

March of Dimes Foundation Data Book for Policy Makers

**Maternal, Infant, and Child Health
in the United States**

2012

The March of Dimes Data Book for Policy Makers: Maternal, Infant, and Child Health in the United States 2012 provides national and state data highlighting infant mortality, birth defects, preterm and low birthweight births, health insurance [remove: coverage for women and children], and health promotion strategies. This easy-to-use resource guide is aimed at public policy makers and others seeking quick facts at their fingertips.

Readers interested in more detail and regular updates of many of the data presented in this book should visit *PeriStats*, the March of Dimes interactive data resource at marchofdimes.com/peristats. Except where noted, information in this Data Book is for the United States. Where possible, data for Puerto Rico are included.

The March of Dimes Data Book for Policy Makers was produced by Nicole Garro, Dana Chesla, and Cynthia Pellegrini of the Office of Government Affairs. Rebecca Russell, Todd Dias, and Caroline Alter of the March of Dimes Perinatal Data Center prepared much of the data. Don Komai of Watermark Design and Chintan Parikh from Publishing Resources provided services to assist the March of Dimes with the production of the publication.

The March of Dimes is a national voluntary health agency founded in 1938 by President Franklin D. Roosevelt to support research and services related to polio. Today, the Foundation works to improve the health of women, infants and children by preventing birth defects, premature birth and infant mortality through research, community services, education and advocacy. The March of Dimes is a unique partnership of scientists, clinicians, parents, members of the business community and other volunteers affiliated with chapters in all 50 states, the District of Columbia, and Puerto Rico.

We trust that this Data Book and other March of Dimes resources (available at marchofdimes.com or nacersano.org) will be helpful as we work together toward the day when every baby is born healthy.

H. Edward Hanway, Chair
National Advocacy and Government Affairs Committee
March of Dimes

Dr. Jennifer L. Howse, President
March of Dimes

About *PeriStats*

PeriStats, the March of Dimes interactive web resource (marchofdimes.com/peristats) offers the latest data on maternal, infant, and child health at national, state, and local levels. Users – from the general public to policy makers, researchers, providers, and students – will find the site comprehensive and easy to use.

Look for the *PeriStats* logo  on pages throughout the *Data Book for Policy Makers*. It's a signal that more detailed – and perhaps more current information is available on the website.

Updated at least annually, *PeriStats* covers data for multiple years for topics like birth rates, infant mortality, prematurity, and low birthweight; tobacco, alcohol, and illicit drug use; cesarean section rates; newborn screening; and health insurance coverage. Information by race, ethnicity, and maternal age is also available for many of these indicators.

Users can compare data for cities, counties, states, and the United States and can choose various output formats, including graphs, maps, tables, and slides which they can use in reports or presentations. Together, *PeriStats* and the *Data Book* are powerful tools for helping inform policy to improve maternal, infant, and child health in the United States.



marchofdimes.com/peristats

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Maternal, Infant, and Child Health Objectives for 2020

Healthy People 2020, a series of national health objectives to be achieved by the year 2020, was released by the U.S. Department of Health and Human Services (HHS) in December 2010. These objectives are used to measure overall health of the United States and measure the impact of health promotion and disease prevention activities.

- The overarching goals of this initiative are to increase the quality and years of healthy life and eliminate disparities in health status, create social and physical environments that promote health, and promote healthy development and health behaviors across the lifespan.
- A number of the *Healthy People 2020* objectives concern maternal, infant, and child health. Among them are efforts to:
 - Reduce rates of infant and maternal mortality, preterm and low birthweight births, and birth defects
 - Increase the proportion of women receiving early and adequate prenatal care
 - Promote healthy behaviors such as breastfeeding and abstaining from tobacco and alcohol while pregnant
 - Ensure appropriate newborn screening, follow-up testing, and treatment
- Many relevant *Healthy People 2020* objectives are included in this data book. More detailed information about the initiative is at the website www.healthypeople.gov.
- March of Dimes set preterm birth goal of 9.6% which is lower than the Healthy People goal of 11.4%. This ambitious goal is included in this data book to measure progress in improving rates of preterm birth.

On an average day in the United States...

11,317 babies are born

1,376 babies are born preterm

923 babies are born low birthweight

329 babies are born with a birth defect*

222 babies are born very preterm

164 babies are born very low birthweight

77 babies die before reaching their first birthday

* Based on Centers for Disease Control and Prevention estimate of at least 120,000 babies born annually with major structural birth defects.

Note: Numbers are approximations.

Source: National Center for Health Statistics, 2009 Final Natality Data and 2008 Period Linked Birth/Infant Death Data. Prepared by the March of Dimes Perinatal Data Center 2012.

Quick stats for the United States...

- About every eight seconds, a baby is born.
- Every hour, about three babies die.
- African-American infants are more than two times as likely as white infants to die before their first birthday.
- Birth defects are the leading cause of infant mortality, accounting for one in five infant deaths.
- Each year, about 3,000 pregnancies are affected with birth defects of the brain and spinal cord.
- About every 4½ and a half minutes, a baby is born with a birth defect.*
- About one in eight infants is born preterm.
(less than 37 completed weeks gestation)
- About every 1½ minutes, a baby is born with low birthweight.
(less than 5½ pounds)
- Prematurity/low birthweight is the second leading cause of all infant deaths and the leading cause of infant deaths among African Americans.
- Every year, about 4,700 babies are born weighing less than one pound.
- About every minute, a baby is born to a teen mother.

*Based on Centers for Disease Control and Prevention annual estimate of at least 120,000 babies born with major structural birth defects.

Note: Numbers are approximations.

Source: National Center for Health Statistics, 2009 Final Natality Data and 2008 Period Linked Birth/Infant Death Data. Prepared by the March of Dimes Perinatal Data Center 2012.



Infant and Maternal Mortality

Infant Mortality in the United States

Even though infant mortality in the United States dropped dramatically in the past century, significant room for improvement remains.

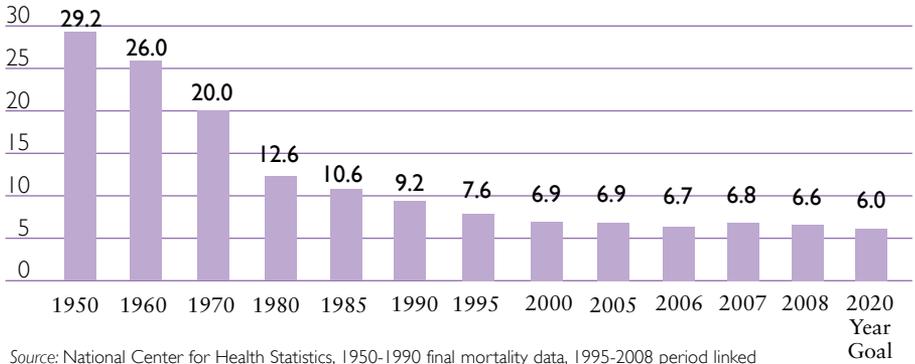
- After remaining stable for several years, the infant mortality rate has been decreasing since 2005.
- More than 28,000 infants died before their first birthdays in 2008—a rate of 6.6 deaths per 1,000 live births.
- In 2008, the infant mortality rate was highest in the southern region of the United States.

Source: National Center for Health Statistics, 2008 period linked birth/infant death data. Prepared by the March of Dimes Perinatal Data Center, 2012.

INFANT MORTALITY
REFERS TO DEATH
UNDER AGE ONE.
THE INFANT MORTALITY
RATE IS THE NUMBER
OF INFANT DEATHS PER
1,000 LIVE BIRTHS.

Infant Mortality, 1950-2008

Deaths per 1,000 live births



Source: National Center for Health Statistics, 1950-1990 final mortality data, 1995-2008 period linked birth/infant death data. Prepared by March of Dimes Perinatal Data Center, 2012.

Infant Mortality by Region, 2008

Deaths per 1,000 live births



Source: National Center for Health Statistics, 2008 period linked birth/infant death data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Infant Mortality and Race/Ethnicity of Mother

There are considerable disparities in infant mortality rates based on race and ethnicity.

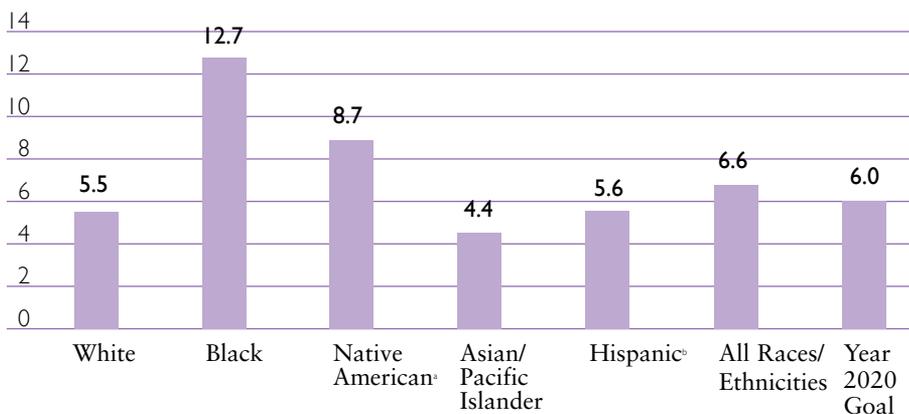
- African-American infants are more than two times as likely as white infants to die in the first year of life.
- Excluding babies of Hispanic origin, the 2008 infant mortality rate for those born to black mothers was 12.7 per 1,000 live births, compared with 5.5 for whites, 8.7 for Native Americans, and 4.4 for Asian/Pacific Islanders.
- For Hispanics, the 2008 infant mortality rate was 5.6 per 1,000 live births. Within this group, Puerto Rican mothers had the highest rate of 7.3 per 1,000 live births.

Source: National Center for Health Statistics, 2008 period linked/birth/infant death data. Prepared by the March of Dimes Perinatal Data Center, 2012.

ONE HEALTHY PEOPLE
2020 OBJECTIVE IS
TO REDUCE THE RATE
OF INFANT DEATHS
FOR ALL RACIAL/
ETHNIC GROUPS TO
6 PER 1,000 LIVE
BIRTHS, A 10%
DECREASE FROM A
BASELINE LEVEL OF
6.7 DEATHS PER LIVE
BIRTH (2006).

Infant Mortality, by Race/Ethnicity of Mother, 2008

Deaths per 1,000 live births

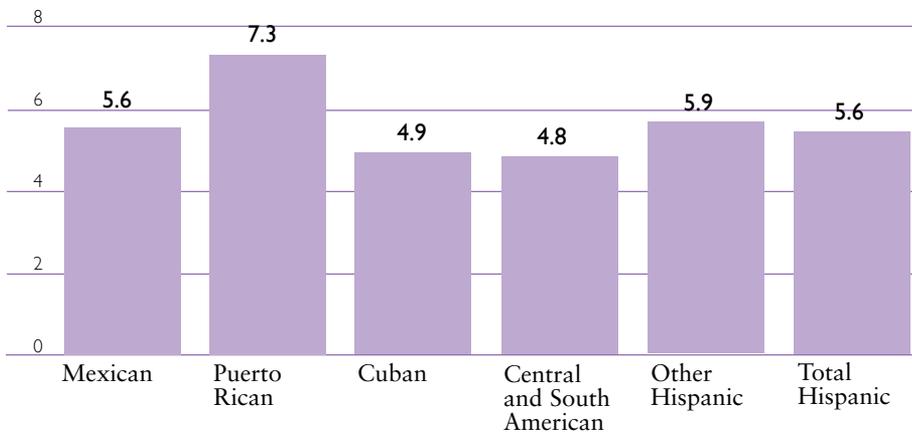


* People of Hispanic origin may be of any race; racial categories displayed here are non-Hispanic.

Source: National Center for Health Statistics, 2008 period linked/birth/infant death data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Infant Mortality, by Hispanic Ethnicity of Mother, 2008

Deaths per 1,000 live births



Source: National Center for Health Statistics, 2008 period linked birth/infant death data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Leading Causes of Infant Mortality

For more than 20 years, birth defects have been the leading cause of infant mortality (death in the first year of life).

By contrast, prematurity/low birthweight is the most common cause of neonatal mortality (death in the first month of life).

- Birth defects and prematurity/low birthweight together were responsible for 37% of all infant deaths and 45% of all neonatal deaths in 2008.
- Birth defects alone were responsible for 20% of infant deaths in 2008.
- The leading cause of infant death differed by race. Among non-Hispanic whites, the leading cause of infant death was birth defects. Among non-Hispanic blacks, the leading cause of infant death was prematurity/low birthweight.
- The rate of deaths due to prematurity/low birthweight for non-Hispanic black infants was nearly four times that for non-Hispanic white infants (284 per 100,000 versus 75 per 100,000 live births.)

HEALTHY PEOPLE 2020 HAS SEVERAL OBJECTIVES TO REDUCE THE RATE OF INFANT DEATHS, INCLUDING:

- LOWER THE INFANT DEATH RATE ATTRIBUTABLE TO BIRTH DEFECTS TO 1.3 (FROM 1.4 IN 2006)
- LOWER THE INFANT DEATH RATE ATTRIBUTABLE TO SUDDEN INFANT DEATH SYNDROME (SIDS) TO 0.50 (FROM 0.55 IN 2006)

(RATES ARE PER 1,000 LIVE BIRTHS.)

Leading Causes of Neonatal and Infant Mortality, 2008



	<i>Percent of Neonatal Deaths</i>	<i>Percent of Infant Deaths</i>
Prematurity/Low Birthweight	25.4	16.9
Birth Defects	21.9	20.2
Maternal Complications	9.6	6.3
Placenta/Cord Complications	5.8	3.8
Bacterial Sepsis of New born	3.7	2.5
Respiratory Distress Syndrome	3.4	2.3
Sudden Infant Death Syndrome (SIDS)	1.1	8.4
Unintentional Injuries (“accidents”)	0.7	4.7

Note: Neonatal death occurs in the first month of life (28 days). Infant death occurs during the first year of life.

Source: National Center for Health Statistics, 2008 period linked birth/infant death data. Prepared by the March of Dimes Perinatal Data Center; 2012.

Maternal Mortality

After a period of marked decline, the rate of maternal mortality in the United States has not substantially improved since the 1980s.

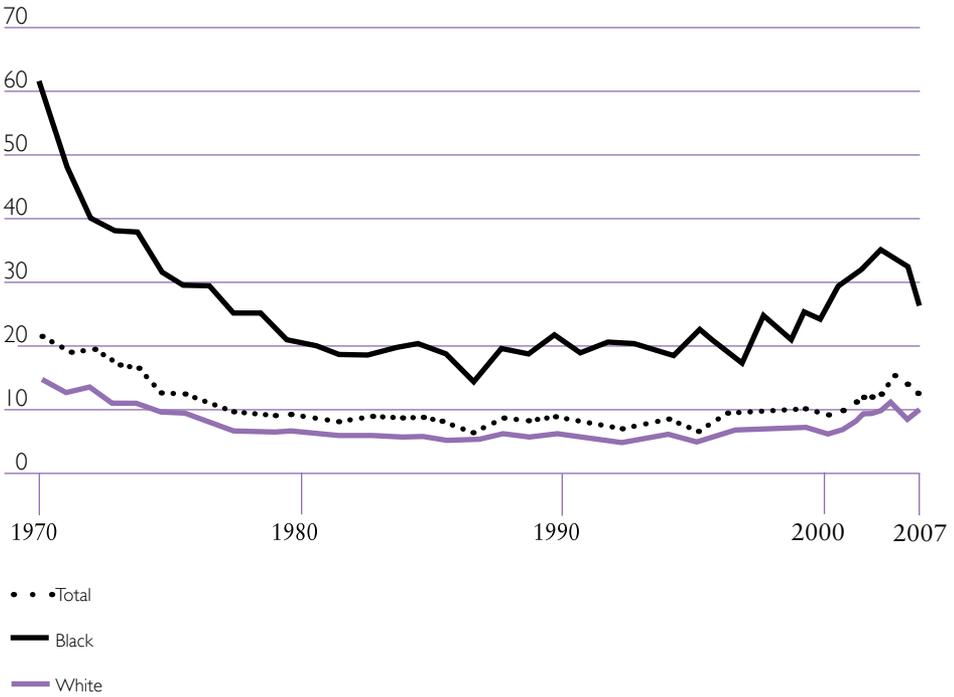
- There were 12.7 maternal deaths per 100,000 live births in 2007, according to vital statistics data. This figure may be an undercount, however, as vital statistics data are known to underestimate maternal deaths. Reporting of maternal deaths has been improved with the 2003 revision of the death certificate.
- In 2007, non-Hispanic black women were over 2½ times more likely than non-Hispanic white women to die from pregnancy complications and childbirth.
- Further reductions in maternal mortality are possible, given that the World Health Organization estimates that 46 countries have achieved lower maternal mortality levels than the United States.
 - Experts estimate that up to half of all maternal deaths in the US could be prevented through a variety of interventions, including early diagnosis and appropriate medical care for pregnancy complications.
 - One Healthy People 2020 objective is to lower the maternal mortality rate to 11.4 per 100,000 live births (from 12.7 deaths per 100,000 live births in 2007).

MATERNAL MORTALITY, OR DEATH DUE TO MATERNAL CAUSES, INCLUDES DEATHS DUE TO CAUSES RELATED TO OR AGGRAVATED BY PREGNANCY OR PREGNANCY MANAGEMENT, AND EXCLUDES DEATHS OCCURRING MORE THAN 42 DAYS AFTER THE END OF THE PREGNANCY AND DEATHS OF PREGNANT WOMEN DUE TO EXTERNAL CAUSES (SUCH AS INJURY) (NCHS, 2010).

Source: Maternal mortality rates from the National Center for Health Statistics, 2010. International ranking from the World Health Organization, 2012.

Maternal Mortality, by Race, 1970–2006

Maternal deaths per 100,000 live births



Note: Rates from 1970-1988 are based on race of child. Rates after 1988 are based on race of mother.

Source: National Center for Health Statistics, 2010.



Birth Defects

Incidence of Birth Defects

Each year, an estimated 120,000 babies are born with major structural birth defects. One in five infant deaths is due to birth defects, making them the leading cause of infant mortality

- Birth defects rank second in leading causes of death among 1- to 4-year olds and third among 5- to 14-year olds.
- Birth defects of the heart and circulatory system are the most common, affecting roughly one percent (1%) of newborns.
- Hospital costs for stays due to birth defects totaled \$2.6 billion for all birth defects and all ages in 2004. More than half of all hospital costs were related to cardiac and circulatory birth defects. In 2004, a birth defect hospital admission was more than twice as costly as all other hospital admissions, averaging \$18,600.
- Severe birth defects may require special lifelong medical treatment. Because many conditions cannot be fully corrected, birth defects are a major cause of childhood and adult disability.

Sources: Infant deaths from birth defects from the National Center for Health Statistics, 2008 period linked/infant death data. Childhood deaths from birth defects from the National Center for Health Statistics, 2009 final mortality data. Hospital costs from Russo and Elixhauser, 2007.

Hospital Costs of Birth Defects, 2004

Principal Diagnosis	Total # of Hospital Stays	% of All Stays for Birth Defects	Mean Costs (dollars)	Aggregate Costs (dollars)
All cardiac and circulatory congenital anomalies	46,500	33.5%	\$29,600	\$1,368,822,600
All digestive congenital anomalies	25,800	18.5%	\$11,700	\$303,173,100
All genitourinary congenital anomalies	12,900	9.3%	\$8,900	\$114,709,700
All nervous system congenital anomalies	6,900	5.0%	\$16,200	\$112,164,200
Cleft lip with or without cleft palate	4,900	3.6%	\$5,500	\$27,155,800
Congenital anomalies of skull and facial bones	3,700	2.6%	\$16,800	\$61,329,500
Foot deformities	2,900	2.1%	\$5,900	\$16,873,900
Cleft palate without cleft lip	2,900	2.1%	\$5,400	\$15,506,700
All birth defects*	139,000	100%	\$18,600	\$2,566,067,700

* Includes birth defects not shown.

Source: Russo, CA and Elixhauser, A, 2007.

Birth Defects Monitoring Programs

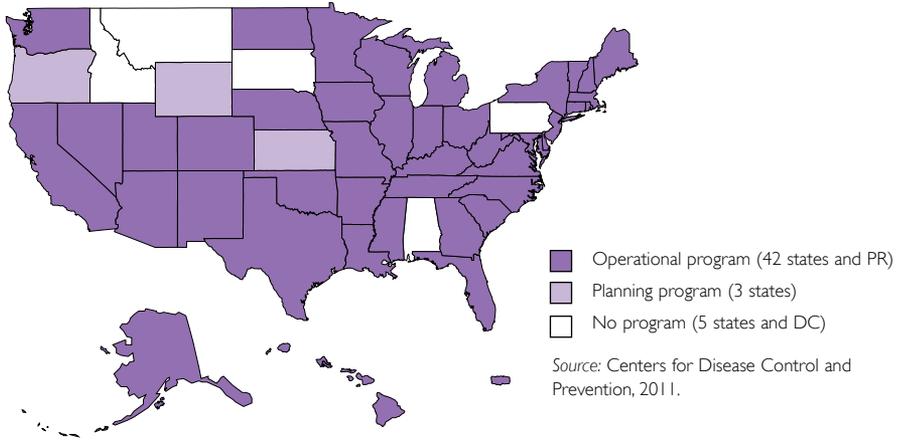
States play a vital role in preventing birth defects by maintaining birth defects monitoring programs. These programs collect data for detecting birth defects trends and suggest areas for further research. They also link people to needed services.

The Centers for Disease Control and Prevention (CDC) works through the states to collect data, operate research centers, and furnish information to the public on birth defects. These efforts are managed by the National Center on Birth Defects and Developmental Disabilities.

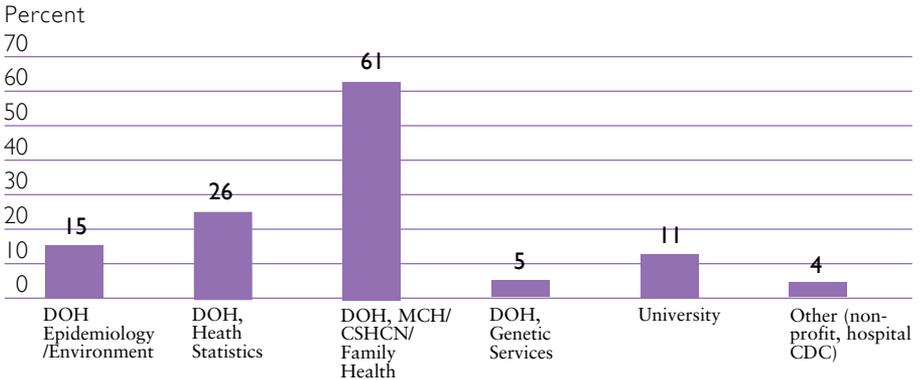
- The majority of states (41) plus Puerto Rico have some type of birth defects monitoring program, while another three are planning one. CDC has given 14 states grants to develop or enhance their programs and to use the data they collect for prevention and referral activities.
- CDC funds eight Centers for Birth Defects Research and Prevention to collaborate on the largest multi-state study of birth defects. The centers are located in Arkansas, California, Iowa, Massachusetts, New York, North Carolina, Texas, and Utah. CDC also participates as the ninth study site. The researchers at these centers have a unique opportunity to examine the effects of genetics and the environment on birth defects.
- CDC works with the National Birth Defects Prevention Network to compile state data. Since state methods and data sources vary, the Network has developed guidelines to make information more comparable across states. In addition, the Network developed national prevalence estimates for 21 birth defects.

Sources: Centers for Disease Control and Prevention, 2011.

State Activities in Birth Defects Monitoring, 2011

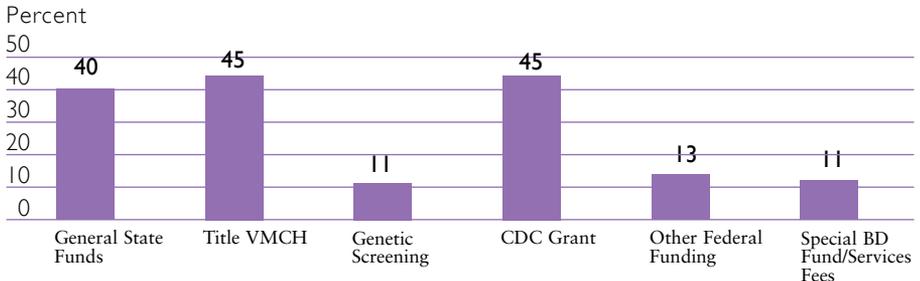


Organizational Location of Birth Defects Programs, 2011



Source: Centers for Disease Control and Prevention, 2011.

Funding Sources for Birth Defects Programs, 2011



Source: Centers for Disease Control and Prevention, 2011.

Newborn Screening

Many inherited disorders can be identified shortly after birth through newborn screening. Early identification and treatment can help to prevent disability and, in some cases, death.

- Most tests can be done using a simple “heel stick” blood sample collected before the newborn leaves the hospital.
- The federal Secretary’s Advisory Committee on Heritable Disorders in Newborns and Children endorsed a 2005 report by the American College of Medical Genetics that recommended screening all newborns for 29 specific conditions which has been updated to include 31 conditions, including metabolic disorders, hearing impairment, and others. (see full list on pages 72-73)
- Newborn screening requirements vary by states. All states and DC screen for hemoglobinopathies and amino acid metabolism disorders except Tyrosinemia type 1.
- Financing of newborn screening programs varies by state. In some cases, states provide screening free of charge for all families. The Affordable Care Act requires all insurers to cover newborn screening costs without cost-sharing if states levy fees on families. After screening, treatment costs vary depending on insurance status and type.

Sources: American College of Medical Genetics, 2004. American Academy of Pediatrics Newborn Screening Task Force 2000.

State Newborn Screening Requirements, 2012:

A Summary

Condition	Number of States Screening All Newborns ^a
Amino Acid Metabolism Disorders	
Argininosuccinic acidemia	51
Citrullinemia	51
Homocystinuria	51
Maple syrup urine disease	51
Phenylketonuria/hyperphenylalaninemia (PKU)	51
Tyrosinemia type I	49
Organic Acid Metabolism Disorders	
Hydroxymethylglutaric aciduria	51
Beta ketothiolase	51
Glutaric acidemia type 1	51
Isovaleric acidemia	51
Methylmalonic acidemia (cblA and cblB forms)	51
Methylmalonic acidemia (due to mutase deficiency)	51
Propionic acidemia	51
Multiple carboxylase	50
3-Methylcrotonyl-CoA carboxylase	49
Fatty Acid Oxidation Disorders	
Long-chain 3-OH acyl-CoA dehydrogenase deficiency	51
Medium-chain acyl-CoA dehydrogenase	51
Very long-chain acyl-CoA dehydrogenase	51
Carnitine uptake defect	50
Trifunctional protein deficiency	50
Hemoglobinopathies	
S/Beta-thalassemia	51
Sickle cell anemia	51
Hb S/C disease	51
Other Disorders	
Biotinidase	51
Congenital adrenal hyperplasia	51
Congenital hypothyroidism	51
Cystic fibrosis	50
Transferase deficient galactosemia (classical)	50
Hearing screening	35
Severe Combined Immunodeficiency	5
Critical Congenital Heart Disease	5

^aTesting is universally required by law or rule and fully implemented as of September 2012.

For more information on the uniform panel of 29 disorders, see the August 2004 report - Newborn Screening: Toward a Uniform Screening Panel and System - developed by the American College of Medical Genetics.

For more detailed information on newborn screening status, please see the National Newborn Screening Status Report developed by the National Newborn Screening and Genetics Resource Center.

Source: National Newborn Screening and Genetics Resource Center, 2012.

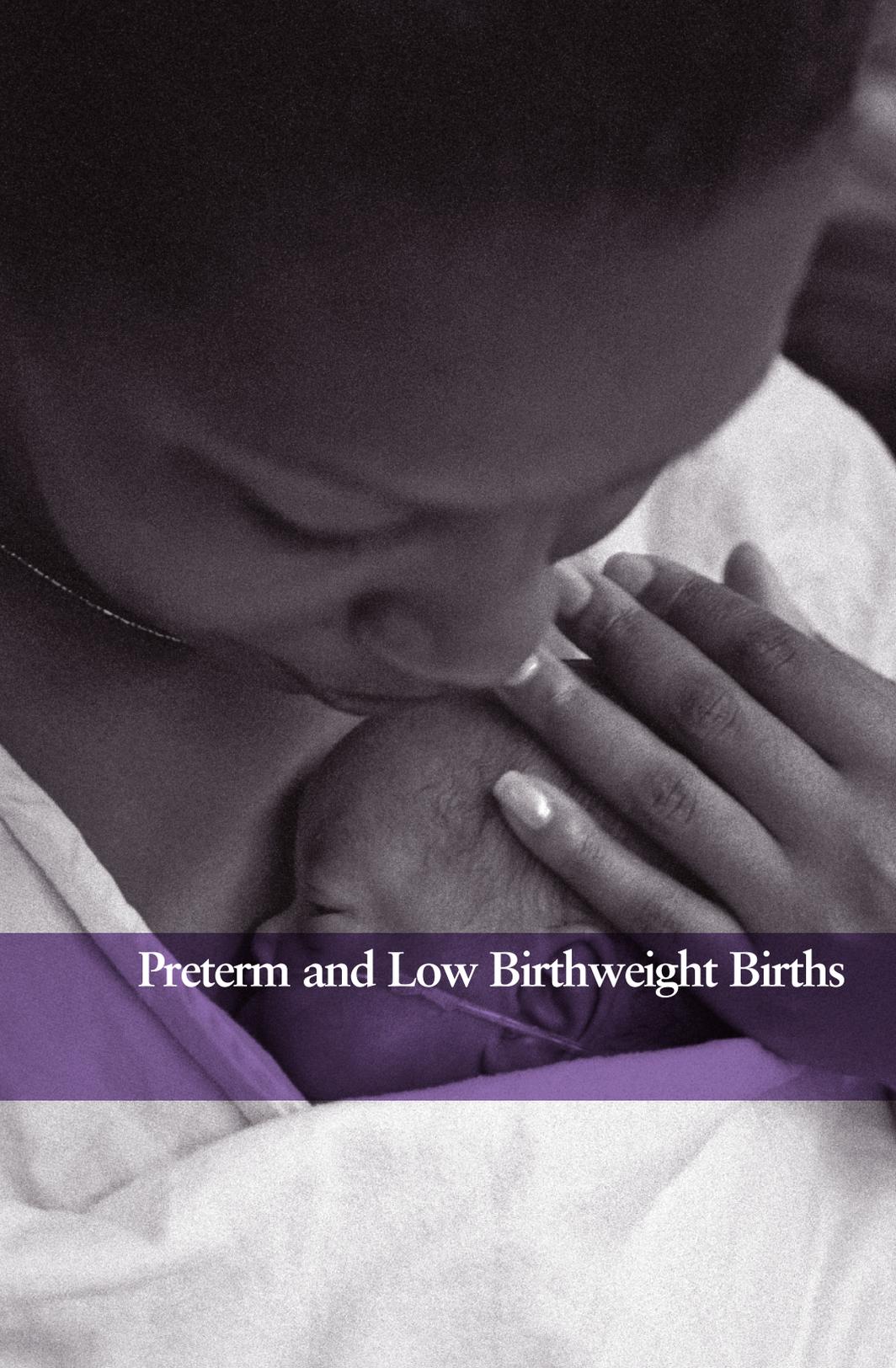
Newborn Screening: Categories of Disorders

In its 2005 report to the federal Secretary's Advisory Committee on Heritable Disorders in Newborns and Children (SACHDNC), the American College of Medical Genetics (ACMG) recommended screening all newborns for 29 disorders for which effective treatment is available. During screening for those 29 disorders, information can be obtained for an additional 25 disorders for which no treatment is available, but of which parents should also be informed. Since the original ACMG report, two additional disorders have been added to the screening panel: Severe Combined Immunodeficiency Disorder and Critical Congenital Heart Disease. The disorders fall into the following five general categories.

- *Amino Acid Metabolism Disorders:* A diverse group of disorders, with varying degrees of severity. Some affected individuals lack enzymes that break down amino acids, the building blocks of protein. In others, there are deficiencies in enzymes that help the body get rid of the nitrogen in amino acid molecules. Toxic levels of amino acids or ammonia can build up in the body, causing a variety of signs and symptoms, and even death.
- *Organic Acid Metabolism Disorders:* Diseases in this group result from the loss of activity of enzymes that help break down amino acids and other substances, such as lipids, sugars, and steroids. As a result, toxic acids build up in the body. Without dietary treatment and prevention of acute episodes, these disorders can result in coma and death during the first month of life.

- *Fatty Acid Oxidation Disorders:* Inherited defects in enzymes needed to convert fat into energy characterize disorders in the group. When the body runs out of glucose (sugar), it normally breaks down fat to support production of alternate fuels (ketones) in the liver. But this pathway is blocked in people with these disorders. So when they run out of glucose – usually when they are ill or skip meals – their cells suffer an “energy crisis.” Without treatment, the brain and many organs can be affected, sometimes resulting in coma and death.
- *Hemoglobinopathies:* Inherited diseases of red blood cells result in varying degrees of anemia (shortage of red blood cells), serious infection, pain, and damage to vital organs. The symptoms are caused by abnormal types or amounts (or both) of hemoglobin, the main protein in red blood cells that carries oxygen from the lungs to every part of the body. In sickling disorders, an abnormal hemoglobin called HbS can cause some red blood cells to become stiff and abnormally shaped. The stiffer red blood cells can obstruct tiny blood vessels, causing pain and sometimes organ damage.
- *Other disorders:* This mixed group of disorders includes some diseases that are inherited and others that are not genetic. They vary greatly in severity, from mild to life-threatening.

Note: Descriptions of the 31 disorders appear on pages 72-73.



Preterm and Low Birthweight Births

Preterm Births

Approximately half a million babies were born prematurely (preterm) in 2009, facing a much higher risk of health problems and death than other newborns.

- About one in eight infants is born preterm. This rate had increased steadily over three decades (from 9.4% in 1981 to a high of 12.8% in 2006), but has decreased each year beginning in 2006. The rate declined to 12.2% in 2009. Preliminary data show this decline continued to 12.0% in 2010.
- Premature infants are 15 times more likely than other infants to die in the first year of life.
- Late preterm babies comprised 71.1% of all preterm births in 2009. Late preterm birth accounted for most of the increase in preterm birth rates over the past two decades, and reduction in the rate of late preterm birth is responsible for the majority of the reduction in preterm birth since 2006.
- More than 81,000 babies were born very preterm in 2009. These babies were 72 times more likely than those not born preterm to die in the first year of life.
- Premature babies who survive may suffer lifelong consequences, such as developmental disabilities, blindness, chronic lung disease, and cerebral palsy.
- There is growing evidence that early term infants have increased morbidity and mortality compared to infants born full term. In 2009, 27.6% of all births were early term.

Sources: Impact of late preterm birth on rising preterm birth rates from Davidoff and others, 2006. All other data from the National Center for Health Statistics, 2009 Final Birth Data. Prepared by the March of Dimes Perinatal Data Center, 2012.

A FULL TERM BIRTH OCCURS AT 39 THROUGH 41 COMPLETED WEEKS GESTATION.

AN EARLY TERM BIRTH OCCURS AT 37 THROUGH 38 COMPLETED WEEKS GESTATION.

A PRETERM BIRTH OCCURS BEFORE 37 COMPLETED WEEKS GESTATION.

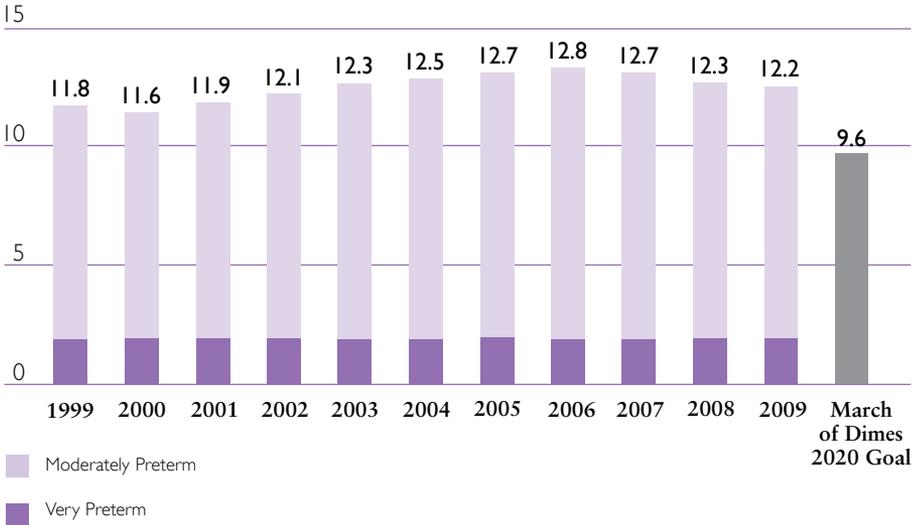
A LATE PRETERM BIRTH OCCURS AT 34 THROUGH 36 COMPLETED WEEKS GESTATION.

A MODERATELY PRETERM BIRTH OCCURS AT 32 THROUGH 33 WEEKS COMPLETED WEEKS GESTATION.

A VERY PRETERM BIRTH OCCURS BEFORE 32 COMPLETED WEEKS GESTATION.

Preterm and Very Preterm Births, 1996–2009

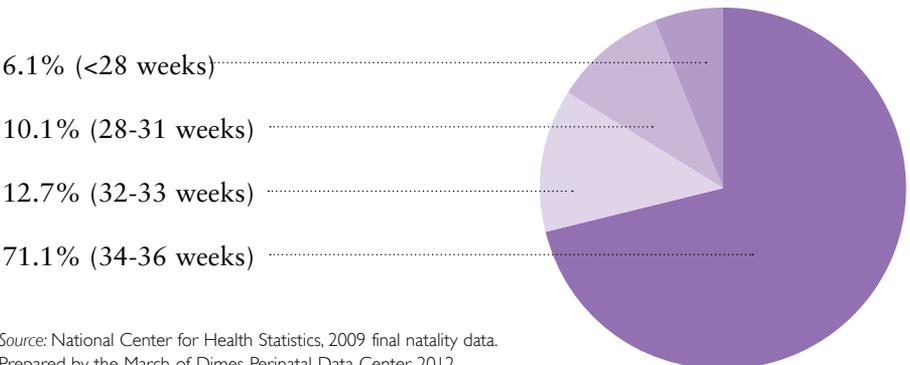
Percent of live births



Source: National Center for Health Statistics, 1999-2009 Final Natality Data. Prepared by the March of Dimes Perinatal Data Center; 2012.

Percent Distribution of All Preterm Births, 2009

Percent of preterm births



Source: National Center for Health Statistics, 2009 final natality data. Prepared by the March of Dimes Perinatal Data Center; 2012.

Early Elective Deliveries

Elective deliveries prior to 39 weeks that are not medically necessary are associated with increased morbidity for newborn infants, longer and more costly maternity stays, and increased admissions to the neonatal intensive care unit (NICU). The March of Dimes and others have implemented various quality improvement and health education initiatives aimed at reducing the number of early elective deliveries.

- “Healthy Babies are Worth the Wait” is a multi-faceted, community-based health education campaign aimed at providers and mothers to promote the message that medically unnecessary early deliveries put the infant and mother’s health at risk.
- Several Medicaid programs, health systems and individual hospitals have implemented policies to reduce early elective deliveries. Some examples of these policies include revised payment incentives and implementing scheduling rules such as “hard stops” where elective deliveries may not be scheduled prior to 39 weeks of gestation without review by senior obstetrics staff.
- March of Dimes, the California Maternal Quality Care Collaborative (CMQCC), and the California Department of Health’s Maternal Child and Adolescent Health Division collaborated on the development of a quality improvement toolkit entitled, “Elimination of Non-medically Indicated (Elective) Deliveries Before 39 Weeks Gestational Age,” which provides background information, quality improvement implementation guidelines, tools for tracking progress and educational tools for clinicians and patient education (for more, see prematurityprevention.org).
- Since 2006 there has been a decrease in early term and preterm births.

Distribution of Gestational Age among Live Births, 2005-2009



- Post Term (42+ weeks)
- Full Term (39-41 weeks)
- Early Term (37-38 weeks)
- Preterm (<37 weeks)

Source: Information on outcomes associated with elective delivery from Clark and other, 2009. National Center for Health Statistics, 1999-2009 final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Prematurity and Low Birthweight

Many infants born too soon are also born too small. More than 44% of babies born preterm in 2009 were also born low birthweight, and more than 66% of low birthweight babies were preterm.

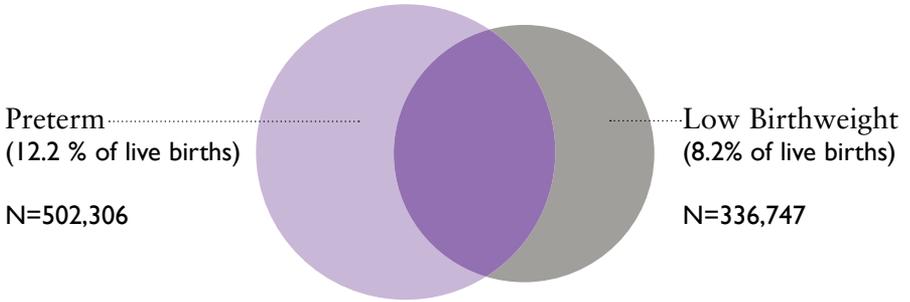
- About one in 12 infants is born low birthweight, a rate that has risen nearly 8% in the past decade (from 7.6% in 1999 to 8.2% in 2009).
- Nearly 60,000 babies were born very low birthweight in 2009, accounting for 1.5% of live births.
- Advances in newborn medical care have greatly reduced the number of deaths associated with low birthweight. However, a small percentage of survivors develop intellectual disabilities, learning problems, cerebral palsy and vision and hearing loss.

Source: Prevalence of low birthweight from National Center for Health Statistics, 2009 Final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012. Information on the morbidity from low birthweight from Goldenbery and Culhane, 2007.

A LOW BIRTHWEIGHT
BABY WEIGHS LESS
THAN 5 ½ POUNDS
(2,500 GRAMS).

A VERY LOW BIRTH-
WEIGHT BABY WEIGHS
LESS THAN 3 ½ POUNDS
(1,500 GRAMS).

Incidence of Preterm and Low Birthweight Births, 2009

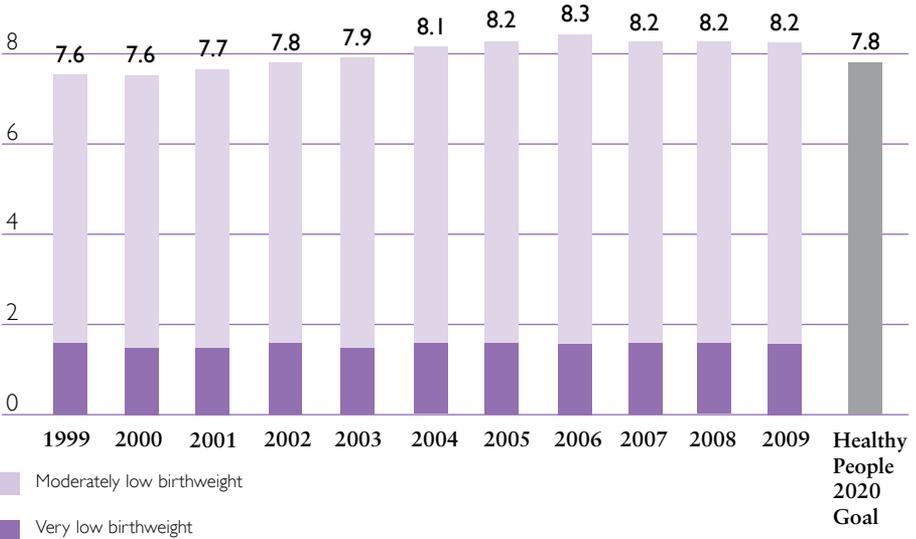


Source: National Center for Health Statistics, 2009 final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Low and Very Low Birthweight Births, 1999–2009



Percent of live births
10



Source: National Center for Health Statistics, 2009 final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Risk of Preterm Births

While the causes for half of preterm births are unknown, there are certain factors associated with increased risk.

- Maternal age plays a role in increased risk, with higher preterm birth rates found among the youngest and oldest mothers. In 2009, more than 15% of births to adolescents under 18 and 17% of births to women age 40 and older were preterm.
- Multiple births also increase the risk for prematurity. In 2009, babies born in multiple births were nearly six times more likely to be preterm than singleton babies. Nearly 59% of twins and 95% of triplets and higher-order births were born preterm. A rise in the rate of multiple births, which are associated with older age at childbearing and greater use of assisted reproductive technologies and fertility drugs, has contributed to the increase in the preterm birth rate.
- Women who have had one preterm delivery are at greater risk of having another.
- Other risk factors for preterm birth include certain infections, smoking, illicit drug use, extremes of maternal weight (obesity and underweight), and stress.
- The rise in preterm birth has been linked to rising rates of early induction of labor and cesarean sections. Increases in preterm singleton birth between 1990s and 2006 have been shown to be associated with c-section delivery; the largest percentage increase occurred among late preterm births.

Note: A singleton is defined as an offspring born alone.

Sources: Data on increase among c-section deliveries from Bettegowda and others, 2008 and MacDorman and others, 2010. All other data from National Center for Health Statistics, 2009 final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Preterm and Very Preterm Births, by Age of Mother, 2009



Percent of live births

20



Moderately Preterm

Very preterm

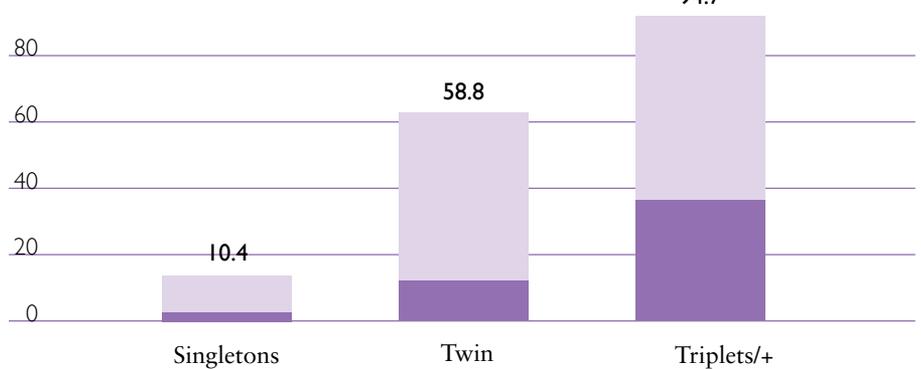
Source: National Center for Health Statistics, 2009 final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Preterm Births: Singleton, Twin, and Higher Order, 2009



Percent of live births

100



Moderately Preterm

Very preterm

Source: National Center for Health Statistics, 2009 final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Prematurity and Race/Ethnicity of Mother

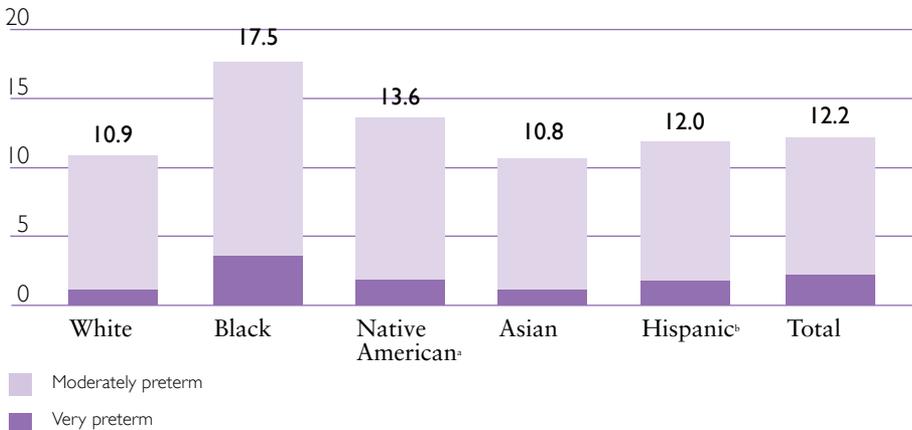
Significant disparities in rates of preterm birth exist based on race/ethnicity.

- Prematurity and low birthweight together comprise the leading cause of death for African-American infants.
- African-American infants are more than one and a half times more likely than white infants to be born preterm. In 2009, more than 17% of infants born to non-Hispanic black mothers were preterm, compared with nearly 11% of infants born to non-Hispanic white mothers.
- Infants born to non-Hispanic black mothers were nearly two and a half times more likely than those born to non-Hispanic white mothers to be very preterm — 3.9% of births to black women, compared with 1.6% of births to white women.
- Overall, 12.0% of infants born to Hispanic women were preterm. Among Hispanics, the rate was highest for babies born to Puerto Rican mothers (13.8% in 2009).
- Since 2006, preterm birth rates have declined 7% for non-Hispanic white women, 5% for non-Hispanic black women, and 2% for Hispanic women.

Source: National Center for Health Statistics, 2009 final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012. Data on declines in preterm birth by race/ethnicity from Martin JA et al, 2011.

Preterm and Very Preterm Births, by Race/Ethnicity of Mother, 2009

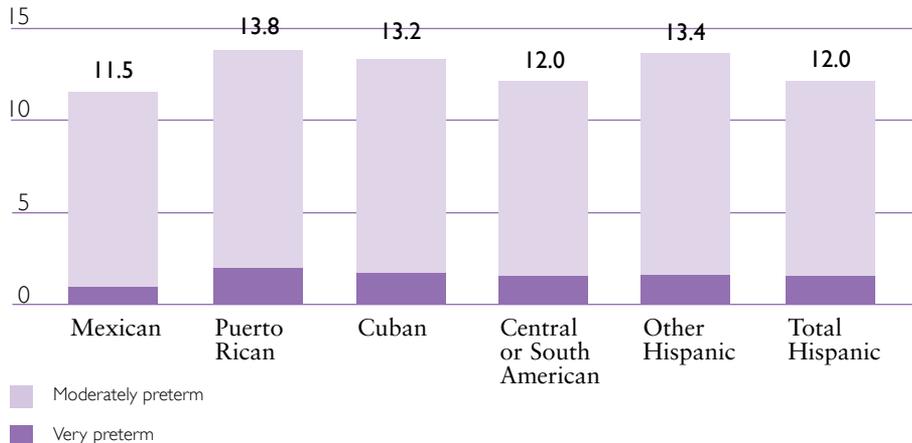
Percent of live births



Source: National Center for Health Statistics, 2009 final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012

Preterm and Very Preterm Births, by Hispanic Ethnicity of Mother, 2009

Percent of live births



Source: National Center for Health Statistics, 2009 final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012

Costliness of Preterm and Low Births

In 2005, the annual societal economic cost associated with preterm birth in the United States was at least \$26.2 billion.

- Average first-year medical costs, including both inpatient and outpatient care were about ten times greater for preterm (\$32,325) than for term infants (\$3,325) in 2005.
- The average length of hospital stay in 2005 was nine times as long for a preterm infant (13 days) compared with an infant born at term (1.5 days).
- Four of the ten most expensive hospital stays, regardless of age, are related to infant care: infant respiratory distress syndrome, prematurity/low birthweight, cardiac/circulatory birth defects, and lack of oxygen in infants.
- Cost associated with prematurity and low birthweight are not limited to the hospital stay at birth.
 - Prematurity may result in long-term physical and developmental disabilities, which generate additional costs. Children born prematurely are at greater risk of lower cognitive test scores and behavioral problems, and are more likely to be enrolled in special education classes than children born full term.

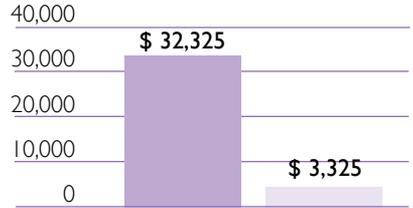
Source: Costs and length of hospital stay related to preterm birth from the Institute of Medicine, 2007. Information on expensive hospital stays from Agency for Healthcare Research and Quality, 2010 HCUP Nationwide Inpatient Sample. Information on special education from Bhutta and others, 2002; and Avchen and others, 2001.

Average Length of Stay and Average Medical Costs Among Preterm and Term Births, 2005

Days



Dollars



Infant Hospital Stays

■ Preterm ■ Term

Source: Institute of Medicine, 2007.

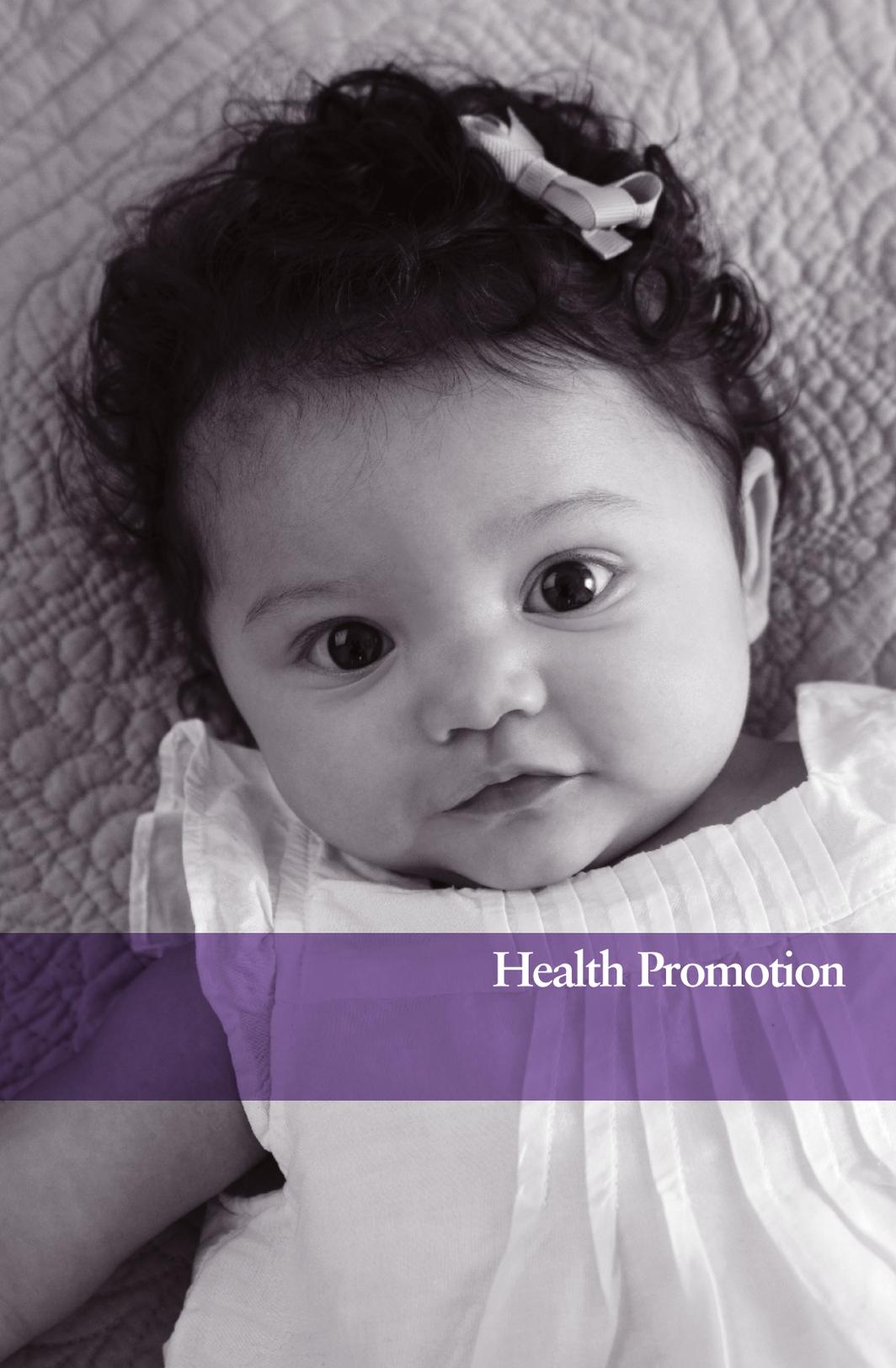
Medical Costs

Conditions with the Highest Inpatient Hospital Costs, 2009

Rank	Principal Diagnosis	Mean Costs ^a	Mean Length of Stay (days)
1	Infant respiratory distress syndrome	\$49,371	28.4
2	Leukemia (cancer of blood)	42,660	16.0
3	Spinal cord injury	41,996	12.7
4	Premature birth and low birthweight	39,376	26.3
5	Cardiac and circulatory birth defects	38,405	9.4
6	Heart valve disorders	36,737	8.6
7	Intrauterine hypoxia and birth asphyxia (lack of oxygen to baby in uterus or birth)	30,772	12.2
8	Aneurysm (ballooning or rupture of an artery)	28,766	6.0
9	Multiple myeloma (cancer of bone marrow)	28,746	11.6
10	Hodgkin's disease	28,069	10.8

^a Costs are for acute hospital care and do not include physician and other professional fees, rehabilitation expenses, or costs associated with follow-up care or home care.

Source: Agency for Healthcare Research and Quality, 2011.



Health Promotion

Importance of Prenatal Care

Women who receive prenatal care are more likely to have access to preventive services such as screening and diagnostic tests; services to manage developing and existing problems; and education, counseling, and referral to reduce high risk behaviors like substance use and poor nutrition.

- The US Preventive Services Task Force (USPSTF) has issued a number of recommended medical interventions related to pregnancy that can best be provided if the woman has comprehensive maternity coverage. Among the USPSTF recommendations are: folic acid supplementation, screening for preeclampsia, and counseling on the value of breastfeeding.
- Possible barriers to prenatal care include:
 - Lack of insurance
 - Problems with transportation, child care, and the service hours of health care providers
 - Maternal age, income, education, and cultural and personal factor
- Prenatal care should begin early and continue regularly
 - Adequacy of prenatal care varies by race and ethnicity. Native American, African-American, and Hispanic women were most likely to receive inadequate prenatal care

EARLY PRENATAL CARE BEGINS IN THE FIRST TRIMESTER. LATE PRENATAL CARE BEGINS IN THE THIRD TRIMESTER.

THE ADEQUACY OF PRENATAL CARE UTILIZATION INDEX CONSIDERS WHEN PRENATAL CARE BEGINS, HOW MANY VISITS OCCUR, AND THE INFANT'S GESTATIONAL AGE. THE INDEX CLASSIFIES PRENATAL CARE INTO FOUR CATEGORIES: INADEQUATE, INTERMEDIATE, ADEQUATE, AND ADEQUATE-PLUS. SOURCE: KOTELCHUCK, 1994.

Patterns of Prenatal Care

In 2003, some states began using the revised 2003 birth certificate, which included substantive changes in the collection of prenatal care data. States have been phasing in the revised birth certificate, and as of 2009, 28 states had revised prenatal care data for all of 2009, and two states and the District of Columbia implemented the 2003 revised birth certificate during 2009. Data from the 2003 revision are not comparable to the 1989 revision; therefore, national estimates of prenatal care utilization are not available.

- In 2009, the rate of early prenatal care for the 28 states using revised certificates (66% of all births) was 72.1%. Seven percent (7%) had late or no prenatal care.
- In 2009, as in previous years, non-Hispanic black, Hispanic and non-Hispanic Native American women had higher rates of receiving late or no prenatal care than non-Hispanic white or Non-Hispanic Asian women.
- Births among adolescents have higher rates of receiving late or no prenatal care. Rates for late or no prenatal care decline with age, with women over 30 having much lower rates of late or no prenatal care.

Source: Birth certificate information from Martin and others, 2011. Details on prenatal care and the birth certificate revision are available at www.marchofdimes.com/peristats/calc/pnc.

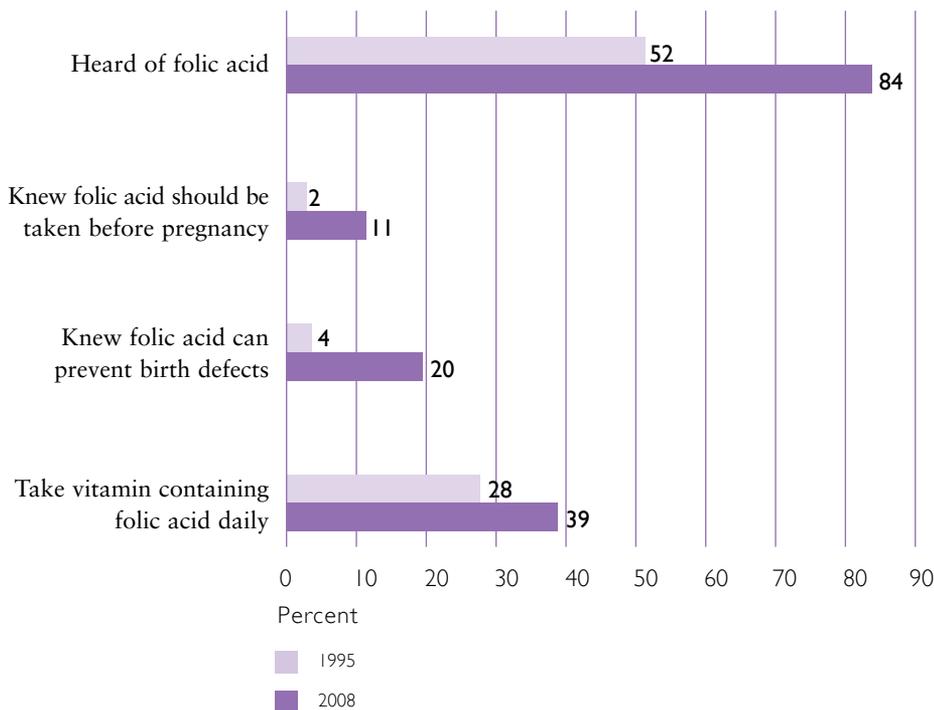
Benefits of Folic Acid

Sufficient folic acid in women's diets before and during pregnancy can reduce the risk of birth defects of the brain and spinal cord known as neural tube defects.

- Each year, about 3,000 pregnancies are affected with neural tube defects. Studies have shown that up to 70% of these cases could be prevented if women consumed the proper amounts of folic acid before becoming pregnant and during early pregnancy.
- The Institute of Medicine's Food and Nutrition Board and the March of Dimes have recommended that to reduce the risk of having a child with a neural tube defect, women who might become pregnant should consume 400 micrograms of synthetic folic acid every day from a vitamin or from fortified foods, in addition to eating a healthy diet rich in natural sources of folate.
- Since fortification of enriched grain products with folic acid was made mandatory in 1998, the rate of neural tube defects has decreased by 26%.
- While public awareness is improving, most women of childbearing age do not know about the benefits of folic acid. Although 84% have heard of folic acid, only 39% take a daily vitamin containing it. Only 20% know that folic acid prevents birth defects, and only 11% know it should be taken before pregnancy.
- Health professionals have not been the main source of women's information about folic acid. Of women aware of folic acid, 49% learned about it from the media, but only 33% from their physician or other health care provider.

Sources: Dietary guidelines and benefits of folic acid from the Institute of Medicine, 1998a. Estimates of preventive effects of folic acid from the Centers for disease Control, 1992. Decrease in neural tube defects from Mersereau and others. Public awareness information from the March of Dimes, 2008.

Awareness of Folic Acid Benefits Among Women of Childbearing Age, 1995 and 2008



Note: Includes women ages 18-45 only.

Source: Gallup Poll for March of Dimes

ONE HEALTHY PEOPLE 2020 OBJECTIVE IS TO INCREASE THE PROPORTION OF WOMEN OF CHILDBEARING POTENTIAL WHO CONSUME AT LEAST 400 MICROGRAMS OF FOLIC ACID 26.2%, A 10% INCREASE FROM THE BASELINE RATE OF 23.8% (2003 - 2006).

ANOTHER HEALTHY PEOPLE 2020 OBJECTIVE IS TO REDUCE THE OCCURRENCE OF SPINA BIFIDA BY 10% TO 30.8 CASES PER 100,000 LIVE BIRTHS FROM 34.2 CASES PER 100,000 LIVE BIRTHS (2005 - 2006).

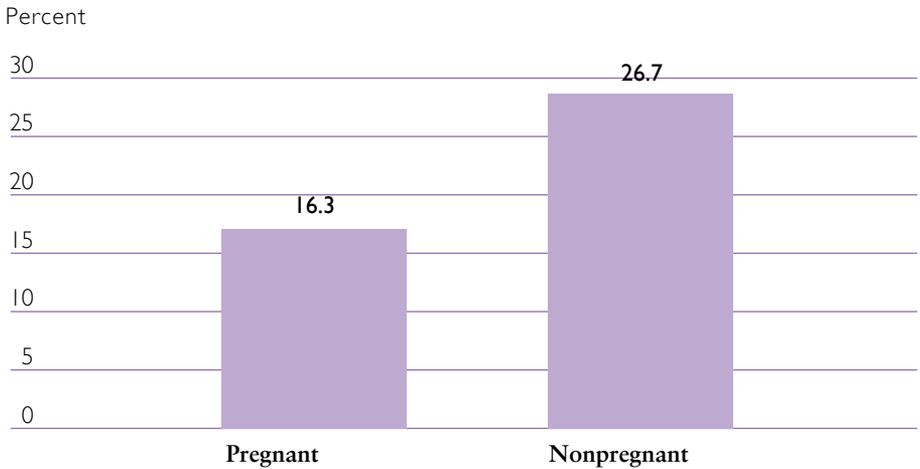
Smoking During Pregnancy

Women who smoke during pregnancy are more likely than nonsmokers to have a low birthweight or preterm baby. Babies of smokers weigh, on average, 200 grams (about 1/2 pound) less than nonsmokers' babies.

- While pregnant women are less likely to smoke than others, recent surveys found that 16.3% of pregnant women age 15 to 44 reported smoking cigarettes during the past month compared to 26.7% of non-pregnant women.
- The proportion of pregnant women who report smoking varies substantially by race/ethnicity: 16.2% of Native American, 10.0% of non-Hispanic white, 8.6% of non-Hispanic black and 2.0% of Hispanic women reported smoking during pregnancy.
- Studies show that women who stop smoking before becoming pregnant or early in pregnancy decrease their risk of having a low birthweight baby to nearly that of women who have never smoked.
- Smoking cessation services for pregnant women are among a handful of interventions that save enough in later medical expenses to completely offset the initial investment, and actually result in cost savings. A recent report estimated that \$122 million of NICU costs could be attributed to smoking or \$279 per maternal smoker.
- Pregnant women on Medicaid are more likely than other pregnant women to smoke, according to state data. As of October 1, 2010, the Affordable Care Act required all Medicaid programs to cover comprehensive smoking cessation coverage, both counseling and pharmacotherapy, without cost-sharing for pregnant women (Section 4107).

Sources: Smoking and preterm birth from Shah and Bracken, 2000. Birthweight and smoking from the Surgeon General, 2004. Smoking data from the Substance Abuse and Mental Health Services Administration, 2011. Race/ethnicity smoking data from the Smoking attributable costs from Adams and others, 2011. Medicaid programs from Tong and others 2009. Information on the Affordable Care Act smoking cessation coverage from The Patient Protection and Affordable Care Act, 2010.

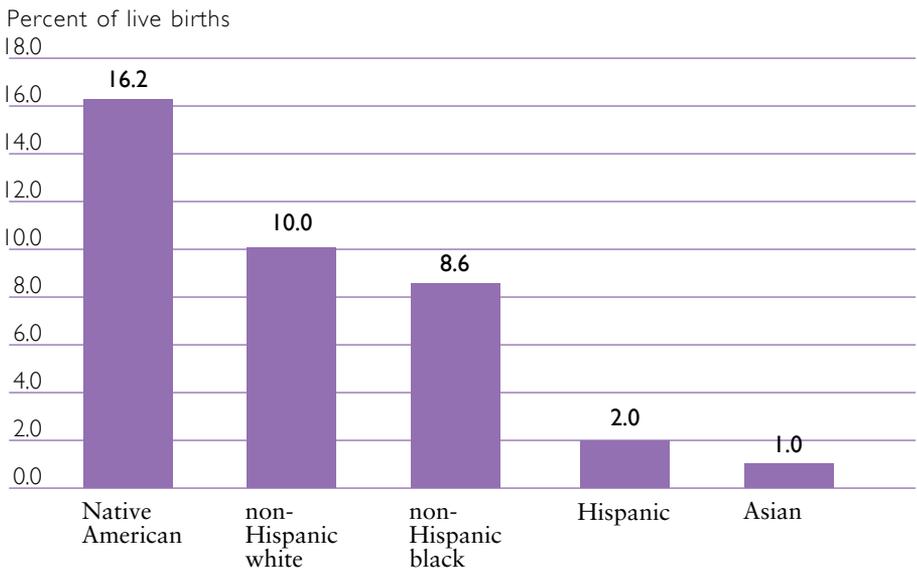
Pregnant and Nonpregnant Women Reporting Smoking During Past Month, 2009–2010



Note: Includes women ages 15-44 only. Data are aggregated for two-year period.

Source: Substance Abuse and Mental Health Services Administration, 2010 National Survey on Drug Use and Health, 2011.

Smoking among Pregnant Women by Race/Ethnicity, 2009



Source: Substance Abuse and Mental Health Services Administration, 2011.

Alcohol and Other Drug Use

Use of alcohol and other drugs during pregnancy is related to higher rates of adverse birth outcomes.

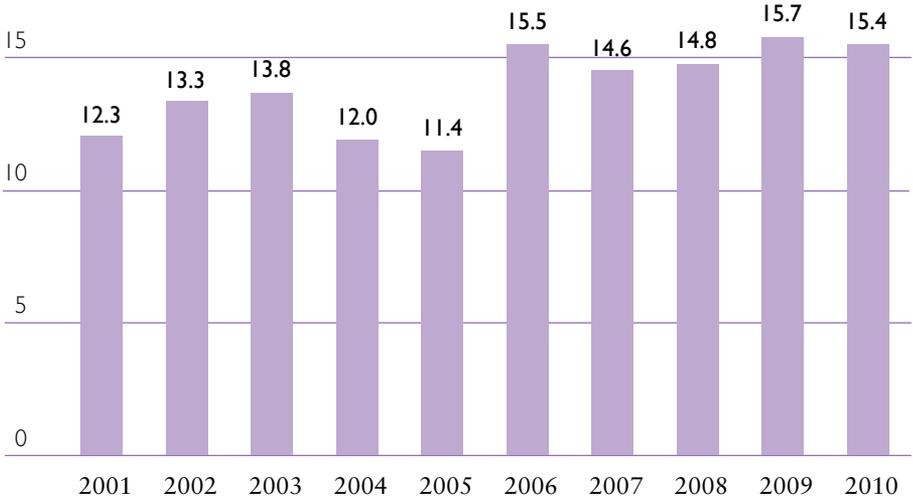
- Among pregnant women ages 15-44, 10.8% reported alcohol use and 3.7% reported binge drinking (4 or more drinks at least one occasion during the past month) in 2009-2010.
- Heavy alcohol consumption during pregnancy can lead to fetal alcohol syndrome (FAS), which affects roughly one in 1,000 newborns annually. Alcohol abuse is the leading known preventable cause of intellectual disability.
- In 2010, 15.4% of women age 18-44 reported binge alcohol use.
- Among pregnant women, 4.4% reported using illicit drugs during 2009-2010. Alcohol consumption, cigarette smoking, and illicit drug use are linked.

Sources: Information on pregnant women from the Substance Abuse and Mental Health Services Administration, National Survey on Drug Use and Health, 2010. Binge alcohol consumption from Centers for Disease Control and Prevention, 2010, Behavioral Risk Factor Surveillance System Data, prepared by the March of Dimes Perinatal Data Center, 2012.

Binge Drinking among Women Ages 18-44 during Past Month, 2001-2010



Percent
20



Notes: Beginning in 2006, binge alcohol use is defined as having four or more drinks on at least one occasion during the past month. Prior to 2006, binge alcohol use is defined as having five more drinks on at least one occasion during the past month.

Source: Centers for Disease Control and Prevention, 2001-2010, Behavioral Risk Factor Surveillance System Data, prepared by the March of Dimes Perinatal Data Center; 2012.

**HEALTHY PEOPLE 2020
OBJECTIVES INCLUDE
INCREASING RATES OF
ABSTINENCE FROM
ALCOHOL, CIGARETTES,
AND ILLICIT DRUGS
AMONG PREGNANT
WOMEN.**

Obesity

Obesity (defined as having a Body Mass Index of 30 or more) and overweight (having a Body Mass Index of 25 or greater) increases the risk of infertility and poor pregnancy outcomes.

- Women who are overweight or obese are at risk for serious pregnancy-related medical complications such as hypertension and diabetes that contribute to prematurity and increase the likelihood of cesarean section.
- Babies born to mothers who are obese are more likely to have health problems including increased risk of neural tube defects, higher rates of birth injuries, low Apgar scores, more admissions to neonatal intensive care units, and higher rates of prenatal death.
- The proportion of women ages 18 to 44 who were obese increased nearly 55% over the past decade to 25.1% in 2010.
- Healthy lifestyle changes before, during and after pregnancy can help to avoid some of these complications associated with obesity.

Note: The Apgar score is designed to check an infant's condition at one minute and five minutes after birth. Infants with low Apgar scores may need additional monitoring or special care.

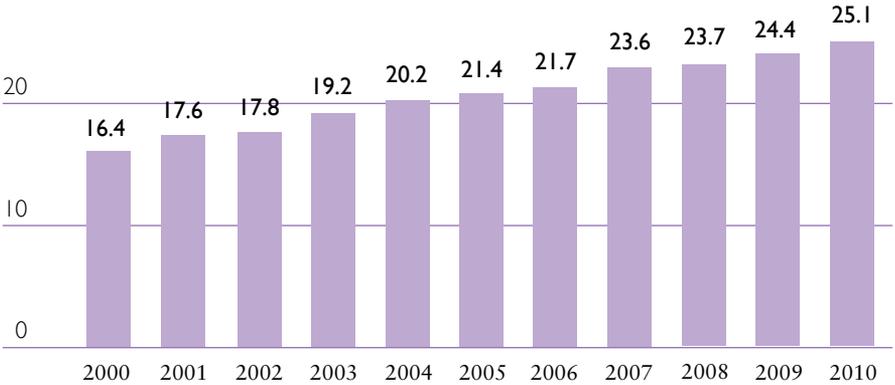
Source: Maternal obesity and pregnancy from March of Dimes Medical Perspectives on Prematurity, 2005. Obesity and birth outcomes from Moran and others, 2011. Obesity rates from Centers for Disease Control and Prevention, 2010 Behavioral Risk Factor Surveillance System. Data prepared by March of Dimes Perinatal Data Center, 2012.

Obesity among Women Ages 18-44, 2000-2010



Percent

30



Note: Obesity is defined as a Body Mass Index of 30 or more.

Source: Centers for Disease Control and Prevention, 2000-2010 Behavioral Risk Factor Surveillance System. Data prepared by March of Dimes Perinatal Data Center, 2012.

THE PREVALENCE OF OBESITY OR BEING OVERWEIGHT IS A MAJOR HEALTH CONCERN IN THE UNITED STATES, AND WAS NAMED ONE OF THE TEN TOPICS FOR THE LEADING HEALTH INDICATORS USED TO MEASURE THE HEALTH OF THE NATION IN HEALTHY PEOPLE 2020.

Maternal and Childhood Immunization

Prevention of disease through vaccination is one of the 10 greatest public health achievements of the 20th century, according to the Centers for Disease Control and Prevention.

- Rubella (German measles), a major cause of serious birth defects such as deafness and blindness, was declared no longer endemic in the United States in 2005, thanks to successful vaccination efforts. However, the disease is still being introduced to the United States from bordering countries and by international travelers, which necessitates ongoing use of the rubella vaccine.
- Flu shots protect pregnant women, their unborn babies and their infants after birth. Seasonal flu can cause severe illness in pregnant women, more so than in women who are not pregnant. Pregnant woman with flu also have a greater chance for serious problems for their unborn baby, including premature labor and delivery.
- Vaccines are cost effective. For example, for every dollar spent, measles/mumps/rubella vaccine saves \$26; diphtheria/tetanus/acellular pertussis vaccine saves \$27; perinatal hepatitis B vaccine saves nearly \$15; and varicella (chicken pox) vaccine saves more than \$5.
- The Advisory Committee on Immunization Practices recommends that infants be immunized against 12 diseases before age two. Because they are not fully vaccinated, 18% of toddlers are vulnerable to possible fatal illnesses, including polio, measles, mumps, rubella, diphtheria, tetanus, whooping cough, hepatitis B, and varicella.

Sources: Centers for Disease Control and Prevention, 1999b. Cost savings from Ekwueme and others, 2000; Zhou and others, 2004; and Lieu and others 1994. Information about seasonal flu in pregnant women from Centers for Disease Control and Prevention, National Center for Immunization and Respiratory Diseases, 2011. Child immunization rates from Centers for Disease Control and Prevention, National Immunization Program (2012).

Home Visiting Programs

Home visiting programs are designed to work with expectant parents to improve developmental, educational and health outcomes for young children and their families. Home visiting programs work with families to ensure they receive adequate prenatal care and to promote healthy behavior such as quitting smoking and maintaining a healthy diet.

- Benefits of home visiting include increased school readiness and lower health costs.
- Evaluations of home visiting programs have shown improvements in child development and maternal and child health, as well as decreased rates of child maltreatment and juvenile justice issues.
- Home visiting programs save money; a cost benefit analysis of the Nurse-Family Partnership program found that, on average, every dollar spent saves \$2.88 due to reduced mental health and criminal justice costs, and increased economic sufficiency and employment. Up to \$5.70 can be saved for the highest risk populations. The benefit to society is approximately \$26,000 per family served on average, and \$41,000 among high-risk families.
- The Affordable Care Act authorized an investment of \$1.5 billion from 2010-2014 in home visiting programs across the country through the Maternal, Infant, and Early Childhood Home Visiting grants.

Sources: Karoly et al, 2005. Department of Health and Human Services, Home Visiting Evidence of Effectiveness.



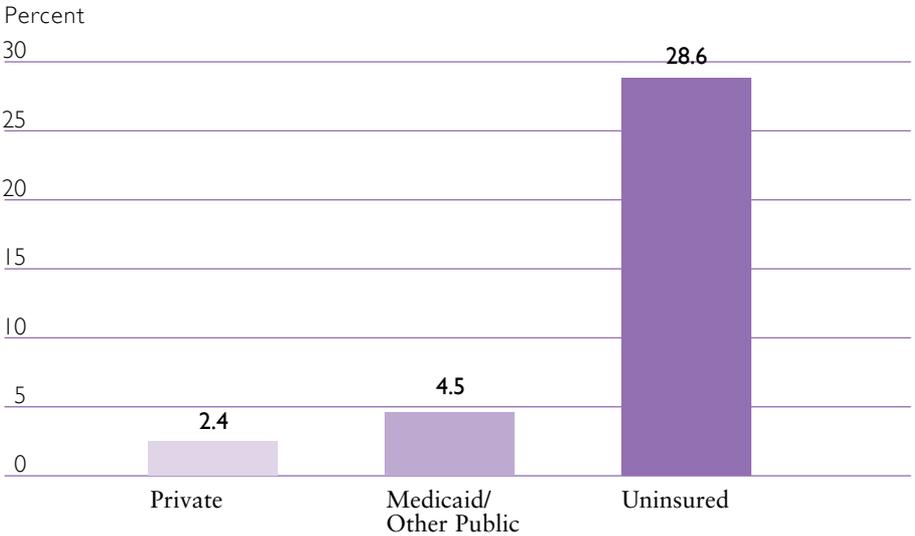
Access

Health insurance coverage affects how people use health care services. In general, individuals without health insurance report poorer health status than those with health insurance. They are also less likely to have a usual source of medical care and more likely to delay or forgo needed health care services.

- Uninsured women receive fewer prenatal services and report greater difficulty in obtaining needed care than women with insurance, an Institute of Medicine study concluded. According to data from the National Health Interview Survey, between 2000-2009, 10% of pregnant women reported being currently uninsured, and 25% reported being uninsured at some point within the past year.
- Health insurance status is the single most important influence in determining whether health care is accessible to children when they need it, according to another Institute of Medicine study.
- In 2009, over one-quarter of uninsured children had no usual source of medical care (29.3%) compared with only 2.4% of privately insured children and 4.5% of children with public insurance.
- From 2007-2009, 89.1% of all women reported having a usual source of care.
 - Among women without health insurance, only 57.4% of them had a usual source of care.
 - Non-Hispanic white women reported having a usual source of care most often (91.1%), compared to 88.3% of non-Hispanic black women, 89.8% of Native American women and 87.7% of Asian women. Hispanic women have the lowest rates of having a usual source of care (79.8%).

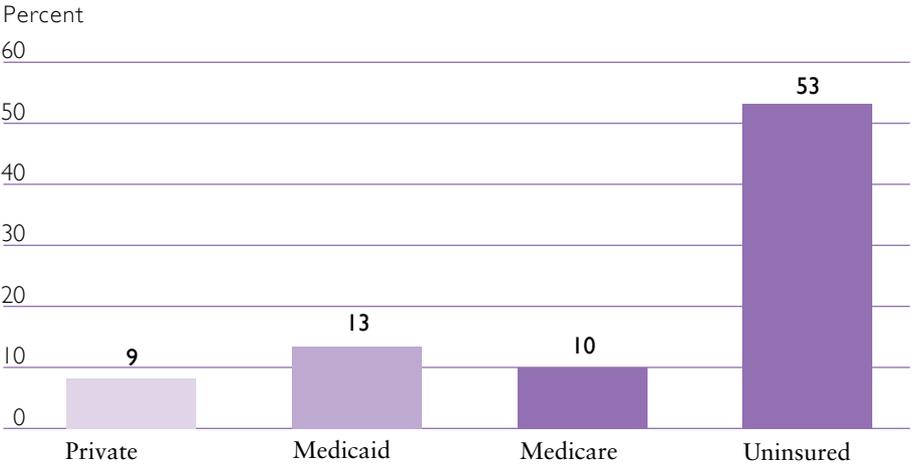
Sources: Kozhimannil and others 2012 for trends in insurance for pregnant women. Uninsured pregnant women from the Institute of Medicine, 2002. Importance of health insurance to children from the Institute of Medicine, 2007. Information on usual source of care for children from Maternal and Child Health Information Resource Center, 2011. Information on of care information for women from US Department of Health and Human Services, 2011.

Children without a Usual Source of Medical Care, by Type of Insurance Coverage, 2009



Note: National Health Interview, Survey, 2009, data retrieved from childhealthstats.gov

Women without a Usual Source of Medical Care, by Type of Insurance Coverage, 2008



Note: Henry J. Kaiser Family Foundation, Kaiser Women's Health Survey, 2008.

Health Insurance Coverage for Women of Childbearing Age

Health insurance is important for assuring access to care for women of childbearing age.

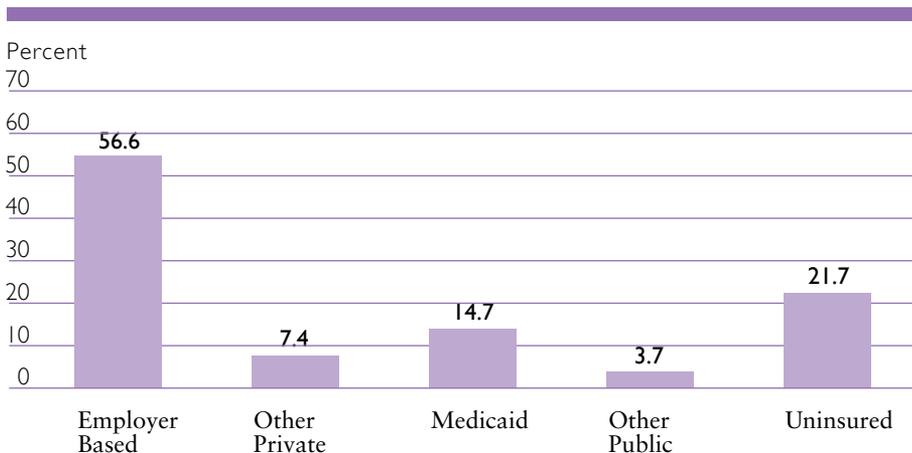
- One in five women of childbearing age (15 to 44) – 13.3 million – was uninsured in 2010. These women accounted for 27% of all uninsured Americans; 65% had family incomes below 200% percent of the federal poverty level.
- In 2010, Hispanic women had the highest rate of uninsurance (37.2%), which was more than double that of non-Hispanic white women (16.3%). Native American, non-Hispanic black women and Asian/Pacific Islander women also have higher rates of uninsurance compared to non-Hispanic white women (34.3%, 21.4% and 20.6%, respectively).
- Lack of health insurance remains a problem for some pregnant women, although they are less likely to be uninsured than other women. In 2009, 5% women who delivered their babies in hospitals were uninsured.
- Individual health insurance plans usually exclude maternity coverage entirely or make it available subject to additional premiums or limitations. In 2009, according to a survey conducted by the National Women’s Law Center, 13% of the individual health plans available to a 30-year-old woman provided maternity coverage.

49.1 MILLION AMERICANS (18.4% OF THE POPULATION UNDER AGE 65) LACKED HEALTH INSURANCE COVERAGE IN 2010.

OVER ONE-QUARTER OF INDIVIDUALS LIVING IN POVERTY DOES NOT HAVE HEALTH INSURANCE.

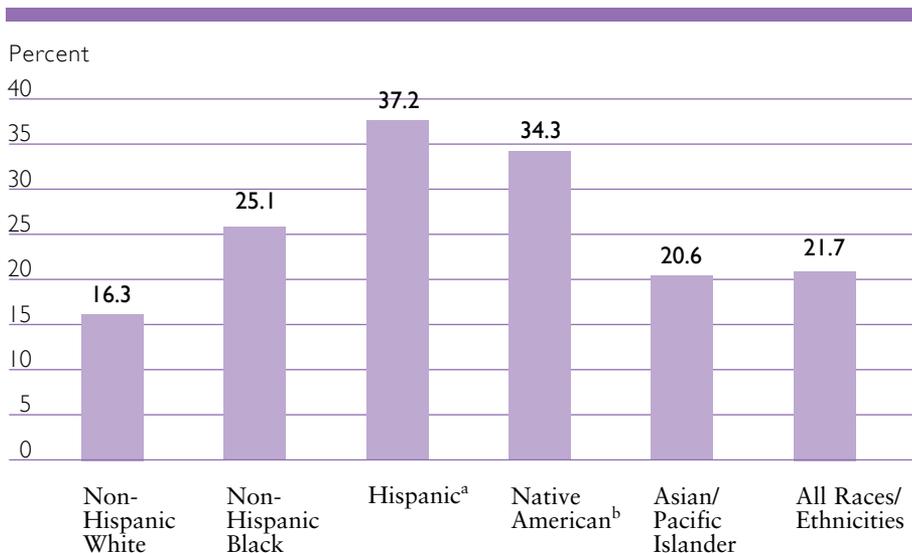
Sources: Uninsured pregnant women from Thorpe, 2004. Exclusion of maternity care from the March of Dimes, 2001, and Chollet and Kirk, 1998. All other data from the U.S. Census Bureau, 2011.

Women Ages 15–44, by Type of Health Insurance Coverage, 2010



Source: U.S. Census Bureau, 2011

Women Ages 15–44 Who Are Uninsured, by Race/Ethnicity, 2010



^a People of Hispanic origin may be of any race.

^b Native American includes American Indian and Alaska Native.

Source: US Census Bureau, 2011.

Health Insurance Coverage for Children

Health insurance coverage is a major predictor of access to health care for children. The majority of children are covered by private insurance (54%), with a large proportion enrolled in government-sponsored insurance either through Medicaid or the Children's Health Insurance Program (36%).

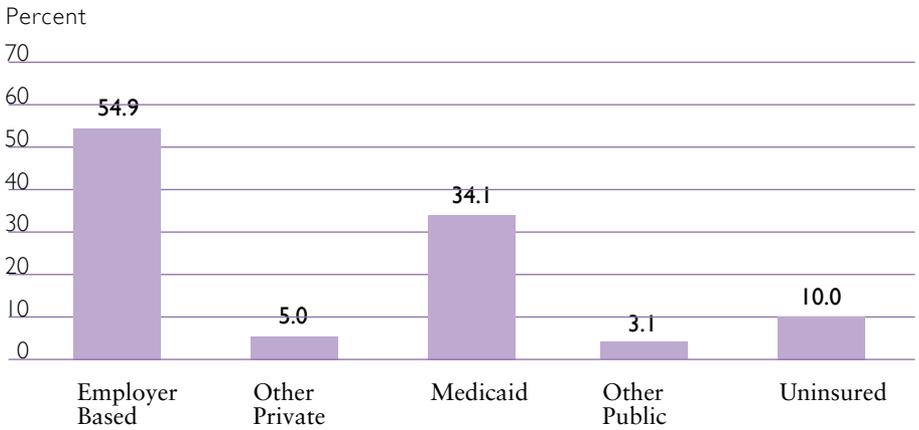
- In 2010, nearly 8 million children lacked health insurance, representing 10% of the nation's 79.3 million children under 19.
- In 2010, the majority of children without insurance (66.3%) lived in households with an income below 200% of the federal poverty level and may have been eligible for Medicaid or the Children's Health Insurance Program.
- Native American children had the highest rates of uninsurance, over twice that of non-Hispanic white children at 17.6%, compared with 7.1%. Higher rates of uninsurance compared to non-Hispanic white children were also found among Hispanic children (16.9%), non-Hispanic black children (10.8%), and Asian children (9.3%).
- Newborn birth was the most common reason for uninsured hospitalizations, accounting for more than 240,400 uninsured stays in 2008 (11.3% of all uninsured stays).

Sources: Information on income and insurance from DeNavas et al, 2011. Uninsured infants from the Agency for Healthcare Research and Quality, 2009. All other data from the U.S. Census Bureau 2011.

IN 2009, 4.5 MILLION CHILDREN (65% OF UNINSURED CHILDREN) WERE ELIGIBLE FOR MEDICAID OR THE CHILDREN'S HEALTH INSURANCE PROGRAM.

SOURCES: UNINSURED ELIGIBLE CHILDREN FROM KENNEY ET AL, 2011.

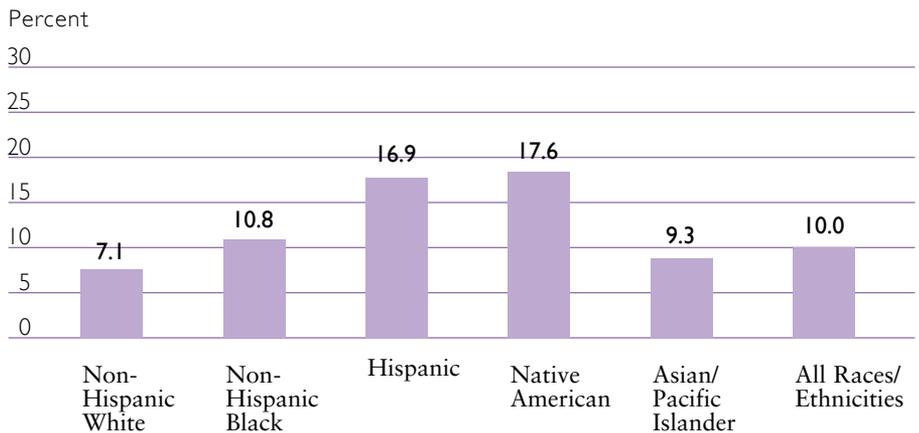
Children Under Age 19, by Type of Health Insurance Coverage, 2011



Source: US Census Bureau, 2011

Children under Age 19 who are Uninsured, by Race/Ethnicity, 2011.

Children Under Age 19 Who Are Uninsured, by Race/Ethnicity, 2011



Source: US Census Bureau, 2011.

Medicaid's Role in Maternal and Child Health

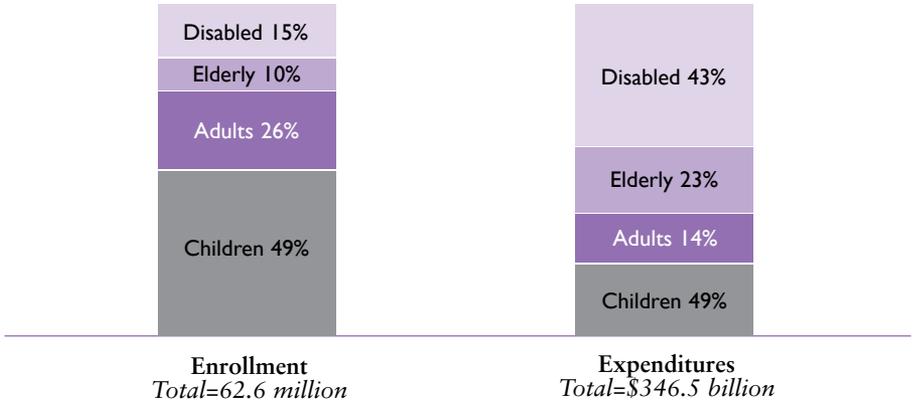
Medicaid is the major public source of funding for health care services provided to pregnant women, infants, and children.

- A joint federal-state health insurance program for low-income Americans, Medicaid financed 41% of hospital births in 2003, and covered about 30 million children in 2011.
- Medicaid is a key source of health insurance coverage for preterm infants and those born with birth defects.
 - Over half (53%) of hospital stays for preterm and low birthweight infants were financed by Medicaid in 2009. Hospital costs for these babies averaged \$53,012.
 - Almost half (45%) of infant hospital stays due to birth defects were covered by Medicaid in 2009.
- While women of childbearing age and children make up about 75% of all Medicaid enrollees, they account for only 35% of all Medicaid spending. Federal and state Medicaid spending for these groups totaled about \$121 billion in 2009.
- For low-income women residing in 29 states, the Medicaid family planning waiver allows states to provide access to family planning services for women who would not otherwise qualify for Medicaid. This federal family planning benefit covers a number of services that fall under preconception care (e.g., sexually transmitted infection testing/treatment).

^a Family planning waiver programs vary by state. States have the option to provide family planning services to women under a defined income threshold, to women who have exhausted Medicaid postpartum coverage, and/or to women who have lost Medicaid for any reason.

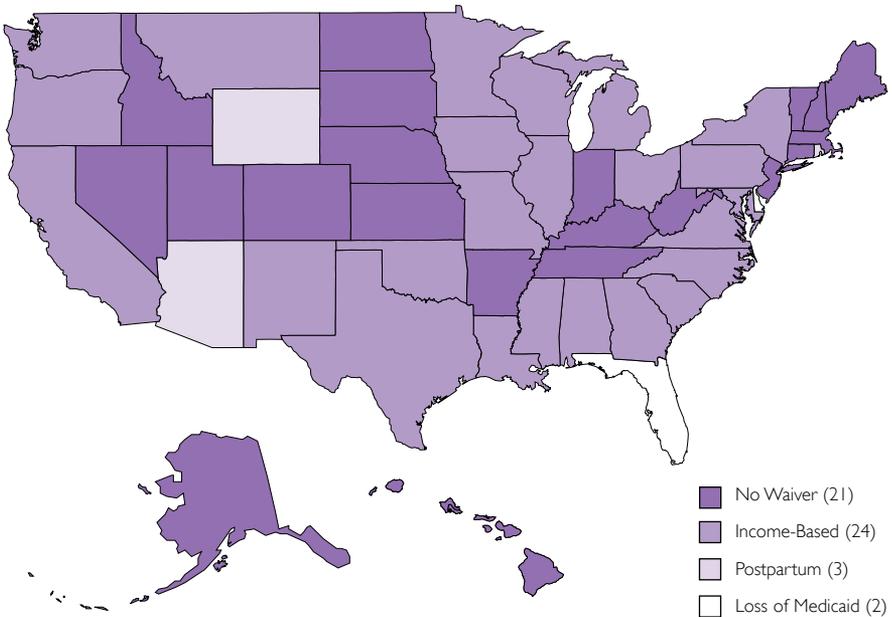
Sources: Medicaid financing of births from the National Governors Association, 2008. Medicaid enrollment from Kaiser Family Foundation, 2012. Medicaid financing of hospital births and hospital stays based on a principal diagnosis of prematurity and birth defects from the Agency for Healthcare Research and Quality, 2012. Markus, 2009.

Medicaid Enrollment and Expenditures, by Enrollee Characteristics, 2009



Source: Kaiser Commission on Medicaid, 2012a

Family Planning Waiver Programs, by State, 2012



Sources: Guttmacher Institute, 2012.

Children's Health Insurance Program

Nearly 8 million children were enrolled in the Children's Health Insurance Program (CHIP) at some point during fiscal year 2011. This joint federal-state program was re-authorized in 2009 to secure funding to cover those currently enrolled, as well as an additional 4 million uninsured children.

- Under the Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA), more than \$30 billion in federal matching funds were made available to the states through 2013. New state options are available to:
 - Enroll income eligible pregnant women;
 - Enroll legal immigrant pregnant women and children; and
 - Combine CHIP with private insurance.
- As of January 2012, seven states plus the District of Columbia were using CHIP funds to expand Medicaid coverage, 17 states were covering children through a separate program, and 26 were using a combination of these two approaches.
- States that elect to use CHIP funds to operate a separate state-designed program may choose a benefit package that differs from Medicaid's benefits. These programs may also require enrollees to pay premiums, copayments, or both, although cost sharing is subject to limitations. As of January 2012, 31 states required premiums and 26 states required copayments.
- CHIP income eligibility varies among the states and ranges from 150- 300% of the federal poverty level. Nearly all states cover children with family incomes up to or over 200 percent of the federal poverty level (\$38,180 for a family of three in 2012).

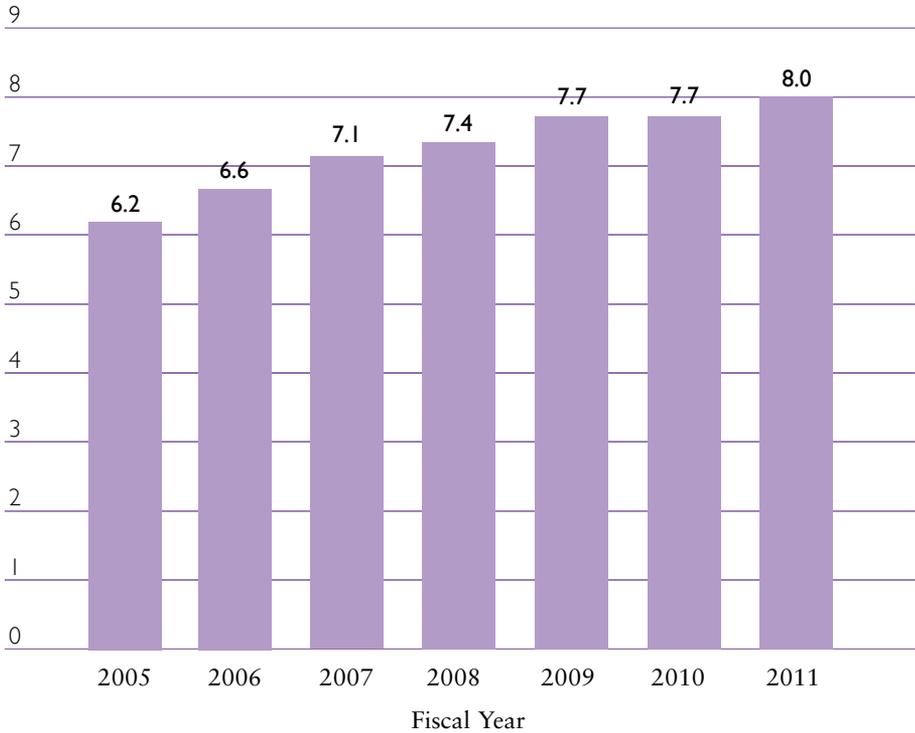
PERFORMANCE BONUS PAYMENTS ARE AVAILABLE TO STATES UNDER CHIPRA FOR:

- INCREASED ENROLLMENT OF MEDICAID ELIGIBLE CHILDREN
- STREAMLINED ENROLLMENT AND RETENTION PROCEDURES (AT LEAST 4 OF THE FOLLOWING):
 - 12 MONTH CONTINUOUS ELIGIBILITY
 - ELIMINATION OF ASSET TEST
 - ELIMINATION OF IN-PERSON INTERVIEW REQUIREMENT
 - JOINT APPLICATION
 - STREAMLINED RENEWAL
 - PRESUMPTIVE ELIGIBILITY
 - EXPRESS LANE

Source: MACPAC, 2012.

Children’s Health Insurance Program Enrollment, 2005–2011

In Millions



Note: Number of children ever enrolled during the fiscal year.

Source: MACPAC, 2012.

Medicaid and CHIP: Eligibility and Enrollment

States can streamline eligibility determinations for Medicaid and CHIP to reduce delays in enrollment of eligible pregnant women and children, thus enabling prompt access to health care.

- *Presumptive eligibility* allows states to cover applicants temporarily until eligibility can be fully determined. States may permit health care providers, schools, and other agencies to determine presumptive eligibility. Medicaid programs in 30 states and the District of Columbia provided presumptive eligibility to pregnant women in 2011, while 15 states and the District of Columbia did so for children.
 - Presumptive eligibility increases the proportion of pregnant women on Medicaid who receive early prenatal care.
 - Parents of uninsured children reported being more likely to enroll their children in Medicaid if they could do so immediately or through their doctor's office or clinic.
- *Continuous eligibility* allows states to provide coverage to children for up to 12 months, regardless of changes in family income or eligibility. All states must extend Medicaid coverage to pregnant women through 60 days after delivery and automatically enroll infants born to women on Medicaid. In 2012, 23 states provided 12 months of continuous eligibility for children in Medicaid. There are 28 CHIP programs that have also adopted the 12 month continuous coverage policy.
 - Continuous eligibility can prevent needless coverage disruptions and can promote more reliable access to prevention and primary health care services, which in turn, can lead to better health outcomes for children.
 - In addition, renewal processes such as telephone follow-up to mail notices, reduced verification requirements, and use of eligibility information from other state programs can help prevent eligible children from losing coverage.

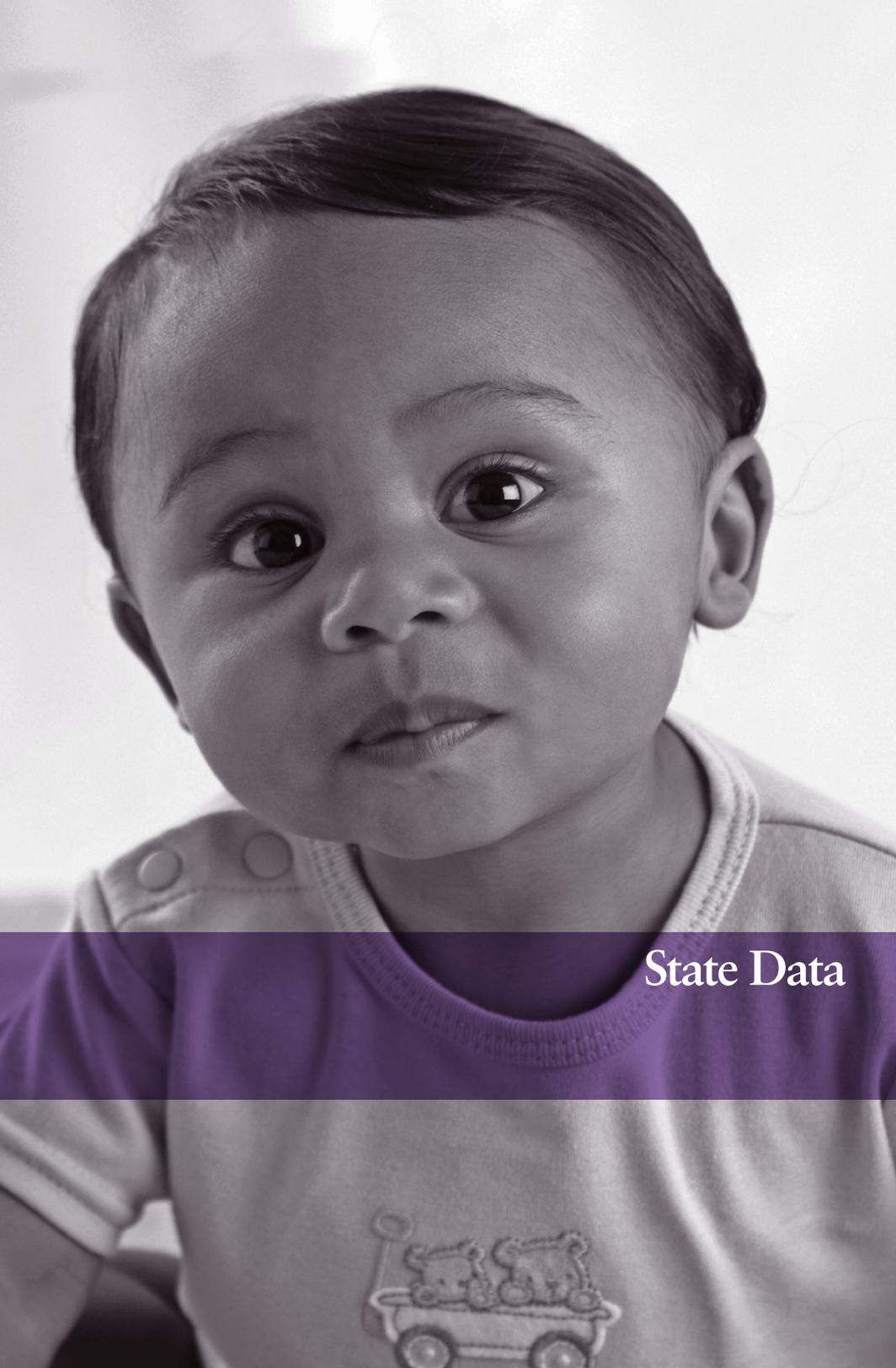
Source: Kaiser Family Foundation, 2012b.

The Affordable Care Act and Women and Children

In 2010, Congress passed the Patient Protection and Affordable Care Act (ACA) included a variety of provisions which aim to expand access to care. Many of these provisions benefit women of child-bearing age and children. Some major provisions include:

- As of August 2011, most private health plans must cover preventive care without cost sharing, including prenatal care, regular well-child visits, well-woman visits, screening for gestational diabetes, domestic violence screening, breastfeeding supplies, and contraceptive services.
- Starting in 2014, women who buy coverage in the individual market will have access to more comprehensive care at a lower cost.
 - Health plans must cover maternity care as part of the requirement to cover “essential health benefits”.
 - Health plans may not base premiums on gender or health status.
 - Health plans may not deny coverage based on pre-existing conditions such as pregnancy.
 - If families cannot afford to pay for insurance, and meet certain income criteria, the government will extend tax credits to help pay for insurance.
- Young adults age 19-25 may be covered under their parents’ employer-sponsored insurance. In the first 9 months of implementation, the insurance rate among young adults increased by 8.3%, which included one million young women of childbearing age.

Source: ASPE, 2012.



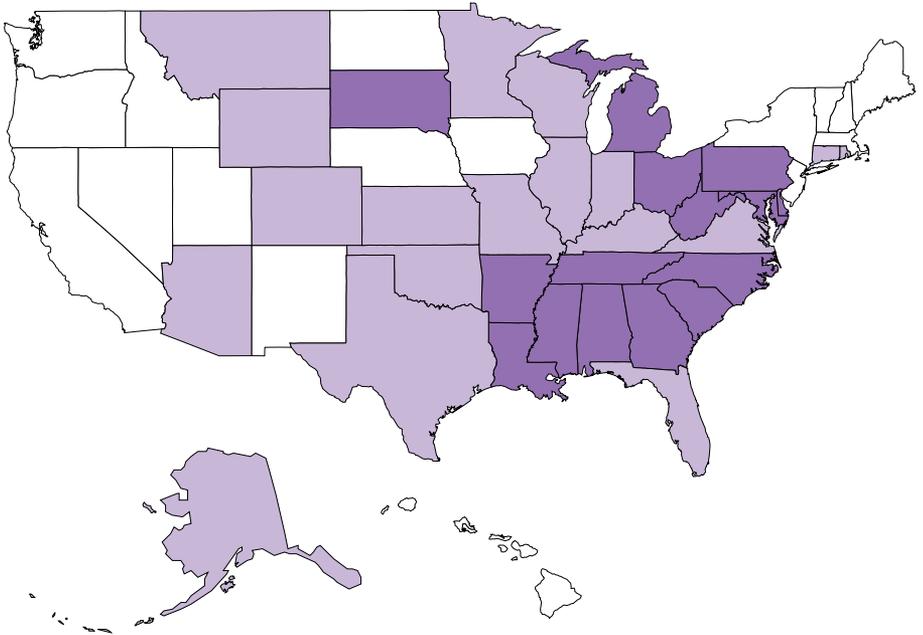
State Data

More detail and regular updates of state data are available from *PeriStats* (marchofdimes.com/peristats), the March of Dimes online interactive data resource.

State rankings can be a helpful tool for comparing states' success in achieving their health care goals.

In some cases, however, differences in rates or percentages are minor, which should be considered when interpreting these rankings.

In addition, data from individual state sources may differ from those found in national databases. In particular, natality and infant death data reported by state vital statistics offices may differ from the National Center for Health Statistics information used in many of these state tables.



Rate per 1,000 live births

- Under 7.3 (16)
- 5.9-7.3 (18)
- Over 5.9 (17)

Value in () = number of states (includes District of Columbia)

Source: National Center for Health Statistics, 2008 period linked birth/infant death data.
 Prepared by the March of Dimes Perinatal Data Center, 2012.

Infant Mortality Rates, by State, 2006–2008 Average



State	Infant Mortality Rate	Rank	Infant Mortality Rate		
			<i>Non-Hispanic White</i>	<i>Non-Hispanic Black</i>	<i>Hispanic</i>
Alabama	9.5	49	7.7	13.7	7.5
Alaska	6.5	21	4.1	9.3	6.4
Arizona	6.5	22	6.0	14.9	6.1
Arkansas	7.9	40	6.7	13.5	5.7
California	5.1	4	4.5	10.7	4.9
Colorado	6.0	14	5.1	12.0	7.0
Connecticut	6.3	19	4.8	13.1	6.4
Delaware	8.0	42	5.9	13.5	7.1
District of Columbia	12.0	51	4.5	17.7	4.4
Florida	7.2	31	5.7	12.8	5.4
Georgia	8.0	43	5.9	12.7	5.1
Hawaii	6.0	15	4.6	18.5	5.0
Idaho	6.5	23	5.9	n/a	7.9
Illinois	7.1	29	5.7	13.4	5.9
Indiana	7.4	34	6.5	15.4	6.3
Iowa	5.4	8	5.1	11.1	6.6
Kansas	7.5	36	6.9	14.6	7.1
Kentucky	7.0	27	6.6	12.1	5.1
Louisiana	9.4	48	6.6	13.9	3.9
Maine	6.0	16	5.9	10.2	n/a
Maryland	8.0	44	5.5	13.0	5.3
Massachusetts	4.9	1	4.0	10.9	6.1
Michigan	7.6	38	5.9	14.7	7.1
Minnesota	5.6	10	4.8	11.3	4.6
Mississippi	10.2	50	7.1	13.8	6.6
Missouri	7.3	33	6.2	14.5	5.1
Montana	6.5	24	5.9	n/a	n/a
Nebraska	5.9	13	5.3	13	5.2

State	Infant Mortality Rate	Rank	Infant Mortality Rate		
			<i>Non-Hispanic White</i>	<i>Non-Hispanic Black</i>	<i>Hispanic</i>
Nevada	6.1	17	5.3	12.5	5.7
New Hampshire	5.1	5	5.0	n/a	6.4
New Jersey	5.3	7	3.8	12.1	5.1
New Mexico	5.8	12	6.1	9.0	5.6
New York	5.6	11	4.3	11.3	5.0
North Carolina	8.3	45	6.2	14.6	6.3
North Dakota	6.4	20	5.6	n/a	n/a
Ohio	7.7	39	6.3	15.0	6.9
Oklahoma	7.9	41	7.5	13.9	5.1
Oregon	5.4	9	5.2	10.2	5.4
Pennsylvania	7.5	37	5.8	14.0	7.9
Rhode Island	6.5	25	4.3	10.6	7.8
South Carolina	8.3	46	6.0	13.0	5.9
South Dakota	7.1	30	5.6	n/a	9.7
Tennessee	8.4	47	6.5	15.4	6.5
Texas	6.2	18	5.5	11.7	5.6
Utah	4.9	2	4.7	10.3	5.0
Vermont	5.1	6	4.9	n/a	n/a
Virginia	7.2	32	5.5	13.4	6.0
Washington	5.0	3	4.3	7.7	5.3
West Virginia	7.4	35	7.1	14.9	n/a
Wisconsin	6.6	26	5.4	15.1	6.3
Wyoming	7.0	28	6.3	n/a	7.9
United States	6.7		5.6	13.1	5.5

Note: Infant mortality = infant deaths per 1,000 live births.
 People of Hispanic origin may be of any race.
 - Indicates fewer than 20 infant deaths.
 n/a = not available.

Rankings are based on more than 1 decimal place.

Source: National Center for Health Statistics, 2006-2008, period linked birth/infant death data. Prepared by the March of Dimes Perinatal Data Center; 2012

Live Births, by State, 2009

State	Total Births	Non-Hispanic White	Non-Hispanic Black	Hispanic
Alabama	62,475	36,902	19,230	5,134
Alaska	11,324	6,018	408	695
Arizona	92,798	40,037	4,135	39,168
Arkansas	39,808	26,973	7,635	4,202
California	527,020	146,402	31,090	270,236
Colorado	68,628	41,169	3,120	20,681
Connecticut	38,896	22,800	4,970	8,588
Delaware	11,559	6,183	3,176	1,647
District of Columbia	9,040	2,337	4,718	1,514
Florida	221,394	100,577	50,723	61,988
Georgia	141,377	61,727	46,235	24,594
Hawaii	18,887	4,603	411	3,135
Idaho	23,237	19,053	137	3,680
Illinois	171,163	90,930	29,925	40,394
Indiana	86,673	66,325	10,077	8,078
Iowa	39,701	33,382	1,907	3,210
Kansas	41,396	29,856	3,063	6,795
Kentucky	57,551	48,054	5,436	2,986
Louisiana	64,973	34,583	25,144	3,557
Maine	13,470	12,504	392	198
Maryland	75,059	34,012	24,986	10,612
Massachusetts	75,016	50,345	7,227	11,009
Michigan	117,294	82,093	22,145	7,913
Minnesota	70,646	51,288	6,475	5,625
Mississippi	42,901	21,428	19,096	1,513
Missouri	78,905	60,170	12,026	4,289
Montana	12,257	9,996	65	425
Nebraska	26,936	19,782	1,759	4,265
Nevada	37,612	15,934	3,599	14,347

State	Total Births	Non-Hispanic White	Non-Hispanic Black	Hispanic
New Hampshire	13,337	11,954	217	552
New Jersey	110,331	52,163	17,135	29,004
New Mexico	29,000	8,080	513	16,158
New York	248,110	119,526	40,970	59,801
North Carolina	126,845	70,430	30,314	20,169
North Dakota	9,001	7,319	162	312
Ohio	144,841	109,760	23,837	6,895
Oklahoma	54,553	34,720	5,083	7,270
Oregon	47,132	32,788	1,143	9,701
Pennsylvania	146,434	103,297	21,480	14,113
Rhode Island	11,442	6,978	906	2,508
South Carolina	60,620	33,978	19,478	5,562
South Dakota	11,934	9,117	247	476
Tennessee	82,211	55,444	17,405	7,433
Texas	401,977	137,594	45,482	201,227
Utah	53,887	42,386	548	8,773
Vermont	6,110	5,803	76	94
Virginia	105,059	60,405	23,019	13,668
Washington	89,313	56,567	4,084	17,189
West Virginia	21,268	19,965	831	231
Wisconsin	70,843	52,462	7,288	6,934
Wyoming	7,881	6,353	56	980
Puerto Rico	44,773	1,283	172	43,295
United States	4,130,665	2,212,552	609,584	999,548

Notes: People of Hispanic origin may be of any race.

Source: National Center for Health Statistics, 2009 final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Newborn Screening Requirements, by State, 2012

State	Births	% of US Births	Number of Core Conditions Tested ^a
Alabama	62,475	1.5%	29
Alaska	11,324	0.3%	29
Arizona	92,798	2.2%	28
Arkansas	39,808	1.0%	29
California	527,020	12.8%	29
Colorado	68,628	1.7%	29
Connecticut	38,896	0.9%	30
Delaware	11,559	0.3%	29
District of Columbia	9,040	0.2%	29
Florida	221,394	5.4%	29
Georgia	141,377	3.4%	28
Hawaii	18,887	0.5%	29
Idaho	23,237	0.6%	28
Illinois	171,163	4.1%	29
Indiana	86,673	2.1%	30
Iowa	39,701	1.0%	29
Kansas	41,396	1.0%	29
Kentucky	57,551	1.4%	28
Louisiana	64,973	1.6%	29
Maine	13,470	0.3%	28
Maryland	75,059	1.8%	30
Massachusetts	75,016	1.8%	26
Michigan	117,294	2.8%	29
Minnesota	70,646	1.7%	29
Mississippi	42,901	1.0%	29
Missouri	78,905	1.9%	29
Montana	12,257	0.3%	29
Nebraska	26,936	0.7%	28
Nevada	37,612	0.9%	28

State	Births	% of US Births	Number of Core Conditions Tested ^a
New Hampshire	13,337	0.3%	29
New Jersey	110,331	2.7%	30
New Mexico	29,000	0.7%	29
New York	248,110	6.0%	29
North Carolina	126,845	3.1%	28
North Dakota	9,001	0.2%	28
Ohio	144,841	3.5%	29
Oklahoma	54,553	1.3%	29
Oregon	47,132	1.1%	28
Pennsylvania	146,434	3.5%	29
Rhode Island	11,442	0.3%	29
South Carolina	60,620	1.5%	29
South Dakota	11,934	0.3%	28
Tennessee	82,211	2.0%	28
Texas	401,977	9.7%	28
Utah	53,887	1.3%	29
Vermont	6,110	0.1%	29
Virginia	105,059	2.5%	29
Washington	89,313	2.2%	27
West Virginia	21,268	0.5%	30
Wisconsin	70,843	1.7%	30
Wyoming	7,881	0.2%	29

^a Core conditions are 31 disorders identified by the American College of Medical Genetics.

Testing is universally required by law or rule and fully implemented as of September, 2012.

Source: Number of Condition tested from National Newborn Screening and Genetics Resource Center; 2012. Births from the National Center for Health Statistics 2009 final natality data. Prepared by the March of Dimes Perinatal Data Center; 2012.

Preterm Births, by State, 2009



State	2009			2007-2009 (Average)		
	Number	Percent of Live Births	Rank	Percent of Live Births by Maternal Race/Ethnicity		
				Non-Hispanic White	Non-Hispanic Black	Hispanic
Alabama	9,712	15.6	50	13.8	20.8	14.5
Alaska	1,240	11.0	15	8.8	15.2	11.6
Arizona	11,821	12.7	36	11.9	18.3	12.9
Arkansas	5,189	13.1	40	12.3	18.8	12.1
California	53,956	10.3	8	9.6	14.8	10.6
Colorado	7,730	11.3	19	10.9	16.3	12.3
Connecticut	3,973	10.2	7	9.4	14.1	10.9
Delaware	1,445	12.5	33	11.0	17.5	14.1
District of Columbia	1,280	14.2	47	9.3	18.5	13.8
Florida	29,975	13.5	42	11.7	18.7	13.3
Georgia	19,407	13.8	45	11.9	17.6	11.2
Hawaii	2,367	12.6	34	9.9	14.0	12.2
Idaho	2,394	10.1	6	9.6	13.1	12.1
Illinois	21,168	12.4	31	11.4	18.1	12.1
Indiana	10,316	11.9	25	11.6	18.2	12.2
Iowa	4,467	11.3	18	11.1	16.8	12.1
Kansas	4,609	11.2	16	10.8	16.3	11.2
Kentucky	7,849	13.6	43	13.8	19.5	13.5
Louisiana	9,572	14.7	49	12.7	20.2	12.0
Maine	1,334	9.9	3	10.2	13.1	11.9
Maryland	9,550	12.7	35	10.8	16.9	12.6
Massachusetts	8,099	10.9	11	10.5	13.8	11.7
Michigan	14,564	12.4	32	11.3	18.2	11.5
Minnesota	7,084	10.1	5	9.8	12.5	9.7
Mississippi	7,712	18.0	51	14.7	22.4	13.9
Missouri	9,578	12.2	27	11.2	18.3	12.0
Montana	1,331	10.9	12	10.9	13.1	10.3
Nebraska	3,096	11.5	24	11.1	16.7	12.7

State	2009			2007-2009 (Average)		
	Number	Percent of Live Births	Rank	Percent of Live Births by Maternal Race/Ethnicity		
				Non-Hispanic White	Non-Hispanic Black	Hispanic
Nevada	5,133	13.8	44	12.7	19.5	13.5
New Hampshire	1,323	9.9	4	9.5	16.7	10.5
New Jersey	13,188	12.0	26	11.0	17.3	12.8
New Mexico	3,572	12.3	30	11.5	15.9	12.6
New York	30,229	12.2	28	10.5	16.8	13.1
North Carolina	16,494	13.0	39	11.3	17.9	12.2
North Dakota	952	10.6	10	10.5	10.9	10.1
Ohio	17,824	12.3	29	11.6	18.0	13.1
Oklahoma	7,512	13.8	46	13.0	18.8	12.7
Oregon	4,624	9.8	2	9.7	13.3	10.8
Pennsylvania	16,754	11.5	23	10.4	16.6	13.0
Rhode Island	1,305	11.4	21	10.3	15.3	12.9
South Carolina	8,806	14.5	48	12.5	19.3	12.9
South Dakota	1,302	10.9	14	10.6	17.2	13.8
Tennessee	10,630	13.0	38	12.3	18.3	12.1
Texas	52,650	13.1	41	12.2	17.7	13.3
Utah	6,092	11.3	20	10.4	17.7	12.9
Vermont	570	9.3	1	9.3	11.6	12.0
Virginia	12,002	11.4	22	10.2	15.9	11.3
Washington	9,180	10.3	9	9.9	13.3	11.3
West Virginia	2,739	12.9	37	13.4	18.4	10.5
Wisconsin	7,724	10.9	13	10.2	17.2	11.4
Wyoming	883	11.2	17	11.3	13.5	12.5
Puerto Rico	7,895	17.7				
United States	502,306	12.2		11.2	17.8	12.1

Notes: Preterm is less than 37 weeks gestation. People of Hispanic origin may be of any race. – indicates fewer than 20 births. n/a = not available. Rankings are based on more than 1 decimal place.

Source: National Center for Health Statistics, final natality data, 2009. Prepared by the March of Dimes Perinatal Data Center, 2012.

Late Preterm Births, by State, 2009

State	2009			2007-2009 (Average)		
	Number	Percent of Live Births	Rank	Percent of Live Births by Maternal Race/Ethnicity		
				<i>Non-Hispanic White</i>	<i>Non-Hispanic Black</i>	<i>Hispanic</i>
Alabama	6,711	10.7	50	10.0	12.9	10.5
Alaska	919	8.1	19	6.5	10.6	8.4
Arizona	8,845	9.5	41	9.0	12.4	9.5
Arkansas	3,673	9.2	37	9.1	12.3	9.1
California	39,436	7.5	8	7.2	9.8	7.8
Colorado	5,555	8.1	18	8.1	10.8	8.5
Connecticut	2,786	7.2	3	6.7	8.8	7.6
Delaware	985	8.5	27	7.8	11.0	9.7
District of Columbia	834	9.3	39	6.9	11.2	9.8
Florida	21,212	9.6	43	8.6	12.2	9.6
Georgia	14,003	9.9	45	9.0	11.7	8.4
Hawaii	1,673	8.9	36	7.4	8.5	8.5
Idaho	1,762	7.4	7	7.2	8.6	8.9
Illinois	14,784	8.7	30	8.3	11.4	8.7
Indiana	7,299	8.4	25	8.5	11.7	8.5
Iowa	3,264	8.2	23	8.0	10.9	8.7
Kansas	3,385	8.2	21	7.8	10.9	8.3
Kentucky	5,597	9.7	44	10.1	12.7	9.4
Louisiana	6,628	10.2	49	9.5	13.0	8.9
Maine	942	7.0	2	7.2	9.2	9.1
Maryland	6,627	8.8	34	8.0	10.9	9.2
Massachusetts	5,794	7.8	13	7.7	9.0	8.1
Michigan	10,057	8.6	29	8.1	11.2	8.2
Minnesota	5,114	7.3	5	7.3	8.0	7.0
Mississippi	5,384	12.6	51	11.2	14.9	10.6
Missouri	6,845	8.7	32	8.3	11.8	8.9
Montana	951	7.8	14	8.0	9.0	7.1
Nebraska	2,249	8.4	24	8.2	10.5	9.0

State	2009			2007-2009 (Average)		
	Number	Percent of Live Births	Rank	Percent of Live Births by Maternal Race/Ethnicity		
				Non-Hispanic White	Non-Hispanic Black	Hispanic
Nevada	3,747	10.0	48	9.6	13.5	9.9
New Hampshire	963	7.2	4	6.9	11.3	7.5
New Jersey	9,040	8.2	22	7.9	10.8	8.9
New Mexico	2,549	8.8	33	8.6	10.6	9.1
New York	21,236	8.6	28	7.5	10.7	9.3
North Carolina	11,223	8.9	35	8.2	11.1	8.8
North Dakota	684	7.6	11	7.7	7.8	6.9
Ohio	12,208	8.4	26	8.3	11.3	9.2
Oklahoma	5,443	10.0	47	9.7	12.1	9.1
Oregon	3,439	7.3	6	7.2	9.4	7.9
Pennsylvania	11,631	8.0	15	7.5	10.4	8.9
Rhode Island	,864	7.6	10	7.2	9.8	8.6
South Carolina	6,041	10.0	46	9.0	12.2	9.0
South Dakota	962	8.1	17	8.1	11.4	9.7
Tennessee	7,577	9.2	38	9.1	11.8	8.9
Texas	38,011	9.5	40	9.0	11.6	9.7
Utah	4,670	8.7	31	8.1	12.3	9.6
Vermont	400	6.6	1	6.5	8.6	9.6
Virginia	8,449	8.0	16	7.5	10.2	8.4
Washington	6,729	7.5	9	7.3	9.3	8.1
West Virginia	2,031	9.6	42	9.8	11.6	7.3
Wisconsin	5,493	7.8	12	7.4	10.9	8.1
Wyoming	641	8.1	20	8.4	8.8	9.1
United States	357,345	8.7		8.2	11.4	8.8

Notes: Preterm is less than 37 weeks gestation. People of Hispanic origin may be of any race. – indicates fewer than 20 births. n/a = not available. Rankings are based on more than 1 decimal place.

Source: National Center for Health Statistics, final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Very Preterm Births, by State, 2009

State	2009			2007-2009 (Average)		
	Number	Percent of Live Births	Rank	Percent of Live Births by Maternal Race/Ethnicity		
				<i>Non-Hispanic White</i>	<i>Non-Hispanic Black</i>	<i>Hispanic</i>
Alabama	1,727	2.8	49	2.0	4.8	2.1
Alaska	159	1.4	3	1.1	2.9	1.8
Arizona	1,602	1.7	19	1.5	3.5	1.8
Arkansas	805	2.0	30	1.6	3.8	1.6
California	7,948	1.5	6	1.3	3.1	1.5
Colorado	1,154	1.7	15	1.4	3.3	2.1
Connecticut	695	1.8	23	1.4	3.6	2.0
Delaware	267	2.3	45	1.8	4.1	2.2
District of Columbia	265	2.9	50	1.4	4.6	2.2
Florida	4,953	2.2	40	1.7	3.9	2.0
Georgia	3,159	2.2	41	1.5	3.7	1.4
Hawaii	383	2.0	31	1.3	2.9	2.0
Idaho	360	1.5	7	1.3	2.3	1.7
Illinois	3,570	2.1	34	1.7	4.2	1.8
Indiana	1,694	2.0	25	1.7	4.0	2.1
Iowa	637	1.6	13	1.7	3.8	2.0
Kansas	718	1.7	21	1.6	3.5	1.5
Kentucky	1,252	2.2	38	2.0	4.2	2.0
Louisiana	1,711	2.6	48	1.7	4.4	1.7
Maine	203	1.5	5	1.6	2.1	1.8
Maryland	1,694	2.3	43	1.5	3.8	1.9
Massachusetts	1,276	1.7	16	1.5	3.0	2.1
Michigan	2,606	2.2	39	1.8	4.2	1.9
Minnesota	1,073	1.5	9	1.3	2.8	1.4
Mississippi	1,308	3.1	51	1.8	4.5	1.8
Missouri	1,552	2.0	26	1.6	3.9	1.7
Montana	199	1.6	14	1.6	n/a	1.5
Nebraska	463	1.7	18	1.5	3.9	1.9

State	2009			2007-2009 (Average)		
	Number	Percent of Live Births	Rank	Percent of Live Births by Maternal Race/Ethnicity		
				Non-Hispanic White	Non-Hispanic Black	Hispanic
Nevada	719	1.9	24	1.5	3.6	1.8
New Hampshire	209	1.6	10	1.4	2.3	1.7
New Jersey	2,313	2.1	35	1.7	4.0	2.2
New Mexico	518	1.8	22	1.6	3.8	1.8
New York	4,974	2.0	29	1.6	3.8	2.0
North Carolina	3,048	2.4	46	1.8	4.4	1.8
North Dakota	144	1.6	12	1.6	2.2	2.1
Ohio	3,253	2.2	42	1.9	4.2	2.3
Oklahoma	1,159	2.1	37	1.8	4.1	1.8
Oregon	643	1.4	1	1.3	2.4	1.6
Pennsylvania	3,048	2.1	33	1.6	3.8	2.5
Rhode Island	264	2.3	44	1.9	3.4	2.6
South Carolina	1,553	2.6	47	1.9	4.4	2.1
South Dakota	189	1.6	11	1.3	4.2	2.3
Tennessee	1,739	2.1	36	1.7	4.1	1.7
Texas	7,980	2.0	28	1.7	3.8	1.9
Utah	746	1.4	2	1.2	3.2	1.8
Vermont	93	1.5	8	1.5	n/a	n/a
Virginia	2,079	2.0	27	1.5	3.6	1.6
Washington	1,288	1.4	4	1.3	2.3	1.6
West Virginia	433	2.0	32	2.0	4.0	1.7
Wisconsin	1,225	1.7	20	1.5	3.7	1.8
Wyoming	135	1.7	17	1.6	n/a	2.0
United States	81,185	2.0		1.6	3.9	1.8

Notes: Preterm is less than 37 weeks gestation. People of Hispanic origin may be of any race. – indicates fewer than 20 births. n/a = not available. Rankings are based on more than 1 decimal place.

Source: National Center for Health Statistics, final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Low Birthweight Births, by State, 2009

State	2009			2007-2009 (Average)		
	Number	Percent of Live Births	Rank	Percent of Live Births by Maternal Race/Ethnicity		
				<i>Non-Hispanic White</i>	<i>Non-Hispanic Black</i>	<i>Hispanic</i>
Alabama	6,454	10.3	49	8.4	15.5	6.6
Alaska	666	5.9	2	5.2	12.1	7.0
Arizona	6,575	7.1	15	6.9	12.5	6.7
Arkansas	3,546	8.9	40	7.9	14.9	6.4
California	35,802	6.8	11	6.4	11.9	6.2
Colorado	6,007	8.8	39	8.6	14.4	8.5
Connecticut	3127	8.0	21	6.9	12.6	8.3
Delaware	994	8.6	37	7.0	13.3	7.1
District of Columbia	929	10.3	48	6.7	13.8	6.9
Florida	19,247	8.7	38	7.4	13.5	7.1
Georgia	13,190	9.4	46	7.5	13.9	6.4
Hawaii	1,592	8.4	34	6.3	11.2	8.4
Idaho	1,541	6.5	7	6.3	7.9	7.3
Illinois	14,316	8.4	31	7.2	14.2	6.7
Indiana	7,225	8.3	27	7.7	14.0	6.9
Iowa	2,671	6.7	9	6.5	12.1	6.3
Kansas	3,011	7.3	18	6.8	12.8	6.1
Kentucky	5,141	8.9	41	8.7	14.8	6.8
Louisiana	6,915	10.6	50	8.2	15.2	6.9
Maine	851	6.3	5	6.4	7.7	8.4
Maryland	6,836	9.1	43	7.1	13.0	7.0
Massachusetts	5,802	7.8	19	7.2	10.9	8.3
Michigan	9,799	8.4	30	7.2	14	6.8
Minnesota	4,604	6.5	8	6	10.6	5.8
Mississippi	5,249	12.2	51	8.9	16.3	6.9
Missouri	6,393	8.1	23	7	13.6	6.2
Montana	865	7.1	14	7.1	7.5	7.5
Nebraska	1,922	7.1	17	6.5	13.1	6.8

State	2009			2007-2009 (Average)		
	Number	Percent of Live Births	Rank	Percent of Live Births by Maternal Race/Ethnicity		
				Non-Hispanic White	Non-Hispanic Black	Hispanic
Nevada	3,046	8.1	22	7.9	13.8	6.7
New Hampshire	925	6.9	12	6.5	8.4	7.4
New Jersey	9,137	8.3	25	7.4	13.2	7.4
New Mexico	2,416	8.3	26	8.3	14.7	8.6
New York	20,341	8.2	24	6.9	12.7	7.8
North Carolina	11,454	9.0	42	7.6	14.4	6.4
North Dakota	572	6.4	6	6.3	5.1	7.0
Ohio	12,378	8.6	36	7.5	14.2	7.8
Oklahoma	4,558	8.4	32	7.9	14.7	6.5
Oregon	2,955	6.3	4	5.9	10.2	6.0
Pennsylvania	12,187	8.3	28	7.1	13.5	8.9
Rhode Island	913	8.0	20	7.3	10.8	7.9
South Carolina	6,047	10.0	47	7.8	14.8	6.6
South Dakota	696	5.8	1	6.2	11.0	7.1
Tennessee	7,539	9.2	44	8.2	14.1	6.3
Texas	34,137	8.5	35	7.7	14.2	7.6
Utah	3,766	7.0	13	6.6	11.0	7.4
Vermont	411	6.7	10	6.6	7.1	5.2
Virginia	8,779	8.4	29	7.1	13.3	6.4
Washington	5,580	6.3	3	5.9	9.7	5.9
West Virginia	1,952	9.2	45	9.3	14.8	6.2
Wisconsin	5,027	7.1	16	6.2	13.5	6.3
Wyoming	661	8.4	33	8.4	14.5	8.9
Puerto Rico	5,525	12.4		n/a	n/a	n/a
United States	336,747	8.2		7.2	13.7	6.9

Notes: Preterm is less than 37 weeks gestation. People of Hispanic origin may be of any race. – indicates fewer than 20 births. n/a = not available. Rankings are based on more than 1 decimal place.

Source: National Center for Health Statistics, final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Very Low Birthweight Births, by State, 2009



State	2009			2007-2009 (Average)		
	Number	Percent of Live Births	Rank	Percent of Live Births by Maternal Race/Ethnicity		
				<i>Non-Hispanic White</i>	<i>Non-Hispanic Black</i>	<i>Hispanic</i>
Alabama	1,195	1.9	48	1.4	3.5	1.1
Alaska	113	1.0	3	0.9	1.9	1.2
Arizona	1,084	1.2	15	1.0	2.7	1.1
Arkansas	642	1.6	39	1.3	3.1	0.9
California	6,064	1.2	14	1.0	2.6	1.1
Colorado	829	1.2	18	1.1	2.7	1.3
Connecticut	555	1.4	25	1.1	3.2	1.5
Delaware	214	1.9	47	1.2	3.3	1.1
District of Columbia	187	2.1	50	1.1	3.6	1.3
Florida	3,498	1.6	35	1.2	3.0	1.3
Georgia	2,414	1.7	43	1.2	3.1	1.0
Hawaii	264	1.4	24	1.0	2.4	1.4
Idaho	248	1.0	7	1.0	n/a	1.2
Illinois	2,588	1.5	32	1.2	3.2	1.2
Indiana	1,263	1.5	26	1.2	3.1	1.4
Iowa	435	1.1	9	1.2	2.6	1.2
Kansas	567	1.4	23	1.2	2.9	1.1
Kentucky	858	1.5	30	1.4	3.2	1.2
Louisiana	1,308	2.0	49	1.3	3.4	1.1
Maine	129	1.0	1	1.0	1.3	n/a
Maryland	1,339	1.8	44	1.1	3.1	1.3
Massachusetts	1,006	1.3	22	1.1	2.5	1.6
Michigan	1,890	1.6	38	1.3	3.2	1.2
Minnesota	792	1.1	12	1.0	2.6	0.9
Mississippi	898	2.1	51	1.3	3.2	1.2
Missouri	1,222	1.5	34	1.2	3.0	1.0
Montana	125	1.0	5	1.0	n/a	1.2
Nebraska	315	1.2	16	1.1	3.0	1.1

State	2009			2007-2009 (Average)		
	Number	Percent of Live Births	Rank	Percent of Live Births by Maternal Race/Ethnicity		
				Non-Hispanic White	Non-Hispanic Black	Hispanic
Nevada	477	1.3	21	1.2	2.4	1.1
New Hampshire	147	1.1	11	1.1	2.0	1.2
New Jersey	1,667	1.5	31	1.2	3.2	1.4
New Mexico	355	1.2	19	1.2	3.1	1.2
New York	3,767	1.5	33	1.1	3.0	1.4
North Carolina	2,263	1.8	45	1.3	3.4	1.1
North Dakota	112	1.2	20	1.2	n/a	1.5
Ohio	2,331	1.6	37	1.3	3.2	1.5
Oklahoma	799	1.5	27	1.3	3.2	1.2
Oregon	479	1.0	4	1.0	1.8	1.0
Pennsylvania	2,347	1.6	36	1.2	3.2	1.8
Rhode Island	193	1.7	42	1.4	2.3	1.7
South Carolina	1,104	1.8	46	1.3	3.2	1.2
South Dakota	129	1.1	8	0.9	1.9	1.9
Tennessee	1,364	1.7	41	1.3	3.2	1.0
Texas	5,906	1.5	28	1.3	3.1	1.3
Utah	550	1.0	6	0.9	2.2	1.2
Vermont	67	1.1	10	1.0	n/a	n/a
Virginia	1,703	1.6	40	1.2	3.1	1.2
Washington	862	1.0	2	1.0	1.9	1.0
West Virginia	313	1.5	29	1.5	3	n/a
Wisconsin	850	1.2	17	1.0	2.8	1.2
Wyoming	90	1.1	13	1.0	n/a	1.4
United States	59,917	1.5		1.2	3.1	1.2

Notes: Preterm is less than 37 weeks gestation. People of Hispanic origin may be of any race. – indicates fewer than 20 births. n/a = not available. Rankings are based on more than 1 decimal place.

Source: National Center for Health Statistics, 2009 final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Births to Women Who Received Early Prenatal Care, by State, 2009



State	Number	Percent of Live Births
Alabama	48,229	79.4
Alaska	8,186	80
Arizona	74,036	80.6
Arkansas	29,135	78.3
California	413,437*	81.4*
Colorado	47,204*	69.9*
Connecticut	33,644	88.1
Delaware	8,089*	74.7*
Florida	149,827*	71.7*
Georgia	73,094*	73.0*
Hawaii	14,861	83.3
Idaho	16,907*	71.6*
Illinois	138,887	86.7
Indiana	57,578*	67.3*
Iowa	29,296*	75.3*
Kansas	29,610*	74.8*
Kentucky	39,743*	71.8*
Louisiana	56,588	87.5
Maine	11,584	88.3
Maryland	57,177	82
Massachusetts	63,937	88.4
Michigan	87,799*	77.6*
Minnesota	58,097	85.9
Mississippi	34,571	83.6
Missouri	64,653	86.3
Montana	8,074*	73.4*
Nebraska	19,465*	74.3*
New Hampshire	9,915*	83.5*
New Jersey	83,282	79.5
New Mexico	16,863*	66.4*
New York	174,327*	74.1*
North Carolina	105,425	84.5
North Dakota	6,559*	75.1*

State	Number	Percent of Live Births
Ohio	95,382*	71.6*
Oregon	33,917*	72.6*
Pennsylvania	98,769*	71.6*
Rhode Island	9,501	85.3
South Carolina	39,777*	68.2*
South Dakota	7,919*	67.3*
Tennessee	54,058*	69.5*
Texas	235,316*	59.5*
Utah	40,090*	75.5*
Vermont	5,037*	83.5*
Virginia	86,735	84.8
Washington	59,133*	69.8*
West Virginia	16,954	83.3
Wisconsin	58,825	84.7
Wyoming	5,682*	73.9*

Note: Early prenatal care starts in the first trimester (one to three months). Prenatal care data based on 1989 and 2003 U.S. Revision of the Certificate of Live Birth are not comparable. Asterisk (*) data is impacted by the 2003 revised birth certificate and not comparable to earlier years. For more information visit marchofdimes.com/peristats/calc.pnc.

Source: National Center for Health Statistics 2009 final natality data. Prepared by the March of Dimes Perinatal Data Center; 2012.

Births to Women Who Received Late or No Prenatal Care, by State, 2009



State	Number	Percent of Live Births
Alabama	3,113	5.1
Alaska	396	3.9
Arizona	4,651	5.1
Arkansas	1,658	4.5
California	17,505*	3.4*
Colorado	4,756*	7.0*
Connecticut	541	1.4
Delaware	921*	8.5*
Florida	13,205*	6.3*
Georgia	7,378*	7.4*
Hawaii	609	3.4
Idaho	1,261*	5.3*
Illinois	3,615	2.3
Indiana	5,660*	6.6*
Iowa	1,554*	4.0*
Kansas	1,930*	4.9*
Kentucky	3,309*	6.0*
Louisiana	1,863	2.9
Maine	259	2
Maryland	2,896	4.2
Massachusetts	1,932	2.7
Michigan	5,090*	4.5*
Minnesota	1,520	2.2
Mississippi	1,323	3.2
Missouri	1,805	2.4
Montana	592*	5.4*
Nebraska	1,153*	4.4*
New Hampshire	397*	3.3*
New Jersey	4,345	4.1
New Mexico	2,306*	9.1*
New York	12,795*	5.4*
North Carolina	3,013	2.4
North Dakota	507*	5.8*

State	Number	Percent of Live Births
Ohio	8,583*	6.4*
Oregon	2,245*	4.8*
Pennsylvania	9,486*	6.9*
Rhode Island	162	1.5
South Carolina	4,154*	7.1*
South Dakota	800*	6.8*
Tennessee	6,097*	7.8*
Texas	48,540*	12.3*
Utah	2,650*	5.0*
Vermont	173*	2.9*
Virginia	3,579	3.5
Washington	5,759*	6.8*
West Virginia	560	2.8
Wisconsin	2,002	2.9
Wyoming	452*	5.9*

Note: Early prenatal care starts in the first trimester (one to three months). Prenatal care data based on 1989 and 2003 U.S. Revision of the Certificate of Live Birth are not comparable. Asterisk (*) data is impacted by the 2003 revised birth certificate and not comparable to earlier years. For more information visit marchofdimes.com/peristats/calc.pnc.

Source: National Center for Health Statistics 2009 final natality data. Prepared by the March of Dimes Perinatal Data Center, 2012.

Women Ages 15–44 Without Health Insurance, by State, 2009-2011 Average



State	Number (in thousands)	Percent	Rank
Alabama	211	22.0	32
Alaska	33	22.9	34
Arizona	291	23.0	35
Arkansas	158	28.2	48
California	1,988	25.3	41
Colorado	189	18.3	21
Connecticut	96	13.9	8
Delaware	28	15.6	11
District of Columbia	19	11.8	5
Florida	1,040	29.3	49
Georgia	559	27.0	45
Hawaii	26	10.1	2
Idaho	79	25.9	42
Illinois	501	19.2	27
Indiana	253	19.8	28
Iowa	94	16.4	13
Kansas	104	18.7	25
Kentucky	184	21.7	31
Louisiana	261	28.1	47
Maine	27	11.1	3
Maryland	203	17.0	16
Massachusetts	75	5.6	1
Michigan	351	18.4	22
Minnesota	132	12.7	7
Mississippi	151	25.3	40
Missouri	246	21.1	30
Montana	47	26.1	43

State	Number (in thousands)	Percent	Rank
Nebraska	60	16.8	15
Nevada	153	28.0	46
New Hampshire	39	15.7	12
New Jersey	358	20.5	29
New Mexico	117	29.7	50
New York	699	17.4	17
North Carolina	467	24.1	37
North Dakota	19	14.8	9
Ohio	392	17.8	18
Oklahoma	186	25.3	39
Oregon	168	22.2	33
Pennsylvania	365	15.1	10
Rhode Island	35	16.6	14
South Carolina	241	26.2	44
South Dakota	28	18.5	23
Tennessee	230	18.1	20
Texas	1,831	34.2	51
Utah	114	18.7	24
Vermont	14	12.2	6
Virginia	294	18.0	19
Washington	255	18.8	26
West Virginia	83	24.5	38
Wisconsin	122	11.2	4
Wyoming	24	23.0	36
United States	13,640	21.9	

Notes: Figures are three-year averages. Small sample sizes make single-year data less reliable. n/a = not available. Rankings are based on more than 1 decimal place. Source: U.S. Census Bureau, 2009a. State rankings computed by the March of Dimes Perinatal Data Center.

Source: U.S. Census Bureau, 2012. State ranking computed by the March of Dimes Perinatal Data Center.

Children Under Age 19 Without Health Insurance, by State, 2009–2011 Average



State	Number (in thousands)	Percent	Rank
Alabama	99	8.3	25
Alaska	25	12.3	45
Arizona	251	14.6	48
Arkansas	69	9.4	30
California	1,118	11.3	41
Colorado	127	9.7	32
Connecticut	58	6.7	14
Delaware	17	7.5	17
District of Columbia	7	6.4	11
Florida	653	15.6	49
Georgia	300	11.3	42
Hawaii	12	3.6	2
Idaho	49	10.7	38
Illinois	259	7.8	23
Indiana	125	7.2	15
Iowa	49	6.3	10
Kansas	66	8.7	27
Kentucky	81	7.5	18
Louisiana	120	9.9	33
Maine	15	5.2	4
Maryland	128	9.0	29
Massachusetts	47	3.1	1
Michigan	140	5.6	6
Minnesota	84	6.2	9
Mississippi	94	11.6	44
Missouri	151	10.1	34
Montana	25	11.0	40

State	Number (in thousands)	Percent	Rank
Nebraska	43	8.8	28
Nevada	122	17.6	51
New Hampshire	17	5.7	7
New Jersey	211	9.6	31
New Mexico	72	13.2	46
New York	352	7.6	21
North Carolina	256	10.4	35
North Dakota	12	7.5	19
Ohio	249	8.7	26
Oklahoma	109	11.0	39
Oregon	95	10.5	37
Pennsylvania	231	7.8	22
Rhode Island	15	6.4	12
South Carolina	159	13.9	47
South Dakota	17	8.0	24
Tennessee	115	7.3	16
Texas	1,230	16.9	50
Utah	106	11.5	43
Vermont	6	4.8	3
Virginia	150	7.5	20
Washington	113	6.6	13
West Virginia	26	6.2	8
Wisconsin	74	5.3	5
Wyoming	15	10.5	36
United States	7,964	10.1	

Notes: Figures are three-year averages. Small sample sizes make single-year data less reliable. The data include all people under age 19, whether or not they are dependents. n/a = not available. Rankings are based on more than 1 decimal place.

Source: U.S. Census Bureau, 2012. State ranking computed by the March of Dimes Perinatal Data Center.

Income Eligibility Thresholds for Pregnant Women and for Children Under Medicaid, by State, 2012

State	Eligibility as Percentage of Federal Poverty Level			
	Pregnant Women	Infants Ages 0-1	Children Ages 1-5	Children Ages 6-19
Alabama	133	133	133	100
Alaska	175	175	175	175
Arizona	150	140	133	100
Arkansas	200	200	200	200
California	200	200	133	100
Colorado	250	133	133	100
Connecticut	250	185	185	185
Delaware	200	200	133	100
District of Columbia	300	300	300	300
Florida	185	200	133	100
Georgia	200	185	133	100
Hawaii	185	300	300	300
Idaho	133	133	133	133
Illinois	200	200	133	133
Indiana	200	200	150	150
Iowa	300	300	133	133
Kansas	150	150	133	100
Kentucky	185	185	150	150
Louisiana	200	200	200	200
Maine	200	200	150	150
Maryland	250	300	300	300
Massachusetts	200	200	150	150
Michigan	185	185	150	150
Minnesota	275	280	275	275
Mississippi	185	185	133	100
Missouri	185	185	150	150
Montana	150	133	133	100
Nebraska	185	200	200	200

State	Eligibility as Percentage of Federal Poverty Level			
	Pregnant Women	Infants Ages 0-1	Children Ages 1-5	Children Ages 6-19
Nevada	133	133	133	100
New Hampshire	185	300	185	185
New Jersey	200	200	133	133
New Mexico	235	235	235	235
New York	200	200	133	133
North Carolina	185	200	200	100
North Dakota	133	133	133	100
Ohio	200	200	200	200
Oklahoma	185	185	185	185
Oregon	185	133	133	100
Pennsylvania	185	185	133	100
Rhode Island	250	250	250	250
South Carolina	185	200	200	200
South Dakota	133	140	140	140
Tennessee	185	185	133	100
Texas	185	185	133	100
Utah	133	133	133	100
Vermont	200	225	225	225
Virginia	200	133	133	133
Washington	185	200	200	200
West Virginia	150	150	133	100
Wisconsin	300	300	185	150
Wyoming	133	133	133	100

Source: Kaiser Commission on Medicaid and the Uninsured, 2012.

Income Eligibility Thresholds for Pregnant Women and for Children Under CHIP, by State, 2011

State	Eligibility as a Percentage of the Federal Poverty Level		
	Program Name	Pregnant Women/Maternity care	Children Under 19
Alabama	All Kids	n/a	300
Alaska	Denali KidCare	n/a	175
Arizona	KidsCare	n/a	200
Arkansas	ARKids First	200	200
California	Healthy Families	300	250
Colorado	Child Health Plan Plus	250	250
Connecticut	HUSKY Program	n/a	300
Delaware	Healthy Children	n/a	200
District of Columbia	Healthy Families	n/a	300
Florida	KidCare	n/a	200
Georgia	PeachCare for Kids	n/a	235
Hawaii	Covering Kids	n/a	300
Idaho	Medicaid	n/a	185
Illinois	All Kids	200	200
Indiana	Hoosier Healthwise	n/a	250
Iowa	Hawk-I	n/a	300
Kansas	HealthWave	n/a	238
Kentucky	KCHIP	n/a	200
Louisiana	LaCHIP	200	250
Maine	MaineCare	n/a	200
Maryland	Children's Health Program	n/a	300
Massachusetts	MassHealth	200	300
Michigan	MICHild	185	200
Minnesota	Medical Assistance Program	275	275
Mississippi	CHIP	n/a	200
Missouri	HealthNet for Kids	n/a	300
Montana	Healthy Montana Kids	n/a	250

Eligibility as a Percentage of the Federal Poverty Level			
State	Program Name	Pregnant Women/Maternity care	Children Under 19
Nebraska	Kids Connection	n/a	200
Nevada	Check Up	n/a	200
New Hampshire	Healthy Kids	n/a	300
New Jersey	FamilyCare	200	350
New Mexico	New MexiKids/MexiTeens	n/a	235
New York	Child Health Plus	n/a	400
North Carolina	Health Choice for Children	n/a	200
North Dakota	CHIP	n/a	160
Ohio	Healthy Start	n/a	200
Oklahoma	SoonerCare	n/a	185
Oregon	Oregon Healthy Kids	185	300
Pennsylvania	CHIP	n/a	300
Rhode Island	RIte Care	250	250
South Carolina	Healthy Connections Kids	n/a	200
South Dakota	CHIP	n/a	200
Tennessee	CoverKids	250	250
Texas	CHIP	n/a	200
Utah	CHIP	n/a	200
Vermont	Dr Dynasaur	n/a	300
Virginia	FAMIS	n/a	200
Washington	Apple Health for Kids	n/a	300
West Virginia	WVCHIP	n/a	300
Wisconsin	BadgerCare Plus	300	300
Wyoming	KidCare CHIP	n/a	200

Source: Kaiser Commission on Medicaid and the Uninsured, 2012.

Presumptive and Continuous Eligibility Under Medicaid and CHIP, by State, 2012

State	Presumptive Eligibility for Pregnant Women (Medicaid)	Presumptive Eligibility for Children (Medicaid)	Presumptive Eligibility for Children (CHIP)	12 Month Continuous Eligibility for Children (Medicaid)	12 Month Continuous Eligibility for Children (CHIP)
Alabama				■	■
Alaska			—		
Arizona ^a				n/a	■
Arkansas	●				n/a
California	●	●	●	■	■
Colorado	●	●	●		■
Connecticut	●	●	●		
Delaware ^a	●			■	■
District of Columbia	●		—		
Florida ^b	●	●			
Georgia	●				
Hawaii			—		—
Idaho	●			■	■
Illinois	●	●	●	■	■
Indiana	●				
Iowa ^a	●	●	●	■	■
Kansas		●	●	■	■
Kentucky ^a	●			■	
Louisiana		●	●	■	■
Maine	●			■	■
Maryland ^a			—	n/a	—
Massachusetts	●	●	●		
Michigan	●	●	●	■	■
Minnesota ^c				■/□	■
Mississippi				■	■
Missouri	●	●	—		—
Montana	●	●	●		■
Nebraska	●		—		

State	Presumptive Eligibility for Pregnant Women (Medicaid)	Presumptive Eligibility for Children (Medicaid)	Presumptive Eligibility for Children (CHIP)	12 Month Continuous Eligibility for Children (Medicaid)	12 Month Continuous Eligibility for Children (CHIP)
Nevada	n/a	n/a			
New Hampshire	●	●			
New Jersey	●	●	●	■	■
New Mexico	●	●		■	—
New York	●	●	●	■	■
North Carolina	●			■	■
North Dakota				■	■
Ohio ^a			—	■	—
Oklahoma	●		—		
Oregon ^c				■	■
Pennsylvania	●				■
Rhode Island					
South Carolina			—	■	n/a
South Dakota					
Tennessee	●				
Texas	●				■
Utah	●			■	■
Vermont					
Virginia					■
Washington				■	■
West Virginia				■	■
Wisconsin ^a	●	●			—
Wyoming	●			■	■
Puerto Rico	n/a	n/a	n/a	n/a	n/a

● = presumptive eligibility provided ■ = 12 months continuous eligibility □ = 6 months continuous eligibility
 — = not applicable; no S-CHIP separate from Medicaid. n/a=not available.

^a Continuous eligibility is for newborns/infants only.

^b Continuous eligibility under Medicaid is 12 months for children under age 5 and 6 months for others.

^c Continuous eligibility under Medicaid lasts 12 months for newborns and 6 months for older children.

Source: Kaiser Commission on Medicaid and the Uninsured, 2012.

Medicaid Enrollees, by Select Characteristics, by State, Fiscal Year 2009

State	Enrollees (in thousands)			Women and Children as Percent of Total
	Nondisabled Women Ages 19-44	Children Under 19	Total	
Alabama	158	470	955	65
Alaska	26	72	121	80
Arizona	690	778	1,721	85
Arkansas	114	377	699	70
California	4,583	4,429	11,028	82
Colorado	113	375	618	79
Connecticut	141	303	587	76
Delaware	82	87	207	82
District of Columbia	40	77	170	70
Florida	672	1,736	3,421	71
Georgia	295	1,063	1,819	74
Hawaii	93	103	247	80
Idaho	30	142	228	75
Illinois	700	1,470	2,699	80
Indiana	249	653	1,146	79
Iowa	152	250	523	77
Kansas	52	211	373	71
Kentucky	139	421	885	64
Louisiana	209	615	1,149	72
Maine	100	131	358	65
Maryland	222	434	862	76
Massachusetts	686	506	1,619	73
Michigan	438	1,110	2,019	77
Minnesota	234	422	879	75
Mississippi	121	383	754	67
Missouri	185	582	1,065	72
Montana	20	64	115	72
Nebraska	40	153	253	76

State	Enrollees (in thousands)			Women and Children as Percent of Total
	Nondisabled Women Ages 19–44	Children Under 19	Total	
Nevada	56	168	290	77
New Hampshire	21	95	159	73
New Jersey	141	551	1,010	69
New Mexico	113	335	547	82
New York	1,946	2,001	5,208	75
North Carolina	361	961	1,813	73
North Dakota	16	40	75	73
Ohio	519	1,106	2,181	75
Oklahoma	155	462	800	77
Oregon	130	288	564	74
Pennsylvania	428	998	2,199	64
Rhode Island	42	94	205	67
South Carolina	192	466	893	74
South Dakota	21	77	128	76
Tennessee	286	759	1,502	70
Texas	585	2,863	4,488	77
Utah	80	162	295	82
Vermont	71	68	182	76
Virginia	152	521	946	71
Washington	226	663	1,159	76
West Virginia	61	199	417	63
Wisconsin	297	437	1,028	72
Wyoming	12	54	82	80
United States	16,491	30,786	62,693	75

Source: Kaiser Commission on Medicaid and the Uninsured and Urban Institute estimates based on data from FY 2009 MSIS, 2012.

Medicaid Expenditures, by Enrollee Characteristics, by State, Fiscal Year 2009

State	Expenditures (in millions)			Women and Children as Percent of Total
	Nondisabled Women Ages 19–44	Children Under 19	Total	
Alabama	321	1,127	3,897	37
Alaska	152	335	1,065	45
Arizona	2,999	1,899	8,341	59
Arkansas	141	767	3,242	28
California	4,919	6,939	38,892	31
Colorado	363	757	3,375	33
Connecticut	545	958	5,619	27
Delaware	375	229	1,232	49
District of Columbia	158	196	1,556	23
Florida	1,726	2,824	14,258	32
Georgia	1,305	1,925	7,237	45
Hawaii	326	202	1,271	42
Idaho	134	275	1,289	31
Illinois	2,211	3,338	12,744	43
Indiana	797	1,238	5,768	35
Iowa	321	499	2,843	29
Kansas	195	468	2,366	28
Kentucky	645	1,244	5,213	36
Louisiana	653	1,258	5,628	34
Maine	213	508	2,468	30
Maryland	883	1,251	6,340	34
Massachusetts	2,033	2,073	12,275	34
Michigan	1,588	2,138	10,022	37
Minnesota	848	1,374	7,214	31
Mississippi	406	853	3,689	34
Missouri	650	1,909	6,928	37
Montana	87	185	845	32
Nebraska	108	411	1,538	34

State	Expenditures (in millions)			Women and Children as Percent of Total
	Nondisabled Women Ages 19–44	Children Under 19	Total	
Nevada	131	361	1,245	40
New Hampshire	68	277	1,111	31
New Jersey	677	1,322	8,352	24
New Mexico	587	1,321	3,204	59
New York	8,321	5,013	46,665	29
North Carolina	1,465	2,686	11,058	37
North Dakota	52	85	573	24
Ohio	1,721	2,034	13,335	28
Oklahoma	453	1,116	3,878	41
Oregon	582	629	3,540	34
Pennsylvania	1,579	2,742	16,270	27
Rhode Island	192	336	1,755	30
South Carolina	625	1,078	4,625	37
South Dakota	84	192	709	39
Tennessee	1,176	1,803	7,124	42
Texas	1,793	7,884	21,919	44
Utah	256	457	1,615	44
Vermont	182	192	971	39
Virginia	576	1,375	5,550	35
Washington	869	1,366	6,194	36
West Virginia	206	472	2,441	27
Wisconsin	1,076	913	6,675	30
Wyoming	50	136	528	36
United States	47,823	70,969	346,490	34

Source: Centers Kaiser Commission on Medicaid and the Uninsured and Urban Institute estimates based on data from FY 2009 MSIS, 2012.

CHIP Enrollees, by State, Fiscal Year 2009

State	CHIP Enrollment	
	Children enrolled	Expenditures (in millions)
Alabama	110,158	34
Alaska	11,655	9
Arizona	66,275	61
Arkansas	101,312	19
California	1,748,135	621
Colorado	102,395	55
Connecticut	21,874	4
Delaware	12,599	6
District of Columbia	9,260	3
Florida	417,414	130
Georgia	254,365	74
Hawaii	24,691	9
Idaho	44,319	11
Illinois	376,618	133
Indiana	142,665	27
Iowa	52,608	21
Kansas	48,090	20
Kentucky	73,143	29
Louisiana	170,082	48
Maine	31,349	12
Maryland	124,622	83
Massachusetts	143,044	124
Michigan	72,035	72
Minnesota	5,470	14
Mississippi	86,839	30
Missouri	103,709	35
Montana	25,749	9
Nebraska	48,139	15
Nevada	33,981	12
New Hampshire	13,197	4
New Jersey	167,009	238
New Mexico	11,169	72

State	CHIP Enrollment	
	Children enrolled	Expenditures (in millions)
New York	532,635	186
North Carolina	259,652	92
North Dakota	6,983	5
Ohio	265,680	91
Oklahoma	123,681	36
Oregon	51,835	27
Pennsylvania	264,847	115
Rhode Island	19,596	10
South Carolina	85,046	22
South Dakota	15,249	6
Tennessee	83,333	38
Texas	869,867	279
Utah	59,806	14
Vermont	7,092	1
Virginia	167,589	80
Washington	27,415	10
West Virginia	38,200	9
Wisconsin	153,917	36
Wyoming	8,871	5
United States	7,695,264	3,147

Source: The Centers for Medicare and Medicaid Services (CMS), 2011.

Federal Matching Rates for Medicaid and CHIP by State, Fiscal Year 2013

State	Federal Percentage		State	Federal Percentage	
	Medicaid	CHIP		Medicaid	CHIP
Alabama	68.53	77.97	Nebraska	55.76	69.03
Alaska	50.00	65.00	Nevada	59.74	71.82
Arizona	65.68	75.98	New Hampshire	50.00	65.00
Arkansas	70.17	79.12	New Jersey	50.00	65.00
California	50.00	65.00	New Mexico	69.07	78.35
Colorado	50.00	65.00	New York	50.00	65.00
Connecticut	50.00	65.00	North Carolina	65.51	75.86
Delaware	55.67	68.97	North Dakota	52.27	66.59
District of Columbia	70.00	79.00	Ohio	63.58	74.51
Florida	58.08	70.66	Oklahoma	64.00	74.80
Georgia	65.56	75.89	Oregon	62.44	73.71
Guam	55.00	68.50	Pennsylvania	54.28	68.00
Hawaii	51.86	66.30	Rhode Island	51.26	65.88
Idaho	71.00	79.70	South Carolina	70.43	79.30
Illinois	50.00	65.00	South Dakota	56.19	69.33
Indiana	67.16	77.01	Tennessee	66.13	76.29
Iowa	59.59	71.71	Texas	59.30	71.51
Kansas	56.51	69.56	Utah	69.61	78.73
Kentucky	70.55	79.39	Vermont	56.04	69.23
Louisiana	61.24	72.87	Virgin Islands	55.00	68.50
Maine	62.57	73.80	Virginia	50.00	65.00
Maryland	50.00	65.00	Washington	50.00	65.00
Massachusetts	50.00	65.00	West Virginia	72.04	80.43
Michigan	66.39	76.47	Wisconsin	59.74	71.82
Minnesota	50.00	65.00	Wyoming	50.00	65.00
Mississippi	73.43	81.40	Puerto Rico	55.00	68.50
Missouri	61.37	72.96	United States	50.00	65.00
Montana	66.00	76.20			

Source: Department of Health and Human Services, 2010.

Births Funded by Medicaid, by State, 2003



State	Percent	State	Percent
Alabama	46	Nevada*	32
Alaska	55	New Hampshire	23
Arizona	50	New Jersey*	26
Arkansas	52	New Mexico*	67
California	45	New York	40
Colorado	37	North Carolina	48
Connecticut	28	North Dakota	30
Delaware	41	Ohio	32
District of Columbia	34	Oklahoma	50
Florida	50	Oregon	43
Georgia	50	Pennsylvania	31
Hawaii	27	Rhode Island	37
Idaho	40	South Carolina	55
Illinois	40	South Dakota	36
Indiana	41	Tennessee	46
Iowa	28	Texas*	49
Kansas	40	Utah	30
Kentucky	44	Vermont	48
Louisiana	59	Virginia	28
Maine	47	Washington	46
Maryland	34	West Virginia	50
Massachusetts	29	Wisconsin	38
Michigan	35	Wyoming	46
Minnesota	37	Puerto Rico	n/a
Mississippi	60	United States	41
Missouri	45		
Montana	35		
Nebraska	40		

Notes: Asterisked data from 2002. 2003 data unavailable for this state. n/a = state did not respond to survey.

Source: National Governors Association, 2008.

Medicaid Coverage of Smoking Cessation Treatments, by State, 2011

State	Pharmacotherapy ^a	Counseling ^b	State	Pharmacotherapy ^a	Counseling ^b
Alabama	N, Rx	I	Montana	N, Rx	I
Alaska	N, Rx	I	Nebraska	N	I
Arizona	N, Rx	G, I	Nevada	N, Rx	G, I
Arkansas	N, Rx	G, I	New Hampshire	N, Rx	G, I
California	N, Rx	G, I	New Jersey	Rx	—
Colorado	N, Rx	G, I	New Mexico	N, Rx	G, I
Connecticut	N, Rx	G, I	New York	N, Rx	G
Delaware	N, Rx	I	North Carolina	N, Rx	G, I
D.C.	N, Rx	G, I	North Dakota	N, Rx	—
Florida	N, Rx	G, I	Ohio	N, Rx	—
Georgia	N, Rx	I	Oklahoma	N, Rx	I
Hawaii	N, Rx	—	Oregon	N, Rx	G, I, T
Idaho	N, Rx	—	Pennsylvania	N, Rx	G, I
Illinois	N, Rx	—	Rhode Island	N, Rx	G, I
Indiana	N, Rx	G, I	South Carolina	N, Rx	—
Iowa	N, Rx	I	South Dakota	Rx	—
Kansas	N, Rx	G	Tennessee	N, Rx	G, I
Kentucky	n/a	n/a	Texas	N, Rx	G, I
Louisiana	N, Rx	—	Utah	N, Rx	G, I, T
Maine	N, Rx	I	Vermont	N, Rx	G, I
Maryland	N, Rx	G, I	Virginia	N, Rx	G, I
Massachusetts	Rx	G, I	Washington	N, Rx	G, I
Michigan	N, Rx	G, I	West Virginia	N, Rx	I, T
Minnesota	N, Rx	G, I	Wisconsin	N, Rx	G, I
Mississippi	N, Rx	G, I	Wyoming	N, Rx	I
Missouri	N, Rx	I	Puerto Rico	n/a	n/a

^a Pharmacotherapies consist of nicotine replacement treatment such as gum and the patch (N), and prescription or non-prescription medications (Rx).

^b Counseling consists of Group Counseling (G), Individual Counseling (I), and/or Telephone Counseling (T).

— indicates no treatments covered by Medicaid under this category

n/a = not available

Source: American Lung Association, 2011.

Percent of Children 19–35 Months with Up-to-Date Immunizations, 2011

State	Polio ^a	4:3:1:3:3:1 Series ^b	Varicella ^c	State	Polio ^a	4:3:1:3:3:1 Series ^b	Varicella ^c
Alabama	96.2	94.2	79.2	Nebraska	98.1	94.1	82.9
Alaska	93.3	87.2	73.2	Nevada	94.8	88.2	66.7
Arizona	93.8	87.9	68.1	New Hampshire	94.4	87.0	75.4
Arkansas	95.8	93.0	79.1	New Jersey	93.6	92.2	79.1
California	94.1	91.8	80.4	New Mexico	93.8	90.3	80.0
Colorado	89.9	88.6	75.8	New York	92.6	88.0	70.3
Connecticut	96.7	94.1	81.2	North Carolina	93.5	89.6	75.3
Delaware	92.1	90.5	72.1	North Dakota	93.5	90.8	84.1
Dist. of Columbia	93.2	93.7	81.4	Ohio	94.7	93.4	80.6
Florida	95.1	90.0	77.8	Oklahoma	93.8	90.5	77.3
Georgia	96.7	93.2	83.9	Oregon	90.2	89.3	67.0
Hawaii	94.8	91.2	80.7	Pennsylvania	96.8	93.0	75.4
Idaho	94.5	86.0	68.8	Rhode Island	97.4	93.7	79.5
Illinois	94.1	91.5	77.3	South Carolina	94.5	89.6	74.1
Indiana	93.3	90.3	73.4	South Dakota	92.9	84.8	71.0
Iowa	93.8	88.2	78.9	Tennessee	93.4	90.7	73.9
Kansas	92.6	89.6	81.1	Texas	92.9	94.1	76.3
Kentucky	94.9	91.6	82.4	Utah	93.3	83.6	71.1
Louisiana	98.5	91.7	79.5	Vermont	96.0	85.4	76.7
Maine	93.9	86.4	79.1	Virginia	94.3	88.2	77.0
Maryland	95.8	93.9	81.1	Washington	90.0	87.8	76.0
Massachusetts	97.2	92.0	80.3	West Virginia	91.2	86.5	69.3
Michigan	89.8	86.5	76.4	Wisconsin	95.2	90.2	81.5
Minnesota	96.1	88.7	79.0	Wyoming	86.8	86.8	70.3
Mississippi	91.9	90.6	73.8	United States	93.9	90.8	77.0
Missouri	89.3	87.1	72.7				
Montana	85.9	85.6	71.0				

^a Polio = three or more doses of poliovirus vaccine.

^b 4:3:1:3:3:1 series is four more doses of diphtheria and tetanus toxoids and pertussis vaccine (DTP), three or more doses of poliovirus vaccine, one or more dose of measles containing vaccines, three or more doses of Haemophilus influenzae type b vaccine, three or ore doses of Hepatitis B vaccine, and one more doses of varicella.

^c Varicella = one or more doses of varicella at or after child's first birthday, unadjusted for history of varicella illness.

n/a = not available.

Source: Centers for Disease Control and Prevention, 2012.

Newborn Screening Terms: A Glossary

Amino Acid Metabolism Disorders

Phenylketonuria (PKU) (>1 in 25,000).

Inability to process the essential amino acid phenylalanine, which accumulates and damages the brain. Can lead to severe mental retardation unless detected soon after birth and treated with a special formula and a low-protein diet.

Maple syrup urine disease (<1 in 100,000).

Genetic metabolic disorder with mild to severe symptoms, which can lead to mental retardation or death. Treatment consists of a special diet, continued indefinitely.

Homocystinuria (<1 in 100,000). Lack of an enzyme that converts the amino acid homocysteine into cystathionine, needed for normal brain development. Untreated, leads to mental retardation, eye problems, skeletal abnormalities, and stroke. Treatment consists of a special diet, one or more vitamins (B6 or B12), and other supplements (betaine).

Citrullinemia (<1 in 100,000). Buildup of citrulline and ultimately ammonia, which untreated can lead to seizures, coma, brain damage, and death. Treatment with low-protein diet, medications to prevent ammonia buildup, and nutritional supplements allows normal development.

Argininosuccinic acidemia (<1 in 100,000). Buildup of argininosuccinic acid and ultimately ammonia, leading to brain swelling, coma, and sometimes death. Treatment consists of a low-protein diet, frequent meals, medications to prevent ammonia buildup, nutritional supplements, and sometimes liver transplant.

Tyrosinemia type I (<1 in 100,000). Lack of an enzyme that causes the byproducts of the amino acid tyrosine, particularly a very toxic compound (succinylacetone), to build up in the liver. Fatal liver and kidney failure may result. Drug therapy is effective.

Organic Acid Metabolism Disorders

Isovaleric acidemia (<1 in 100,000). Inability to process the amino acid leucine. Can cause coma, brain damage, or death in infancy, or emerge later in childhood after infectious illness. Early diagnosis and treatment with low-protein diet and nutritional supplements allow most children to develop normally.

Glutaric acidemia type I (>1 in 75,000). Often unrecognized for up to 18 months, until childhood illness triggers onset of symptoms. Without early diagnosis and prompt treatment

when needed, can lead to brain damage, low muscle tone, cerebral palsy-like symptoms, and death.

Hydroxymethylglutaric aciduria (<1 in 100,000). Inability to process leucine, leading to low blood sugar and accumulation of several organic acids, especially after illness or missed meals. Untreated, can lead to brain damage, mental retardation, coma, and death. Treatment includes a diet low in protein and fat, and high in carbohydrates.

Multiple carboxylase deficiency (<1 in 100,000). Defect in an enzyme that activates several other enzymes, leading to buildup of lactic acid and other organic acids. Untreated, can cause brain damage, coma, and death. Symptoms, including skin rashes and hair loss, usually begin between birth and 15 months. Treatment with a B vitamin, biotin, allows normal development.

Methylmalonic acidemia due to mutase deficiency (>1 in 75,000). Defect in processing four amino acids, resulting in illness in first week of life. Severity varies, but death during first month and lifelong brain damage are common. Treatment includes low-protein diet, vitamin B12 injections, and nutritional supplements.

Methylmalonic acidemia, cblA and cblB forms (<1 in 100,000). Inherited vitamin metabolism defect. Can lead to buildup of acids in blood, brain damage, seizures, paralysis, coma, and death. Treatment includes B12 injections and a low-protein diet.

3-Methylcrotonyl-CoA carboxylase deficiency (>1 in 75,000). Defect in processing leucine, leading to brain damage, seizures, liver failure, and infant death, or sometimes no symptoms until adulthood. Symptoms may develop after childhood illness. Treatment includes a low-protein diet.

Propionic acidemia (>1 in 75,000). Defect in processing four amino acids leading to illness in newborns, including brain damage, coma, and death. Even with treatment, which includes a low-protein diet and nutritional supplements, some children have development delays, seizures, increased muscle tone, frequent infections, and heart problems.

Beta-ketothiolase deficiency (<1 in 100,000). Periodic episodes of acid buildup, often triggered by illness, which can lead to coma, brain damage, and death. Intravenous treatment to regulate blood sugar and blood acid levels can permit normal development.

Fatty Acid Oxidation Disorders

Medium-chain acyl-CoA dehydrogenase deficiency (>1 in 25,000). Seemingly well infants and children suddenly develop seizures (due to low blood sugar), liver failure, coma, and death. Treatment includes nutritional supplements and frequent meals.

Very long-chain acyl-CoA dehydrogenase deficiency (>1 in 75,000). Unless treated, infants often develop heart and liver failure, dying before age one. Treatment includes a high-carbohydrate/low-fat diet, nutritional supplements, frequent meals, and limiting exercise.

Long-chain 3-OH acyl-CoA dehydrogenase deficiency (>1 in 75,000). Symptoms can begin soon after birth, resulting in heart, lung or liver failure, and death. Treatment includes a high-carbohydrate/low-fat diet, nutritional supplements, and frequent meals.

Trifunctional protein deficiency (<1 in 100,000). Seemingly healthy infants can die of what appears to be sudden infant death syndrome. Other infants may develop low muscle tone, seizures, heart failure, and coma, often following illness. Treatment based on frequent meals, a low-fat diet, and nutritional supplements.

Carnitine uptake defect (<1 in 100,000). Cells cannot readily absorb carnitine, needed to transfer fatty acids into mitochondria (which supply cells with energy). Results include low blood sugar and sudden death in infancy. Older children may present with progressive heart failure. High-dose carnitine permits normal development.

Hemoglobinopathies

Sickle cell anemia (Hb SS) (>1 in 5,000; in African-Americans, 1 in 400). Blood disease that can cause pain, vital organ damage, stroke, and sometimes childhood death. Young children are especially prone to dangerous bacterial infections like pneumonia and meningitis. Vigilant medical care and penicillin can reduce the risk of these effects.

Hb S/Beta-Thalassemia (Hb S/Th) (>1 in 50,000). A form of sickle cell anemia, in which the child inherits one sickle cell gene and one gene for beta thalassemia, another inherited anemia. Symptoms are milder than for Hb SS, though severity varies. Routine treatment with penicillin may not be recommended for all affected children.

Hb S/C disease (Hb S/C) (>1 in 25,000). Another form of sickle cell disease, in which the child inherits one sickle cell gene and one gene for another abnormal type of hemoglobin. Hb S/C tends to be milder than Hb SS; therefore, treatment with penicillin may not be recommended.

Other Inherited and Non-Genetic Disorders

Congenital hypothyroidism (>1 in 5,000). Thyroid hormone deficiency that severely retards growth and brain development. If detected shortly after birth, can be treated with oral doses of thyroid hormone to permit normal development.

Biotinidase deficiency (>1 in 75,000). An inherited disorder resulting in lack of the enzyme that recycles the vitamin biotin. May cause frequent infections, uncoordinated movement, hearing loss, seizures, and mental retardation. Undiagnosed and untreated, can lead to coma and death. If condition detected soon after birth, problems can be prevented with oral high-dose biotin.

Congenital adrenal hyperplasia (CAH) (>1 in 25,000). A group of inherited disorders resulting from deficiencies of hormones produced by the adrenal gland. Severe forms of CAH, if undetected and untreated, cause life-threatening salt loss via urine. Treatment includes hormone replacement.

Galactosemia (>1 in 50,000). Lack of the liver enzyme needed to convert galactose, a major sugar in milk, into glucose (blood sugar). Galactose then accumulates in and damages vital organs, leading to blindness, severe mental retardation, infection, and death. Milk and other dairy products must be eliminated from the baby's diet for life. This greatly improves the outlook for affected infants, but risk of mild developmental delays remains.

Hearing impairment (>1 in 5,000). Among the most common abnormalities present at birth. Without early testing, most babies with hearing loss are not diagnosed until age two or three. By then, they often have delayed speech and language development. Early diagnosis allows use of hearing aids by six months, helping prevent serious speech and language problems.

Cystic fibrosis (>1 in 5,000). A common inherited disorder, resulting in lung and digestive problems, and death by age 35, on average. Early diagnosis and treatment may improve the growth of babies and children with CF.

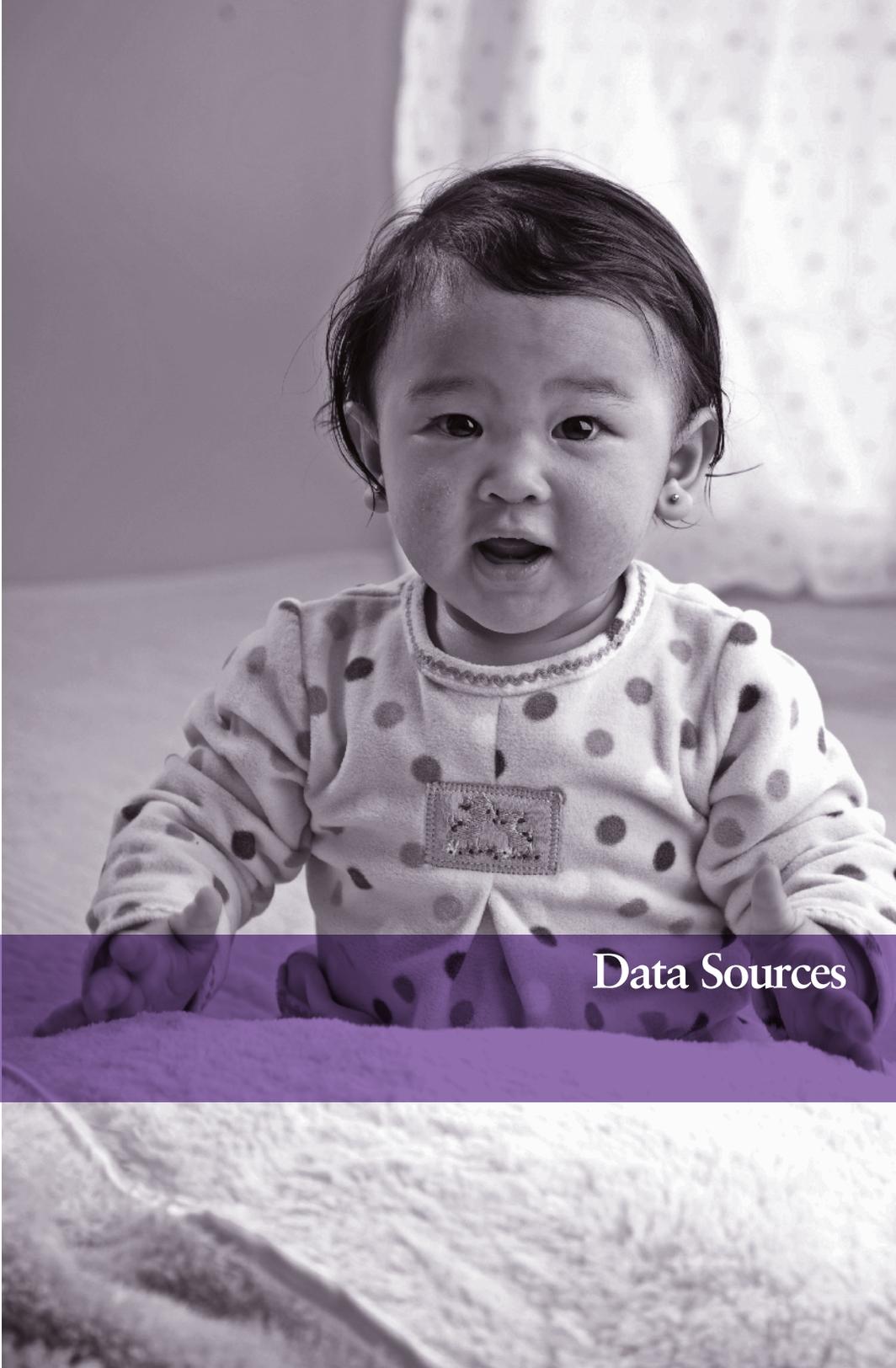
Critical Congenital Heart Defects (CCHD)

(18 in 10,000). A group of seven heart defects consisting of hypoplastic left heart syndrome, pulmonary atresia (with intact septum), teratology of Fallot, total anomalous pulmonary venous return, transposition of the great arteries, tricuspid atresia and truncus arteriosus. Babies born with a CCHD are at significant risk of disability or death if not diagnosed soon after birth.

Severe combined immunodeficiency (SCID)

(>1 in 100,000). A group of rare inherited disorders characterized by defects in two critical immune system cells that are normally mobilized by the body to combat infections. SCID has also been referred to in the popular media as the “bubble boy disease.” Without treatment, infants with SCID are more susceptible to and can develop recurrent infections, leading to failure to thrive and oftentimes death.

*The symbols < and > denote “less than” and “greater than”, respectively. Terms are ordered in accordance with the table on page 21, which summarizes state requirements.



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