# ADHD

## Headline

In 2001, one out of every eleven males ages 3 to 17 were reported to have been diagnosed with attention-deficit/hyperactivity disorder by a doctor or other health professional. (See Figure 1)

## Importance

Children with attention-deficit/hyperactivity disorder (ADHD) have "chronic level[s] of inattention, impulsive hyperactivity, or both such that daily functioning is compromised."[1] Children can be diagnosed with one of three types of ADHD: predominantly inattentive type (previously known simply as attention deficit disorder), predominantly hyperactive-impulsive type, or combined type.[2] Treatment for ADHD can include behavioral counseling, emotional counseling, practical support, and medication.[3]

Approximately half of all children with ADHD have other mental disorders as well including learning disorders, oppositional defiant disorder, Tourette's syndrome, conduct disorder, anxiety, and depression.[4]

ADHD can affect children's lives in many ways, especially when it goes untreated. Children with ADHD may have a more difficult time making and maintaining friendships than their peers.[5] Adolescents with ADHD may be more likely to fall behind in their school work[6] and to use alcohol and tobacco, have negative moods, and spend less time with their families than their peers.[7] Children and adolescents with ADHD are also much more likely than their peers to suffer injuries while walking, biking, or driving and to be admitted to the hospital for accidental poisoning.[8]

Recently, the Environmental Protection Agency (EPA) included ADHD as an emerging issue in its second annual report *America's Children and the Environment: Measures of Contaminants, Body Burdens, and Illnesses*. Although it is unknown whether environmental contaminants contribute to ADHD, several of the symptomatic behaviors are similar to those for children exposed to lead and PCBs (polychlorinated biphenyls).[9]

## Trends

The percentage of children diagnosed with ADHD remained relatively constant from 1997 to 2001, ranging from 5.5 to 6.6 percent. In 2001, 6.4 percent of children ages 3 to 17 had been diagnosed with ADHD by a doctor or health professional.

## Differences by Gender

Males were about two and a half times more likely than females to have been diagnosed with ADHD in 2001 (9.1 and 3.5 percent respectively). (See Figure 1)

**Differences by Race and Hispanic Origin**

In 2001, 7.4 percent of non-Hispanic white children and 5.7 percent of non-Hispanic black children had been diagnosed with ADHD compared to only 3.5 percent of Hispanic children. (See Table 1)

**Differences by Age**

Older children are more likely to have been diagnosed with ADHD. In 2001, less than one percent of children ages 3 to 4 had been diagnosed with ADHD while 6.3 percent of children ages 5 to 11 and 8.3 percent of children ages 12 to 17 had been diagnosed with ADHD. (See Figure 2)

**Differences by Family Structure**

Children living with two biological/adoptive parents are less likely than children living in other types of living arrangements to have been diagnosed with ADHD. In 2001, 5.0 percent of children living with two biological/adoptive parents had been diagnosed with ADHD. In contrast, 9.2 percent of children living with a parent and a stepparent, 8.1 percent of children living with a single parent, and 6.6 percent of children living with extended family had been diagnosed with ADHD. (See Table 1)

**Differences by Type of Insurance Coverage**

In 2001, 9.7 percent of children with public health insurance had been diagnosed with ADHD, compared to only 5.8 percent of children with private insurance and 4.4 percent of children with no health insurance. (See Figure 3)

**Differences by Usual Source of Health Care**

Children who had a usual source of health care were twice as likely as those with no usual source of health care to have been diagnosed with ADHD in 2001 (6.6 and 3.1 percent respectively). (See Table 1)

**Differences by Food Stamps Receipt**

ADHD is more common among children living in families in which at least one person was eligible to receive food stamps in the past year. In 2001, 10.0 percent of children in families eligible to receive food stamps had been diagnosed with ADHD, compared to 5.9 percent of children in families that were not eligible to receive food stamps. (See Table 1)

**State and Local Estimates**

None Available

**International Estimates**

None Available

**National Goals**

None

**Definition**

For this indicator, children with attention-deficit/hyperactivity disorder (ADHD) are those who have been identified by a doctor or other health professional as having the disorder. This information is reported by a knowledgeable adult within the household, usually a parent.

Children with ADHD are characterized by having a "chronic level of inattention, impulsive hyperactivity, or both such that daily functioning is compromised."[10] More information is available from the 2000 Diagnostic and Statistical Manual for Mental Disorders (DSM-IV-TR), which gives criteria for diagnosing ADHD and is available online at http://www.cdc.gov/ncbddd/adhd/symptom.htm.

Note: attention-deficit/hyperactivity disorder is the American Psychiatric Association's current term used for children who may have previously been diagnosed as having either attention deficit disorder or attention-deficit/hyperactivity disorder.[11]

**Data Source**

Data for 1998 to 2001: Child Trends original analysis of National Health Interview Survey data.

Data for 1997: Bloom B, and Tonthat L. *Summary Health Statistics for U.S. Children: National Health Interview Survey, 1997* Vital Health Statistics 10(203). 2002. http://www.cdc.gov/nchs/products/pubs/pubd/series/sr10/pre-200/sr10_203.htm

**Raw Data Source**

National Health Interview Survey
http://www.cdc.gov/nchs/nhis.htm

**Next Update**

March 2004

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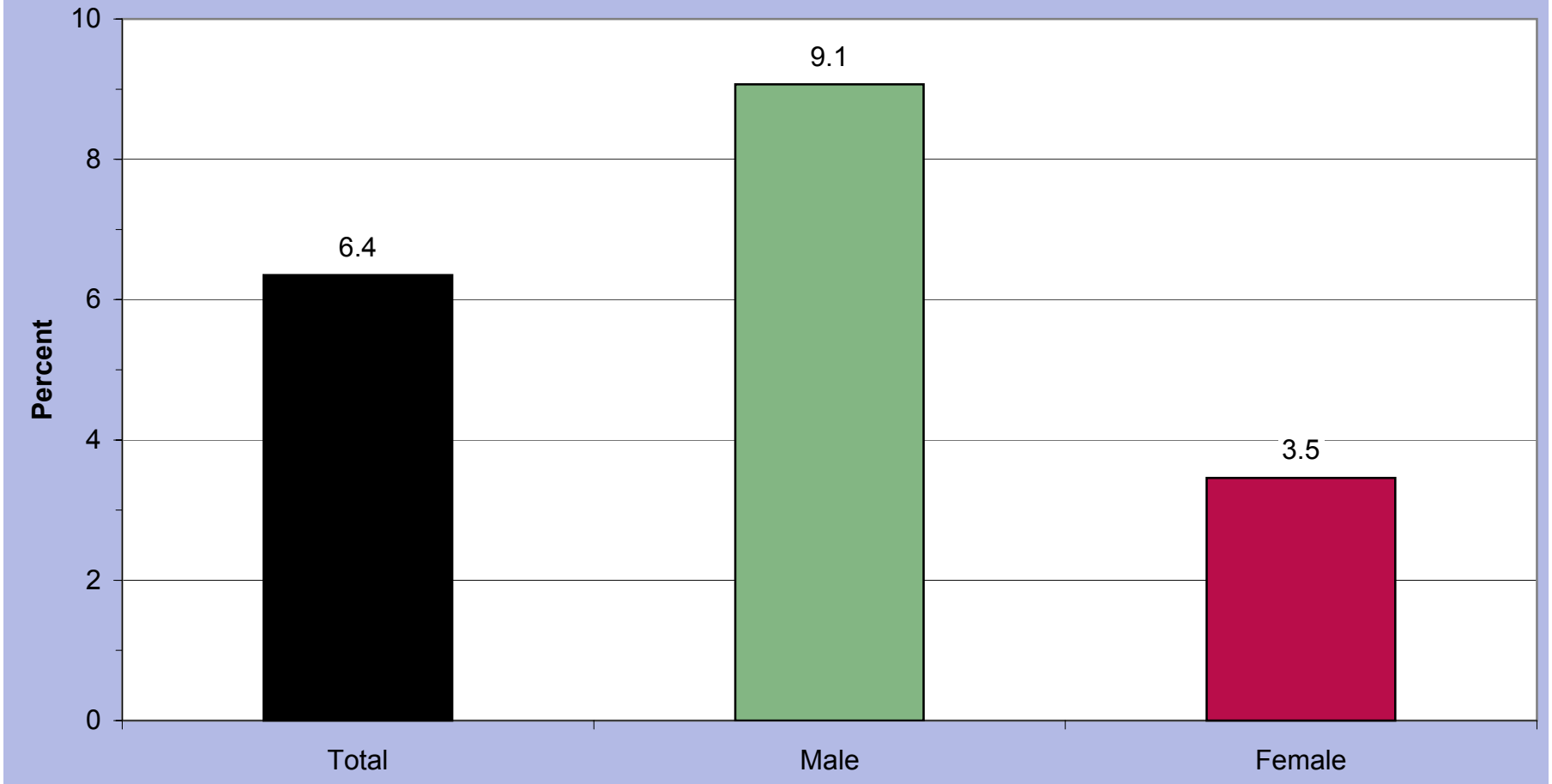
[1] *Attention-Deficit/Hyperactivity Disorder--What is ADHD?* (November 2001). National Center on Birth Defects and Developmental Disabilities, CDC. Retrieved March 13, 2003, from the World Wide Web: http://www.cdc.gov/ncbddd/adhd/adhdwhat.pdf

[2] Ibid.
[3] *Attention Deficit Hyperactivity Disorder: A Decade of the Brain Report*. (96-3572)(1996). Bethesda, MD: National Institute of Mental Health. http://www.nimh.nih.gov/publicat/adhd.pdf
[4] Ibid.
[5] *Attention-Deficit/Hyperactivity Disorder--Peer Relationships and ADHD* (April, 2002). National Center on Birth Defects and Developmental Disabilities, CDC. Retrieved March 13, 2003, from the World Wide Web: http://www.cdc.gov/ncbddd/adhd/peer.htm
[6] *Fact Sheet: Attention Deficit/Hyperactivity Disorder* (2001). American Psychiatric Association. Retrieved March 14, 2003, from the World Wide Web: http://www.psych.org/public_info/adhdfactsheet42401.pdf
[7] Whalen, C. K., Jamner, L. D., Henker, B., Delfino, R. J., & Lozano, J. M. (2002). The ADHD Spectrum and Everyday Life: Experience Sampling of Adolescent Moods, Activities, Smoking, and Drinking. *Child Development, 73*(1), 209-227.
[8] *Attention-Deficit/Hyperactivity Disorder—Injuries and ADHD* (January, 2002). National Center on Birth Defects and Developmental Disabilities, CDC. Retrieved March 13, 2003, from the World Wide Web: http://www.cdc.gov/ncbddd/adhd/injury.htm
[9] *America's Children and the Environment: Measures of Contaminants, Body Burdens, and Illnesses*. (Second Edition) (2003). Environmental Protection Agency. http://www.epa.gov/envirohealth/children/ace_2003.pdf
[10] *Attention-Deficit/Hyperactivity Disorder-- What is ADHD?* (November 2001) . Retrieved March 13, 2003, from the World Wide Web: http://www.cdc.gov/ncbddd/adhd/adhdwhat.pdf
[11] *America's Children and the Environment: Measures of Contaminants, Body Burdens, and Illnesses*. (Second Edition) (2003). Environmental Protection Agency. http://www.epa.gov/envirohealth/children/ace_2003.pdf

Figure 1

## Percentage of Children Ages 3 to 17 Who Have Been Diagnosed with ADHD, by Gender, 2001

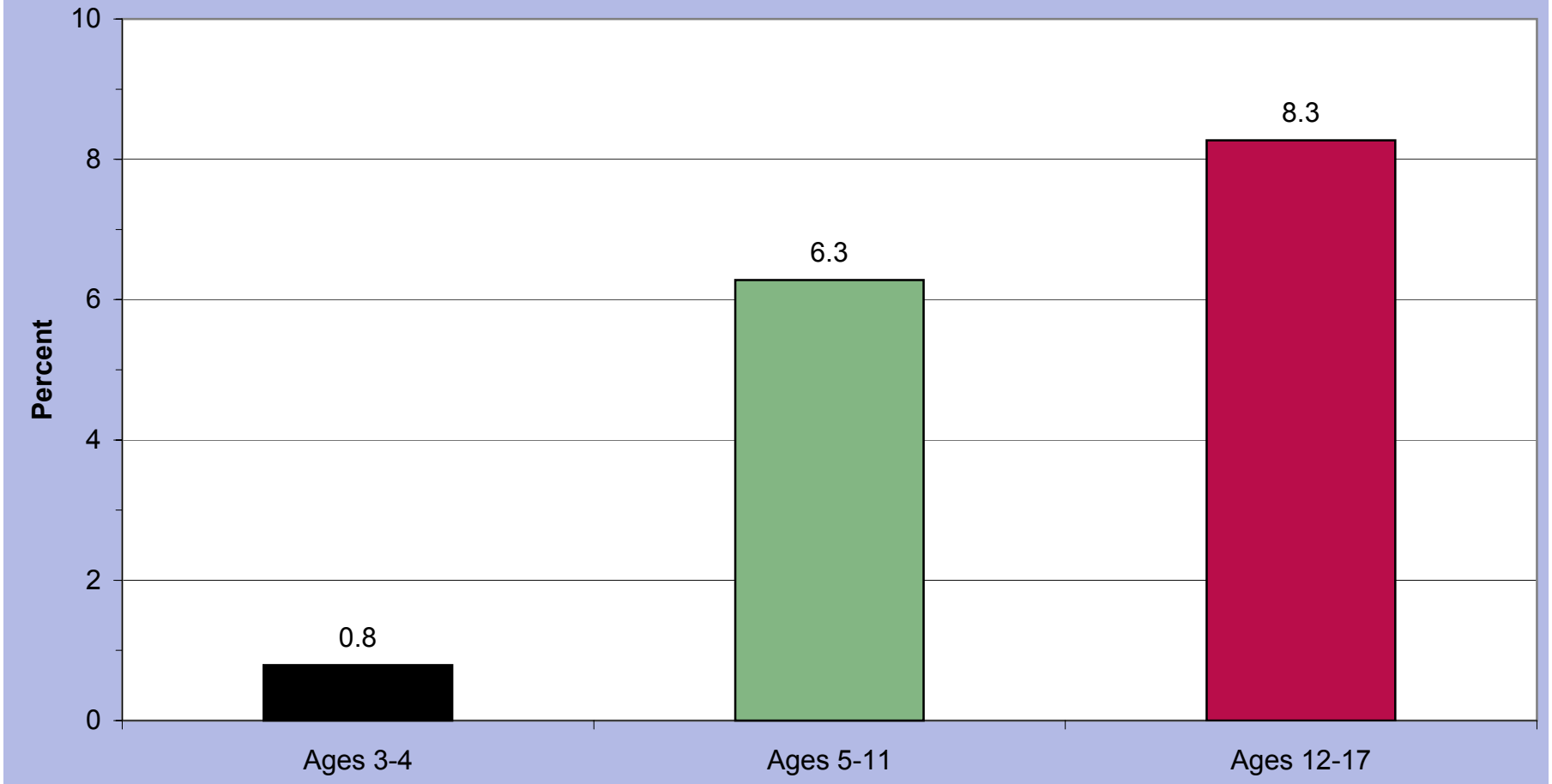



Source: Original analysis by Child Trends of the 2001 National Health Interview Survey data

Child TRENDS DATABANK

Figure 2

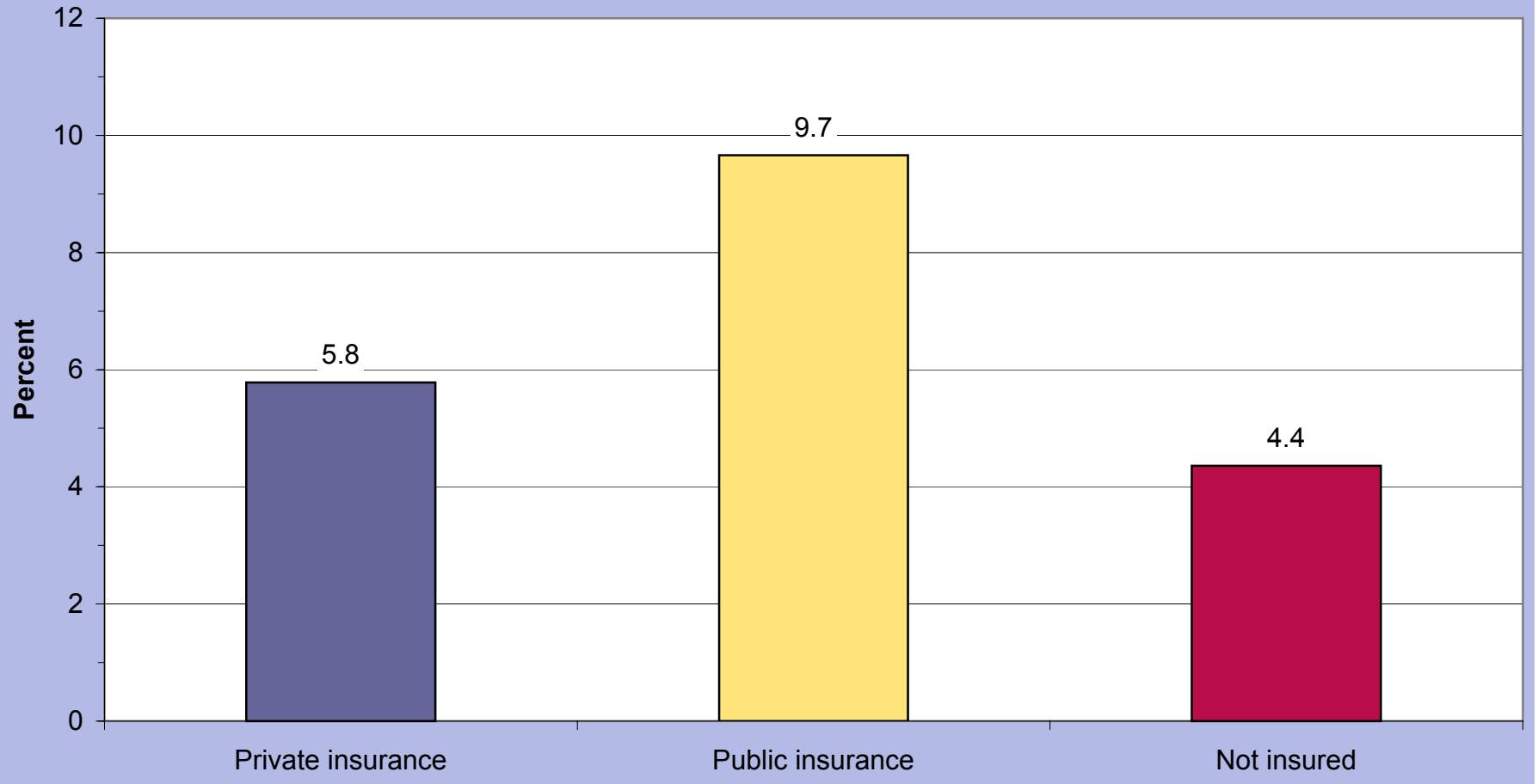
## Percentage of Children Ages 3 to 17 Who Have Been Diagnosed with ADHD, by Age, 2001




Source: Original analysis by Child Trends of the 2001 National Health Interview Survey data

Figure 3

## Percentage of Children Ages 3 to 17 Who Have Been Diagnosed with ADHD, by Type of Health Insurance, 2001




Notes: Children with both public and private insurance are placed in the private insurance category. As defined here, public health insurance for children consists mostly of MEDICAID or other public assistance programs, including State plans. It does not include children with only Medicare or the Civilian Health and Medical Care Program of the Uniformed Services (CHAMPUS/CHAMP-VA/Tricare).
Source: Original analysis by Child Trends of the 2001 National Health Interview Survey data

Child TRENDS DATABANK

Table 1

**Percentage of Children Ages 3 to 17 who Have Been Diagnosed by a Doctor or Health Professional as Having Attention Deficit Hyperactivity Disorder (ADHD), 1997-2001**

| | 1997 [1] | 1998 | 1999 | 2000 | 2001 |
|---|---|---|---|---|---|
| **Total** | 5.5 | 5.9 | 5.6 | 6.6 | 6.4 |
| **Gender** | | | | | |
| **Male** | 8.3 | 8.5 | 8.4 | 9.3 | 9.1 |
| **Female** | 2.6 | 3.2 | 2.7 | 3.8 | 3.5 |
| **Age group** | | | | | |
| **Ages 3-4** | 0.5 | 0.7 | 0.6 | 1.0 | 0.8 |
| **Ages 5-11** | 5.9 | 6.1 | 5.3 | 6.5 | 6.3 |
| **Ages 12-17** | 6.8 | 7.5 | 7.7 | 8.6 | 8.3 |
| **Race and Hispanic Origin [2]** | | | | | |
| **White, non-Hispanic** | 6.5 | 7.0 | 6.7 | 8.0 | 7.4 |
| **Black, non-Hispanic** | 4.3 | 4.9 | 4.3 | 5.0 | 5.7 |
| **Hispanic** | 3.3 | 3.5 | 2.7 | 3.8 | 3.5 |
| **Non-Hispanic other** | 2.4 | 2.2 | 3.8 | 2.1 | 3.7 |
| **Poverty Status** | | | | | |
| **At or above poverty** | - | 6.0 | 5.8 | 7.3 | 6.5 |
| **Below poverty** | - | 6.7 | 7.7 | 7.0 | 7.1 |
| **Family Structure [3]** | | | | | |
| **2 parents with biological/adoptive child(ren) only** | - | - | 4.0 | 5.6 | 5.0 |
| **Parent, step-parent and child(ren) only** | - | - | 9.1 | 10.4 | 9.2 |
| **Single parent and biological or non-biological child(ren) only** | - | - | 8.4 | 8.6 | 8.1 |
| **Extended family, including one or more parents** | - | - | 4.8 | 5.6 | 6.6 |
| **Parental Education [4]** | | | | | |
| **Some high school or less** | - | 4.9 | 5.7 | 5.8 | 4.2 |
| **High school graduate/ GED or equivalent recipient** | - | 6.6 | 5.8 | 6.9 | 6.8 |
| **Some college, no degree/AA degree** | - | 6.1 | 6.2 | 7.5 | 7.6 |
| **Bachelor's degree or higher** | - | 5.3 | 4.5 | 5.9 | 5.3 |
| **Insurance Coverage** | | | | | |
| **Private insurance [5]** | - | 5.2 | 5.1 | 6.3 | 5.8 |
| **Public insurance [6]** | - | 9.9 | 8.5 | 9.0 | 9.7 |
| **Not insured** | - | 4.9 | 5.2 | 5.4 | 4.4 |
| **Usual source of health care [7]** | | | | | |
| **No usual source** | - | 4.1 | 3.8 | 5.0 | 3.1 |
| **Usual source** | - | 6.1 | 5.8 | 6.8 | 6.6 |
| **Welfare/TANF** | | | | | |
| **At least one family member received income from welfare/TANF** | - | 7.7 | 6.7 | 9.5 | 8.9 |
| **No one in family received income from welfare/TANF** | - | 5.8 | 5.6 | 6.4 | 6.1 |
| **Food Stamps** | | | | | |
| **At least one family member eligible to receive food stamps** | - | 7.0 | 7.3 | 8.4 | 10.0 |
| **No one in family eligible to receive food stamps** | - | 5.8 | 5.4 | 6.4 | 5.9 |

[1] Data from Bloom B, and Tonthat L. *Summary Health Statistics for U.S. Children: National Health Interview Survey, 1997* Vital Health Stat 10(203). 2002.

[2] Persons of Hispanic origin may be of any race.

[3] Family structure data for 1998 are incompatible with later data and are therefore not included.

[4] Parental education reflects the education level of the most educated parent in the child's household.

[5] Children with both public and private insurance are placed in the private insurance category.

[6] As defined here, public health insurance for children consists mostly of MEDICAID or other public assistance programs, including State plans. It does not include children with only Medicare or the Civilian Health and Medical Care Program of the Uniformed Services (CHAMPUS/CHAMP-VA/Tricare).

[7] Excludes emergency rooms as a usual source of care.

Source: Except where otherwise noted, original analysis by Child Trends of National Health Interview Survey data 1998-2001