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Annual Summary of Vital Statistics: 2010–2011

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Abstract

The number of births in the United States declined by 1% between 2010 and 2011, to a total of 3 953 593. The general fertility rate also declined by 1% to 63.2 births per 1000 women, the lowest rate ever reported. The total fertility rate was down by 2% in 2011 (to 1894.5 births per 1000 women). The teenage birth rate fell to another historic low in 2011, 31.3 births per 1000 women. Birth rates also declined for women aged 20 to 29 years, but the rates increased for women aged 35 to 39 and 40 to 44 years. The percentage of all births to unmarried women declined slightly to 40.7% in 2011, from 40.8% in 2010. In 2011, the cesarean delivery rate was unchanged from 2010 at 32.8%. The preterm birth rate declined for the fifth straight year in 2011 to 11.72%; the low birth weight rate declined slightly to 8.10%. The infant mortality rate was 6.05 infant deaths per 1000 live births in 2011, which was not significantly lower than the rate of 6.15 deaths in 2010. Life expectancy at birth was 78.7 years in 2011, which was unchanged from 2010. Crude death rates for children aged 1 to 19 years did not change significantly between 2010 and 2011. Unintentional injuries and homicide were the first and second leading causes of death, respectively, in this age group. These 2 causes of death jointly accounted for 47.0% of all deaths of children and adolescents in 2011.

Keywords

birth; death; teenaged fertility; infant mortality; low birth weight; mortality; multiple births; cesarean rate; vital statistics; ICD-10; revised certificates

This annual article is a long-standing feature in *Pediatrics* and provides a summary of the most current vital statistics data for the United States. We also include a special feature this year on data quality improvement.

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METHODS

The data presented in this report were obtained from vital records: birth certificates and death certificates for residents in all US states and the District of Columbia. Birth and death data for 2010 and earlier years are final. Birth and death data for 2011 are preliminary and are based on ~100% of records for natality and >98% for mortality. More complete descriptions of vital statistics data systems are available elsewhere.¹⁻⁷

Current vital statistics patterns and recent trends are presented according to age, race, and Hispanic origin as well as other birth and death characteristics. Hispanic origin and race are collected as separate items in vital records. Persons of Hispanic origin may be of any race. A number of reporting areas allow for multiple-race categories on birth and death certificates. However, until all areas revise their certificates to reflect updated reporting standards for race,⁸ multiple-race data are “bridged” back to single-race categories.^{1-4,9,10} For birth data, the mother’s marital status was reported directly in all reporting areas except for New York in 2010 and 2011. Details about the reporting of marital status in New York and editing methods and imputations as applied to other items on the birth certificate are presented in publications of the National Center for Health Statistics (NCHS).¹¹

Cause-of-death statistics in this report are based solely on the underlying cause of death compiled in accordance with the *International Classification of Diseases, 10th Revision*.¹² The underlying cause of death is defined as “(a) the disease or injury which initiated the train of morbid events leading directly to death, or (b) the circumstances of the accident or violence which produced the fatal injury.”¹² For certain causes of death such as unintentional injuries, homicides, suicides, drug-induced deaths, and sudden infant death syndrome, preliminary data may show lower numbers of deaths relative to final data for the same year. This undercount is a function of the truncated nature of the preliminary file, primarily because cause-of-death information may not be available or may be incomplete when preliminary data are sent to the NCHS but is available later at final data processing.

The ranking for leading causes of death is based on number of deaths.¹³ Infant mortality refers to the death of an infant younger than 1 year. Infant mortality rates (IMRs) were computed by dividing the total number of infant deaths in each calendar year by the total number of live births in the same year. Neonatal mortality rates (NMRs) are shown for infant deaths that occurred at less than 28 days, and postneonatal mortality rates (PNMRs) are shown for infant deaths that occurred at 28 days to <1 year of age. The denominator for both rates is the number of live births.

The latest infant mortality statistics according to race and Hispanic origin are from the 2008 period linked birth/infant death data.¹⁴ In this data set, the death certificate was linked with the corresponding birth certificate for each infant who died in the United States in 2008. The purpose of this linkage was to use additional variables available from the birth certificate, such as birth weight, to better interpret infant mortality patterns.

Birth data for 2010 and 2011 for selected items were collected by using both the 1989 (unrevised) and 2003 (revised) US Standard Certificates of Live Birth. The 2003 revision is described in detail elsewhere.^{15,16} For 2011, 36 states (California, Colorado, Delaware,

Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Washington, Wisconsin, and Wyoming) and the District of Columbia implemented the revised birth certificates as of January 1, 2011 (accounting for 83% of 2011 births).¹

Mortality data for 2011 were collected by using both the 1989 (unrevised) and 2003 (revised) versions of the US Standard Certificate of Death. The 2003 revision is described in detail elsewhere.^{3,4} Thirty-six states (Arizona, Arkansas, California, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, Oklahoma, Oregon, Rhode Island, South Carolina, South Dakota, Texas, Utah, Vermont, Washington, and Wyoming) and the District of Columbia implemented the revised death certificates as of 2011.³ The remaining 14 states reported data in 2011 on the basis of the 1989 “unrevised” version of the death certificate. All mortality data items presented in this report are considered comparable between revisions, and revised and unrevised data are combined.

Population denominators for the calculation of birth, death, and fertility rates are estimates based on the population enumerated by the US Census Bureau as of April 1, 2010. Estimates for 2010 and 2011 and revised estimates for the intercensal period 2001–2009 were produced under a collaborative arrangement between the US Census Bureau and the NCHS. All rates for 2001–2009 (in this article) are revised on the basis of population counts from the 2000 and 2010 censuses.² To calculate birth and death rates for these time periods, reported population data for multiple-race persons were bridged back to single-race categories.^{9,10} The 2010 census counts were also modified to be consistent with the 1977 Office of Management and Budget race categories.¹⁷

Data for the international comparisons of births and IMRs were obtained from the 2009–2010 *United Nations Demographic Yearbook* and the OECD (Organisation for Economic Cooperation and Development) iLibrary Health.^{18,19}

NATURAL INCREASE

In 2011, >1.4 million persons were added to the US population as a result of natural increase, the excess of births over deaths (Table 1).^{1–4} The rate of natural increase in 2011 was 4.6 persons per 1000 population.

BIRTHS

In 2011, the number of births for the United States was 3 953 593, which is 1% fewer than in 2010 and 4% fewer than in 2009 (Table 1).¹ The crude birth rate was 12.7 births per 1000 total population in 2011, the lowest rate ever reported for the United States. The general fertility rate (the number of births per 1000 women aged 15–44 years) also declined (by 1%) to a record low of 63.2 in 2011, from 64.1 in 2010. Birth rates declined among women aged 15 to 29 years between 2010 and 2011, reaching historic lows for ages 15 to 19 and 20 to 24

years. Rates increased for women aged 35 to 39 and 40 to 44 years.¹ In 2011, the total fertility rate was 1894.5 births per 1000 women, which is a decrease of 2% compared with the rate in 2010 (1931.0) (Table 2). The total fertility rate estimates the number of births that a hypothetical group of 1000 women would have over their lifetimes on the basis of the age-specific birth rates observed in a given year.

Racial and Ethnic Composition

The general fertility rate decreased for 2 of the 3 largest race and Hispanic-origin groups in 2011 and declined by 2% for non-Hispanic black women and by 6% for Hispanic women. The general fertility rate for non-Hispanic white women was essentially unchanged. The rate for American Indian or Alaska Native women declined by 2% in 2011, whereas the rate for Asian or Pacific Islander women increased by 1%. Fertility rates for these 5 groups ranged in 2011 from 47.8 births per 1000 women aged 15 to 44 years for American Indian or Alaska Native women to a high of 75.7 for Hispanic women (Table 2).

Trends in Age-Specific Birth Rates

Teenaged Childbearing—The teenage (ages 15–19 years) birth rate decreased by 8% from 2010 to 2011 and reached another historic low for the United States, 31.3 births per 1000 women (Table 3).¹ The teenage birth rate has decreased by 25% from 2007 and by 49% from 1991, the most recent peak. The birth rate for teenagers aged 15 to 17 years decreased by 11% from 2010 to 15.4 per 1000 in 2011, whereas the birth rate for older teenagers aged 18 to 19 years decreased by 7% to 54.1 per 1000 (Table 3).

The impact of the decline in the teenage birth rate on the number of births to teenagers over the period 1992–2011 is substantial. Overall, the teenage birth rate fell by 49% from 1991 through 2011. If the 1991 rates had continued to prevail from 1992 through 2011, an estimated 3.6 million additional births to women aged 15 to 19 years would have occurred in the United States (with >1 million of those additional births occurring between 2008 and 2011) (Fig 1).²⁰

Childbearing for Women in Their 20s and 30s—The birth rate for women aged 20 to 24 years decreased to a record low in the United States in 2011, 85.3 births per 1000 women, which is a 5% decrease from 90.0 per 1000 women in 2010.¹ The rate for women aged 25 to 29 years also declined (by 1%) in 2011 to 107.2 per 1000 women (Table 2). The birth rate for women aged 30 to 34 years was unchanged from 2010 to 2011 at 96.5 births per 1000 women, whereas the birth rate for women aged 35 to 39 years increased by 3% in 2011, to 47.2 per 1000 women from 45.9 per 1000 women in 2010.¹

Childbearing for Women 40 and Older—The birth rate for women aged 40 to 44 years increased by 1% in 2011, to 10.3 births per 1000 women from 10.2 per 1000 women in 2010 (Table 2). The birth rate for women aged 45 to 49 years remained unchanged in 2011 from 2010 at 0.7 (data not shown). The rates have slowly, although steadily, increased for both groups since 1990.¹

Unmarried Mothers

The birth rate for unmarried women declined by 3% in 2011, to 46.1 births per 1000 unmarried women aged 15 to 44 years, marking the third consecutive decline in the rate (which has decreased by 11% since 2008).¹ The total number of births to unmarried women declined by 2% in 2011, to 1 608 087. The proportion of all births to unmarried women was 40.7% in 2011, which was slightly lower than in 2010 (40.8%). The proportion of births to unmarried women declined for non-Hispanic black births, increased slightly for non-Hispanic white births, and was statistically unchanged for the remaining population groups between 2010 and 2011 (Table 4). In 2011, unmarried teenagers (women aged 15–19 years) accounted for 18% of all nonmarital births, the lowest proportion ever reported. In 1970, teenagers accounted for 50% of births to unmarried women.¹

Cesarean Delivery

The cesarean delivery rate was unchanged in 2011 from 2010 at 32.8%, after a steady increase from 1996 to 2009 and a small decline in 2010 (Table 4). From 2010 to 2011, cesarean delivery rates declined for non-Hispanic white women and were statistically unchanged for non-Hispanic black women, but increased for Hispanic women. Since 1994, non-Hispanic black women have had the highest rates of cesarean delivery.^{1,2}

Multiple Births

In 2010 (the latest available data), the twin birth rate declined slightly to 33.1 twins per 1000 total births, from 33.2 in 2009 (Table 4). Preliminary data on multiple births are not available. The twin birth rate increased steadily by 76% overall from 1980 to 2009. The rate increased nearly 3% annually during the 1990s but has slowed to less than one-half of 1% annually since the mid-2000s (Fig 2). The triplet/+ rate (the number of births in triplet and higher-order multiples per 100 000 total births) was 137.6 per 100 000 total births in 2010, a decrease of 10% from 2009 (153.5) (Table 4), and the lowest rate since 1995 (Fig 2). The triplet/+ rate increased by 400% during the 1980s and 1990s but has declined by 29% since the 1998 peak (193.5).

Infants in multigestation pregnancies are much more likely to be born earlier and smaller than those born in singleton pregnancies. Accordingly, they are at greater risk of early death, with twins ~5 times and triplets ~10 times as likely to die in infancy. In 2010, >5 of every 10 twins and 9 of 10 triplets were delivered preterm, compared with ~1 in 10 singletons.

Preterm Birth

In 2011, the preterm birth rate (infants delivered at <37 completed weeks of gestation per 100 births) was 11.72%, which is down for the fifth straight year.¹ The rate was 11.99% in 2010. The preterm rate had been on the rise until 2006, increasing by more than one-third from 1981 to 2006 (Fig 3).^{1,2} Although at the lowest level in more than a decade, the 2011 rate of preterm birth is still higher than the rates during the 1980s and most of the 1990s. Declines between 2010 and 2011 were observed among infants delivered early preterm (<34 weeks) and late preterm (at 34–36 weeks). The early preterm percentage declined from 3.50% to 3.44%, whereas the late preterm percentage declined from 8.49% to 8.28% (Table 4). The total preterm rate declined significantly among births to non-Hispanic white (from

10.77% to 10.49%), non-Hispanic black (from 17.12% to 16.75%), and Hispanic (from 11.79% to 11.66%) infants.¹

Low Birth Weight

The low birth weight (LBW; <2500 g) rate was 8.10% in 2011, a slight decline from 8.15% in 2010 (Table 4). The percentage of infants born with LBW increased by >20% from the mid-1980s through 2006, but has declined slowly, by 2%, from 2006 through 2011.¹ The rate of very low birth weight (<1500 g) was essentially stable at 1.44% in 2011, whereas the rate of moderately low birth weight (1500–2499 g) declined to 6.66%. The LBW rate declined slightly between 2010 and 2011 for non-Hispanic white and non-Hispanic black births, but was not significantly changed for Hispanic births (Table 4).

Overall LBW levels have been influenced by changes in the rate of multiple births, which are much more likely to be LBW than singleton births.² The LBW rate for singleton births only was essentially unchanged at 6.38% in 2010 from 6.36% in 2009² but is down from 6.49% in 2006. The percentage of singleton LBW increased by 10% from 1990 through 2006.

Notwithstanding the small decrease in the percentage of births at <2500 g from 2006 to 2010, the US birth weight distribution has shifted downward over the past 2 decades, reflecting increases in births <3500 g and declines in births at >3500 g.²

INFANT MORTALITY

In 2011, a total of 23 910 infant deaths were reported in the United States according to preliminary data, with approximately two-thirds of infant deaths occurring during the neonatal period.³ The IMR was 6.05 infant deaths per 1000 live births, the NMR was 4.04 neonatal deaths per 1000 live births, and the PNMR was 2.01 postneonatal deaths per 1000 live births (Fig 4). The IMR has declined slowly but steadily between 2005 and 2011. Over the whole period, the IMR, NMR, and PNMR each decreased by ~13%; however, for 2011, only the PNMR (2.01) was significantly lower (by 4%) than the 2010 rate (2.10).

The 2008 linked birth/infant death data reveal wide and persistent variation in IMRs according to race and Hispanic origin.¹⁴ As in past years, the highest rate was for infants born to non-Hispanic black mothers,²¹ at 12.67 deaths per 1000 live births, which is more than double the rate of infants born to non-Hispanic white mothers (5.52). Among Hispanic population groups, rates ranged from 4.76 for Central and South American mothers to 7.29 for Puerto Rican mothers. The IMRs for most Hispanic population groups have fluctuated slightly since 2000.

Geographic Variation in Infant Outcomes

Table 5 presents 2011 preliminary data by state on percentages of preterm and LBW births and 2010 final data on IMRs and NMRs. Preliminary data on infant mortality by state are not available. For 2011, Mississippi had the highest LBW (11.8%) and preterm (16.9%) rates, whereas Alaska had the lowest LBW (6.0%) rate and Vermont the lowest preterm rate (8.8%). States in the southeastern United States had the highest IMR and NMRs. In 2010,

IMRs for the states ranged from 3.75 per 1000 in Alaska to 9.67 in Mississippi. The IMR for the District of Columbia was 7.86. These geographic patterns have been observed for many years.

Leading Causes of Infant Death

In 2011, 56.4% of all infant deaths (Table 6) were attributable to 5 leading causes: congenital malformations, deformations and chromosomal abnormalities (20.8%); disorders related to short gestation and LBW, not elsewhere classified (17.2%); sudden infant death syndrome (7.2%); newborn affected by maternal complications of pregnancy (6.6%); and accidents (unintentional injuries) (4.6%).³ These 5 leading causes of infant death are the same as in 2010.⁴

INTERNATIONAL COMPARISONS

Births for 2010 and IMRs for 2008, 2009, and 2010 are shown in Table 7 for the United States and for 29 other countries with 40 000 births and an IMR less than the US rate in 2009 and 2010. Most of the data on IMRs were obtained from the OECD and the *United Nations Demographic Yearbook*.^{18,19,22} Birth data were obtained from these sources as well. Table 7 shows countries ordered from the lowest to highest IMR in 2010. Hong Kong continued to report an IMR of <2 infant deaths per 1000 live births for all 3 years. Six other countries had an IMR less than half the US rate in 2010, and only the United States reported an IMR of >6 infant deaths per 1000 live births; this number has declined since 2009 when there were 8 other countries with rates half the US rate. Possible reporting variations, greater population heterogeneity, and higher rates of LBW continue to be potential reasons for the higher IMR in the United States.²³⁻²⁷

DEATHS

There were 2 513 171 deaths in the United States in 2011 (Table 1), 44 736 more than in 2010. Age-adjusted death rates are better indicators of the risk of mortality over time than crude death rates, because they control for changes in the age distribution of the US population. The age-adjusted death rate decreased by 1.3% from 7.5 deaths per 1000 US standard population in 2010, to 7.4 in 2011.³ This rate was a record low for the United States.³

The 2011 life tables show a difference in life expectancy at birth by sex, race, and Hispanic origin. Hispanic females have the highest life expectancy at birth (83.7 years), followed by non-Hispanic white females (81.1 years), Hispanic males (78.9 years), non-Hispanic black females (77.8 years), non-Hispanic white males (76.4 years), and non-Hispanic black males (71.6 years).³ The estimated life expectancy at birth for a given year represents the average number of years that a group of infants would be expected to live if, throughout their lifetime, they were to experience the age-specific death rates that prevailed during the year of their birth.

Deaths Among Children

A total of 20 192 children and adolescents aged 1 to 19 years died in the United States in 2011 (Table 8). The death rate for children aged 1 to 19 years was 25.6 per 100 000 population in 2011 and was not significantly different from 25.8 in 2010.

For all children aged 1 to 19 years, the leading cause of death was accidents (unintentional injuries), which accounted for 35.6% of all deaths in 2011 and 37.0% of all deaths in 2010. The second leading cause of death was homicide, accounting for 11.4% of all deaths in 2011 and 12.1% of all deaths in 2010. Between 2010 and 2011, the death rate decreased significantly for unintentional injuries, homicide, heart disease, and cerebrovascular diseases. But the death rate increased significantly for suicide. Rates did not change significantly for the other leading causes of death among children.

Improvement of Data Quality

National implementation of the 2003 revision of the US Certificate of Live Birth has been long delayed, but all US jurisdictions are expected to implement the latest revision by January 1, 2014. A key goal of this revision was to improve data quality, particularly the quality of the health and medical information.¹⁶ A number of strategies, such as a detailed guide for facilities for capturing medical and health data, were developed with this goal in mind.²⁸ Although only limited information on the completeness and accuracy of the 2003 revision-based health data is available, initial studies suggest that some concerns with data quality remain.²⁹

The NCHS, the National Association for Public Health Statistics and Information Systems (NAPHSIS), and individual state/jurisdictional vital statistics partners are using multiple strategies to assess and improve birth data quality. For example, the NCHS and NAPHSIS are collaborating to develop interactive e-learning training for hospital staff (both birth information specialists and clinical staff) and to promote the universal use of the detailed training materials already available. The NCHS and NAPHSIS are also working together to develop national standards for the automatic transfer of medical/health birth certificate data directly from the hospital electronic records to state electronic birth registration systems³⁰ by using HL7- and IHE-based standards; a pilot project is underway in Utah.

A new NCHS/NAPHSIS joint committee has been charged with identifying key birth data quality concerns and developing effective approaches to resolving them across the nation. Initial objectives of the committee include the following: (1) identifying model processes for state-to-hospital feedback on data quality issues, (2) developing approaches to promote hospital understanding of the importance and uses of birth data and techniques to improve hospital buy-in, and (3) identifying sources of problems with the prenatal care data and developing approaches to improving quality.

The American College of Obstetricians and Gynecologists also has recently launched the “reVITALize” campaign, which should have an important impact on the future quality of birth certificate obstetric data. The campaign goals include national standardization of obstetric clinical data definitions for electronic health records and birth certificates.³¹ The

Centers for Disease Control and Preventions's NCHS and NAPHSIS are participating in this effort and expect to incorporate these definitions for the birth certificate once finalized.

Finally, the NCHS has recently entered into new 5-year contracts with the 57 registration areas. A central goal of the new contracts is to substantially improve data timeliness and quality via increased standardization, performance requirements, and targeted support for jurisdictions where needed. As these expanded improvement efforts begin to take effect, the overall quality of birth data should improve and become more consistent across items and jurisdictions.

CONCLUSIONS

Vital statistics are a valuable tool for monitoring the health of the US population. The value of vital statistics will improve through efforts to advance data quality, particularly the quality of the health and medical information. Multiple strategies to assess and improve birth data quality are currently being implemented. As these efforts take effect, the quality of the data are expected to improve.

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ABBREVIATIONS

IMR	infant mortality rate
LBW	low birth weight
NAPHSIS	National Association for Public Health Statistics and Information Systems
NCHS	National Center for Health Statistics
NMR	neonatal mortality rate
OMB	Office of Management and Budget
PNMR	postneonatal mortality rate

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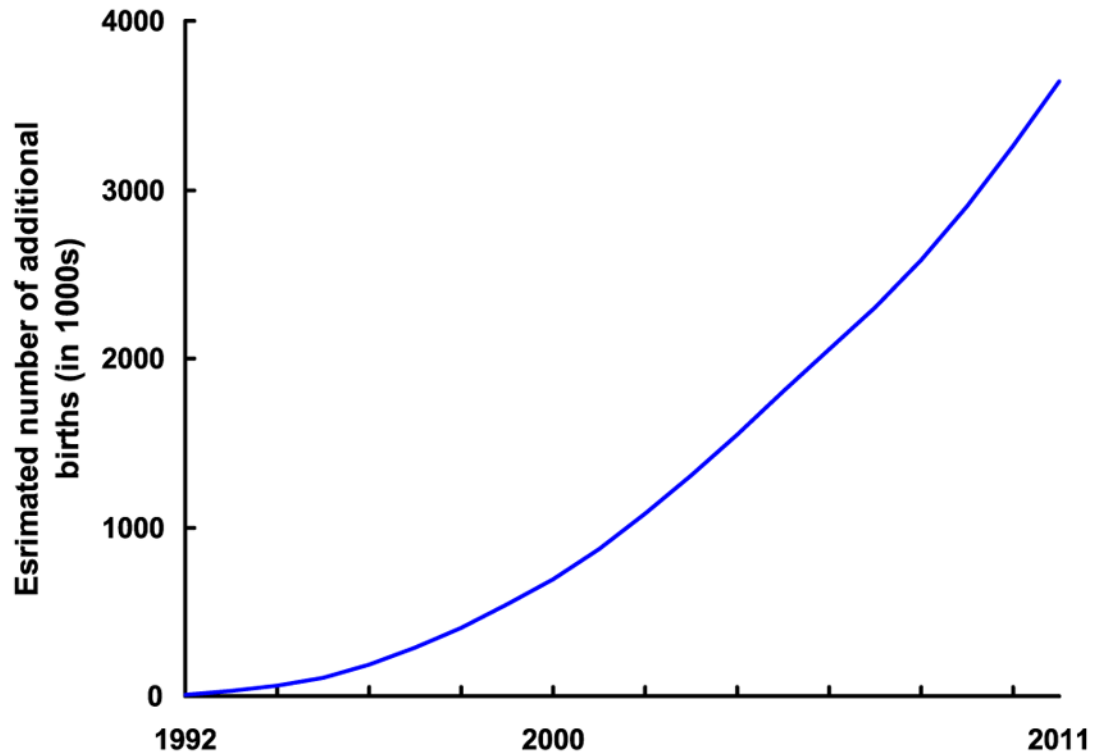


FIGURE 1.

Estimated cumulative number of additional births to women aged 15–19 years from 1992 to 2011 if 1991 birth rates had continued. Note: Data for 2011 are preliminary. For information and discussion of estimation, see Hamilton and Ventura.²⁰ Source: Centers for Disease Control and Prevention/NCHS, National Vital Statistics System: natality.

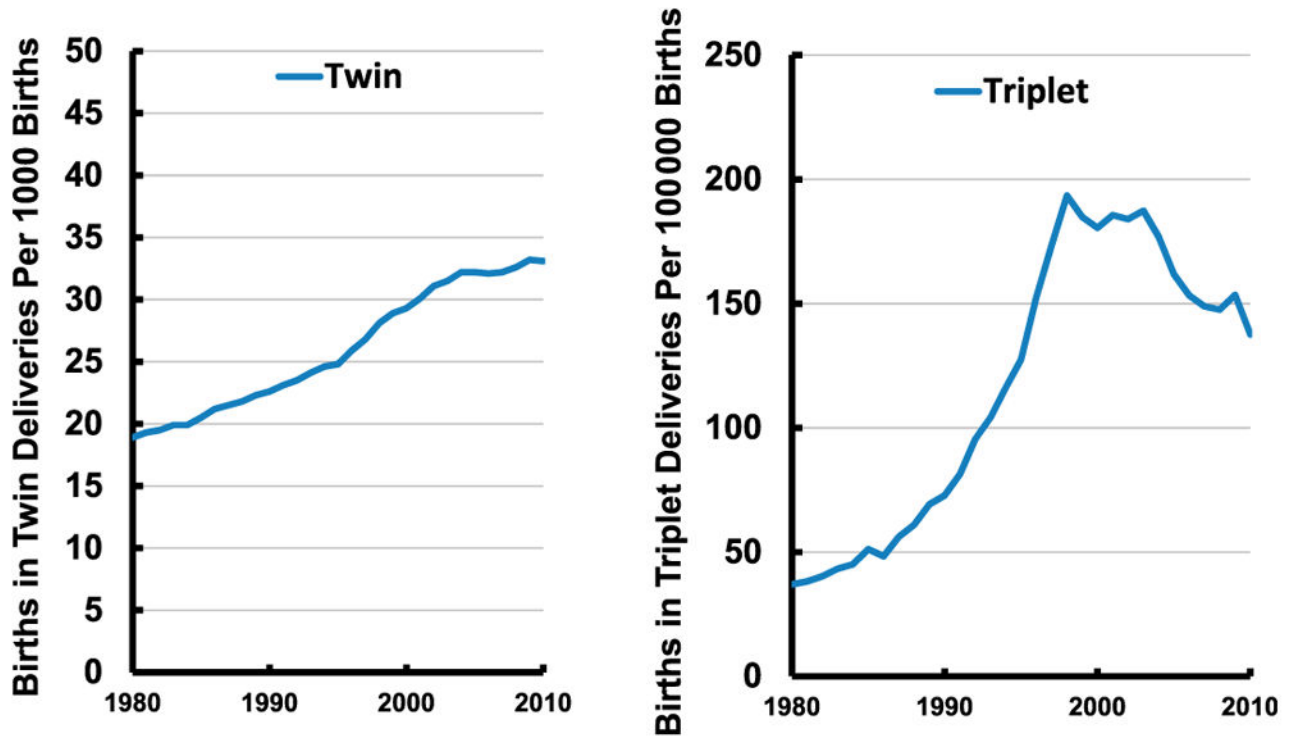


FIGURE 2.

Twin and triplet birth rates: United States, 1980–2010 (final). Notes: The twin birth rate is the number of births in twin deliveries per 1000 births. The triplet birth rate is the number of births in triplet and other higher-order deliveries per 100 000 births. Source: Centers for Disease Control and Prevention/NCHS, National Vital Statistics System: natality.

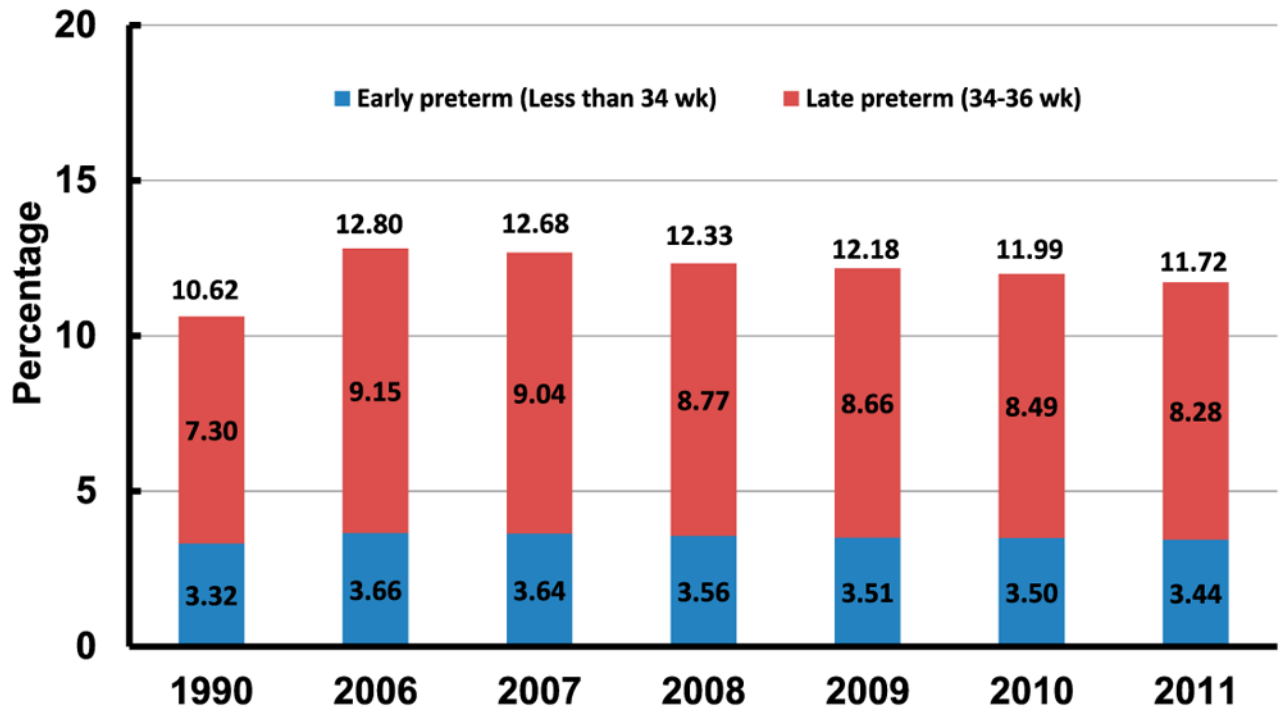


FIGURE 3.

Total, early, and late preterm birth rates: United States, 1990 and 2006–2010 (final) and 2011 (preliminary). Notes: Preterm is defined as <37 completed weeks of gestation. Early preterm is defined as <34 completed weeks of gestation. Late preterm is defined as 34–36 completed weeks of gestation. Source: Centers for Disease Control and Prevention/NCHS, National Vital Statistics System: natality

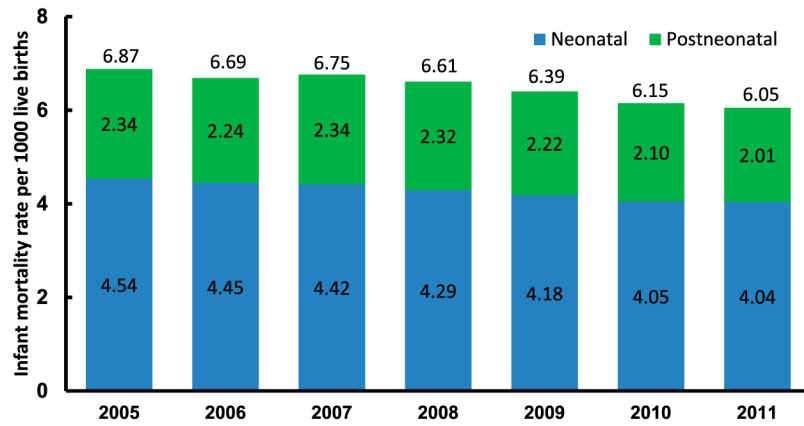


FIGURE 4. Infant, neonatal, and postneonatal mortality rates: United States, 2005–2010 (final) and 2011 (preliminary). Notes: Neonatal is defined as <28 days of age, and postneonatal is defined as 28 days to <1 year of age. Source: Centers for Disease Control and Prevention/NCHS, National Vital Statistics System: mortality (main file).

TABLE 1
Vital Statistics of the United States, Selected Years: 1950–2010 (Final) and 2011 (Preliminary)

	Number					Rate ^a				
	2011	2010	2009	2011	2010	2009	2000	1990	1980	1950
Live births	3 953 593	3 999 386	4 130 665	12.7	13.0	13.5	14.4	16.7	15.9	24.1
Fertility rate	NA	NA	NA	63.2	64.1	66.2	65.9	70.9	68.4	106.2
Deaths	2 513 171	2 468 435	2 437 163	8.1	8.0	7.9	8.5	8.6	8.8	9.6
Age-adjusted rate	NA	NA	NA	7.4	7.5	7.5	8.7	9.4	10.4	14.5
Natural increase	1 440 422	1 530 951	1 693 502	4.6	5.0	5.6	5.9	8.1	7.1	14.5
Infant mortality	23 910	24 586	26 412	6.05	6.15	6.39	6.91	9.22	12.60	29.21
Population base (in thousands)	NA	NA	NA	311 592	308 746	306 772	281 422	248 710	226 546	150 697

Population numbers are as of July 1 for 2011 and 2009 and as of April 1 in 2010, 2000, 1990, 1980, and 1950. Data sources: Centers for Disease Control and Prevention/NCHS, National Vital Statistics System, and the US Census Bureau. NA, not applicable.

^aRates per 1000 population except for fertility, which is per 1000 women aged 15 to 44 y of age, and infant mortality, which is per 1000 live births.

Age-Specific Birth Rates and Total Fertility Rates by Race and Hispanic Origin of Mother: United States, 2011 (Preliminary)

TABLE 2

	Age-Specific Birth Rate by Age of Mother ^d								Total Fertility Rate ^b
	15–44 y ^c	15–17 y	18–19 y	20–24 y	25–29 y	30–34 y	35–39 y	40–44 y	
Total	63.2	15.4	54.1	85.3	107.2	96.5	47.2	10.3	1894.5
Non-Hispanic white	58.8	9.0	40.0	72.0	105.4	100.3	46.0	9.3	1778.0
Non-Hispanic black	65.5	24.6	78.9	112.4	101.8	74.1	37.9	9.3	1922.5
Native American ^d	47.8	18.3	61.7	86.8	75.5	47.5	23.2	5.5	1377.0
Asian or Pacific Islander	59.9	4.6	18.2	41.9	93.6	114.8	64.1	15.2	1705.5
Hispanic ^e	75.7	27.9	81.2	115.3	120.5	94.4	50.9	13.0	2225.0

Race and Hispanic origin are reported separately on birth certificates. Persons of Hispanic origin may be of any race. Race categories are consistent with the 1977 OMB standards. Forty states and the District of Columbia reported multiple-race data in 2011. Multiple-race data for these states were bridged to the single-race categories of the 1977 OMB standards for comparability with other states. Data source: Centers for Disease Control and Prevention/NCHS, National Vital Statistics System: natality.

^aRates per 1000 women in age-specific group.

^bSum of age-specific birth rates \times 5 (includes rates for ages 10–14, 15–19, and 45–49 y; not shown separately).

^cRelates the number of births to women of all ages to women aged 15–44 y.

^dIncludes births to Aleuts and Eskimos.

^eIncludes all persons of Hispanic origin of any race.

Birth Rates for Teens According to Age, Race, and Hispanic Origin—United States, Selected Years: 1991–2010 (Final) and 2011 (Preliminary)

TABLE 3

Age, Race, and Hispanic Origin of Mother	Birth Rate ^a					Percentage Change		
	2011	2010	2009	2007	1991	2010–2011	2007–2011	1991–2011
Age 15–19 y								
All races	31.3	34.2	37.9	41.5	61.8	-8	-25	-49
Non-Hispanic white ^b	21.8	23.5	25.7	27.2	43.4	-7	-20	-50
Non-Hispanic black ^b	47.4	51.5	56.7	62.0	118.2	-8	-24	-60
Native American ^c	36.2	38.7	43.8	49.4	27.3	-6	-27	-57
Asian or Pacific Islander	10.2	10.9	12.6	14.8	84.1	-6	-31	-63
Hispanic ^{b,d}	49.4	55.7	63.6	75.3	104.6	-11	-34	-53
Age 15–17 y								
All races	15.4	17.3	19.6	21.7	38.6	-11	-29	-60
Non-Hispanic white ^b	9.0	10.0	11.0	11.9	23.6	-10	-24	-62
Non-Hispanic black ^b	24.6	27.4	31.0	34.6	86.1	-10	-29	-71
Native American ^c	18.3	20.1	23.7	26.2	16.3	-9	-30	-65
Asian or Pacific Islander	4.6	5.1	6.3	7.4	51.9	-10	-38	-72
Hispanic ^{b,d}	27.9	32.3	37.3	44.4	69.2	-14	-37	-60
Age 18–19 y								
All races	54.1	58.2	64.0	71.7	94.0	-7	-25	-42
Non-Hispanic white ^b	40.0	42.5	46.2	50.4	70.6	-6	-21	-43
Non-Hispanic black ^b	78.9	85.6	93.5	105.2	162.2	-8	-25	-51
Native American ^c	61.7	66.1	73.6	86.4	42.2	-7	-29	-54
Asian or Pacific Islander	18.2	18.7	20.9	24.9	134.2	— ^e	-27	-57
Hispanic ^{b,d}	81.2	90.7	103.3	124.7	155.5	-10	-35	-48

Race and Hispanic origin are reported separately on birth certificates. Persons of Hispanic origin may be of any race. Race categories are consistent with the 1977 OMB standards. Forty states and the District of Columbia in 2011, 38 states and the District of Columbia in 2010, 33 states and the District of Columbia in 2009, and 27 states in 2007 reported multiple-race data. Multiple-race data for these states were bridged to the single-race categories of the 1977 OMB standards for comparability with other states. Data source: Centers for Disease Control and Prevention/NCHS, National Vital Statistics System: natality.

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^gRates per 1000 women in specified group.

^hIn 1991 excludes data for New Hampshire, which did not report Hispanic origin on the birth certificate.

ⁱIncludes births to Aleuts and Eskimos.

^jIncludes all persons of Hispanic origin of any race.

^kNot statistically significant.

TABLE 4
 Percentage of Births with Selected Characteristics by Race and Hispanic Origin of Mother—United States, Selected Years: 1990 and 2010 (Final) and 2011 (Preliminary)

	All Races			Non-Hispanic White			Non-Hispanic Black			Hispanic ^d		
	2011	2010	1990	2011	2010	1990 ^b	2011	2010	1990 ^b	2011	2010	1990 ^b
Mother												
<20 y of age	8.4	9.3	12.8	6.1	6.7	9.6	13.7	15.2	23.2	12.1	13.1	16.8
40 y of age	2.9	2.9	1.2	3.0	3.0	1.2	2.4	2.3	0.8	2.6	2.4	1.2
Unmarried	40.7	40.8	28.0	29.1	29.0	16.9	72.3	72.5	66.7	53.3	53.4	36.7
Diabetes during pregnancy	—	5.1	2.1	—	4.7	2.2	—	4.5	1.8	—	5.2	2.0
Pregnancy-associated hypertension	—	4.4	2.7	—	4.8	3.0	—	5.4	2.8	—	3.2	1.8
Health care utilization												
Midwife-attended births ^c	—	7.8	3.9	—	7.8	3.2	—	7.1	4.4	—	8.3	6.2
Cesarean delivery rate	32.8	32.8	22.7	32.4	32.6	23.4	35.5	35.5	22.1	32.0	31.8	21.2
Weight gain of >40 lb ^d	—	20.8	15.9	—	23.4	16.5	—	20.6	14.8	—	16.5	14.1
Infant												
Birth weight ^e												
LBW	8.10	8.15	7.0	7.09	7.14	5.6	13.33	13.53	13.3	7.02	6.97	6.1
VLBW	1.44	1.45	1.27	1.14	1.16	0.93	2.99	2.98	2.93	1.20	1.20	1.03
Gestational age ^f												
Preterm birth	11.72	11.99	10.6	10.49	10.77	8.5	16.75	17.12	18.9	11.66	11.79	11.0
Early	3.44	3.50	3.3	2.87	2.93	2.4	6.01	6.13	7.4	3.26	3.26	3.2
Late	8.28	8.49	7.3	7.62	7.84	6.1	10.74	10.99	11.5	8.40	8.53	7.8
Multiple births												
Live births in twin deliveries (per 1000 live births)	—	33.1	22.6	—	36.9	22.9	—	37.0	26.7	—	22.6	18.0
Live births in higher-order multiple deliveries (per 100 000 live births)	—	137.6	72.8	—	177.7	89.8	—	97.3	46.2	—	76.3	39.4

Race and Hispanic origin are reported separately on birth certificates. Persons of Hispanic origin may be of any race. Race categories are consistent with the 1977 OMB standards. Forty states and the District of Columbia in 2011 and 38 states and the District of Columbia in 2010 reported multiple-race data. Multiple-race data for these states were bridged to the single-race categories of the 1977 OMB standards for comparability with other states. Data source: Centers for Disease Control and Prevention/NCHS, National Vital Statistics System, natality. —, preliminary data not available.

^aIncludes all persons of Hispanic origin of any race.

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^qExcludes data for New Hampshire and Oklahoma, which did not report Hispanic origin.

^pDelivered by certified nurse midwives.

^rMother gained >40 lb during pregnancy.

^sVLBW is birth weight of <1500 g (3 lb, 4 oz), and LBW is birth weight of <2500 g (5 lb, 8 oz).

^fPreterm indicates birth before 37 completed weeks of gestation, early preterm indicates birth before 34 completed weeks of gestation, and late preterm indicates birth between 34 and 36 completed weeks of gestation.

TABLE 5

Percentage of Infants Born Preterm and LBW in the United States and Each State, 2011 (Preliminary), and IMR and NMR in the United States and Each State, 2010 (Final)

State of Residence	Preterm ^a	LBW ^b	IMR ^c	NMR ^d
United States	11.7	8.1	6.15	4.05
Alabama	14.9	9.9	8.71	5.43
Alaska	10.4	6.0	3.75	1.92
Arizona	12.1	7.0	5.97	3.80
Arkansas	13.2	9.1	7.32	4.15
California	9.8	6.8	4.74	3.30
Colorado	10.3	8.7	5.91	4.33
Connecticut	10.1	7.7	5.28	3.98
Delaware	11.2	8.4	7.66	5.10
District of Columbia	13.7	10.5	7.86	5.46
Florida	13.0	8.7	6.54	4.35
Georgia	13.2	9.4	6.42	3.90
Hawaii	12.3	8.2	6.16	4.00
Idaho	10.2	6.1	4.83	2.72
Illinois	12.1	8.2	6.77	4.65
Indiana	11.6	8.1	7.62	4.97
Iowa	11.1	6.5	4.88	2.66
Kansas	11.2	7.2	6.22	4.28
Kentucky	13.4	9.1	6.79	3.32
Louisiana	15.6	10.9	7.60	4.25
Maine	9.6	6.7	5.40	3.78
Maryland	12.5	8.9	6.75	4.74
Massachusetts	10.5	7.6	4.43	3.31
Michigan	12.0	8.3	7.13	4.80
Minnesota	9.9	6.4	4.49	3.05
Mississippi	16.9	11.8	9.67	5.50
Missouri	11.6	7.9	6.61	4.14
Montana	10.8	7.2	5.89	3.48
Nebraska	10.6	6.6	5.25	3.70
Nevada	13.2	8.2	5.59	3.51
New Hampshire	9.5	7.1	3.96	2.10
New Jersey	11.7	8.5	4.81	3.45
New Mexico	11.8	8.8	5.64	3.41
New York	10.9	8.1	5.09	3.54
North Carolina	12.6	9.0	7.01	4.93
North Dakota	9.9	6.7	6.81	5.05
Ohio	12.0	8.6	7.71	5.23
Oklahoma	13.2	8.5	7.59	4.26

State of Residence	Preterm ^a	LBW ^b	IMR ^c	NMR ^d
Oregon	9.1	6.1	4.94	3.36
Pennsylvania	11.0	8.2	7.25	5.14
Rhode Island	10.4	7.4	7.07	5.28
South Carolina	14.1	9.9	7.37	4.56
South Dakota	11.2	6.3	6.94	4.66
Tennessee	12.8	9.0	7.93	4.62
Texas	12.8	8.5	6.13	3.91
Utah	10.9	6.9	4.86	3.37
Vermont	8.8	6.7	4.18	— ^e
Virginia	11.2	8.0	6.80	4.61
Washington	9.8	6.1	4.50	3.07
West Virginia	12.7	9.6	7.28	3.96
Wisconsin	10.4	7.2	5.84	3.84
Wyoming	10.2	8.1	6.75	4.10

Data source: Centers for Disease Control and Prevention/NCHS, National Vital Statistics System: natality and mortality.

^a<37 weeks of completed gestation.

^b<2500 g.

^cInfant deaths (age <1 y) per 1000 live births.

^dNeonatal deaths (age <28 d) per 1000 live births.

^eThe figure did not meet standards of reliability or precision; based on <20 deaths in the numerator.

Deaths, Percentages of Total Deaths, and Mortality Rates for the 10 Leading Causes of Infant Death: United States, 2010 (Final) and 2011 (Preliminary)

TABLE 6

Causes of death and <i>International Classification of Diseases, 10th Revision, Codes</i> ¹²	Rank ^d	2011			2010		
		n	%	Rate ^b	n	%	Rate ^b
All causes	—	23 907	100.0	604.7	24 586	100.0	614.7
Congenital malformations, deformations, and chromosomal abnormalities (Q00–Q99)	1	4984	20.8	126.1	5107	20.8	127.7
Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	2	4116	17.2	104.1	4148	16.9	103.7
Sudden infant death syndrome (R95)	3	1711	7.2	43.3	2063	8.4	51.6
Newborn affected by maternal complications of pregnancy (P01)	4	1578	6.6	39.9	1561	6.3	39.0
Accidents (unintentional injuries) (V01–X59)	5	1089	4.6	27.5	1110	4.5	27.8
Newborn affected by complications of placenta, cord, and membranes (P02)	6	992	4.1	25.1	1030	4.2	25.8
Bacterial sepsis of newborn (P36)	7	526	2.2	13.3	583	2.4	14.6
Respiratory distress of newborn (P22)	8	514	2.1	13.0	514	2.1	12.9
Diseases of the circulatory system (I00–I99)	9	496	2.1	12.5	507	2.1	12.7
Neonatal hemorrhage (P50–P52, P54)	10	444	1.9	11.2	469	1.9	11.7

Data source: Centers for Disease Control and Prevention/NCHS, National Vital Statistics System: mortality, 2011 and 2010 (www.cdc.gov/nchs/deaths.htm). —, Data not applicable.

^aBased on 2011 data.

^bIMRs are per 100 000 live births.

TABLE 7

Number of Live Births for 2010 and IMRs for 2008, 2009, and 2010 for 30 countries

Country	No. of Births in 2010 ^a	IMR ^b		
		2010	2009	2008
Hong Kong	82 095 ^c	—	1.7 ^a	1.8 ^a
Japan	1 071 304	2.3	2.4	2.6
Finland	60 694	2.3	2.6	2.6
Sweden	115 641	2.5	2.5	2.5
Portugal	101 381	2.5	3.6	3.3
Czech Republic	117 153	2.7	2.9	2.8
Norway	61 442	2.8	3.1	2.7
Republic of Korea	470 171	3.2	3.2	3.5
Spain	485 252	3.2	3.2	3.3
Denmark	63 411	3.4	3.1	4.0
Germany	677 947	3.4	3.5	3.5
Italy	561 944	3.4	3.9	3.3
Belgium	129 173	3.5	3.4	3.7
France	802 224	3.6	3.9	3.8
Israel	166 255	3.7	3.8	3.8
Greece	114 766	3.8	3.1	2.7
Ireland	73 724	3.8	3.2	3.8
Netherlands	184 397	3.8	3.8	3.8
Switzerland	80 290	3.8	4.3	4.0
Austria	78 742	3.9	3.8	3.7
Australia	297 903	4.1	4.3	4.1
United Kingdom	807 272	4.2	4.6	4.7
Croatia	43 361	4.4	5.3	4.5
Cuba	127 746	4.5 ^a	4.8 ^a	4.7 ^a
Canada	379 373 ^c	—	4.9 ^d	5.1
Poland	413 300	5.0	5.6	5.6
New Zealand	63 897	—	5.2	5.0
Hungary	90 335	5.3	5.1	5.6
Slovak Republic	60 410	5.7	5.7	5.9
United States	3 999 386 ^e	6.1 ^e	6.4 ^e	6.6 ^e

—, Data not available.

^aTables 9 and 15 in *United Nations Demographic Yearbook*, 2011.¹⁸^bOECD iLibrary: Health, Key Table (ISSN 2075-8480).¹⁹^cData are for 2009.^dStatistics Canada, CANSIM, Table 051-0004 and catalog no. 91-215-X; for infant mortality rates: Statistics Canada, CANSIM, Table 102-0504 and catalogue no. 84F0211-X.²²

^eCenters for Disease Control and Prevention, NCHS, National Vital Statistics System.²⁻⁴

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Deaths and Death Rates for the 5 Leading Causes of Childhood Death in Specified Age Groups: United States, 2010 (Final) and 2011 (Preliminary)

TABLE 8

Age, Causes of Death, and International Classification of Diseases, 10th Revision, Codes ¹²	2011			2010		
	Rank ^a	n	% Rate ^b	n	% Rate ^b	% Rate ^b
Total: ages 1–19 y						
All causes	—	20 192	100.0	20 482	100.0	25.8
Accidents (unintentional injuries) (V01–X59, Y85–Y86)	1	7196	35.6	7574	37.0	9.5
Assault (homicide) (*U01–*U02, X85–Y09, Y87.1)	2	2304	11.4	2478	12.1	3.1
Intentional self-harm (suicide) (*U03, X60–X84, Y87.0)	3	2034	10.1	1933	9.4	2.4
Malignant neoplasms (C00–C97)	4	1857	9.2	1863	9.1	2.3
Congenital malformations, deformations, and chromosomal abnormalities (Q00–Q99)	5	1045	5.2	1007	4.9	1.3
Diseases of the heart (I00–I09, I11, I13, I20–I51)	6	650	3.2	686	3.3	0.9
Influenza and pneumonia (J09–J18)	7	271	1.3	210	1.0	0.3
Chronic lower respiratory diseases (J40–J47)	8	243	1.2	244	1.2	0.3
Cerebrovascular diseases (I60–I69)	9	194	1.0	226	1.1	0.3
Septicemia (A40–A41)	10	169	0.8	173	0.8	0.2
Age 1–4 y	—					
All causes		4214	100.0	4316	100.0	26.5
Accidents (unintentional injuries) (V01–X59, Y85–Y86)	1	1346	31.9	1394	32.3	8.6
Congenital malformations, deformations, and chromosomal abnormalities (Q00–Q99)	2	483	11.5	507	11.7	3.1
Assault (homicide) (*U01–*U02, X85–Y09, Y87.1)	3	370	8.8	385	8.9	2.4
Malignant neoplasms (C00–C97)	4	352	8.4	346	8.0	2.1
Diseases of the heart (I00–I09, I11, I13, I20–I51)	5	158	3.7	159	3.7	1.0
Age 5–9 y	—					
All causes		2448	100.0	2330	100.0	11.5
Accidents (unintentional injuries) (V01–X59, Y85–Y86)	1	753	30.8	758	32.5	3.7
Malignant neoplasms (C00–C97)	2	442	18.1	439	18.8	2.2
Congenital malformations, deformations, and chromosomal abnormalities (Q00–Q99)	3	184	7.5	163	7.0	0.8
Assault (homicide) (*U01–*U02, X85–Y09, Y87.1)	4	122	5.0	111	4.8	0.5
Influenza and pneumonia (J09–J18)	5	61	2.5	37	1.6	0.2
Age 10–14 y	—					

	2011			2010			
	Rank ^a	n	%	Rate ^b	n	%	Rate ^b
All causes		2947	100.0	14.2	2949	100.0	14.3
Accidents (unintentional injuries) (V01–X59, Y85–Y86)	1	861	29.2	4.2	885	30.0	4.3
Malignant neoplasms (C00–C97)	2	423	14.4	2.0	477	16.2	2.3
Intentional self-harm (suicide) (*U03, X60–X84, Y87.0)	3	276	9.4	1.3	267	9.1	1.3
Congenital malformations, deformations, and chromosomal abnormalities (Q00–Q99)	4	172	5.8	0.8	135	4.6	0.7
Assault (homicide) (*U01–*U02, X85–Y09, Y87.1)	5	147	5.0	0.7	150	5.1	0.7
Age 15–19 y	—						
All causes		10 583	100.0	48.9	10 887	100.0	49.4
Accidents (unintentional injuries) (V01–X59, Y85–Y86)	1	4236	40.0	19.6	4537	41.7	20.6
Intentional self-harm (suicide) (*U03, X60–X84, Y87.0)	2	1753	16.6	8.1	1659	15.2	7.5
Assault (homicide) (*U01–*U02, X85–Y09, Y87.1)	3	1665	15.7	7.7	1832	16.8	8.3
Malignant neoplasms (C00–C97)	4	640	6.0	3.0	601	5.5	2.7
Diseases of the heart (I00–I09, I11, I13, I20–I51)	5	307	2.9	1.4	342	3.1	1.6

Data source: Centers for Disease Control and Prevention/NCHS, National Vital Statistics System: mortality, 2011 and 2010 (www.cdc.gov/nchs/deaths.htm) and unpublished tabulations. —, Data not available; *, United States specific ICD code.

^aBased on 2011 data.

^bRate per 100 000 population in specified group.