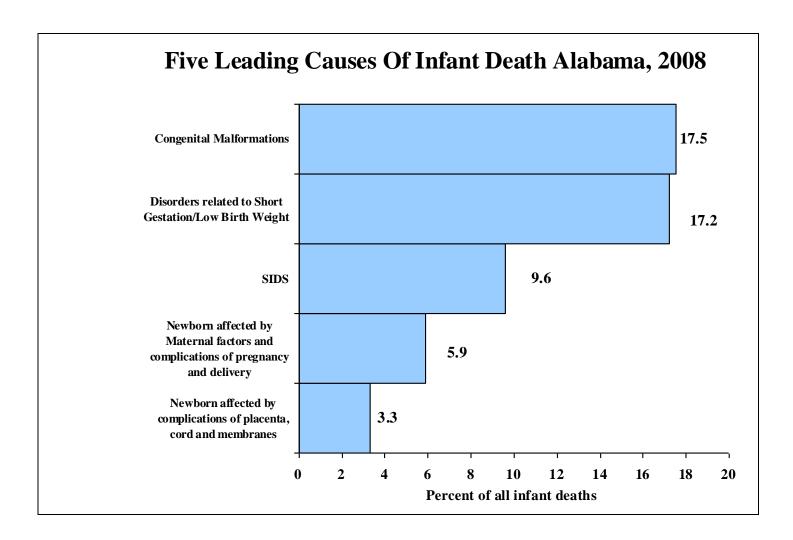
- When comparing just mothers' ages, teen mothers have a higher infant mortality rate than do adult mothers.
- In 2008, white teens had a 36.5 percent higher infant mortality rate than did white adult women, but black teens had an infant mortality rate than almost equal to that of black adult mothers.
- Black teens had a 42.5 percent higher infant mortality rate than their White counterparts, and Black adult mothers were twice as likely to lose their infants as White adult mothers.



- In 2008, the lowest infant mortality was recorded among mothers whose delivery was paid by private insurance.
- Those women who did not have any insurance coverage, either Medicaid or private insurance, were almost twice as likely to lose their infant as those women who were covered by Medicaid and almost three times as likely as those covered by private insurance.



- In 2008, the infant mortality rate among multiple birth deliveries was 41.9 infant deaths per 1,000 live births, compared to the singleton rate of 8.4 infant deaths per 1,000 live births.
- Babies born as multiple births in 2008 were almost 4 times more likely to die as those born as singletons.
- Mortality rates for multiple births decreased by 22 percent between 2007 and 2008.



- Congenital malformations were the leading causes of infant deaths in 2008 in Alabama, followed by disorders related to shortened gestation and low birth weight.
- The last three leading causes accounted for approximately one in five infant deaths (18.8 percent).

TECHNICAL NOTES

DEFINITIONS

- ABORTION or INDUCED TERMINATION OF PREGNANCY "The purposeful interruption of an intrauterine pregnancy with the intention other than to produce a liveborn infant and which does not result in a live birth. This definition excludes management of prolonged retention of products of conception following fetal death." *Code of Alabama*, 1975, Section 22-9A-1. In these publications, the terms induced termination of pregnancy and abortion are used synonymously.
- BIRTH or LIVE BIRTH "The complete expulsion or extraction from the mother of a product of human conception, irrespective of the duration of the pregnancy, which, after such expulsion or extraction, breathes or shows any other evidence of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached. Heartbeats are to be distinguished from transient cardiac contractions; respirations are to be distinguished from fleeting respiratory efforts or gasps." *Code of Alabama, 1975, Section 22-9A-1.* In these publications, the terms *live birth* and *birth* are used synonymously.

BIRTH INTERVAL - The period from the date of the current birth to the date of the last pregnancy ended in a birth or other outcome.

BIRTH ORDER - The numeric relationship of a child to other children born alive to that mother.

ESTIMATED PREGNANCIES - The sum of births, induced terminations of pregnancy, and estimated total fetal losses.

ESTIMATED TOTAL FETAL LOSSES - This term, which is a component used in determining the number of estimated pregnancies is an estimate of the total number of fetal losses regardless of the gestational age of the fetus. Estimated total fetal losses is equal to the sum of 20 percent of births and 10 percent of induced terminations of pregnancy. This formula was developed by The Alan Guttmacher Institute and is widely accepted and used. Estimated total fetal losses should be distinguished from the term fetal deaths as used in these publications. While Alabama law defines fetal death to include all gestations (see definition of FETAL DEATH in other publications), only fetal deaths of at least 20 weeks in gestation are required to be reported by Alabama law and are the only ones counted as fetal deaths in these publications.

INFANT DEATH - Death of a liveborn infant under one year of age. The term excludes fetal death.

LOW BIRTHWEIGHT - A weight at birth of under 2,500 grams or under 5 pounds and 8 ounces.

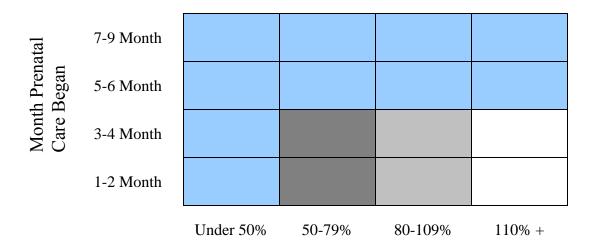
- PRAMS Pregnancy Risk Assessment Monitoring System. PRAMS is a joint research project between the Alabama Department of Public Health and the Centers for Disease Control and Prevention. A questionnaire is sent to a sample of mothers 2 to 4 months after their babies are born. The questionnaire collects information on mothers' behaviors and experiences before, during, and after pregnancy.
- PREGNANCY For the pregnancy rates presented in this publication, the formula developed by the Alan Guttmacher Institute was used.

 Pregnancies=live births + abortions + (20 percent of the live birth total + 10 percent of the abortion total). This is the formula used by the National Center for Health Statistics (NCHS) in monitoring the *Healthy People 2010* objectives for the United States. It is necessary to use this method of estimating pregnancies because only fetal deaths of 20 weeks or more gestation are required to be reported by Alabama law.

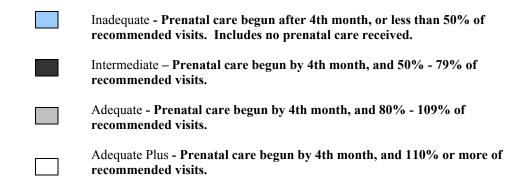
TEENAGE - In this publication, persons aged 10 years through 19 years.

UNINTENDED BIRTHS – Taken from a question in the PRAMS Survey: "Thinking back to just before you got pregnant, how did you feel about becoming pregnant? Sooner, Later, Then, I did not want to be pregnant then or at any time in the future". Mothers who answered 'Later' or 'I did not want to be pregnant then or at any time in the future' are Unintended births, while mothers who answered 'Sooner' or 'Then' are Intended Births.

THE SUMMARY OF ADEQUACY OF PRENATAL CARE UTILIZATION INDEX (APNCU) OR KOTELCHUCK INDEX ¹



Percent of Recommended Visits



Adapted from Kotelchuck M., "An Evaluation of the Kessner Adequacy of Prenatal Care Index and a Proposed Adequacy of Prenatal Care Utilization Index", *American Journal of Public Health*, 1994, 84(9): 1414-20.

FORMULAS

BIRTH RATE	=	Number of Live Births to Females in Specific Group Estimated Female Population in That Group	X	1,000
Number of Live Births with Known Method of Delivery	Λ			
INFANT MORTALITY RATE	=	Number of Deaths to Live Born Infants under One Year of Age	x	1,000
		Number of Live Births	Α	
PERCENT OF BIRTHS WITH ADEQUATE PRENATAL CARE (Kotelchuck Index)	=	Number of Live Births to Women with Adequate Plus Prenatal Care + Number of Live Births to Women with Adequate Prenatal Care	x	100
		Number of Live Births for Which a Kotelchuck Index Could Be Calculated	A	
PERCENT LOW WEIGHT BIRTHS	=	Number of Live Births with a Birthweight Less than 2500 Grams	x	100
		Number of Live Births		
PREGNANCY RATE	=	Number of Live Births to Females in Specific Group + Number of Abortions to These Women + (20 percent of Live Births + 10 percent of Abortions)		1,000
		Estimated Female Population in That Group	X	