PREFACE

This chart book is intended to be a supplement to the 2000 Selected Maternal and Child Health Statistics book published in April of 2002. This is the first time the Maternal and Child Health Chart Book has been compiled. 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 2000 Selected Maternal and Child Health Statistics as well as in other annual publications put out by the Center for Health Statistics. See these other 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 publication 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.
# Maternal and Child Health Chart Book

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SELECTED BIRTH CHARACTERISTICS IN ALABAMA, 2000
The birth rate in 2000 was highest for 20 to 24 year olds and lowest for 10 to 14 year olds.
Birth rates increased with age until they peaked in the early twenties age group, then declined as the mothers’ ages increased.
The percent of births to mothers aged 35 and over in 2000 was 40 percent higher than in 1990 and over twice that of 1980.
Only 3% of mothers under 15 were married. The percent not married decreased as the age of the mother increased until the age category 40+. 
The number of births to Hispanic mothers has increased at an average annual rate of 19 percent since 1990.

If the average annual rate remains constant, the number of births to Hispanic mothers in the year 2010 will be approximately 11,000.
Birth rates have declined since 1970 for the US and Alabama Whites and Black and Others.

Alabama’s birth rate showed a greater decrease (27.6%) than the US rate (19.6%).
White and Asian/Pacific Islander mothers were most likely to have had their deliveries covered by private insurance.

Black and Native American mothers were most likely to have had their deliveries covered by Medicaid.
Over 70 percent of Hispanic mothers had their deliveries covered by Medicaid or were self-insured.

More than half of Non-Hispanic mothers were covered by private insurance.
C-SECTION RATE BY METHOD OF PAYMENT FOR DELIVERY
ALABAMA, 2000

- Mothers whose deliveries were covered by private insurance were 29 percent more likely to have a Cesarean section than mothers covered by Medicaid and 40 percent more likely than self-insured mothers.
Nearly 80 percent of births to White mothers in 2000 were the first or second in order.

Nearly 30 percent of births to Black and Other mothers were third or higher order births.
• Black and Other mothers were twice as likely to have a baby less than a year from their previous baby’s birth than White mothers.
• Slightly less than half of all births occur in the intervals between 1 and 3 years.
• Approximately one-fourth of mothers having more than one child waited less than two years from the previous birth.
The percent of multiple births increased over 40 percent from 1990 to 2000 and increased 70 percent from 1980 to 2000.

After remaining relatively stable during the first half of the 1990’s, this percent has increased 4 of the last 5 years.
The number of births weighing less than 500 grams has increased by 58 percent between 1990 and 2000.

As multiple births have increased, so have the number of infants weighing less than 500 grams.
The percent of low weight births has increased over 15 percent since 1990.
Year 2000 posted the first increase in the percent of low weight births since 1995.
The mothers with the highest percent of low birthweight babies were 15-17 years old (12.5), followed by 18-19 year olds (11.2) and mothers 40 years or older (11.1).

Those with the lowest risk of having a low birthweight baby were mothers 25-29 years old.
Black and Other mothers were 80 percent more likely than White mothers to have had a low weight birth in 2000.
Black and Other mothers were more likely to have babies of low birthweight than White mothers for all education levels.

Black and Other mothers completing college were more likely to have had a low weight birth than White mothers who had not completed high school.
The percent of White mothers who delivered low birthweight babies was 75 percent higher for those who smoked than those who did not smoke.

The percent of Black and Other mothers who delivered low birthweight babies was 62 percent higher for those who smoked than those who did not smoke.
Nearly 83 percent of Alabama mothers began prenatal care in the first trimester.
Only 1.1 percent of Alabama mothers did not receive prenatal care.
White mothers were over 20 percent more likely to receive prenatal care in the first trimester than Black and Other mothers.

This racial differential decreased by more than one third between 1991 and 2000.
Alabama mothers in the year 2000 were over 14 percent more likely to have received adequate prenatal care than in 1991.

Rates have been relatively stable since 1997 with the year 2000 posting a slight decrease in this measure.

Kotelchuck classifications of prenatal care as Adequate Plus and Adequate are combined to form Adequate.
The percent of mothers receiving adequate prenatal care showed marked increases by age group, with the exception of mothers 40 and older. Over 60 percent of mothers under 15 did not have adequate care.
The percent of those receiving adequate prenatal care was highest for White mothers and lowest for Black mothers. Mothers of races other than White or Black showed little difference in their likelihood to receive adequate prenatal care.
Non-Hispanic mothers had a 60 percent greater likelihood of receiving adequate prenatal care than Hispanic mothers.

Less than half of all Hispanic mothers received adequate prenatal care.

1 Kotelchuck classifications of prenatal care as Adequate Plus and Adequate are combined to form Adequate.
Mothers with private insurance were more than twice as likely to receive adequate prenatal care than those whose births were self-funded.

More than one third of mothers covered by Medicaid failed to receive adequate prenatal care.
PERCENT OF MOTHERS WHO RECEIVED ADEQUATE PRENATAL CARE\(^1\) BY EDUCATION LEVEL
ALABAMA, 2000

The percent of mothers who received adequate prenatal care was directly proportional to the attained level of education.

\(^1\) Kotelchuck classifications of prenatal care as Adequate Plus and Adequate are combined to form Adequate.
Maternal smoking has continued to decline among adult mothers.
For teenage mothers, maternal smoking declined from 1990 – 1994 but has increased substantially since 1995.
In 2000, Alabama mothers were 33 percent less likely than in 1996 to place their babies on their stomachs to sleep and almost twice as likely to place their babies on their backs to sleep.

The Centers for Disease Control & Prevention launched a “Back to Sleep” campaign in 1994 to encourage mothers to put babies on their backs to sleep to reduce the risk of Sudden Infant Death Syndrome (SIDS).
In 2000, almost two thirds of Alabama mothers didn’t take multivitamins at all before pregnancy.

Multivitamins containing folic acid are recommended for women of childbearing age to prevent birth defects, premature births and low birthweight babies.
There has been no real change in the percent of unintended births in Alabama since 1993.
TEEN PREGNANCY IN ALABAMA, 2000
An encouraging trend has been the decreasing percent of births to teenage mothers. The percent of births to teenagers was 13.7% lower in 2000 than in 1990.
BIRTHS TO TEENAGERS AS A PERCENT OF ALL BIRTHS BY COUNTY OF RESIDENCE ALABAMA, 2000

• The counties with the highest percent of births to teens in 2000 were in the southern part of the state and clustered along the border with Georgia.

• Lowndes County had the highest percent of teen births at 26.7% while Shelby County had the lowest at 7.2%.
Teen birth rates declined 17% from 1990 to 2000.
Teen pregnancy rates have declined each year since 1994.
The rate in 2000 (46.1) was 18.8% lower than the rate in 1993 (56.8).
The pregnancy rate was lowest for White teens.

In 2000, Black and Other teens had a pregnancy rate of 60.3 per 1,000 females 10-19, which was 58% higher than the pregnancy rate of 38.1 in Whites.
PREGNANCY RATES\(^1\) FOR WOMEN 10-19 YEARS OF AGE BY COUNTY OF RESIDENCE, ALABAMA, 2000

- The highest pregnancy rates for teenagers in Alabama in 2000 were clustered along the border of Georgia in the middle of the state.

- Lowndes County had the highest teenage pregnancy rate at 74.0 per 1,000 females 10 – 19, while Shelby County had the lowest rate at 25.6.

\(^1\)Rate is per 1,000 females aged 10 – 19.
An encouraging trend is the decreasing percent of pregnancies to teenage mothers in all age groups.
Over two-thirds of teen pregnancies resulted in live births, one-sixth ended in abortion, and slightly less than one-sixth ended as fetal losses.
• Pregnancies to younger teens were more likely to end in abortions or fetal losses than those to older teens.
Teens were almost twice as likely to report having an unintended birth as adults in 2000.
The majority of births to teens were paid for by Medicaid in 2000.

Private insurance paid for 13.6% of the births to teens, while 2.8% of teens paid for the birth themselves.
INFANT MORTALITY IN ALABAMA, 2000
Infant mortality rates have been steadily decreasing for Alabama and the US since 1960.
- Alabama’s infant mortality rate (9.4 in 2000) remains higher than that of the US (6.9).
- The infant mortality rate in 2000 was the lowest in Alabama’s history.

1 2000 US rate is preliminary.
The infant mortality rate in Alabama has dropped 37.7% since 1980 (15.1).
Rates have fluctuated throughout the 1990s, but have a slight downward trend.
The rate has been declining since the 1988-1990 period, but remains steady at around 10 infant deaths per 1,000 live births. Most of the decline occurred in the first half of the decade.
While Alabama’s rate for Blacks was 12% higher than that of US Blacks in 2000, it has been lower than the US rate at times in the past.

Alabama’s Whites have consistently had a higher infant mortality rate than US Whites.

A large differential remains between Whites and Blacks in both Alabama and the US.

The infant mortality rate for Black mothers was nearly two and a half times that of White mothers in 2000 for Alabama and the US.
The White infant mortality rate has declined 26% since 1990, despite fluctuations throughout the decade.
The Black infant mortality rate has fluctuated since 1990, but has remained around 16 deaths per 1,000 births.

The Black rate was 2.4 times higher than the White rate in 2000.

While the White rate has declined, the Black rate has had very little change during the decade.
INFANT MORTALITY RATES  
BY COUNTY OF RESIDENCE  
ALABAMA, 1998 - 2000

• Sumter County had the highest infant mortality rate (20.0) for 1998 to 2000, while Pickens had the lowest rate (3.5).

• The counties with the lowest three year rates are generally in the northern part of the state. Those with the highest rates are scattered throughout the middle and lower part of the state.

1. 2000 US rate is preliminary.
Slightly less than half of the infant deaths in Alabama in 2000 occurred within the first week of life, while slightly over half of the deaths in the US in 1999 happened in the first 6 days.

A third of the infants who die in the first year survive past the first month, only to die before their first birthday.
• Mothers who reported smoking during pregnancy were 27% more likely to lose their infant than mothers who did not smoke, making smoking a significant risk factor for infant mortality.
• The Surgeon General has determined that smoking leads to low birth weight which, in turn, increases the risk of infant mortality.
• White mothers were more likely to smoke than Black and Other mothers.
• Both White and Black and Other mothers who smoked were more likely to lose their infant.
• White mothers who smoked were almost twice as likely to have an infant death as those who did not smoke, but Black and Other mothers who smoked were only slightly more likely to lose their baby than those who did not smoke.
Infant deaths were over twice as likely to occur when the mother received inadequate prenatal care compared with those mothers who received adequate care.

Women who received more than the recommended number of prenatal visits (Adequate Plus) were more likely to be at "high risk" and to have complicated medical conditions and/or pregnancy complications that could contribute to an increased risk for infant death.
The percent of infant deaths with a birthweight of less than 500 grams has increased 60% since 1990.

In 2000, almost a quarter of infants who died weighed less than 500 grams.
Low weight babies (less than 2500 grams) were almost 18 times more likely to die than normal weight babies.

Since 1990, the infant mortality rate has decreased 21% for low weight babies as the ability to care for low weight babies has improved.
INFANT MORTALITY RATES
TEENAGERS vs. ADULTS
ALABAMA, 2000

- Overall, babies of teenage mothers in 2000 had a 27% higher infant mortality rate than babies born to adult mothers.
In 2000, when comparing teens and adults by race, Black and Other adults had the highest infant mortality rate (15.4) and White adults had the lowest rate (6.2).

Black and Other teens are 54% more likely to have had an infant die than White teens, while Black and Other adults were 148% more likely to lose their infant than White adults.
Mothers with private insurance had the lowest infant mortality rate at 7.1 deaths per 1,000 births.

Mothers whose births were covered by Medicaid were almost two times as likely to lose their babies as mothers whose births were covered by private insurance.
- Babies born as multiple births were over 4 times more likely to die in infancy as singleton infants.
- Mortality rates for multiple births in 2000 (37.5) have decreased 34% since 1990 (56.9).
**FIVE LEADING CAUSES OF INFANT DEATH**  
**ALABAMA, 2000**

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<th>Cause</th>
<th>Percent of All Infant Deaths</th>
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<td>Congenital Malformations</td>
<td>20.6</td>
</tr>
<tr>
<td>Disorders of Short Gestation/Low Birth Weight</td>
<td>20.2</td>
</tr>
<tr>
<td>SIDS</td>
<td>10.4</td>
</tr>
<tr>
<td>Respiratory Distress</td>
<td>6.5</td>
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<tr>
<td>Bacterial Sepsis</td>
<td>6.1</td>
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- Congenital Malformations was the leading cause accounting for 20.6% of infant deaths, followed closely by Disorders of Short Gestation accounting for 20.2% of deaths.
- SIDS was the cause of death in 10% of infant deaths and the leading cause of postneonatal mortality.
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 2000 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

<table>
<thead>
<tr>
<th>Month Prenatal Care Began</th>
<th>Under 50%</th>
<th>50-79%</th>
<th>80-109%</th>
<th>110% +</th>
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<tr>
<td>7-9 Month</td>
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<td>5-6 Month</td>
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<td>3-4 Month</td>
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<td>1-2 Month</td>
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Percent of Recommended Visits

- **Inadequate** - Prenatal care begun after 4th month, or less than 50% of recommended visits. Includes no prenatal care received.

- **Intermediate** – Prenatal care begun by 4th month, and 50% - 79% of recommended visits.

- **Adequate** - Prenatal care begun by 4th month, and 80% - 109% of recommended visits.

- **Adequate Plus** - Prenatal care begun by 4th month, and 110% or more of recommended visits.

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FORMULAS

**BIRTH RATE**

\[
\text{Number of Live Births to Females in Specific Group} \div \text{Estimated Female Population in That Group} \times 1,000
\]

**CESAREAN DELIVERY RATE**

\[
\left(\frac{\text{Number of Births Delivered by Primary Cesarean} + \text{Number of Births Delivered by Repeat Cesarean}}{\text{Number of Live Births with Known Method of Delivery}}\right) \times 100
\]

**INFANT MORTALITY RATE**

\[
\frac{\text{Number of Deaths to Live Born Infants under One Year of Age}}{\text{Number of Live Births}} \times 1,000
\]

**PERCENT OF BIRTHS WITH ADEQUATE PRENATAL CARE (Kotelchuck Index)**

\[
\frac{\text{Number of Live Births to Women with Adequate Plus Prenatal Care} + \text{Number of Live Births to Women with Adequate Prenatal Care}}{\text{Number of Live Births for Which a Kotelchuck Index Could Be Calculated}} \times 100
\]

**PERCENT LOW WEIGHT BIRTHS**

\[
\frac{\text{Number of Live Births with a Birthweight Less than 2500 Grams}}{\text{Number of Live Births}} \times 100
\]

**PREGNANCY RATE**

\[
\frac{\text{Number of Live Births to Females in Specific Group} + \text{Number of Abortions to These Women} + (20\% \text{ of Live Births} + 10\% \text{ of Abortions})}{\text{Estimated Female Population in That Group}} \times 1,000
\]