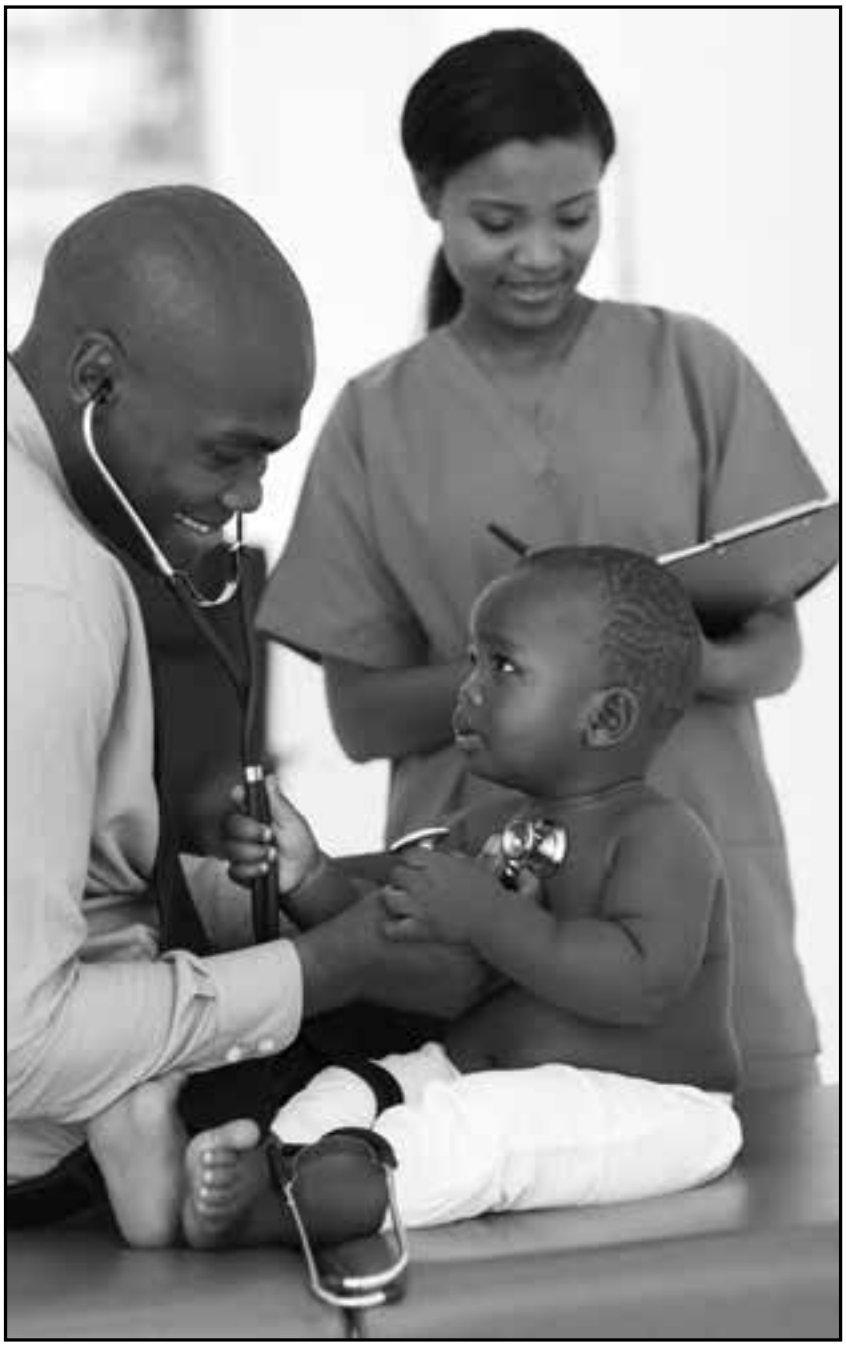
HEALTH SERVICES FINANCING AND UTILIZATION

The availability of and access to quality health care directly affects the health of the population. This is especially true of those at high risk due to low socioeconomic status or chronic medical conditions.

Children may receive health coverage through a number of sources, including private insurance, either through employers or purchased directly, or through public programs, such as Medicaid or the Children's Health Insurance Program (CHIP). Eligibility for public programs is based on a family's income, size and other requirements, such as citizenship or immigrant status. Every state has a CHIP program that helps to expand coverage to children who would otherwise be uninsured. Despite the progress achieved through public programs, approximately 6.5 million children remain uninsured in the United States.

This section presents data on the health insurance status and utilization of health services within the maternal and child population including prenatal care, well-child visits and developmental screening for young children, and mental health care for adolescents. Data are summarized by source of payment, type of care, and place of service delivery where appropriate and feasible.



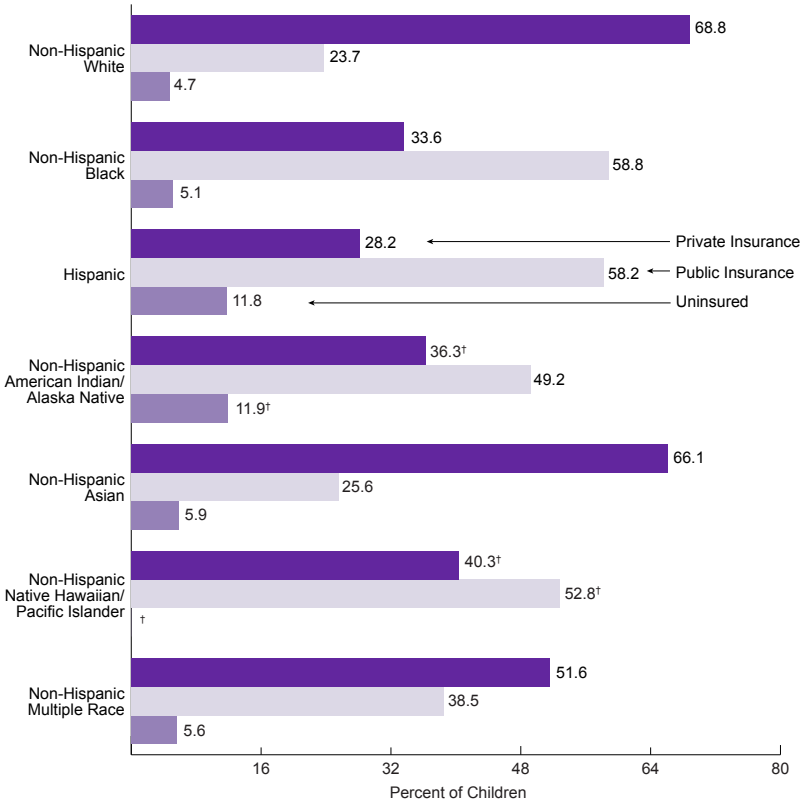
HEALTH INSURANCE

Health insurance is critical for ensuring the health and well-being of children in the United States. Without health insurance coverage, children are less likely to receive medical care and more likely to have poor health status.[1] In 2013, more than 4.8 million children under age 18 did not have health insurance. This represents 6.6 percent of all children in the United States. More than half of children (53.2 percent) were covered by private insurance, and 37.7 percent were covered by public insurance (e.g., Medicaid or other state-sponsored health plans including Children's Health Insurance Program [CHIP]).

Children's health insurance status varies by several factors, including race, ethnicity, and income. In 2013, nearly 70 percent of non-Hispanic White and non-Hispanic Asian children and more than half of non-Hispanic children of multiple races had private coverage (figure 1). In comparison, less than half of non-Hispanic Native Hawaiian/Pacific Islander (40.3 percent), non-Hispanic Black (33.6 percent), Hispanic (28.2 percent), and non-Hispanic American Indian/Alaska Native (36.3 percent) children had private coverage. Children with the highest percentage of public insurance were non-Hispanic Blacks (58.8 percent), Hispanics (58.2 percent), non-Hispanic Native Hawaiians/other Pacific Islanders (52.8 percent), and non-Hispanic American Indians/Alaska Natives (49.2 percent). The highest proportions of uninsured children were among non-Hispanic American Indians/Alaska Natives (11.9 percent) and Hispanics (11.8 percent).

In 2013, households with incomes below 100 percent of poverty had the highest percentage of children with public health insurance (82.3 percent) and the lowest percentage of children with private health insurance (8.4 percent). The highest percent of children who were uninsured in 2013 were children living in households with incomes of 100–199 percent of poverty (11.1 percent), followed by children from households with incomes below 100 percent of poverty (8.2 percent). Children in households with incomes of 200 percent or more of poverty were more likely to have private coverage (81.7 percent) and less likely to have public coverage (11.1 percent) or to be uninsured (4.2 percent), as compared to those in households with lower incomes.

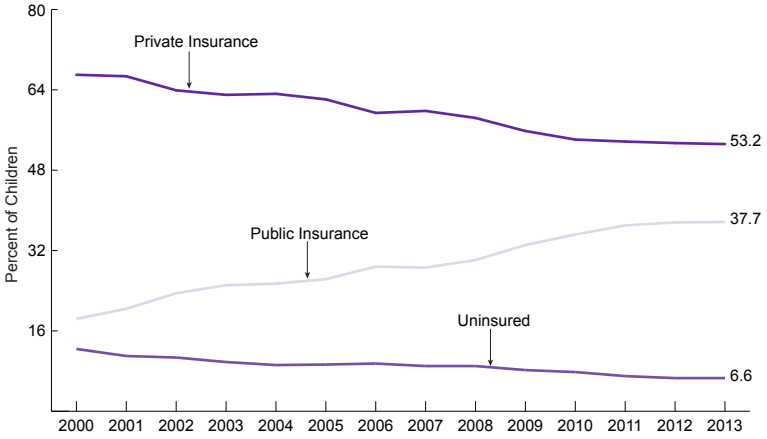
Figure 1. Health Insurance Coverage* Among Children Under Age 18, by Race/Ethnicity, 2013



**Private coverage includes children with any private insurance; Public includes children who do not have private coverage, but who have Medicaid or other state-sponsored health plans, including CHIP; A child was considered uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan. A child was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service such as accidents or dental care. Estimates do not sum to 100 because children who are covered by military plans, Medicare, or other government-sponsored health plans are not shown. †Estimates are considered unreliable. Data followed by a dagger have a relative standard error (RSE) greater than 30% and less than or equal to 50% and should be used with caution. Data not shown have an RSE greater than 50%.*

Between 2000 and 2013 there were shifts in the proportion of children in each of the three types of insurance categories (private insurance, public insurance and uninsured). Private health insurance coverage for children is lower in 2013 (53.2 percent) than it was in 2000 (67.0 percent; figure 2). A larger difference is seen in public health insurance coverage for children which is higher in 2013 (37.7 percent) than it was in 2000 (18.4 percent). The percentage of children who were uninsured in 2013 is nearly half as much as it was in 2000 (6.6 versus 12.4 percent, respectively). Implementation of the Affordable Care Act may further support reductions in uninsurance among children through new electronic data systems that will streamline the eligibility and application process for programs such as Medicaid and CHIP, and by increasing insurance coverage among adults.[2] Research has shown that children's Medicaid and CHIP coverage increases when their parents applied for Medicaid.[3]

Figure 2. Health Insurance Coverage* Among Children Under Age 18, by Year, 2000–2013



**Private coverage includes children with any private insurance; Public includes children who do not have private coverage, but who have Medicaid or other state-sponsored health plans, including CHIP; Children were considered uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan. A child was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service such as accidents or dental care. Estimates do not sum to 100 because children who are covered by military plans, Medicare, or other government-sponsored health plans are not shown.*

Data Source

Figure 1 and 2. Centers for Disease Control and Prevention, National Center for Health Statistics. National Health Interview Survey. Analyses conducted by the National Center for Health Statistics.

Endnotes

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PRENATAL CARE

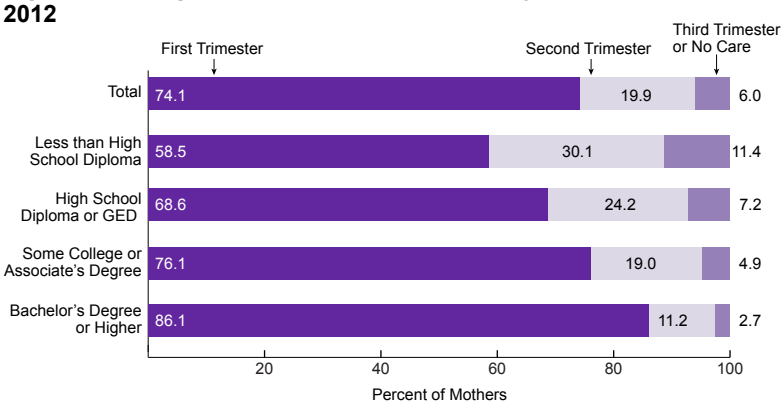
Early and adequate prenatal care helps to promote healthy pregnancies through screening and management of a woman's risk factors and health conditions as well as education and counseling on healthy behaviors during and after pregnancy, including nutrition, physical activity, and breastfeeding.[1] Women should schedule a prenatal visit as soon as they know or suspect that they are pregnant, ideally within the first trimester of pregnancy (12 weeks).[2] Monthly visits are recommended thereafter that increase to biweekly visits at 28 weeks and weekly visits after 36 weeks.[1,3] More frequent care may be necessary for women with certain conditions and risk factors.[1]

In 2012, in the District of Columbia and the 38 states that had implemented the 2003 revision to the standard birth certificate as of January 1 and collected prenatal care information in the same format, 74.1 percent of women giving birth were determined to have received early prenatal care in the first trimester, while 6.0 percent of women began prenatal care in the third trimester or did not receive any prenatal care. Rates of first-trimester prenatal care increased greatly with educational attainment, from 58.5 percent of mothers with less than a high school diploma to 86.1 percent of mothers with a bachelor's degree or higher (figure 1). Conversely, late or no prenatal care declined sharply with educational attainment, from 11.4 percent of mothers with less than a high school diploma to 2.7 percent of mothers with a bachelor's degree or higher.

Timing of prenatal care entry also varied greatly by race and ethnicity and delivery payment source. First trimester prenatal care initiation was highest for non-Hispanic White and non-Hispanic Asian women (79.0 and 78.0 percent, respectively), followed by non-Hispanic multiple race and Hispanic women (70.7 and 69.0 percent, respectively), and was lowest for non-Hispanic Black, non-Hispanic American Indian/Alaska Native, and non-Hispanic Native Hawaiian/other Pacific Islander women (63.6, 59.4, and 54.7 percent, respectively). With respect to delivery payment source, privately insured women had the highest rate of early prenatal care entry (85.0 percent), followed by women with Medicaid insurance (65.2 percent), while uninsured women were least likely to receive early prenatal care (51.4 percent).

In 2012, 84.9 percent of women in the District of Columbia and the 38-state reporting area received adequate prenatal care, defined as receiving 80 percent or more of expected visits given the timing of prenatal care entry and gestational age at delivery. Regardless of when care was initiated, privately insured women were most likely to

Figure 1. Timing of Prenatal Care Initiation,* by Maternal Education, 2012

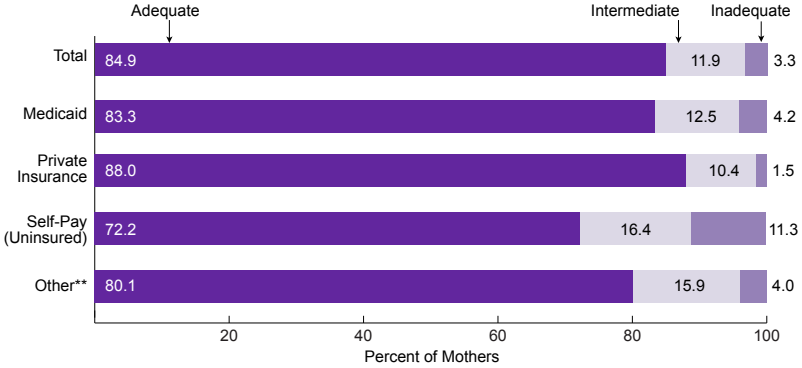


**Data are from the District of Columbia and 38 states that implemented the 2003 revision of the birth certificate as of January 1, 2012, representing 86 percent of all U.S. births. Percentages may not total 100 due to rounding.*

have received adequate care (88.0 percent), followed by those with Medicaid (83.3 percent) and other forms of insurance (80.1 percent; figure 2). Uninsured women were least likely to receive adequate care (72.2 percent). Receipt of adequate care by race and ethnicity and education were similar to those for timing of prenatal care entry.

The Affordable Care Act improves access to early and adequate prenatal care by expanding health insurance and requiring Medicaid expansions and Marketplace plans (and other small and individual group plans) to cover pregnancy and maternity care as part of essential health benefits.[4] The Affordable Care Act also requires new private plans to cover, without cost sharing, prenatal visits and many preventive services routinely provided in prenatal care, such as vaccinations; screening for gestational diabetes, anemia, sexually transmitted infections, and depression; screening and counseling for obesity, tobacco and alcohol use, and interpersonal and domestic violence; and breastfeeding counseling and support.[4]

Figure 2. Adequacy of Prenatal Care Utilization Upon Initiation,* by Delivery Payment Source, 2012



**Based on a ratio of observed to expected prenatal care visits given the timing of prenatal care entry and gestational age at delivery (Kotelchuck Index), adequate prenatal care is defined as receiving 80 percent or more of expected visits, intermediate is receipt of 50–79.9 percent of expected visits, and inadequate is receipt of less than 50 percent of expected visits. Data are from the District of Columbia and 38 states that implemented the 2003 revision of the birth certificate as of January 1, 2012, representing 86 percent of all U.S. births. Percentages may not total to 100 due to rounding. **Includes CHAMPUS/TRICARE; the Indian Health Service; and other federal, state, or local government payment sources.*

Data Sources

Figure 1 and 2. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. 2012 Natality File. Analysis conducted by the U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau.

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IMMUNIZATIONS: EARLY CHILDHOOD

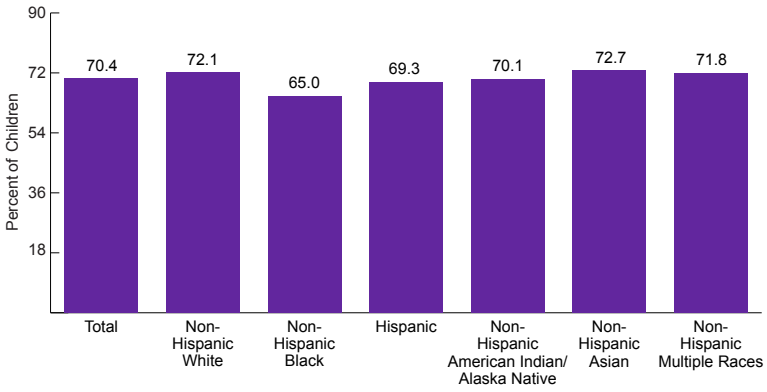
Vaccination is one of the greatest public health achievements of the 20th century, resulting in dramatic declines in morbidity and mortality for many infectious diseases.[1] Childhood vaccination in particular is considered among the most cost-effective preventive services available, as it averts a potential lifetime lost to death and disability.[2] *Healthy People 2020* has set a target of 80 percent coverage for a full vaccine series to be received by young children aged 19–35 months: four doses of diphtheria, tetanus, and acellular pertussis vaccine (DTaP/DT/DTP); three doses of poliovirus vaccine; one dose of measles-containing vaccine (MMR); three (or four, depending on vaccine type) doses of Haemophilus influenzae type b (Hib); three doses of the hepatitis B vaccine (HepB); one dose of the varicella (chicken pox) vaccine; and four doses of the pneumococcal conjugate vaccine (PCV).[3]

In 2013, 70.4 percent of children aged 19–35 months received the full recommended series, which was similar to the 2012 rate of 68.4 percent. Non-Hispanic Black 19- to 35-month-olds were less likely than non-Hispanic White children to receive the full recommended series (65.0 and 72.1 percent, respectively; figure 1). Similarly, the vaccination rate was lower for those with household incomes below 100 percent of poverty compared to their counterparts living at or above the poverty level (64.4 versus 73.8 percent, respectively). Differences in vaccination rates by race and ethnicity vary within categorical poverty levels. Among children in households with incomes below 100 percent of poverty, Hispanic children were more likely to be fully vaccinated than non-Hispanic White children (68.6 versus 61.3 percent, respectively), however, within this income category there was no difference between rates of vaccination between non-Hispanic White and non-Hispanic Black children (61.3 and 60.4 percent, respectively). Among children with household incomes of 100 percent or more of poverty, Hispanic and non-Hispanic Black children had lower rates of vaccination than non-Hispanic White children (70.2 and 69.1 versus 74.9 percent, respectively).

The proportion of children receiving the full series of recommended vaccinations also varied by provider facility type (figure 2). Compared to private provider facilities (e.g., private clinics, health maintenance organizations, group practices), lower rates of full series coverage were reported by public provider facilities (e.g., public health clinics, community health centers) and other (e.g., hospitals, military facilities) types of provider facilities (72.2, 63.3, and 67.4 percent, respectively). The vaccination rate at mixed provider facilities (76.0 percent) was similar to the private provider facility rate.

Children who never participated in WIC, but were eligible, had the lowest vaccination coverage. Current WIC participants had vaccination coverage comparable to more affluent children, and higher coverage than previous WIC participants.[6] Finally, the vaccination rate among 19- to 35-month-olds living in metropolitan statistical area

Figure 1. Receipt of Recommended Vaccinations* Among Children Aged 19–35 Months, by Race/Ethnicity,† 2013

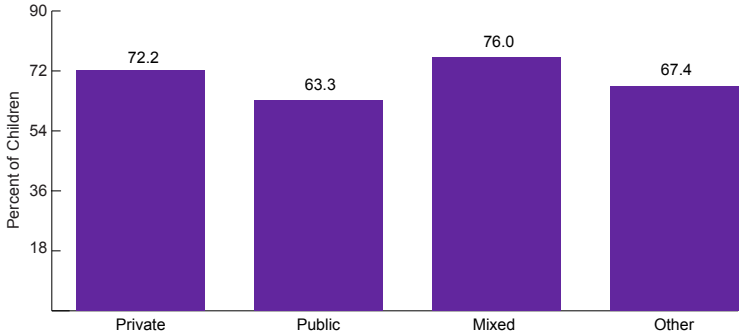


**Recommended Full Series: ≥4 DTaP, ≥3 Polio, ≥1 MMR, 3 (4) Hib, ≥3 HepB, ≥1 Varicella, ≥4 PCV. †Estimates for Native Hawaiian/other Pacific Islander children were not available.*

(MSA) noncentral cities (72.5 percent) was greater than for those living in MSA central cities (68.8 percent) and non-MSA central cities (69.1 percent).

Immunization levels for the recommended full series of vaccinations for 19- to 35-month-olds in the United States remained at similar levels from 2012 to 2013, and disparities in vulnerable populations continue to exist. A variety of strategies can be used to help address coverage gaps. These include the Vaccine for Children (VFC) program, an important and effective way to help increase immunization rates in children who might otherwise have difficulty in paying for vaccines by providing vaccines at no cost to qualifying children.[7] Some proven strategies (e.g., reducing costs, linking immunization to WIC services, home visiting) are well suited to increasing rates among specific populations, such as infants living in low-income families and families with limited access to immunization services.[4] State and local health department use of Immunization Information Systems can aid in identifying pockets of undervaccinated children to ensure that they are adequately protected.[5]

Figure 2. Receipt of Recommended Vaccinations* Among Children Aged 19–35 Months, by Provider Facility Type, 2013**



**Recommended Full Series: ≥4 DTaP, ≥3 Polio, ≥1 MMR, 3 (4) Hib, ≥3 HepB, ≥1 Varicella, ≥4 PCV.*
***Self-reported by provider. Public provider includes public health clinics and community health centers. Private provider includes private clinics, HMOs, and group practices. Mixed provider includes more than one type of provider. Other provider includes all other types of providers such as hospitals, military facilities, and unknown responses.*

Data Sources

Figure 1 and 2. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Immunization Survey. Retrieved from: http://www.cdc.gov/vaccines/imz-managers/coverage/nis/child/data/tables-2013.html. Accessed September 4, 2014.

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IMMUNIZATIONS: INFLUENZA

Influenza is a contagious respiratory illness that can have mild to severe effects. Older people, young children, pregnant women, and people with certain health conditions are at higher risk for serious flu complications, possibly resulting in hospitalization or death. To avoid potentially serious complications, the Advisory Committee on Immunization Practices (ACIP) recommends seasonal flu vaccination for everyone 6 months of age and older.[1] In 2014, ACIP voted to recommend a preference for using the nasal spray flu vaccine instead of the flu shot in healthy children 2–8 years of age when it is available.[5] The *Healthy People 2020* target vaccination rate for children aged 6 months through 17 years is 70 percent.[2]

The overall proportion of children aged 6 months to 17 years who were vaccinated during the 2013–2014 flu season was 58.9 percent, which represented a 2.3 percentage point increase in coverage over the previous year. Vaccination rates held steady at around 75 percent during this timeframe, however, for children aged 6 to 23 months, representing a successful achievement of the *Healthy People 2020* goal for that age group. In contrast, children aged 2–17 years did not meet the *Healthy People 2020* goal. The proportion of children vaccinated for seasonal influenza decreased with age, falling to 46.4 percent among children aged 13–17 years (figure 1).

During the 2013–2014 flu season, the proportion of children aged 6 months to 17 years who received influenza vaccination varied by race and ethnicity, ranging from 55.2 percent of non-Hispanic White children to 70.6 percent of non-Hispanic Asian children (figure 2). The proportion of children vaccinated was higher among all races and ethnicities compared to non-Hispanic White children, with the exception of non-Hispanic Black children (57.2 percent). In the 2013–2014 flu season, non-Hispanic American Indian/Alaska Native, Hispanic, and non-Hispanic White children showed increases in vaccination rates compared to the previous flu season.

Children in families with household incomes above 100 percent of poverty but below $75,000 had the lowest rate of vaccination (54.0 percent) in the 2013–2014 flu season. Children in families with incomes less than 100 percent of poverty or above $75,000 had similar rates of vaccination (62.8 and 60.8 percent, respectively).

The 2013–2014 vaccination rates among children living in nonmetropolitan statistical areas (MSA) were lower (52.6 percent) than those in MSAs (62.6 and 58.9 percent for central city and non-central city, respectively). Children living in MSAs showed an increase in vaccination rates over the previous flu season, while children in non-MSAs did not.

Flu vaccination is the most effective strategy against the flu and serious flu-related complications. Multifaceted strategies are required to increase vaccination rates: (1) use of evidence-based practices (e.g., reducing client costs for vaccination; provision of immunizations at schools and Women, Infants, and Children programs; home visits; client reminder/recall; standing orders; provider reminders),[3] (2) nontraditional settings for vaccination (e.g., pharmacy, workplace, school venues),[4] and (3) utilizing immunization information systems at the point of clinical care and to guide clinical/public health vaccination decisions.[4]

Figure 1. Seasonal Flu Vaccinations Among Children Aged 6 Months–17 Years, by Selected Age Group, 2012–2014

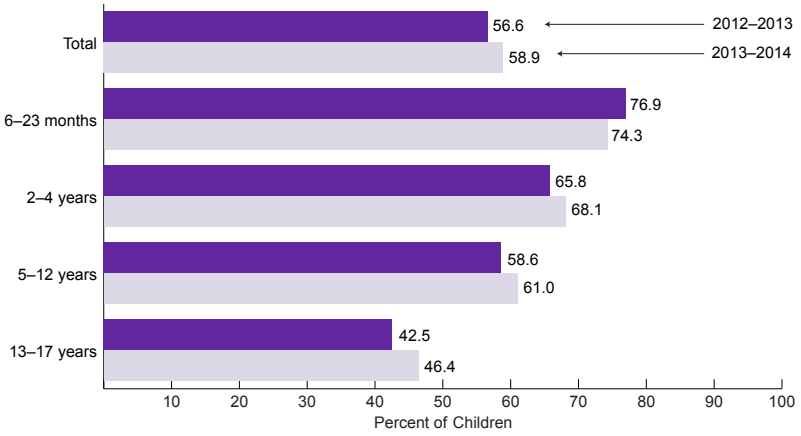
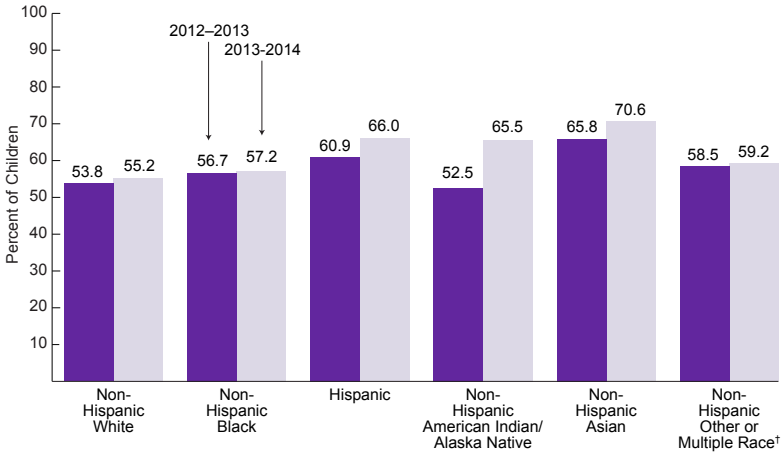


Figure 2. Seasonal Flu Vaccinations Among Children Aged 6 Months–17 Years, by Race/Ethnicity, 2012–2014



†Includes Native Hawaiian or other Pacific Islanders, and children of multiple and other races.

Data Sources

Figure 1 and 2. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Immunization Survey - Flu. Retrieved from: http://www.cdc.gov/flu/fluvaxview/coverage-1314estimates.htm Accessed September 18, 2014.

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IMMUNIZATIONS: ADOLESCENTS

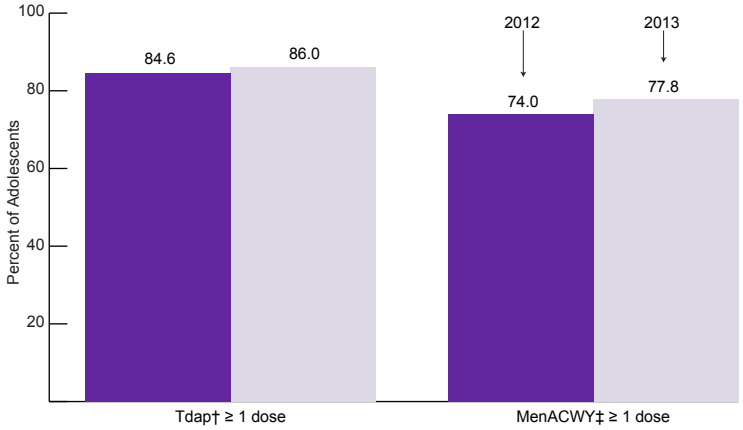
The U.S. immunization program, with its strong emphasis on infant and early childhood immunizations, has been a remarkable success. However, past-year preventive care doctor visits decline from infancy and early childhood to middle childhood and adolescence,[1] providing fewer opportunities for older children and teens to receive immunizations. *The Healthy People 2020* (HP2020) targets for vaccination coverage among adolescents aged 13–15 years are 80 percent coverage for one dose of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) vaccine; one dose of meningococcal conjugate (MenACWY) vaccine; and for females, three doses of human papilloma virus (HPV) vaccine.[2] Tdap and MenACWY vaccines protect against bacterial infections that can cause breathing problems, paralysis, brain damage, and death, while the HPV vaccine protects against several viral strains that can cause cervical and anal cancer and genital warts.[3]

From 2012 to 2013, coverage increased from 84.6 to 86.0 percent for Tdap vaccination dose and from 74.0 to 77.8 percent for at least one MenACWY vaccination targets (figure 1). HPV vaccination coverage for adolescents was substantially lower with 37.6 percent of female adolescents and only 13.9 percent of male adolescents receiving the recommended 3 doses (figure 2). The HPV vaccine is the newest routinely recommended vaccine for adolescents, having been recommended in 2006 for females aged 11–12 years and in 2010 for males of the same age with catch-up vaccination at later ages for females (13–26 years) and males (13–21 years) who have not completed the 3-dose series.[3] Despite lower coverage, HPV vaccination has generally increased annually for both female and male adolescents for ≥1, ≥2, and ≥3 doses.

Adolescent HPV vaccination varied by age among females only, with ≥1, ≥2, and ≥3 HPV-dose coverage being higher among 15- to 17-year-old females compared with 13-year-old females in 2013. There were no differences by age or sex for Tdap or MenACWY vaccination.

In 2013, there were no racial and ethnic differences in Tdap vaccination coverage; however, MenACWY coverage was higher among Hispanic and non-Hispanic Asian adolescents compared with non-Hispanic Whites (83.4 and 83.8 percent, respectively, versus 75.6 percent). HPV vaccination also varied by race/ethnicity. For example, receipt of ≥1 dose of HPV vaccine was higher among Hispanic and non-Hispanic American Indian/Alaska Native females than non-Hispanic White females (67.5 and 73.3 percent, respectively, versus 53.1 percent) and higher among non-Hispanic Black and Hispanic males

Figure 1. Selected Vaccination Coverage* for Adolescents Aged 13–17 Years, 2012 and 2013**

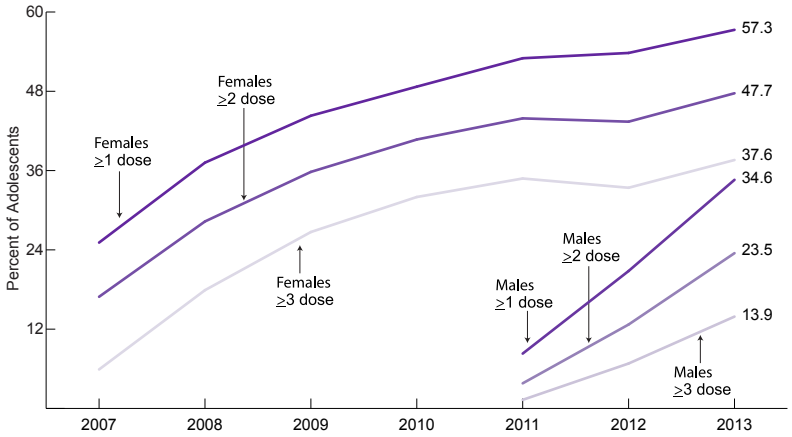


**The Advisory Committee on Immunization Practices recommends that adolescents routinely receive one dose of Tdap and two doses of MenACWY. **Adolescents (N = 18,264) in the 2013 National Immunization Survey–Teen were born January 11, 1995–February 13, 2001. †Includes percentages receiving Tdap vaccine at or after 10 years. ‡Includes percentages receiving MenACWY or meningococcal-unknown-type vaccine.*

versus non-Hispanic White males (42.2 and 49.6 percent, respectively, versus 26.7 percent).

High Tdap coverage levels among adolescents aged 13–17 years indicate that similar coverage levels are attainable for other vaccines recommended for adolescents. Improved adherence of clinicians and parents to the Advisory Committee on Immunization Practices (ACIP) recommendation to administer all age-appropriate vaccines during a single visit could substantially increase lagging vaccination coverage levels for HPV vaccination.[4] Use of patient reminder and recall systems, immunization information systems, coverage assessment and feedback to clinicians, clinician reminders, standing orders, and other interventions can also help make use of every health care visit to ensure that adolescents are fully protected from vaccine-preventable infections and cancers, especially when such interventions are coupled with clinicians' vaccination recommendations.[5]

Figure 2. HPV Vaccination Coverage* for Adolescents Aged 13–17 Years, by Sex and Doses Received, 2007–2013



**The Advisory Committee on Immunization Practices recommends that adolescents routinely receive three doses of human papilloma virus vaccine.*

Data Sources

Figure 1 and 2. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Immunization Survey - Teen. Retrieved from: http://www.cdc.gov/vaccines/imz-managers/coverage/nis/teen/index.html Accessed September 18, 2014.

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WELL-CHILD VISITS

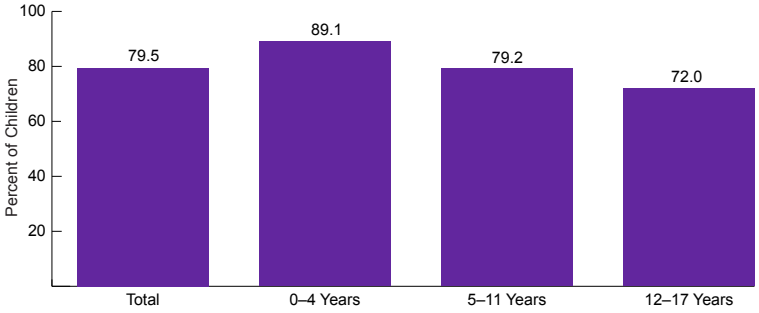
In 2012, 79.5 percent of children under 18 years of age were reported by their parents to have had a preventive or "well-child" medical visit in the past year, when they were not sick or injured. The American Academy of Pediatrics recommends that children have eight preventive health care visits in their first year, three in their second year, and at least one per year from age 3 through adolescence.[1] Well-child visits offer an opportunity not only to monitor children's health and provide immunizations but also to assess a child's behavior and development, discuss nutrition, and answer parents' questions.

The proportion of children receiving well-child visits declines with age. In 2012, 89.1 percent of children aged 4 and younger had received a preventive visit in the past year, compared to 79.2 percent of children 5–11 years of age and 72.0 percent of those aged 12–17 years (figure 1). There was no significant difference between males and females in the proportion of children who received a well-child visit in the past year.

Receipt of preventive medical care also varies by several other factors, including health insurance status and type of insurance, parental education, race and ethnicity, and nativity. In 2012, only 54.2 percent of uninsured children had received a well-child visit in the past year, compared to more than 80 percent of those with public or private insurance (figure 2). Children with at least one parent who had attained more than a high-school level education were more likely to have received a past-year preventive medical visit (82.0 percent) compared to those for whom the highest level of parental education was a high school degree (76.0 percent) or less (72.3 percent).

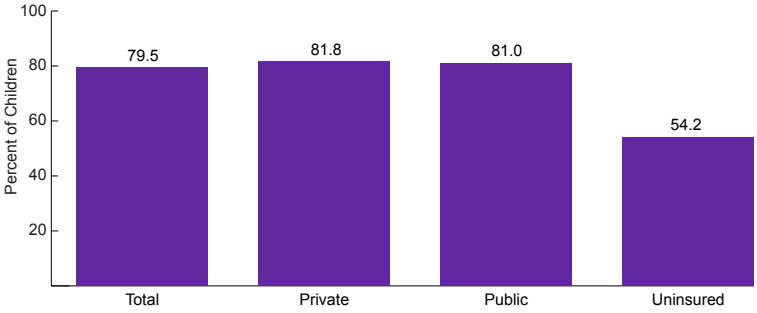
With respect to race and ethnicity, non-Hispanic Black children were more likely to have received a well-child visit in the past year (85.1 percent) compared to non-Hispanic White children (79.9 percent) and Hispanic children (75.9 percent). Finally, children who were born in the United States were more likely than those born outside the United States to have had a well-child visit in the past year: 79.9 and 71.2 percent, respectively.

Figure 1. Children Under Age 18 Who Received a Well-Child Visit* in the Past Year, by Age, 2012



**Based on the question, "During the past 12 months did [child's name] receive a well-child checkup – that is, a general checkup when [he/she] was not sick or injured?"*

Figure 2. Children Under Age 18 Who Received a Well-Child Visit* in the Past Year, by Health Insurance, 2012



**Based on the question, "During the past 12 months did [child's name] receive a well-child checkup – that is, a general checkup when [he/she] was not sick or injured?"*

Data Sources

Figure 1 and 2. Centers for Disease Control and Prevention, National Center for Health Statistics. 2012 National Health Interview Survey. Unpublished estimates. Analyzed by the National Center for Health Statistics.

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DEVELOPMENTAL SCREENING

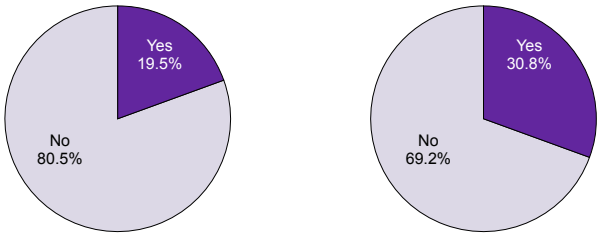
Since 2006, the American Academy of Pediatrics (AAP) has recommended that assessment for developmental problems among young children be incorporated into every preventive health visit and that formal screening occur at regular intervals, including the 9-, 18-, and either 24- or 30-month well-child visits.[1] Developmental screening is critical to the early identification of developmental delays and the provision of early intervention services and treatments that have the capacity to change both short- and long-term developmental trajectories of children who may be experiencing such delays or have a developmental disability. The importance of timely developmental screening is underscored by its inclusion as a national objective for Maternal, Infant, and Child Health in *Healthy People 2020*.[2]

In 2007, 1 year after the AAP recommendation, approximately one-fifth (19.5 percent) of U.S. children aged 10–71 months were reported to have received a standardized developmental screening.[3] Data from the latest National Survey of Children's Health, however, show that this proportion has risen dramatically since then: In 2011–2012, nearly one-third (30.8 percent) of children aged 10–71 months had received such a screening in the previous 12 months (figure 1).

In 2011–2012, few significant differences were observed among children with respect to receipt of developmental screening and their demographic or household characteristics. Children living in households with two biological or adoptive parents were more likely than those in "other" family structures (i.e., those not living with two parents or a single mother) to have received a standardized developmental screening (31.2 versus 24.9 percent, respectively).

No differences, however, were observed with respect to the child's race and ethnicity, poverty, or health insurance status or type, as was observed in 2007. At that time, non-Hispanic Black children (24.4 percent) were more likely than non-Hispanic White and Hispanic children (18.6 and 19.1 percent, respectively) to have been assessed for developmental delay through a parent-reported standardized screening tool. Also in 2007, parents of poor children, or those living in households with incomes of less than 100 percent of poverty, were more likely to report having completed this kind of evaluation compared to those living in households with incomes of 400 percent or more of poverty (21.5 versus 17.2 percent, respectively). Finally, children with public health insurance coverage were significantly more likely to

Figure 1. Receipt of Developmental Screening* in the Past 12 Months Among Children Aged 10–71 Months, 2007 and 2011–2012



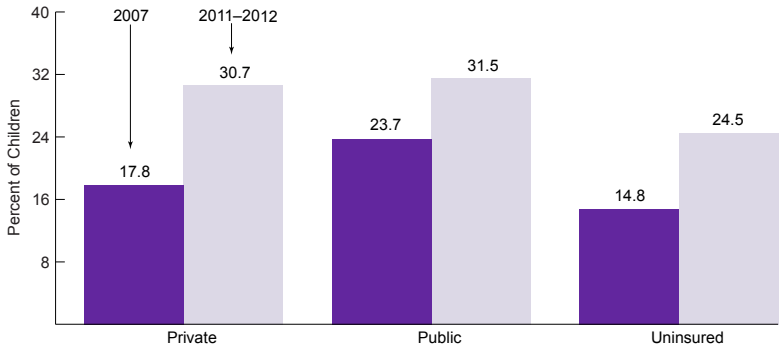
2007 2011–2012

**Among children who had a preventive health visit in the past 12 months. Parents reported whether they completed a questionnaire about their child's development, communication, or social behaviors during the previous 12 months and, if so, whether the questionnaire included age-appropriate follow-up items on language or social development.*

have been screened for developmental delay in 2007 (23.7 percent) than either those with private coverage (17.8 percent) or no coverage (14.8 percent); no significant difference in the rate of screening was observed at that time between those with private coverage and those without any coverage at the time of the survey (figure 2).

The overall increase in the rate of developmental screening and the reduction in some disparities in the receipt of this type of evaluation suggests that efforts such as those by the AAP and Healthy People may be raising awareness of the importance of developmental screening. Additional analyses of data from the 2007 National Survey of Children's Health indicates that health care providers may also be using informal means to inquire about parents' and caregivers' concerns regarding their children's development. Such approaches, while potentially important to parent-provider relationships, should not be viewed as a substitute for screening using a standardized tool.[4] Much work remains to be done, with less than one-third of children receiving this important preventive service in 2011–2012.

Figure 2. Receipt of Developmental Screening* in the Past 12 Months Among Children Aged 10–71 Months, by Health Insurance, 2007 and 2011–12



**Among children who had a preventive health visit in the past 12 months. Parents reported whether they completed a questionnaire about their child's development, communication, or social behaviors during the previous 12 months and, if so, whether the questionnaire included age-appropriate follow-up items on language or social development.*

Data Sources

Figure 1 and 2. U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau; and U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health. Analyzed by the Health Resources and Services Administration's Maternal and Child Health Bureau.

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MENTAL HEALTH TREATMENT

Mental disorders are the most common cause of disability and are responsible for 25 percent of all years of life lost to disability and premature mortality.[1] Besides disability, untreated mental disorders may lead to unemployment, substance abuse, homelessness, incarceration, and suicide, and cost the U.S. economy $100 billion a year. Early implementation of treatment accelerates recovery and reduces the impacts of mental disorders. Treatment can reduce symptoms and improve the quality of life.[2]

In 2012, 3.1 million (12.7 percent) of adolescents aged 12–17 received past-year treatment or counseling for problems with emotions or behavior (not related to drug or alcohol use) in a specialty mental health setting, including both outpatient and inpatient care (11.5 and 2.4 percent, respectively). A similar proportion of adolescents received mental health services in an educational setting (12.9 percent), 2.5 percent received services in a medical setting, and 5.5 percent received services in both a specialty mental health setting as well as either an educational or medical setting (figure 1).

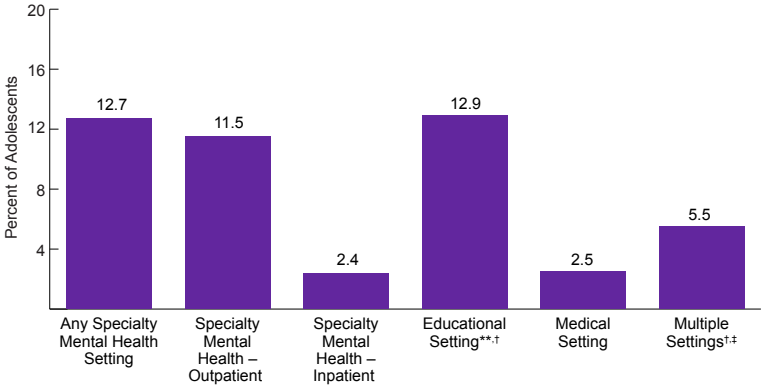
The most commonly reported reason for past year receipt of mental health services was feeling depressed, reported by 44.3 percent of adolescents who accessed mental health services. Other reasons include feeling afraid and tense (16.2 percent), having thoughts of or attempting suicide (14.8 percent), breaking rules and "acting out" (14.8 percent), having problems at school (14.8 percent), and having problems with home or family (14.2 percent).

Increasing the proportion of people with mental disorders who receive treatment is a national *Healthy People 2020* objective.[1] Among adolescents who experienced a past-year major depressive episode (MDE – see definition on mental health page), 37.0 percent received treatment for their depression. Treatment included seeing or talking to a professional or using prescription medication for depression.

The rate of treatment varied by sex, race, ethnicity, geographic region, and insurance coverage. Females were more likely to receive treatment for depression than males (40.1 versus 28.3 percent, respectively; figure 2). Non-Hispanic White youth were more likely to receive treatment than Hispanic youth (40.7 versus 30.8 percent, respectively); 33.5 percent of non-Hispanic Black youth received treatment for depression.

With regard to geographic region, adolescents who experienced a past-year MDE from the Northeast and Midwest (42.2 and 41.2 percent, respectively) were more likely to receive treatment than those

Figure 1. Past Year Mental Health Service* Use Among Adolescents Aged 12–17 Years, by Service Source, 2012

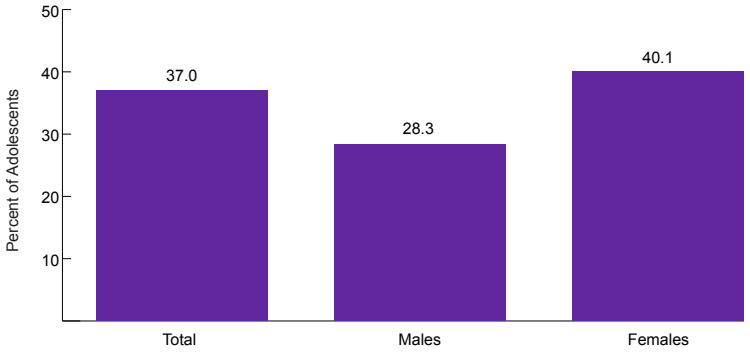


**Respondents could indicate multiple service sources; thus, response categories are not mutually exclusive. **Respondents who did not report their school enrollment status or reported being home-schooled were not asked about receipt of mental health treatment or counseling in an educational setting; however, respondents who reported not being enrolled in school in the past 12 months were classified as not having received treatment or counseling from this source. †Because of revisions to the Source of Youth Mental Health Education Services questions in 2009, these estimates are not comparable with estimates presented before 2009. ‡Includes receipt of any specialty mental health services and receipt of services from either education or medical sources.*

from the South and West (34.1 and 34.9 percent, respectively). Adolescents with no insurance coverage (23.0 percent) were less likely to receive treatment for their depression compared to adolescents with Medicaid/Children's Health Insurance Program or private coverage (36.9 and 38.1 percent, respectively).

Some barriers to treatment for mental disorders include discrimination and prejudice and accessibility. Discrimination and prejudice may cause individuals to avoid talking about their illness with friends and family and inhibit receipt of care.[3] Individuals may fear that symptoms will not be taken seriously, especially those of adolescents that may be mistaken for puberty instead of a mental disorder.[4] The Mental Health Parity Act under the Affordable Care Act requires health insurance to cover mental and physical health equally.[5] The expansion of coverage includes preventive services, such as behavioral assessments for children, free of charge and insurance companies no longer being allowed to deny coverage or charge more for mental disorders.[6]

Figure 2. Receipt of Past Year Treatment* for Depression Among Adolescents Aged 12–17 Years with Major Depressive Disorder (MDE), by Sex, 2012**



**Treatment is defined as seeing or talking to a professional or using prescription medication for depression in the past year. Respondents with unknown treatment data were excluded. **An MDE is defined as a period of at least 2 weeks when a person experienced a depressed mood or loss of pleasure in daily activities and had a majority of specific depression symptoms.*

Data Sources

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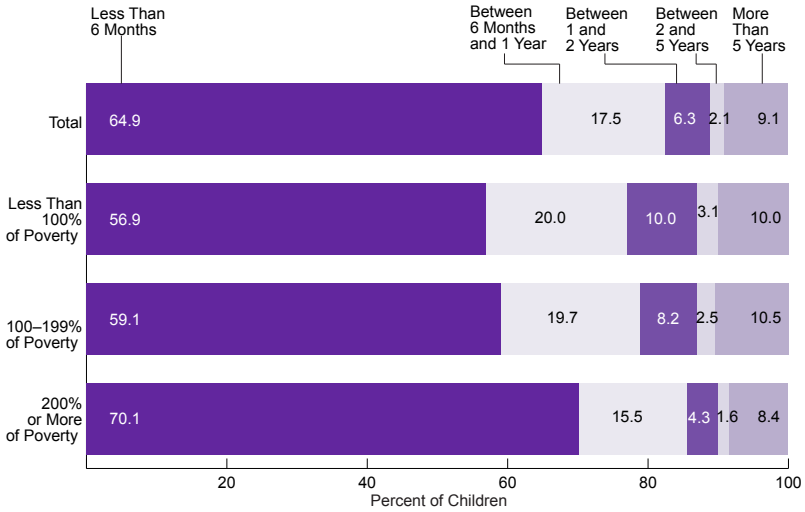
DENTAL CARE

Tooth decay (dental caries) is a bacterial infection of the tooth and is estimated to be the most common chronic infectious disease in children in the United States.[1,2] The Centers for Disease Control and Prevention estimates that more than one-quarter of children aged 2–5 years and half of youth aged 12–15 years are affected by tooth decay.[3] Untreated tooth decay causes pain and infection, which may affect a child's ability to eat, speak, play, and learn. Tooth decay is preventable with proper dental care, including cleaning, brushing, and flossing, sealant application, and fluoride treatment. The American Academy of Pediatric Dentistry recommends that children have their first dental visit shortly after the eruption of their first tooth and no later than their first birthday, with two dental checkups per year thereafter.[2]

Approximately 65 percent of children aged 2–17 years received dental care in the past 6 months in 2012, as determined from parental report. Receipt of dental care at recommended intervals varied by age, race and ethnicity, poverty status, and insurance status and type. Children aged 5–11 years and 12–17 years were more likely to have received dental care in the past 6 months than those aged 2–4 years (70.3 and 68.0 percent compared to 45.3 percent, respectively). With respect to race and ethnicity, non-Hispanic American Indian/Alaska Native children were most likely to have had a dental visit in the past 6 months (78.0 percent) compared to 61–68 percent of children from other racial and ethnic groups. Children living in households with incomes of less than 100 percent and 100–199 percent of poverty were less likely than children living in households with incomes of 200 percent or more of poverty to have received dental care in the past 6 months (56.9 and 59.1 percent, respectively, versus 70.1 percent; figure 1). Uninsured children were about half as likely to have received a dental visit in the past 6 months (34.9 percent) as those with public or private insurance (62.5 and 70.2 percent, respectively).

In 2012, parents of 5.5 percent or 4 million children reported that their child did not receive needed dental care due to cost. The rates of unmet dental need due to cost increased with age and were lowest among children aged 2–4 years (2.8 percent), but rose substantially for those aged 5–11 years and 12–17 years (4.9 and 7.6 percent, respectively). Similar to receipt of dental care, children living in households with incomes of less than 100 percent and 100–199 percent of poverty were approximately twice as likely to have unmet needs as

Figure 1. Time Since Last Dental Visit* Among Children Aged 2–17 Years, by Poverty Status, 2012**

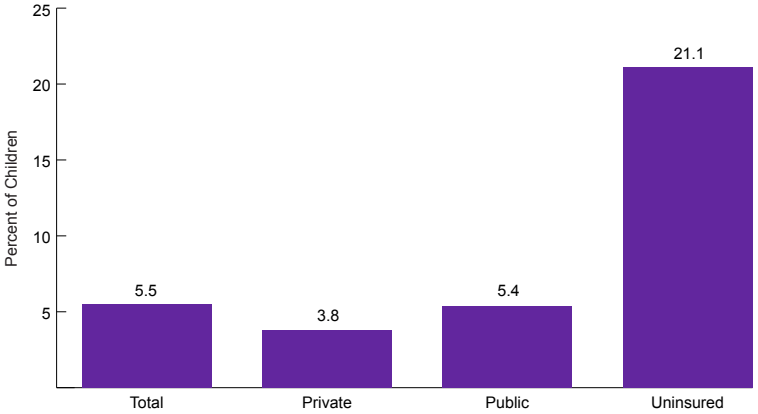


**All estimates are age adjusted and may not total 100 due to rounding. **The U.S. Census Bureau weighted average poverty threshold for a family of four was $23,492 in 2012.*

children living in households with higher incomes (7.2 and 8.4 percent compared to 3.8 percent, respectively). The proportion of children with unmet needs was much higher among those who were uninsured (21.1 percent) compared to those with either public (5.4 percent) or private (3.8 percent) health insurance (figure 2).

Limited access to oral health care and dental insurance coverage contribute to poor oral health.[4] The Early Periodic Screening, Diagnosis, and Treatment (EPSDT) Program and Federally Qualified Health Centers (FQHCs) work to address such barriers. The EPSDT Program is the section of Medicaid that addresses child health, requiring dental services including appropriate screening, diagnostic, and treatment.[5] Additionally, the Affordable Care Act will expand coverage and include child oral health care as a required health benefit.[6] *Healthy People 2020* oral health objectives aim to "increase the proportion of [FQHCs] that have an oral health care program" and "increase the proportion of patients who receive oral health services at [FQHCs] each year."[7] All FQHCs must provide preventive services, regardless of the ability to pay. Community programs such as school based sealant programs and community water fluoridation are another way to deliver effective preventive interventions to children who may lack access to dental care.[8]

Figure 2. Unmet Dental Need* in the Past Year Among Children Aged 2–17 Years, by Type of Health Insurance, 2012**



**Based on parent report that services were needed but not affordable; all estimates are age adjusted. **Refers to general health insurance and not single service coverage, such as dental insurance. Private coverage includes persons with any private insurance, either alone or in combination with public coverage; Public includes those covered only by government programs such as Medicaid, Medicare, military plans, and state-sponsored health plans.*

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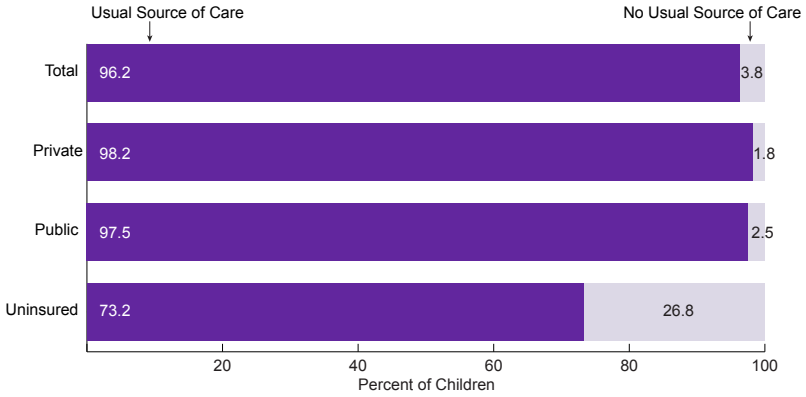
USUAL SOURCE OF CARE

An indicator of access to health care is having a usual source of care.[1] A usual source of care is "a place where [children go] when sick, such as a physician's office or health center but not an emergency department."[2] A *Healthy People 2020* objective for access to health services is to "increase the proportion of children and youth aged 17 years and under who have a specific source of ongoing care."[3] People with a usual source of care are more likely to receive preventive health services, have better health outcomes, and have fewer disparities and costs than those without a usual source of care.[1,3,4]

A majority of children under 18 years of age (96.2 percent) had a usual source of care in 2012. Having a usual source of care varied by age, poverty status, and insurance type. The proportion of children who had a usual source of care decreased with age: 97.9 percent of children aged 0–4 years, 96.6 percent of those aged 5–11 years, and 94.4 percent of children aged 12–17 years. The percentage of children with a usual source of care was greater for those living in households with incomes of 200 percent or more of poverty (97.3 percent) than for children living in households with incomes less than 100 percent and 100–199 percent of poverty (94.8 and 95.2 percent, respectively). Uninsured children were less likely to have a usual source of care, compared to children with public or private health insurance (73.2 versus 97.5 and 98.2 percent, respectively; figure 1).

Among children with a usual source of care in 2012, 74.2 percent of children used a doctor's office; 23.9 percent used a clinic; and 1.9 percent used the hospital and other places, including emergency rooms and hospital outpatient departments. Usual source of care location varied by race and ethnicity, poverty status, and insurance type. American Indian/Alaska Native and Hispanic children (46.9 and 38.4, respectively) were more likely to use clinics as a usual source of care than multiple-race, non-Hispanic Black, and Asian children (24.4, 24.4, and 22.4 percent, respectively). Non-Hispanic White children (17.2 percent) were the least likely to use clinics as a usual source of care.

Figure 1. Usual Source of Care* Among Children Under Age 18, by Health Insurance Type, 2012

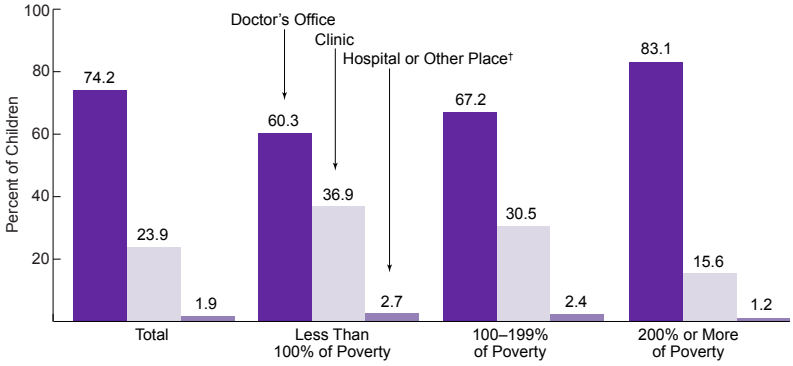


**Has a place where the child is usually taken when sick or in need of health advice. All estimates are age adjusted and may not total 100 due to rounding.*

Children with household incomes of less than 100 percent and 100–199 percent of poverty (36.9 and 30.5 percent, respectively) were approximately twice as likely to use a clinic as a usual source of care than children with household incomes of 200 percent or more of poverty (15.6 percent; figure 2). Conversely, 83.1 percent of children with household incomes of 200 percent or more of poverty used a doctor's office as a usual source of care, compared to 67.2 percent of those with incomes of 100–199 percent of poverty and 60.3 percent of those with incomes below 100 percent of poverty. Uninsured children and children with public insurance (38.6 and 35.1 percent, respectively) were more than two times as likely to use a clinic as a usual source of care than children with private insurance (14.1 percent).

Problems with affordability and insurance are common barriers to having a usual source of care.[1] The Affordable Care Act increases access to health benefits, expands insurance, and focuses on preventive health. Through the expansion of health center operations, including construction of new sites and expansion of preventive and primary services, having a usual source of care will be more accessible for individuals and families with lower incomes and with public or no insurance.[5,6]

Figure 2. Location of Usual Source of Care* Among Children Under Age 18, by Poverty Status, 2012**



**Has a place where the child is usually taken when sick or in need of health advice. All estimates are age adjusted and may not total 100 due to rounding. **The U.S. Census Bureau weighted average poverty threshold for a family of four was $23,492 in 2012. †Includes "emergency room," "hospital outpatient department," "some other place," and "not using one place most often."*

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MEDICAL HOME

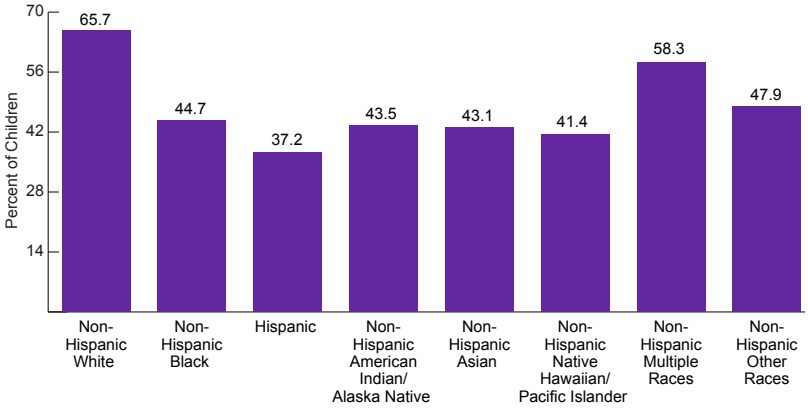
The National Center for Medical Home Implementation defines a medical home as "an approach to providing comprehensive primary care" rather than a physical space or service.[1] According to the American Academy of Pediatrics, primary care should be accessible, continuous, comprehensive, family centered, coordinated, compassionate, and culturally effective. The Maternal and Child Health Bureau has operationalized this concept for children using five criteria: (1) having a personal doctor or nurse, (2) having a usual source for sick and well care, (3) receipt of family-centered care, (4) no problems getting needed referrals, and (5) receipt of effective care coordination when needed.[2] Individuals with a medical home may experience "improved health outcomes, reduced emergency room visits, and better communication [with pediatric health providers]."[3]

In 2011–2012, the care received by 54.4 percent of children under the age of 18 met medical home criteria. Receipt of care from a medical home varied by age, race/ethnicity, and primary household language. Receipt of care in a medical home decreased with age: 58.2 percent of children aged 0–5 years had a medical home, while 53.7 and 51.4 percent of children aged 6–11 and 12–17 years, respectively, had a medical home. Hispanic children (37.2 percent) were least likely to have a medical home, followed by non-Hispanic Black, non-Hispanic American Indian/Alaska Native, non-Hispanic Asian, and non-Hispanic Native Hawaiian/Pacific Islander children, all of which had fewer than 45 percent of children with a medical home (figure 1). Over half of non-Hispanic White and non-Hispanic children of multiple races received care meeting the criteria for a medical home (65.7 and 58.3 percent, respectively). Children living in a household with English as the primary language were more than twice as likely to have a medical home as children living in a household with a primary language other than English (59.3 versus 26.5 percent, respectively).

Children living in a household with two parents (biological or adoptive) were more likely to have a medical home than those with two parents where at least one was a stepparent, those with only a mother, and those with all other family structures (58.6 compared to 49.6, 45.3, and 47.4 percent, respectively).

Medical home access also varied by socioeconomic status. Children of parents whose highest level of education was less than a high school diploma were nearly half as likely to have a medical home as children with at least one parent with more than a high school education (31.1 versus 61.6 percent, respectively). Similarly, receipt of care in a medical home also increased with household income: 36.5 percent of children living in households with incomes less than 100

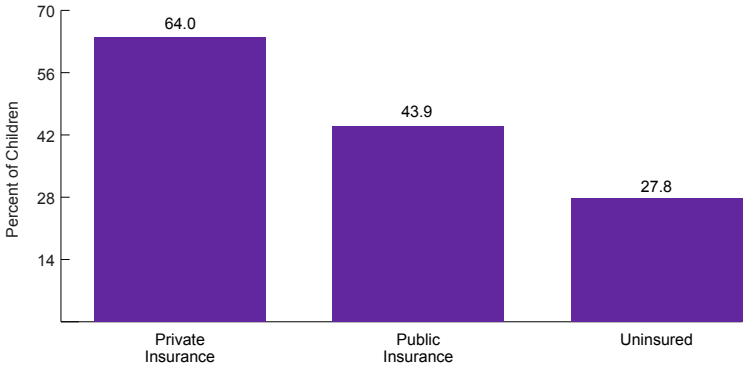
Figure 1. Children with a Medical Home, by Race/Ethnicity, 2011–2012



percent of poverty had a medical home compared to 67.8 percent of children living in households with incomes of 400 percent or more of poverty. Uninsured children were less likely to receive care from a medical home than children with public and private insurance (27.8 versus 43.9 and 64.0 percent, respectively; figure 2).

Barriers to having a medical home include personnel constraints, clinical practice patterns, and economic or social forces.[2] As an increasing number of community health centers seek recognition as patient-centered medical homes, the National Association of Community Health Centers predicts that an additional 20 million Americans will have medical homes. Primary care practices are also increasingly seeking accreditation as medical homes. The Affordable Care Act authorized funding to establish community-based health teams to support these practices.[4,5]

Figure 2. Children with a Medical Home, by Health Insurance Status and Type, 2011–2012



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QUALITY OF CARE

Quality health care can be defined as the degree to which health services increase the likelihood of desired health outcomes for individuals and populations and which are consistent with current professional knowledge.[1] Quality is reflected in numerous program aspects, including access to services, clinical effectiveness, comprehensiveness, and integration of services. High quality care can play a significant role in improving health care outcomes and decreasing overall health care costs, while impacting consumer information and choice.[1] Quality of care can be measured in a number of ways, including receipt of appropriate treatment for infections and weight counseling.[2]

An upper respiratory infection (URI), also referred to as the common cold, is a type of acute respiratory tract infection (ARTI)—an infection of the lining in the nose and throat that can cause symptoms including coughing, congestion, and fever that last for 1–2 weeks. Though most URIs are viral in nature, antibiotics are often inappropriately prescribed for children despite no evidence that they are helpful against viral infections.[3]

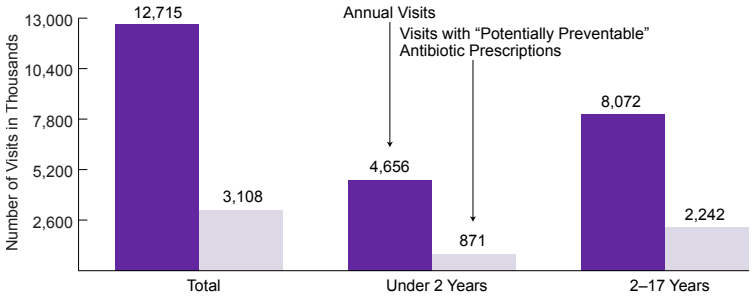
In 2012, children had 12.7 million outpatient visits for URIs, 4.7 million of which involved children under the age of 2 years, and 8.1 million for children aged 2–17 years. None of the children presenting at these visits were expected to have a bacterial pathogen; however, 3.1 million children were prescribed a "potentially preventable" antibiotic. Of these prescriptions, 871,000 were for children under the age of 2, and more than 2.2 million were for children aged 2–17 years (figure 1). This is equivalent to 11.4 million potentially avoidable antibiotic prescriptions for all ARTIs in children. This number has not decreased notably in the past decade.[4]

While the number of infection-related hospitalizations from antibiotic resistance have increased in all age groups, the greatest increase has been in children under 18 years of age (395 percent between 1997 and 2006). Antibiotic-resistant infections often lead to prolonged treatments or hospital stays and greater rates of disability and death. The use of antibiotics is the most important element leading to antibiotic resistance.[5] Greater awareness of the dangers of antibiotic-resistant bacteria and better communication between patients and providers could improve treatment and reduce unnecessary antibiotic use.[3]

Since the 1980s, childhood obesity has increased more than twofold in children and threefold in adolescents (see pages on childhood and adolescent overweight and obesity). Obesity has negative effects on children's health including high blood pressure and cholesterol, insulin resistance, type 2 diabetes, and breathing problems, although early intervention and nutrition counseling can improve children's overall health and lifestyle. For the second consecutive year, clinical assessments of childhood weight status have improved.

In 2012, 51.6 percent of children aged 3–17 years in commercial health maintenance organizations (HMOs), 31.2 percent of children in commercial preferred provider organizations (PPOs), and 51.8 percent of children in Medicaid HMOs had an outpatient visit with a

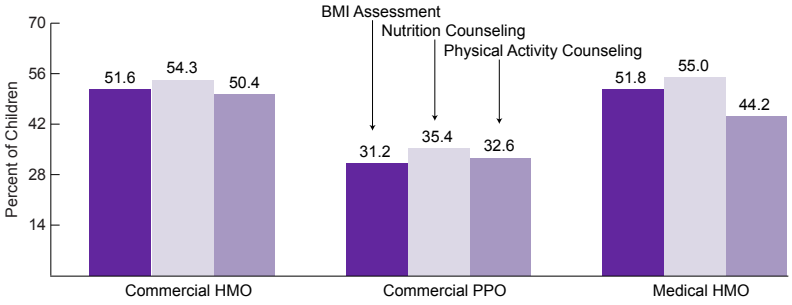
Figure 1. Number of Annual Visits and Visits With Potentially Preventable Antibiotic Prescriptions for Children With Upper Respiratory Infections, by Age Group, 2012



primary care practitioner during the year when BMI percentile was documented (figure 2). This translates to increases from 2011 of 15.4 percent in commercial HMOs, 26.8 percent in commercial PPOs, and 12.6 percent in Medicaid HMOs.

The percentage of providers counseling children on proper nutrition and/or physical activity also showed improvement. From 2011 to 2012, rates for counseling children on nutrition increased in commercial HMOs from 46.4 to 54.3 percent, in commercial PPOs from 28.4 to 35.4 percent, and in Medicaid HMOs from 50.1 to 55.0 percent. For the same period, rates for counseling children on physical activity increased in commercial HMOs from 43.0 to 50.4 percent, in commercial PPOs from 25.7 to 32.6 percent, and in Medicaid HMOs from 40.6 to 44.2 percent.[3]

Figure 2. Receipt of Body Mass Index (BMI) Assessment and Counseling for Nutrition and Physical Activity Among Children Aged 3–17 Years, 2012



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