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Table of Contents

Introduction	4
The Child	7
Health Status	
Characteristics of Urban and Rural Children	8
Child Health Status	9
Oral Health Status	10
Chronic Conditions	11
Premature Birth	12
Breastfeeding	13
Parental Concerns About Child Development and Risk of Developmental Delay	15
Overweight and Obesity	17
Health Care	
Current Health Insurance	19
Insurance Coverage Continuity	20
Adequacy of Health Insurance	21
Preventive Medical Care Visits	22
Preventive Dental Care Visits	23
Developmental Screening	24
Mental Health Care	25
Medical Home	26
Medical Home: Family-Centered Care	28
Medical Home: Access and Care Coordination	30
School and Activities	
Playing with Children of the Same Age	31
Early Intervention and Special Education	32
School Engagement	33
Repeating a Grade	34
Activities Outside of School	35
Screen Time	36
Reading for Pleasure	37
Working for Pay	38
Volunteering	39
The Child's Family	40
Reading, Singing, and Telling Stories to Young Children	41
Family Meals	43
Parental Health Status	44
Smoking in the Household	45
Parental Stress	47
Flourishing	48
Adverse Childhood Experiences	50
The Child and Family's Neighborhood	52
Neighborhood Amenities	53
Neighborhood Conditions	54
Supportive Neighborhoods	55
Safety in the Neighborhood	57
Safety at School	59
Technical Appendix	60



Introduction

Children in rural areas face particular risks to their health and well-being.^{1,2} Some risks relate to their demographic characteristics; rural children are more likely to live in poverty than those in urban areas.³ Some relate to their physical environment; the risks of injury and of death from injury are greater among rural children.⁴ Still others are related to the family and community contexts in which children grow up; rural youth are more likely to smoke or use chewing tobacco than their urban counterparts.⁵

Differences in the health status of urban and rural children are not necessarily attributable to children's geographic location but rather are related to the demographic characteristics of the children and families who live in rural areas. However, where these differences do exist, they can give program planners and policymakers important information which can be used to design and target services and interventions.

The National Survey of Children's Health (NSCH) provides a unique resource with which to analyze the health status, health care use, activities, and family and community environments experienced by children in rural and urban areas. The NSCH was designed to measure the health and well-being of children from birth to age 17 in the United States while taking into account the environments in which they grow and develop. Conducted for the third time in 2011–2012, the survey collected information from parents on their children's health, including oral, physical, and mental health, health care use and insurance status, and social activities

and well-being. Aspects of the child's environment that were assessed in the survey include family structure, poverty level, parental health and well-being, and community surroundings. The survey was supported and developed by the U.S. Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB) and was conducted by the Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS).

This book presents information about the health and health care of children by location and by major demographic characteristics such as age, sex, race/ethnicity, and household income as a percent of the Federal Poverty Level (FPL). Unless otherwise noted, all graphs provide information on all children from birth to age 17. Children were classified by race and ethnicity using four categories: non-Hispanic White, non-Hispanic Black, Hispanic, and non-Hispanic children of multiple races or of a race other than those listed above.

How Locations Were Defined

Children were classified according to their residence in an urban area, a large rural area, or a small or isolated rural area based on their ZIP code, the size of the city or town and the commuting pattern in the area. Urban areas include metropolitan areas and surrounding suburban towns from which commuters flow into an urban area. Large rural areas include large towns ("micropolitan" areas) with populations of 10,000–49,999

persons and their surrounding areas, and small rural areas include small towns and isolated rural areas with populations of 2,500–9,999 persons and their surrounding areas.⁶ The map on page 6 shows how these three types of areas are distributed across the United States. Of the 71.8 million children in the United States who could be classified into urban and rural areas, 58.9 million live in urban areas, 6.5 million live in large rural areas, and 6.4 million live in small rural areas (rural/urban designation could not be determined for 2.4% of children).

The data presented in this chart-book represent bivariate analyses of children's health, demographic, family, and neighborhood characteristics for children living in urban, large rural, and small rural areas. "Total" percentages include all children, regardless of whether or not they could be categorized into one of the three rural and urban categories. Pairwise tests were conducted to identify statistically significant differences between urban, large rural, and small rural areas, and those differences are highlighted in the text to the extent possible. More detailed tables presenting weighted frequencies, percentages, and standard errors are available on the web for each topic area. It is also important to note that the demographic distribution of children in rural and urban areas may influence differences (or lack of differences) that are presented in this book, however, multivariate analyses have not been conducted to account for any differences in demographics (i.e., race/ethnicity).

Key Findings

Urban and rural children differ in their demographic characteristics, which in turn can affect their health status and health risks. The NSCH found that children in rural areas were more likely to be poor than those in urban areas. Of those who lived in small rural areas, 26.2 percent lived in households with incomes below the Federal Poverty Level (FPL), as did 26.6 percent of children in large rural areas. Of children living in urban areas, 21.5 percent had household incomes below the FPL. Rural children were also more likely to be non-Hispanic White than urban children. Among children in urban areas, approximately half (49.5 percent) were non-Hispanic White, compared to 65.5 percent of those in large rural areas and 69.0 percent of those in small rural areas.

Overall, the survey found more similarities than differences with regard to the health status of children in urban and rural areas. Approximately 84 percent of children were reported by their parents to be in excellent or very good health, regardless of their urban or rural status. Children's oral health was also consistent across locations; the percentage of children reported to have excellent or very good oral health ranged from 69.8 to 71.8 percent. Children in urban and rural areas were also equally likely to be born prematurely, to be at risk of developmental delay, or to have at least one chronic condition.

However, rural children do face specific health risks. For example, children in rural areas were less likely than urban children ever to be fed breast milk: 81.0 percent of urban

children were ever breastfed, compared to 71.2 percent of children in large rural areas and 70.6 percent of those in small rural areas. Children living in rural areas were also more likely than urban children to be overweight or obese. More than one-third of children aged 10–17 in both large and small rural areas met the criteria for overweight or obesity (having a body mass index at or above the 85th percentile for their age and sex), compared to 30.1 percent of urban children. In addition, children in rural areas were more likely than urban children to live with someone who smokes; one-third of children in large and small rural areas lived with a smoker, compared to 22.2 percent of urban children.

Urban and rural children were equally likely to have health insurance, to be covered continuously, and to have insurance that is adequate to meet their needs. However, children in rural areas were less likely to have had a preventive health care visit in the past 12 months (80.8 percent of children in small rural areas and 81.4 percent of children in large rural areas did so, compared to 85.3 percent of children in urban areas) and to have had a preventive dental visit in the past 12 months (73.3 percent of children in large rural areas and 75.3 percent of children in small rural areas did so, compared to 78.0 percent of children in urban areas). There was no apparent difference in the percentage of rural and urban children with emotional, behavioral, or developmental problems who received the mental health services that they needed or in the percentage of young children who received standardized developmental screens.

Children in rural areas were found to experience greater risks to their

educational and social well-being. For example, children in rural areas were more likely to repeat a grade in school; 14.0 percent of school-aged children in small rural areas and 12.1 percent of those in large rural areas have repeated a grade, compared to 8.2 percent of urban children. Rural children were also less likely than their urban peers to participate in organized activities outside of school and to read for pleasure on a typical day.

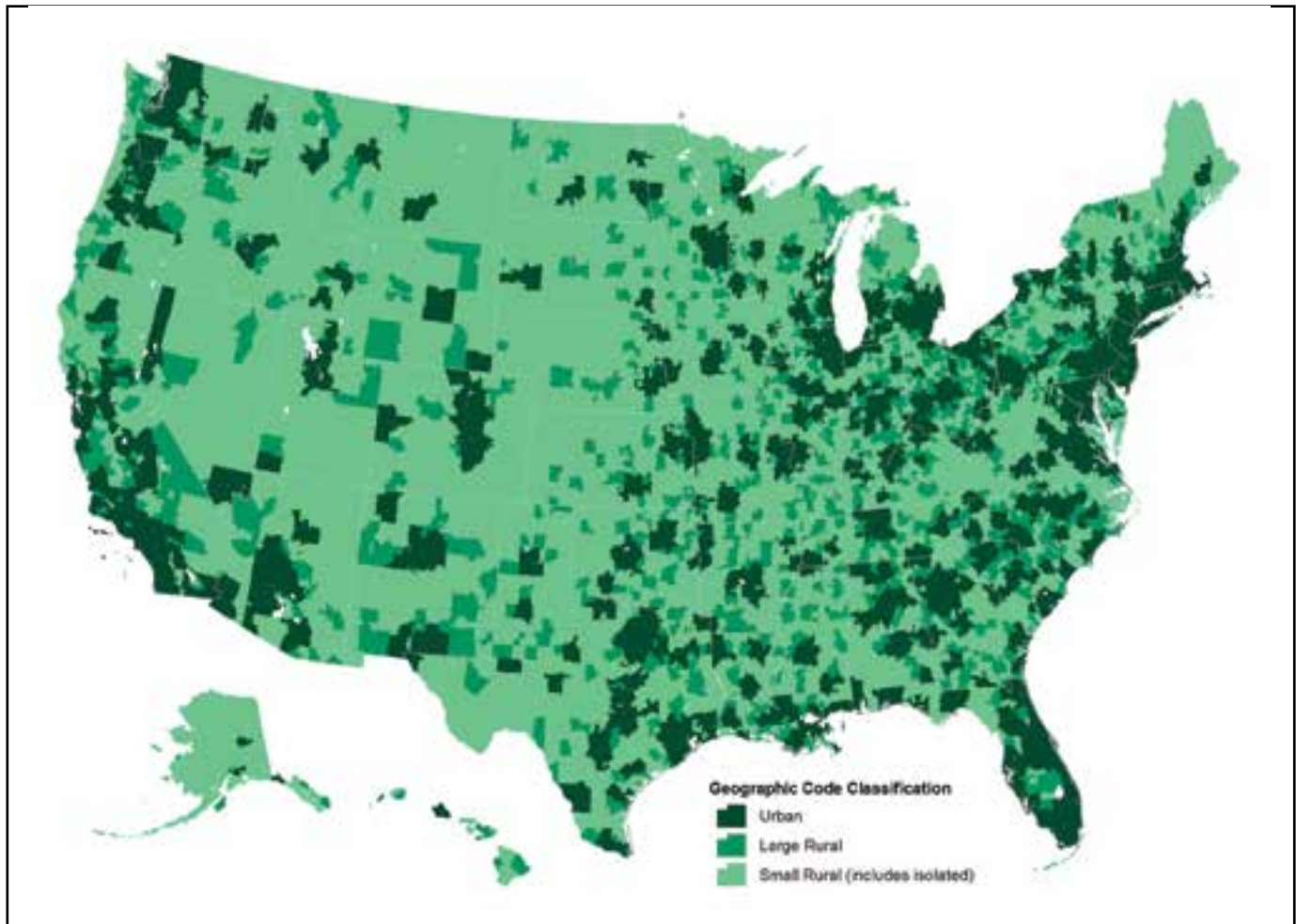
For other measures, however, rural children—especially those living in small rural areas—appeared to be well-protected on measures of connectedness to their families and communities. The percentage of children who shared a meal with their families every day in the past week was highest in small rural areas, where 52.9 percent of children did so. Parental stress is less common in small rural areas as well. The parents of 9.6 percent of children in small rural areas reported usually or always feeling stress associated with parenting, compared to 11.3 percent of those in urban and 12.3 percent of those in large rural areas.

Rural communities appear to provide health benefits for their residents. Children in rural areas were more likely to live in safe and supportive communities (i.e., parents reported watching out for each other's children, people in the neighborhood helping one another out), as reported by their parents, than urban children. However, they were less likely to have access to amenities such as sidewalks or walking paths, community or recreation centers, or parks or playgrounds than their urban counterparts.

The Technical Appendix at the end of this book summarizes information about the survey methodology and sample. For more in-depth information about the survey and its data, other resources are available.

For easy access to online analyses of the survey and its data, the Data Resource Center for Child and Adolescent Health (DRC) web site, sponsored by the Maternal and Child Health Bureau, provides access to the survey

data at www.childhealthdata.org. More complex analyses can be conducted using the public use data set available from the National Center for Health Statistics at <http://www.cdc.gov/nchs/about/major/slaits/nsch.htm>.



- 1 Singh GK, Siapush M. Widening Rural–Urban Disparities in Life Expectancy, U.S., 1969–2009. *Am J Prev Med* 2014;46(2):e19–e29.
- 2 Singh GK, Siapush M. Widening Rural–Urban Disparities in All-Cause Mortality and Mortality from Major Causes of Death in the USA, 1969–2009. *Journal of Urban Health: Bulletin of the New York Academy of Medicine* 2014;91(2): 272-292.
- 3 Farrigan T, Hertz T, Parker T. *Rural poverty and well-being*. Washington, DC: U.S. Department of Agriculture, Economic Research Service; 2014.
- 4 Kim K, Ozegovic D, Voaklander DC. Differences in incidence of injury between rural and urban children in Canada and the USA: a systematic review. *Injury Prevention*. 2012;18(4):264–271.
- 5 Johnston LD, O'Malley PM, Bachman JG, Schulenberg JE, Miech RA. *Monitoring the future: national survey results on drug use, 1975–2013, vol. 1: secondary school students*. Ann Arbor, MI: University of Michigan, Institute for Social Research; 2014.
- 6 WWAMI Rural Health Research Center and the U.S. Department of Agriculture, Economic Research Service. *Rural-Urban Commuting Area Codes*. <http://depts.washington.edu/uwruca/index.php>



The Child

While children's health care needs and their parents' concerns about their children's health and safety were consistent across the United States, the health issues, access barriers, and risks may vary for rural and urban children. This section presents information on the sociodemographic characteristics of children by location, health status, access to and use of health care services, and activities in and outside of school.

Children's health was measured through their parents' reports of their overall health and oral health, whether they were born prematurely, their risk of developmental delay and their parents' concerns about their development, their body mass index (based on their age and sex), whether young children were breastfed, and the presence of one or more chronic conditions.

Children's access to and use of health care was measured through questions about children's health insurance coverage; whether they were continually covered over the previous year; whether their insurance is adequate to meet their needs; their use of preventive health care, dental care, and mental health services; whether young children received a standard developmental screen; and whether their care meets the standards of the "medical home."

Children's participation in activities in school and in the community represents another important aspect of their well-being. The survey asked about how often young children played with their peers; children's school performance, including participation in early intervention or special education, their engagement with school, and whether they had repeated a grade; and their activities outside of school, including volunteering, working for pay, reading for pleasure, and time spent watching TV or videos.



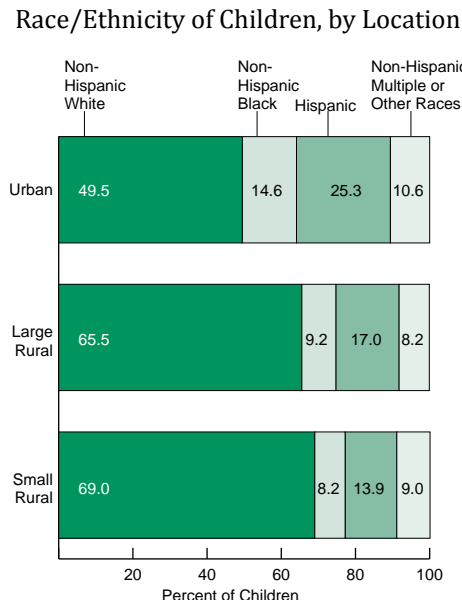
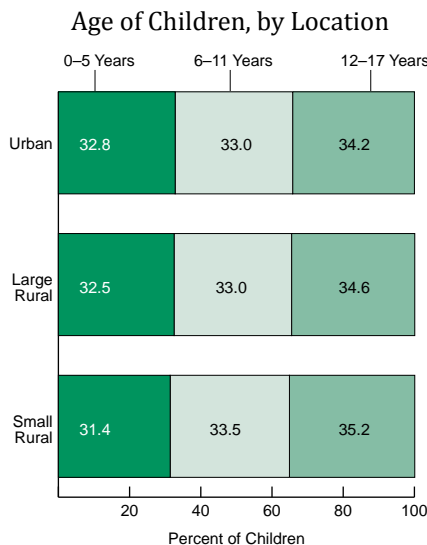
Characteristics of Urban and Rural Children

The demographic composition of the population of children in small and large rural areas differed from that of urban children. While the age distribution was similar across the three geographic categories, rural children were significantly more likely to be non-Hispanic White and have low family incomes.

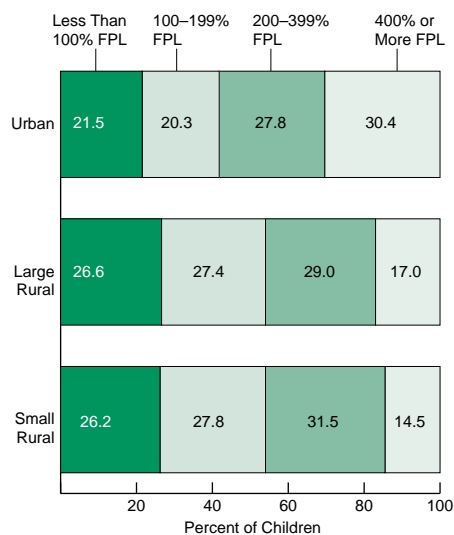
In each geographic category, about one-third of children were 0–5 years old, one-third were 6–11, and one-third were 12–17 years of age.

Fewer than half of urban children were non-Hispanic White (49.5 percent), compared to 65.5 percent of children in large rural areas and 69.0 percent of those in small rural areas. Children in urban areas were more likely to be non-Hispanic Black (14.6 percent of urban children, compared to less than 10 percent of rural children) and Hispanic (25.3 percent of urban children, compared to 17.0 percent of children in large rural areas and 13.9 percent in small rural areas).

Children in rural areas were also significantly more likely than urban children to be poor. More than 26 percent of children in both small and large rural areas had household incomes below the Federal Poverty Level (FPL), compared to 21.5 percent of urban children. In contrast, nearly one-third of urban children had



Family Income of Children as a Percent of FPL,* by Location



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines, poverty was \$23,050 for a family of four in 2012.

household incomes of 400 percent or more of the FPL, compared to 17.0 percent of children in large rural areas and 14.5 percent of those in small rural areas.



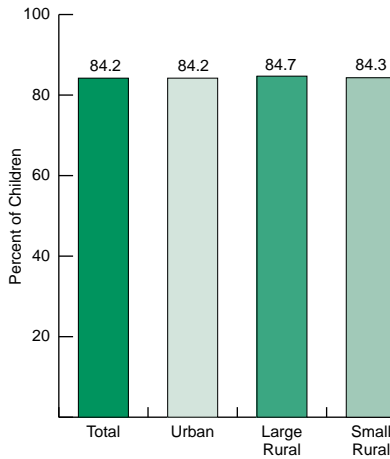
Child Health Status

The survey asked parents to rate their children's overall health status as excellent, very good, good, fair, or poor. While this indicator does not offer a complete picture of a child's health, it gives a general sense of the child's health and well-being.

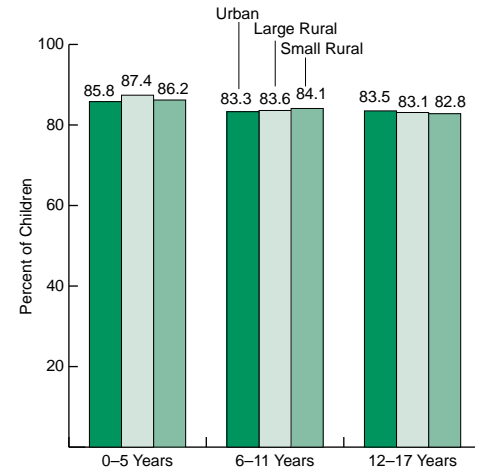
In all locations, approximately 84 percent of children were reported to be in excellent or very good health. The health status of children within each age group did not vary significantly by area of residence, and more than 80 percent of children of all ages in all locations were reported to be in excellent or very good health.

Children's health status varied more widely across locations with regard to specific racial/ethnic groups. For example, among non-Hispanic Black children, those living in urban and large rural areas were more likely to be reported in excellent or very good health than those in small rural areas (82.6 and 85.3 percent versus 73.3 percent, respectively). With regard to non-Hispanic White children, those in urban areas were more likely than both large and small rural areas to be in excellent or very good health: 91.8 percent of those in urban areas, compared to more than 88 percent of those in large and small rural areas. In all locations, Hispanic children were the least likely to be in excellent or very good health, and this percentage did not vary significantly by location.

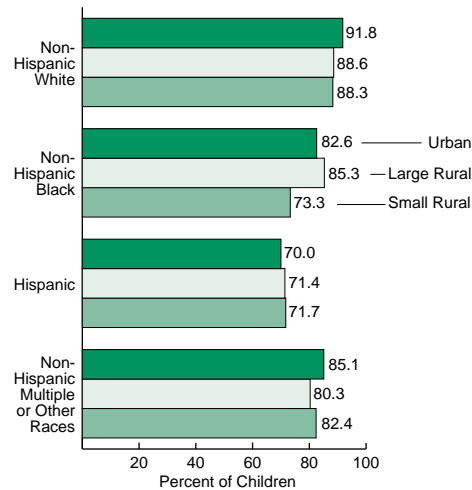
Children in Excellent or Very Good Health, by Location



Children in Excellent or Very Good Health, by Location and Age



Good Health, by Location and Race/Ethnicity





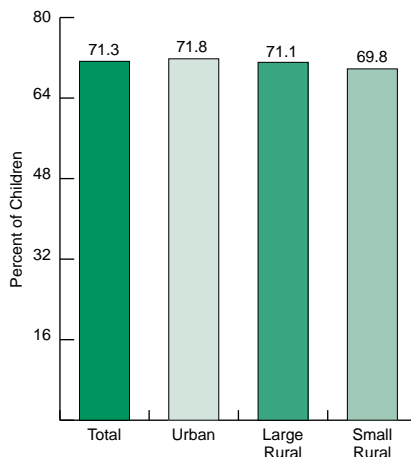
Oral Health Status

Parents of children aged 1 year and older who had at least one tooth were asked to describe the status of their children's teeth as excellent, very good, good, fair, or poor. The percentage of children with excellent or very good oral health did not vary significantly across locations, ranging from 69.8 percent among children in small rural towns to 71.8 percent of those in urban areas.

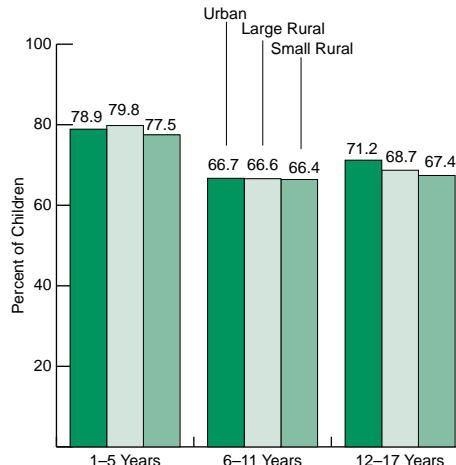
In all locations, the youngest children (aged 1-5 years) were the most likely to have excellent or very good oral health (greater than 77 percent), while approximately two-thirds of older children were reported to have excellent or very good oral health. These proportions did not vary significantly across locations.

Within each location, the condition of children's teeth varied by race and ethnicity, with non-Hispanic White children more likely than other children to have excellent or very good oral health. With regard to location, non-Hispanic White children in urban areas were more likely to report excellent or very good oral health than those in large and small rural areas (81.9 versus 76.3 and 74.6 percent, respectively). Non-Hispanic Black children in urban areas were also more likely than those in small rural areas to have excellent or good oral health (67.8 versus 55.0 percent, respectively), though there was no significant difference between urban and large rural areas (64.8 percent).

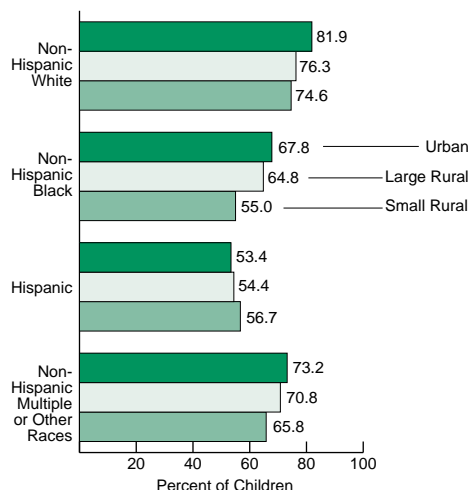
Children Aged 1-17 in Excellent or Very Good Oral Health, by Location



Children Aged 1-17 in Excellent or Very Good Oral Health, by Location and Age



Children Aged 1-17 in Excellent or Very Good Oral Health, by Location and Race/Ethnicity



In all locations, slightly more than half of Hispanic children were in excellent or very good oral health, and this percentage did not vary significantly by location.

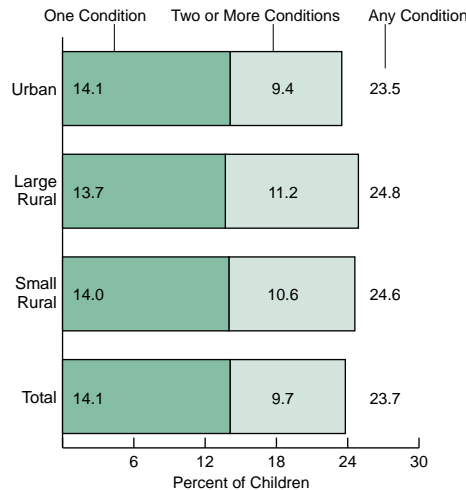


Chronic Conditions

Children may have chronic physical or mental health problems, such as asthma or anxiety, which may have an impact on the child's well-being. The NSCH asked parents whether they had ever been told by a health care provider that their child currently had 1 of 18 specific chronic conditions. These included eight physical health conditions (asthma; diabetes; brain injury or concussion; bone, joint, or muscle problems; cerebral palsy; epilepsy or seizure disorder; hearing problems; and vision problems); eight emotional, behavioral, or developmental conditions (attention deficit disorder/attention deficit hyperactivity disorder; anxiety; autism spectrum disorder; depression; developmental delay; oppositional defiant disorder or conduct disorder; and Tourette syndrome); speech problems; and learning disabilities.

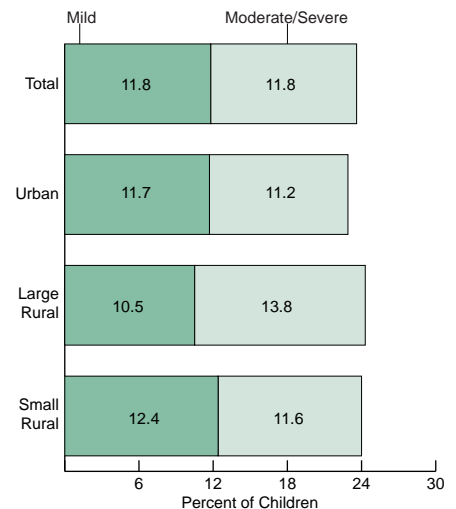
Overall, 23.7 percent of children were reported to have at least one of these conditions; this percentage did not vary by location, but children in large rural areas were more likely than those in urban or small rural areas to have at least one condition rated as moderate or severe (13.8 versus 11.2 and 11.6 percent, respectively). Children in large rural areas were also more likely to have two or more conditions than those in urban areas (11.2 versus 9.4 percent, respectively), though rates did not vary significantly from those in small rural areas.

Children With Chronic Conditions, by Number of Conditions*



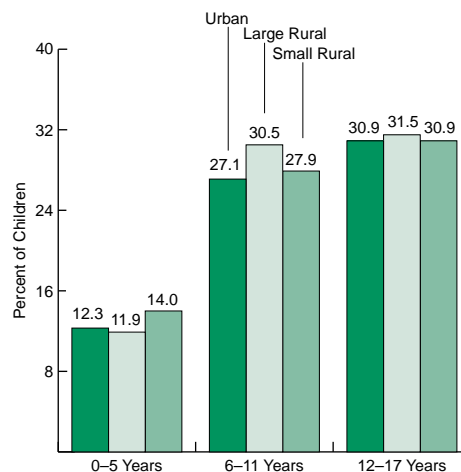
*Among 18 chronic health conditions assessed.

Children With Chronic Conditions, by Location and Severity*



*Based on 17 current chronic health conditions.

Children With Chronic Conditions, by Location and Age



With regard to the child's age, the proportions of children who had at least one chronic condition did not vary across locations. Within each location, however, younger children (aged 0–5) were significantly less likely to have one or more conditions

than older children. Among children in small rural areas, for instance, 14.0 percent of 0- to 5-year-olds had at least one condition compared to 27.9 percent of children aged 6–11 years and 30.9 percent of those aged 12–17 years.

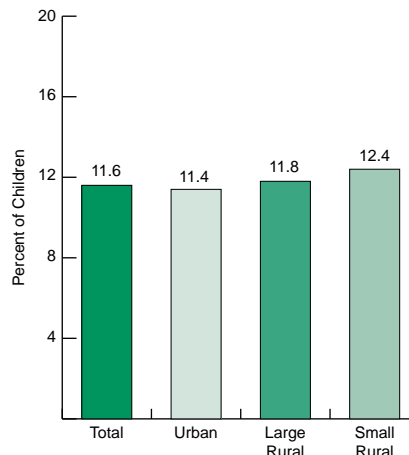


Premature Birth

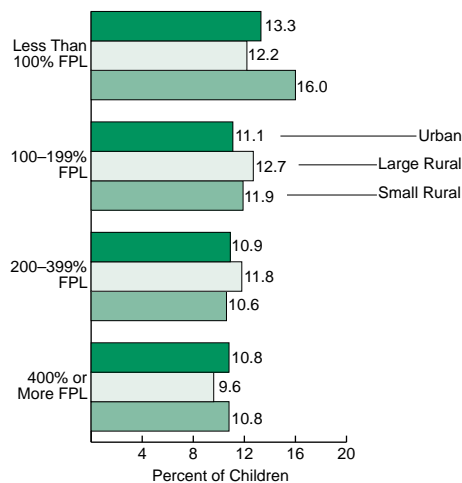
Premature birth, defined as delivery before 37 completed weeks of gestation, carries a number of risks, including immediate health problems such as respiratory distress, jaundice, and anemia, as well as longer-term health issues such as learning and behavioral problems, cerebral palsy, lung problems, and vision and hearing loss.

Overall, 11.6 percent of children were reported to have been born prematurely, a percentage that did not vary significantly across locations. Within urban and small rural areas, premature birth rates were highest among children from households with incomes below 100 percent of the Federal Poverty Level (FPL). Among children in small rural areas, for example, 16.0 percent of children with household incomes below 100 percent of the FPL were born prematurely, compared to about 11-12 percent of children in higher income households. Similarly, children in urban areas with household incomes below 100 percent of the FPL were more likely to have been born prematurely than those in higher income households (13.3 versus about 11 percent, respectively). There were no differences in premature births, however, for children in large rural areas based on household income. Within each income category, the percentage of children born prematurely did not vary significantly across locations.

Children Who Were Born Premature, by Location



Children Who Were Born Premature, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.



Breastfeeding

Breast milk is widely recognized to be the ideal form of nutrition for infants. Breastfed infants are less susceptible to infectious diseases, and children who were breastfed are less likely to suffer from diabetes, overweight, obesity, asthma, lymphoma, leukemia, or Hodgkin's disease compared to children who were not breastfed. In addition, rates of post-neonatal mortality (death between the first month and the end of the first year of life) are lower among breastfed infants.¹ The American Academy of Pediatrics recommends that, with few exceptions, all infants be fed with breast milk exclusively for the first 6 months of life.

Overall, 79.2 percent of children aged 5 and younger were ever breastfed or fed breast milk. Urban children were significantly more likely than children in rural areas to have ever been breastfed: 81.0 percent compared to 71.2 percent of children in large rural and 70.6 percent of those in small rural areas. A much smaller percentage of children were exclusively breastfed for their first 6 months in all locations, with urban children more likely than those in small rural areas to have done so (16.5 versus 12.9 percent, respectively).

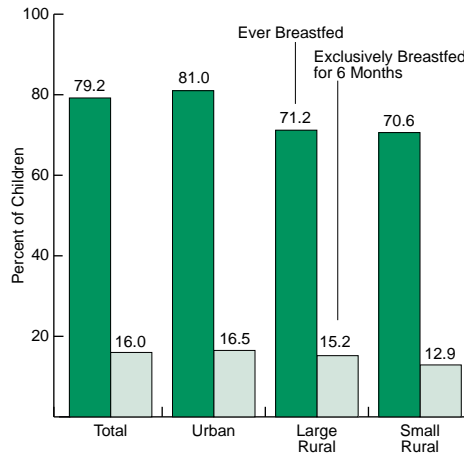
Rates of having ever been breastfed varied differentially with income and location. In all locations, children in households with incomes below 100 percent of the Federal Poverty Level (FPL) were less likely than those with

higher incomes to have ever breastfed. For instance, 60.0 percent of children in large rural areas with household incomes below 100 percent of the FPL were ever breastfed, compared to 76.6 percent of those with incomes of 200-399 percent of the FPL and 81.5

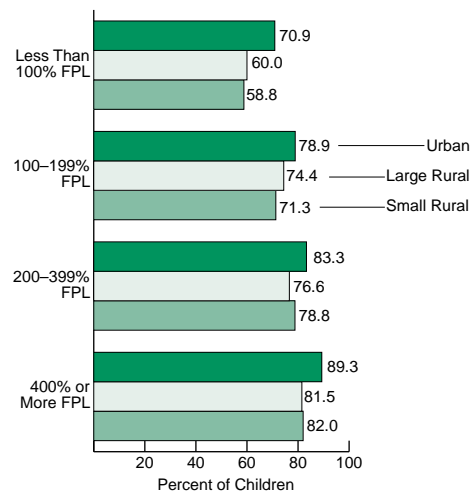
percent of those with incomes of 400 percent or more of the FPL.

Within each income level, breastfeeding rates were generally higher in urban areas compared to large and small rural areas. Children in urban areas with household incomes of 400

Children Aged 0–5
Who Were Ever Breastfed,
by Location



Children Aged 0–5
Who Were Ever Breastfed,
by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.



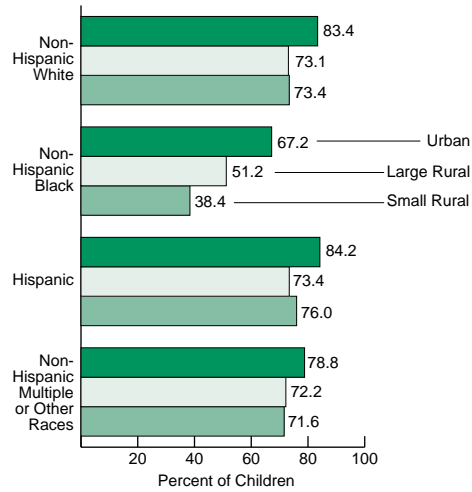
Breastfeeding (continued)

percent or more of the FPL were the most likely ever to be breastfed (89.3 percent); in rural areas, approximately 82 percent of children in the same income group were ever breastfed. Similarly, 70.9 percent of children in urban areas with household incomes below 100 percent of the FPL were ever breastfed, compared to 58.8 percent in small rural areas and 60.0 percent in large rural areas.

Breastfeeding also varied by location with regard to certain racial and ethnic groups. Among both non-Hispanic White and non-Hispanic Black children, those in urban areas were more likely than those in either large or small rural areas ever to be breastfed. Within each location, non-Hispanic Black children were significantly less likely to have ever been breastfed compared to all other racial and ethnic groups.

1 American Academy of Pediatrics, Section on Breastfeeding. *Breastfeeding and the use of human milk. Pediatrics. 2005;115(2):496–506.*

Children Aged 0–5 Who Were Ever Breastfed, by Location and Race/Ethnicity





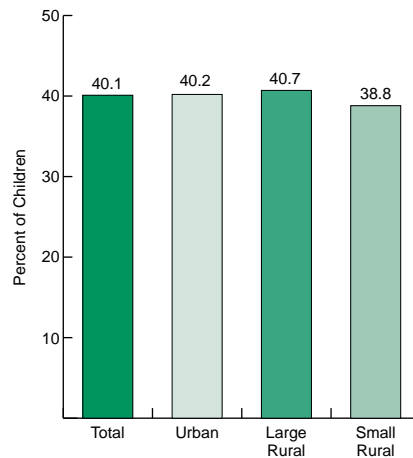
Parental Concerns About Child Development and Risk of Developmental Delay

Parental concerns and observations about their child's development and behavior are an important indication of a child's potential risk for developmental, behavioral, and/or social delays. Parents of young children (aged 4 months to 5 years) were asked about eight specific concerns they may have about their child's learning, development, or behavior that can predict risk of developmental issues. These eight items were based on the Parent's Evaluation of Developmental Status (PEDS)®.¹ The parents of 40.1 percent of children in this age group reported at least one concern from this list, and this percentage did not vary significantly across locations.

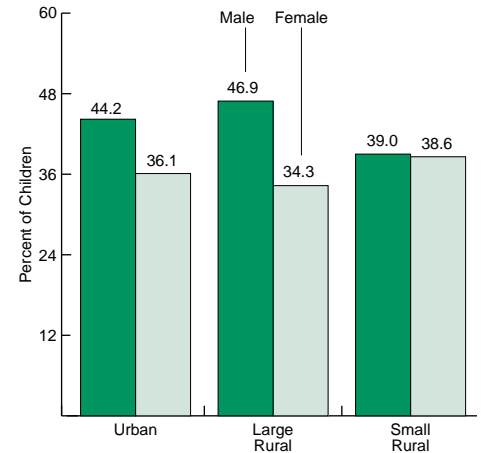
In urban and large rural areas, parents of boys were more likely to report concerns about their learning, development, or behavior than the parents of girls; however, there was no difference for children in small rural areas. Parents of boys in small rural areas were also significantly less likely to report concerns than those in large rural and urban areas (39.0 versus 46.9 and 44.2 percent, respectively). Concerns did not vary for girls across locations.

With regard to race and ethnicity, Hispanic children in all locations were

Children Aged 4 Months–5 Years Whose Parents Reported One or More Concerns About Their Development, by Location



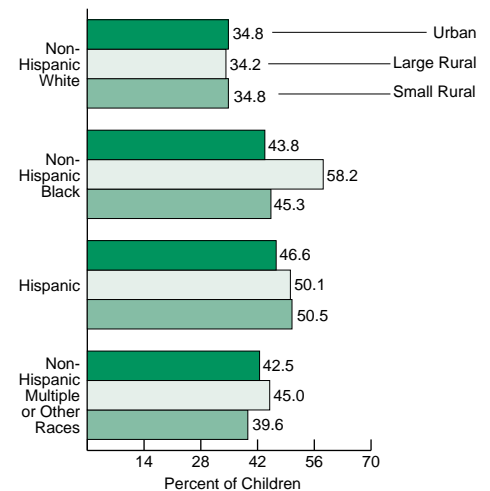
Children Aged 4 Months–5 Years Whose Parents Reported One or More Concerns About Their Development, by Location and Sex



Parents were asked if they had concerns about...

- How child talks and makes speech sounds;
- How child understands what you say;
- How child uses his/her hands and fingers to do things;
- How child uses his/her arms and legs;
- How child behaves;
- How child gets along with others;
- How child is learning to do things for himself/herself; and
- How child is learning preschool or school skills.

Children Aged 4 Months–5 Years Whose Parents Reported One or More Concerns About Their Development, by Location and Race/Ethnicity



more likely than non-Hispanic White children to have their parents report one or more concerns. In urban and large rural areas, parents of non-Hispanic White children were also less likely to report concerns than those of non-Hispanic Black and non-

Hispanic children of multiple or other races. This racial and ethnic difference was not apparent in small rural areas. Parental concerns did not vary significantly by location for any racial or ethnic group.

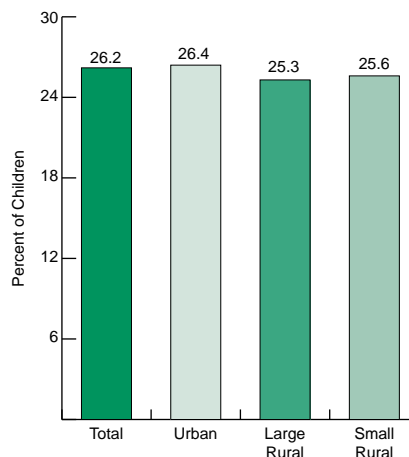


Developmental Delay (continued)

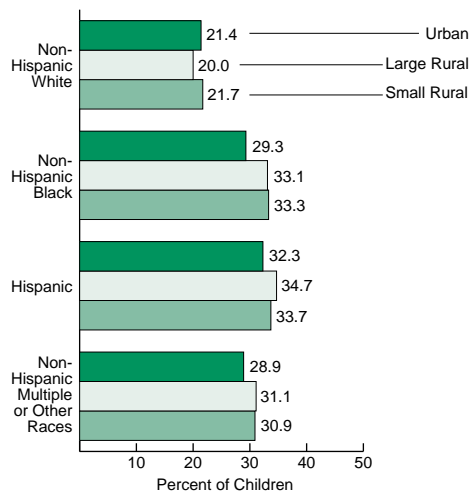
Parents' responses to concerns about their children's development were also used to assess the child's risk for behavioral, developmental, or social delays. Depending on the child's age, parents' concerns in specific areas most likely to predict delays are used to determine a child's level of risk for future delays. Children whose parents have concerns in one area that is predictive of a delay are considered to be at moderate risk, and children whose parents have concerns in two or more areas are considered to be at high risk. Children whose parents have concerns not predictive of delays or no concerns are classified as low risk. The concerns of the parents of 26.2 percent of children were significant enough to indicate that their child is at moderate or high risk of delay; this percentage does not vary significantly by location.

With regard to race and ethnicity, rates did not vary by location for any specific group. The percentage of children at moderate or high risk of developmental delay was lowest among non-Hispanic White children in every location, compared to all other racial and ethnic groups. About one-fifth of non-Hispanic White children in each location were at moderate or high risk for developmental delay, compared to about a third of Hispanic children and approximately 30 percent or more of non-Hispanic Black and non-Hispanic children of multiple or other races.

Children Aged 4 Months-5 Years at Moderate or High Risk of Developmental Delay, by Location



Children Aged 4 Months-5 Years at Moderate or High Risk of Developmental Delay, by Location and Race/Ethnicity



1 Glascoe FP. *Parents' Evaluation of Developmental Status*. Nashville, TN: Ellsworth & Vandermeer Press LLC, 2006.



Overweight and Obesity

Overweight and obesity in children, as in adults, are assessed based on Body Mass Index (BMI), or the ratio of weight to height. For children, the standards for overweight and obesity are relative; that is, they are based on the child's percentile rank compared to others of the same age and sex. Children whose BMI falls between the 85th and 95th percentile on national growth charts for their age and sex are considered to be overweight, and those whose BMI falls at or above the 95th percentile are considered to be obese. The NSCH asked parents for the height and weight of their children, from which the BMI was calculated and weight status assessed based on age and sex for children aged 10–17 years. Overall, 31.3 percent of children met the criteria for overweight or obesity based on their parent-reported weight and height.

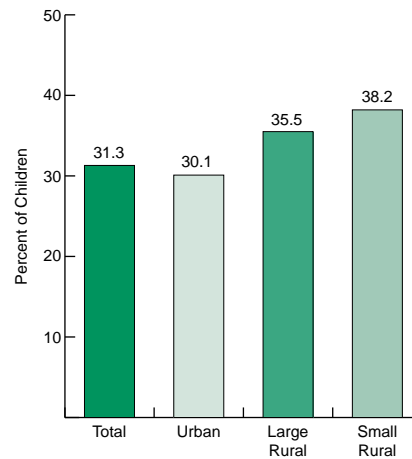
Children living in rural areas were significantly more likely than urban children to be overweight or obese. More than 35 percent of children in both large and small rural areas had a BMI at or above the 85th percentile for their age and sex, compared to 30.1 percent of urban children.

Boys were significantly more likely than girls to be overweight or obese in urban areas, though there was no difference in rates in large and small rural areas. Among both sexes, children living in rural areas were more likely to be overweight or obese

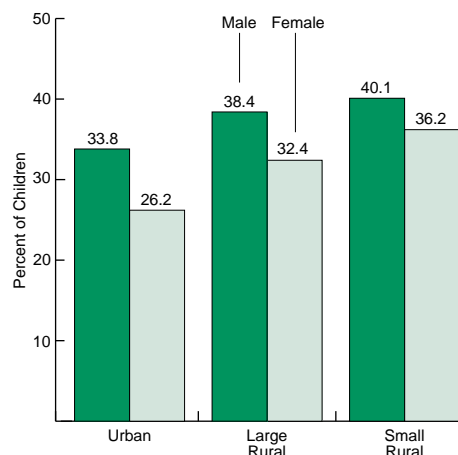
than their urban counterparts. Among boys, 33.8 percent of those in urban areas were overweight or obese, compared to 40.1 percent of boys in small rural and 38.4 percent in large rural areas. For girls, 26.2 percent of those in urban areas were overweight or obese, compared to 36.2 percent of those in small rural and 32.4 percent in large rural areas.

In all locations, children with lower household incomes were significantly more likely to be overweight or obese than those with higher incomes. The rate of overweight and obesity among children in households with incomes below 100 percent of the Federal Poverty Level (FPL) was approximately twice that of children

Children Aged 10–17 Who Are Overweight or Obese, by Location



Children Aged 10–17 Who Are Overweight or Obese, by Location and Sex



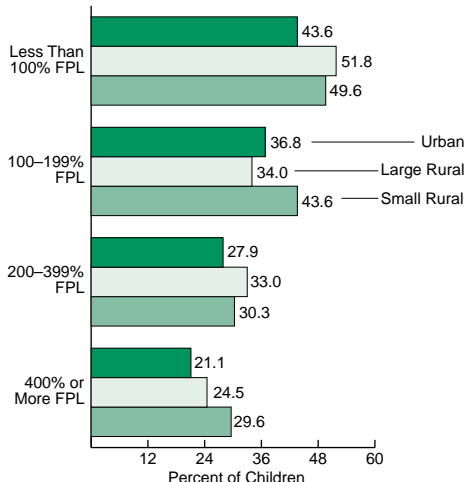


Overweight and Obesity (continued)

with household incomes of 400 percent or more of the FPL. For example, among children in large rural areas, 51.8 percent of those in poverty were overweight or obese, compared to 24.5 percent of those with household incomes of 400 percent or more of the FPL. Within each income group there were few differences by location with no clear patterns presenting themselves. For instance, among the lowest income households, children in urban areas were significantly less likely to be overweight or obese than children in large rural areas (43.6 versus 51.8 percent, respectively), but rates did not vary significantly from those in small rural areas.

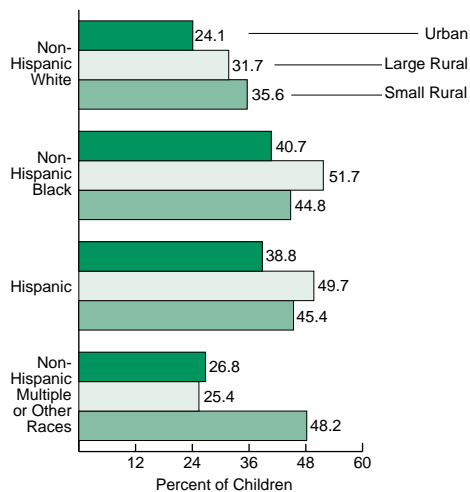
In urban and large rural areas, non-Hispanic Black and Hispanic children were more likely than non-Hispanic White children to be overweight or obese. Less than one-quarter of non-Hispanic White children in urban areas and 31.7 percent of those in large rural areas were overweight or obese, compared to more than 40 percent of non-Hispanic Black children and at least 38 percent of Hispanic children in both areas. In small rural areas, racial and ethnic differences in the proportion of children who were overweight or obese were not statistically significant.

Children Aged 10-17 Who Are Overweight or Obese, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

Children Aged 10-17 Who Are Overweight or Obese, by Location and Race/Ethnicity

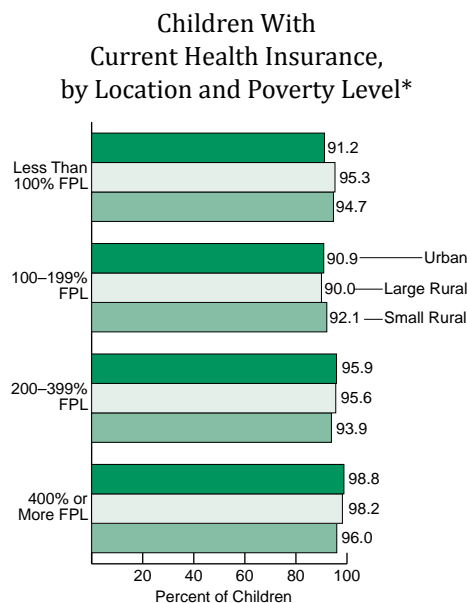
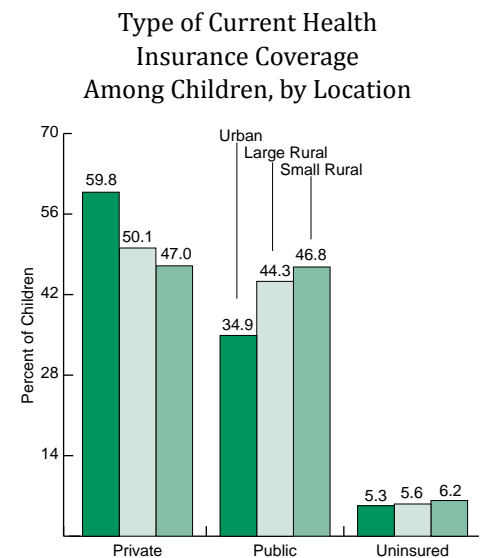
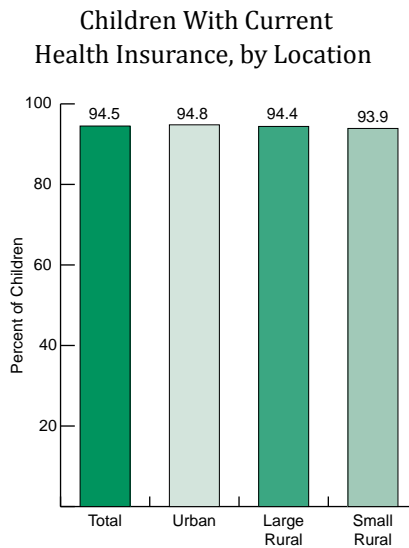




Current Health Insurance

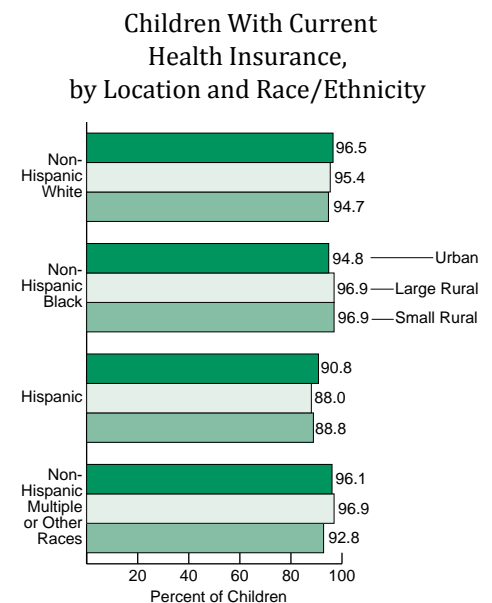
Parents were asked if their child currently had any kind of health insurance, including private/employment-based insurance or government plans such as Medicaid or CHIP. Overall, 94.5 percent of children had health insurance coverage at the time of the survey: 57.4 percent had private health insurance coverage, 37.1 percent had public coverage, and 5.6 percent were uninsured (data not shown). The percentage of children with some type of insurance did not vary significantly by location; however, the types of insurance reported did vary. Children in rural areas were more likely than urban children to have insurance through public or government programs: approximately 45 percent of children in both large and small rural areas had public insurance, compared to 34.9 percent of urban children. Children in urban areas were most likely to have private insurance (59.8 percent), followed by those in large rural areas (50.1 percent), while children in small rural areas were least likely to have private insurance (47.0 percent).

In urban and large rural areas, children with the lowest household incomes were the less likely to have health insurance than their peers in the highest income categories. For instance, 95.3 percent of children in large rural areas with household incomes below 100 percent of the Federal Poverty Level (FPL) had current health insurance, compared to



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

98.2 percent of those with household incomes of 400 percent or more of the FPL. Among children with incomes below 100 percent of the FPL, children in small and large rural areas were significantly more likely to have health insurance than those in urban areas (94.7 and 95.3 versus 91.2 percent, respectively).



Regardless of location, Hispanic children were significantly less likely than non-Hispanic White and non-Hispanic Black children to have current health insurance. Generally, the percentage of children with insurance in each racial and ethnic group did not vary by location.

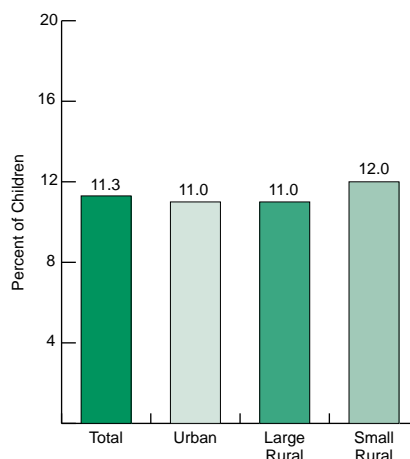


Insurance Coverage Continuity

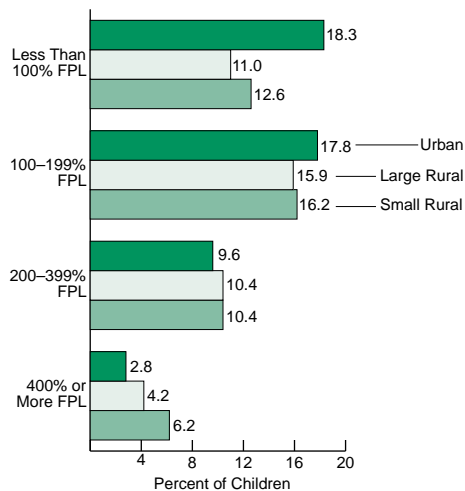
Although most children have health insurance, many experience a time when they are not covered over the course of a year. Overall, 11.3 percent of children had a gap in coverage in the previous year or were uninsured at the time of the survey. This percentage did not vary significantly by location.

Children with household incomes below 200 percent of the Federal Poverty Level (FPL) were generally more likely than children in higher-income households to experience a gap in their insurance coverage over the course of a year regardless of location. Among low-income children, whose household income was below 100 percent of the FPL urban children were more likely to have a coverage gap than those in small and large rural areas (18.3 versus 12.6 and 11.0 percent, respectively). Among children with household incomes of 400 percent or more of the FPL those living in small rural areas were significantly more likely than their urban peers to have a gap in coverage (6.2 versus 2.8 percent, respectively).

Children Lacking Continuous Coverage in the Previous Year, by Location



Children Lacking Continuous Coverage in the Previous Year, by Location and Poverty Level*



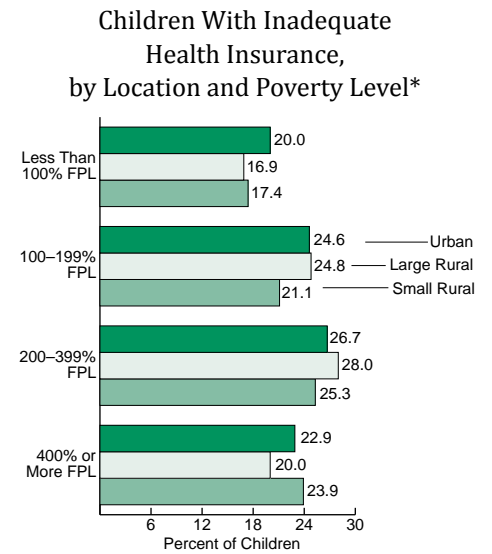
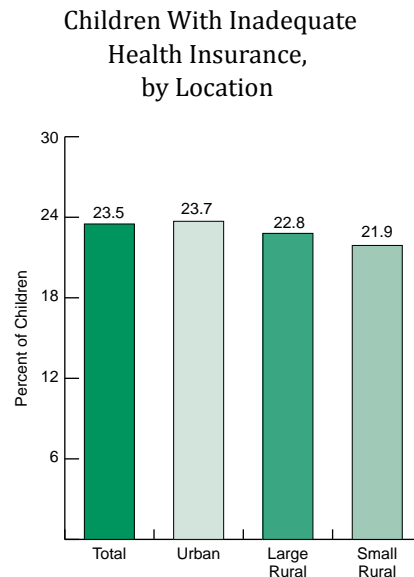
*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.



Adequacy of Health Insurance

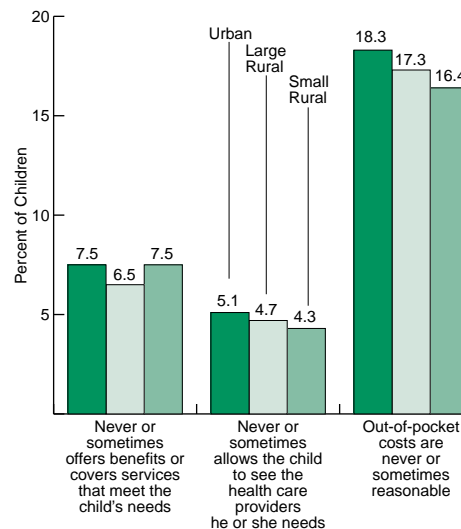
While most children had health insurance coverage at the time of the survey, insurance coverage may not always be adequate to meet their needs. Parents whose children were currently insured were asked three questions regarding the services and costs associated with their child's health insurance: whether the out-of-pocket costs were reasonable, whether the plan offered benefits or covered services that meet their child's needs, and whether the plan allowed them to see the health care providers they needed. Children were considered to have inadequate health insurance coverage if their parents did not answer "usually" or "always" to all three questions. Overall, 23.5 percent of children who were currently insured had inadequate insurance; this percentage varied slightly by location with children in small rural areas less likely to have inadequate insurance compared to their urban peers (21.9 versus 23.7 percent, respectively).

The percentage of children whose insurance was inadequate was highest among children with household incomes above 100 percent of the Federal Poverty Level (FPL). Approximately one-quarter of insured children in households with incomes of 100–399 percent of the FPL in urban and large rural areas had inadequate insurance, compared to one-fifth or fewer children with household incomes below 100 percent of pov-



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

Children with Inadequate Health Insurance, by Location and Adequacy Criteria



erty. With regard to location, rates of inadequate insurance did not differ significantly for children in each income category.

With regard to the three specific criteria for insurance adequacy, parents most often reported that out-of-pocket costs were never or sometimes reasonable (18.0 percent; data not shown). This percentage was slightly

higher in urban areas (18.3 percent) than small rural areas (16.4 percent). The parents of a smaller percentage of children reported that their child's insurance never or sometimes covered the services their child needed (7.5 percent) or allowed their child to see the providers they needed (5.1 percent; data not shown). These rates did not vary by location.



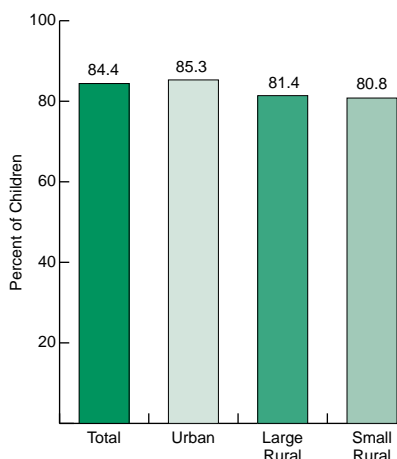
Preventive Medical Care Visits

The Bright Futures guidelines for health supervision of infants, children, and adolescents recommend that children visit a physician six times during the first year, three times in the second year, and annually thereafter for preventive health care visits.¹ An annual preventive health care visit provides an opportunity to monitor a child's growth and development, assess his or her behavior, provide appropriate immunizations, discuss important issues regarding nutrition and prevention of injury and violence, and answer parents' questions about their children's health and care.

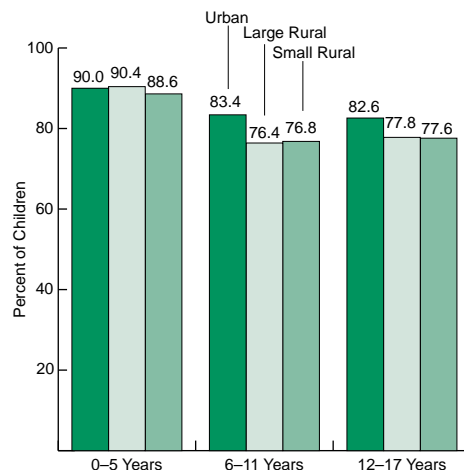
Overall, 84.4 percent of children received a preventive medical care visit in the past year. This percentage was significantly higher in urban areas (85.3 percent) than in both large and small rural areas (81.4 and 80.8 percent, respectively).

Urban children aged 6–11 and 12–17 years were more likely to have received a preventive medical visit in the past year compared to their peers in both large and small rural areas. Among children aged 6–11 years, 83.4 percent of urban children had a visit in the past 12 months, compared to less than 77 percent of those in rural areas. Among adolescents, 82.6 percent of those in urban areas had a preventive visit in the past 12 months, compared to approximately 78 percent of 12- to 17-year-olds in rural areas. Among children aged 0–5 years, the percent-

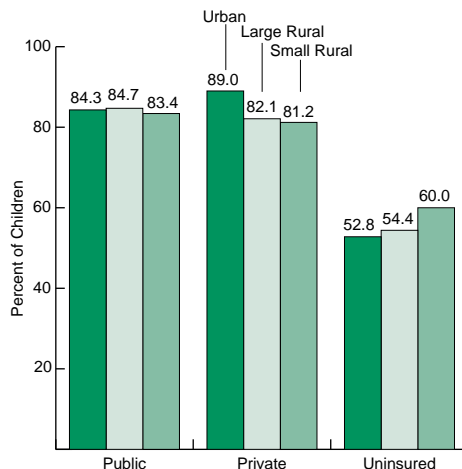
Children Receiving a Preventive Medical Care Visit in the Previous Year, by Location



Children Receiving a Preventive Medical Care Visit in the Previous Year, by Location and Age



Children Receiving a Preventive Medical Care Visit in the Previous Year, by Location and Insurance Type



age with at least one preventive visit in the past year did not vary significantly by location.

In all locations, uninsured children were considerably less likely than those with insurance to receive a preventive medical visit in the previous year, and rates among the uninsured did not vary by location. Among children with private health

insurance, those in urban areas (89.0 percent) were more likely to receive a preventive visit than their large rural and small rural peers (82.1 and 81.2 percent, respectively).

¹ Hagan JF, Shaw JS, Duncan PM, eds. *Bright Futures: guidelines for health supervision of infants, children, and adolescents*, 3rd ed. Elk Grove Village, IL: American Academy of Pediatrics; 2008.



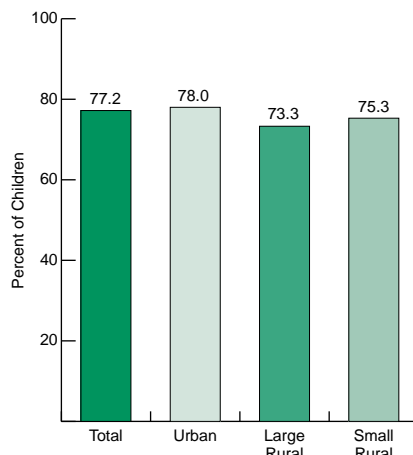
Preventive Dental Care Visits

In addition to an annual preventive medical care visit, it is recommended that children see a dentist every beginning as soon as their first tooth erupts, or by age 1 at the latest.¹ The majority of children aged 1–17 years (77.2 percent) received at least one preventive dental visit in the past year. Children in urban areas were significantly more likely to have received a preventive dental visit in the past year (78.0 percent) than children in rural areas (73.3 percent of children in large rural areas and 75.3 percent of those in small rural areas).

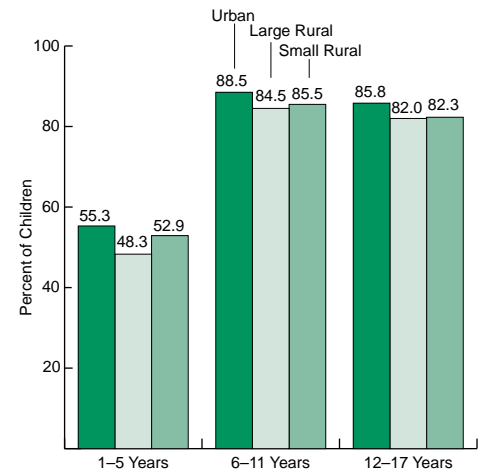
In all locations, children aged 1–5 years were less likely than older children to have had a preventive dental visit in the past 12 months, with only about half doing so. Among children aged 6–11, rural children were less likely to have had a preventive visit than those in urban areas: 88.5 percent of urban children in this age group had a dental checkup, compared to 84.5 percent of children in large rural areas and 85.5 percent of those in small rural areas. The same pattern was evident for adolescents: 85.8 percent of children aged 12–17 years in urban areas had a dental visit, compared to 82.0 percent of those in large rural areas and 82.3 percent of those in small rural areas.

In all locations, less than half of children without general health insurance had a preventive dental visit, although this percentage did not vary

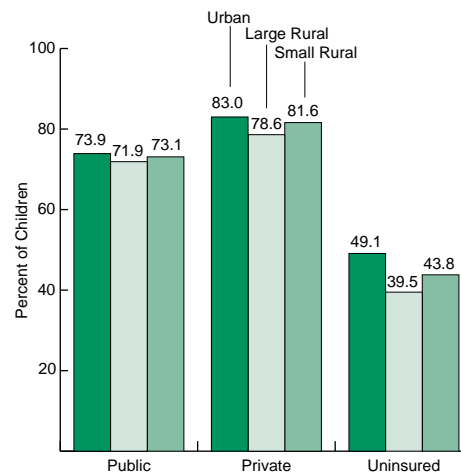
Children Aged 1–17 Receiving a Preventive Dental Visit in the Previous Year, by Location



Children Aged 1–17 Receiving a Preventive Dental Visit in the Previous Year, by Location and Age



Children Aged 1–17 Receiving a Preventive Dental Visit in the Previous Year, by Location and Health Insurance Type*



*Refers to general medical health insurance; public and private health insurance may not cover dental benefits.

significantly across locations. Children with private insurance were the most likely to have had a dental checkup in all locations, and those in urban areas were slightly more likely to have had a dental visit than those in large rural areas (83.0 and 78.6 percent, respectively).

1 American Academy of Pediatric Dentistry. Guideline on Periodicity of Examination, Preventive Dental Services, Anticipatory Guidance/Counseling, and Oral Treatment for Infants, Children, and Adolescents. Chicago, IL: AAPD; 2013.



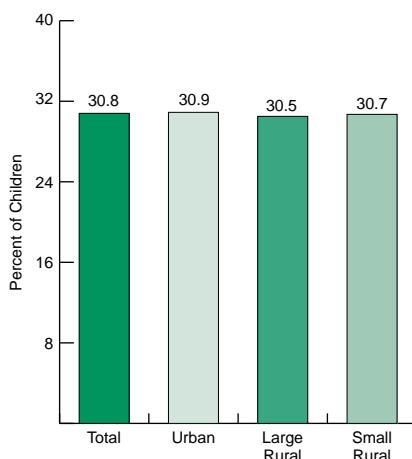
Developmental Screening

Assessing children's development is one of the most important and valuable aspects of well-child care. Both the American Academy of Pediatrics and Bright Futures guidelines call for routine screening by pediatric health care providers for developmental and behavioral problems and delays using standardized developmental screening tools.^{1,2} Parents were asked a series of questions to assess whether children received basic developmental assessments and to measure whether a parent completed a developmental and behavioral screening tool. Specifically, parents were asked: (1) whether the child's doctors or other health care providers asked the parent if he/she had concerns about the child's learning, development or behavior; and (2) whether parents filled out a questionnaire about specific concerns and observations they had about their child's development, communication or social behavior. These items were based on the Promoting Healthy Development Survey.³

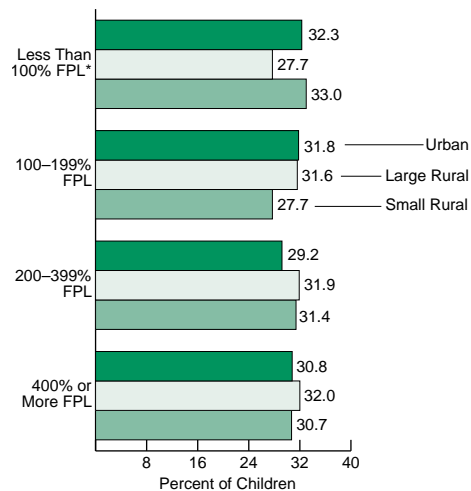
Parents of about 30 percent of children aged 10 months–5 years reported that their children had received both components of the standard developmental screen. This percentage did not vary by location.

The proportion of young children who received a standard developmental screen did not vary significantly across income groups or insurance types.

Children Aged 10 Months–5 Years Receiving a Standard Developmental Screening, by Location

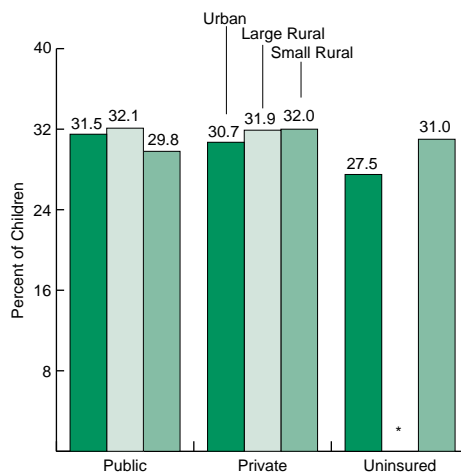


Children Aged 10 Months–5 Years Receiving a Standard Developmental Screening, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

Children Aged 10 Months–5 Years Receiving a Standard Developmental Screening, by Location and Insurance Type



*Estimate does not meet standards of precision or reliability; based on fewer than 20 cases or relative standard error > 30%.

- Hagan JF, Shaw JS, Duncan PM, eds. *Bright Futures: guidelines for health supervision of infants, children, and adolescents*, 3rd ed. Elk Grove Village, IL: American Academy of Pediatrics; 2008.
- American Academy of Pediatrics. Statement on identifying infants and young children with developmental disorders in the medical home. In: Hagan JF, Shaw JS, Duncan PM, eds. *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents*, 3rd ed. Elk Grove Village, IL: American Academy of Pediatrics; 2008.
- Bethell C, Reuland C, Schor E. Assessing health system provision of well-child care: the Promoting Healthy Development Survey. *Pediatrics*. 2001;107(5):1084–1094.



Mental Health Care

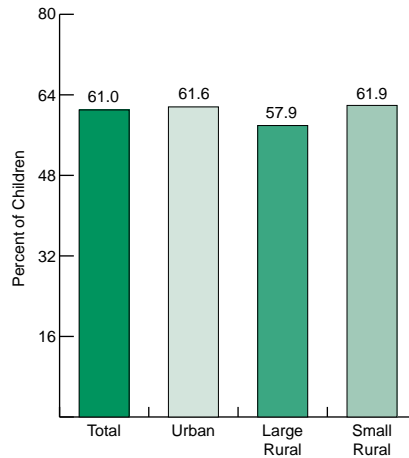
Mental health services, including counseling, medications, or specialized therapies, may be beneficial for children with behavioral or emotional problems. However, these services may not be readily available to all children who need them.

Among children aged 2–17 years who had an ongoing emotional, developmental, or behavioral problem that required treatment or counseling, 61.0 percent received mental health care or counseling in the past year. This percentage did not vary significantly across locations.

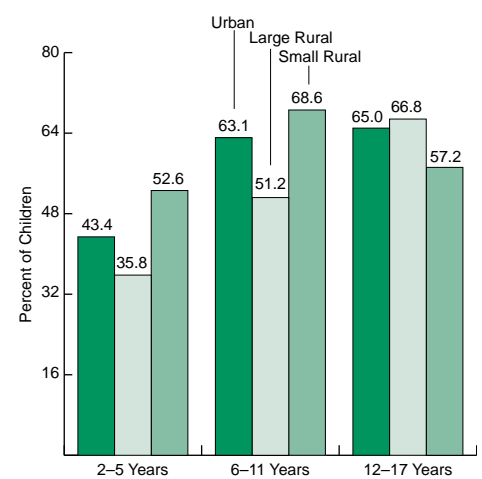
Receipt of services varied differentially with age groups across locations. In urban areas, children aged 6–11 and 12–17 years were more likely than younger children to receive needed mental health services, while children in large rural areas aged 12–17 years were more likely than both of the younger age groups to have done so. In small rural areas, however, children aged 6–11 years were more likely than both younger and older children to have received mental health services: 68.6 percent of 6- to 11-year-olds versus 52.6 and 57.2 percent of those aged 2–5 and 12–17 years, respectively.

Among children aged 2–5 years, those in large rural areas (35.8 percent) were significantly less likely than children in small rural (52.6 percent) and urban areas (43.4 percent) to have received needed mental health services in the previous year. The pro-

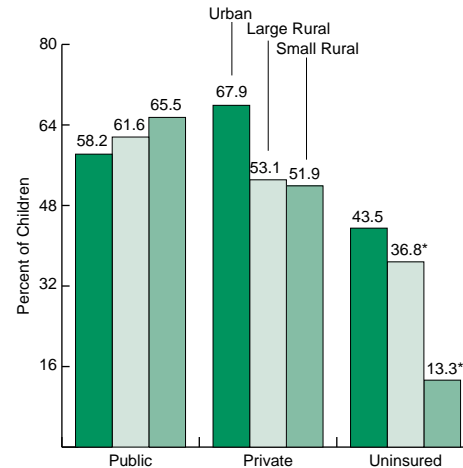
Children Aged 2–17 With Emotional, Behavioral, or Developmental Problems Receiving Mental Health Services in the Previous Year, by Location



Children Aged 2–17 With Emotional, Behavioral, or Developmental Problems Receiving Mental Health Services in the Previous Year, by Location and Age



Children Aged 2–17 With Emotional, Behavioral, or Developmental Problems Receiving Mental Health Services in the Previous Year, by Location and Insurance Type



*Estimate does not meet standards of precision or reliability; based on fewer than 20 cases or relative standard error > 30%.

portions of older children receiving services did not vary by location.

In urban areas, uninsured children and those with public insurance were far less likely than those with private insurance to receive the mental health

services they needed (43.5 and 58.2 versus 67.9 percent, respectively). There were no significant differences in the receipt of mental health services among publicly and privately insured children in rural areas.



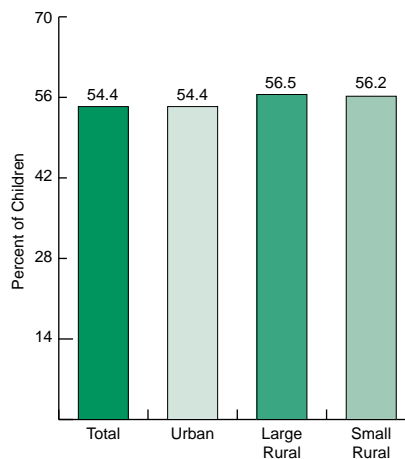
Medical Home

A number of characteristics of high-quality health care for children can be combined into the concept of the medical home. As defined by the American Academy of Pediatrics, children's medical care should be accessible, family-centered, continuous, comprehensive, coordinated, compassionate, and culturally effective. A child's health care was considered to meet this standard if:

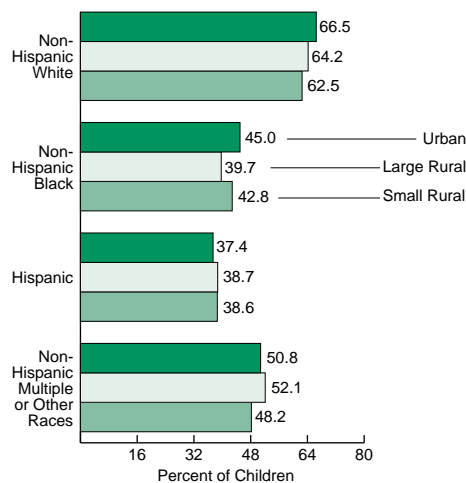
- The child has at least one personal doctor or nurse who knows him or her well and a usual source of sick care
- The child has no problems gaining referrals to specialty care and access to therapies or other services or equipment
- The family is very satisfied with the level of communication among their child's doctors and other programs
- The family usually or always gets sufficient help coordinating care when needed and receives effective care coordination
- The child's doctors usually or always spend enough time with the family, listen carefully to their concerns, were sensitive to their values and customs, provide any information they need, and make the family feel like a partner in their child's care.

A child is defined as having a medical home if his or her care was reported to meet all of these criteria.

Children With a Medical Home, by Location



Children With a Medical Home, by Location and Race/Ethnicity



Overall, the care of 54.4 percent of children met this standard, and this percentage did not vary across urban and rural locations.

The proportion of children in each racial and ethnic group with a medical home did not vary significantly across

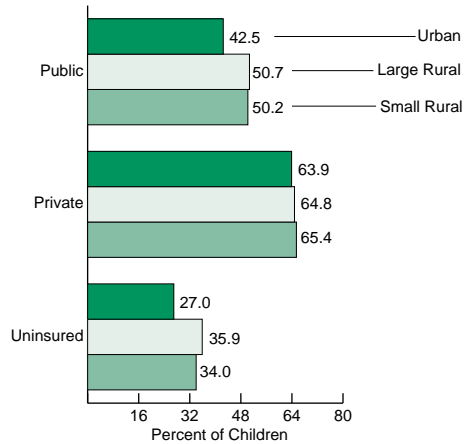
locations. However, within each location, differences between groups were evident: non-Hispanic Black, Hispanic, and children of multiple or other races in all locations were significantly less likely than non-Hispanic White children to have received care from a medical home.



Medical Home (continued)

In all locations, uninsured children were least likely to receive care from a medical home, followed by those with public insurance, while children with private insurance were most likely to have a medical home. Among those with public insurance, urban children were less likely than children in rural areas to have a medical home (42.5 percent compared to more than 50 percent). The percentage of privately insured children who had a medical home did not vary significantly by location.

Children With a Medical Home, by Location and Insurance Type



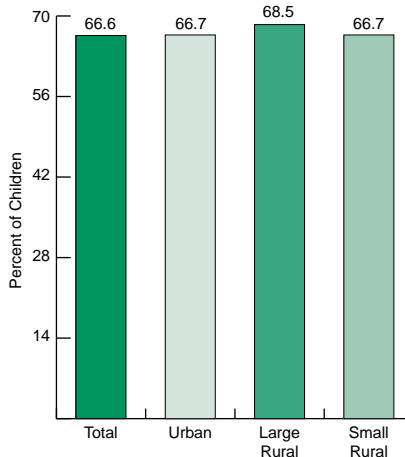


Medical Home: Family-Centered Care

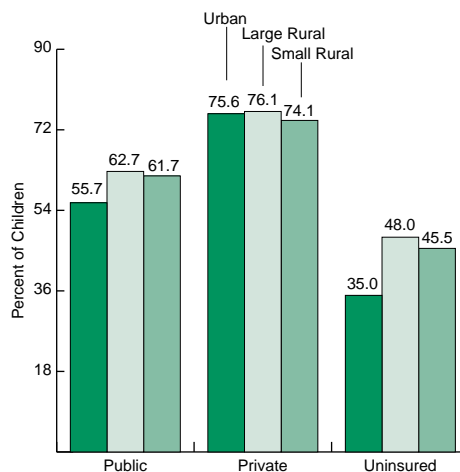
One important aspect of the medical home is whether or not children receive care that is “family-centered;” that is, whether parents report that their children’s doctors usually or always spend enough time with them, listen carefully to their concerns, are sensitive to their values and customs, provide needed information, and make the family feel like a partner in their child’s care. Together, these measures of family-centered care provide an important picture of how comfortable families feel with their children’s medical care. Overall, of the children who had at least one medical visit in the past year, two-thirds (66.6 percent) were reported to have received care that was family centered. This proportion did not vary significantly by location.

In all locations, uninsured children were least likely to receive family-centered care, followed by those with public insurance. Children with private insurance were most likely to receive family-centered care. Among uninsured children, those in urban areas were least likely to receive family-centered care: 35.0 percent of urban children did so, compared to more than 45 percent of those in both large and small rural areas. Similarly, among children with public insurance, those in urban areas were less likely to receive family-centered care than their rural peers (55.7 versus approximately 62 percent, respectively).

Children Receiving Family-Centered Care, by Location



Children Receiving Family-Centered Care, by Location and Insurance Type



On most of the individual questions that make up the family-centered care measure, the parents of more than 80

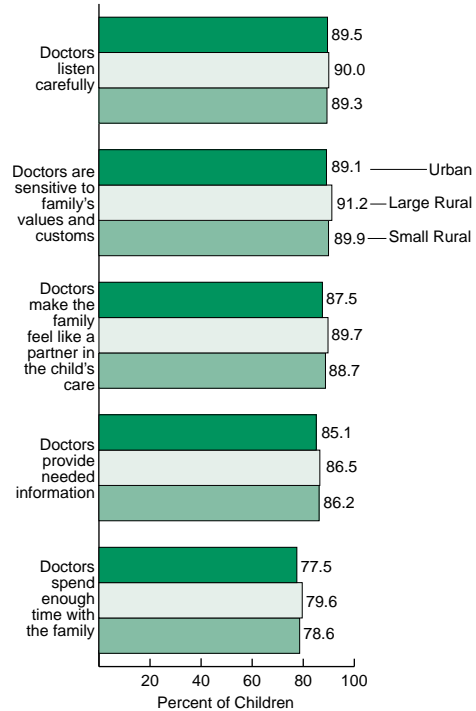
percent of children reported that their child’s provider usually or always met the standard. The only exception was



Family-Centered Care (continued)

whether the provider spent enough time with the family, a criterion that was met for 77.5 percent of urban children, 78.6 percent of children in small rural areas, and 79.6 percent of children in large rural areas. Responses to the individual questions generally did not vary significantly by location, except that children in large rural areas were slightly more likely than their urban peers to have doctors that are sensitive to their values and customs, who make the family feel like a partner in their care, and who spend enough time with the family.

Children Who Usually or Always Receive Each Component of Family-Centered Care, by Location





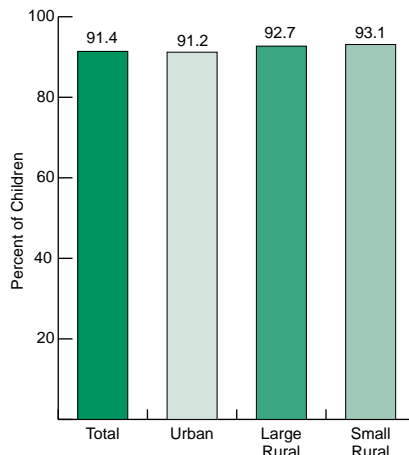
Medical Home: Access and Care Coordination

Another important component of the medical home is children's access to primary and preventive care, consistent care when they are sick, access to referrals when they are needed, and support to help ensure that the various services they receive are coordinated.

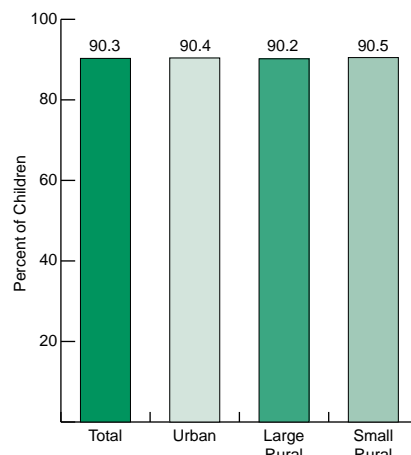
Each of the access and care coordination criteria were met for the vast majority of children. Overall, 91.4 percent of children were reported to have a regular source of sick care, 90.3 percent had a personal doctor or nurse, and 79.2 percent had no problems obtaining referrals when needed. Children were less likely to receive effective care coordination services when needed, which was reported for 66.1 percent of children.

With regard to location, children in urban areas were significantly less likely to receive effective care coordination services when needed compared to those in rural areas (65.4 versus more than 69 percent in rural areas). Urban children were also slightly less likely to have a regular source of sick care than those in rural areas (91.2 versus about 93 percent, respectively). The proportions of children with a personal doctor or nurse and who have no problems obtaining needed referrals did not differ by location.

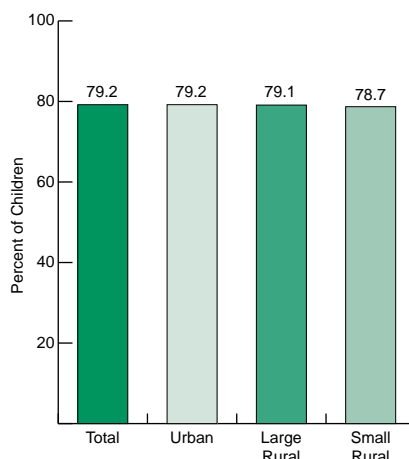
Children Who Usually or Always Have a Regular Source of Sick Care, by Location



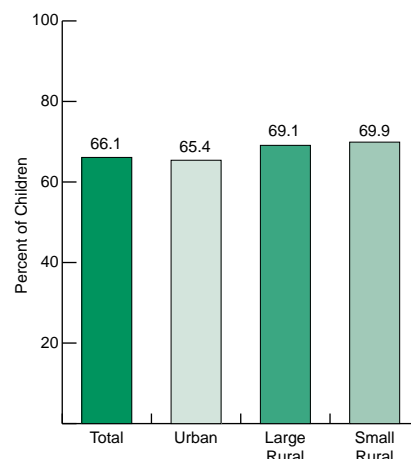
Children Who Have a Personal Doctor or Nurse, by Location



Children Who Have No Problems Obtaining Needed Referrals, by Location



Children Who Receive Effective Care Coordination Services When Needed, by Location





Playing with Children of the Same Age

Children learn and develop social skills and behaviors through interactions with other children their own age. Parents of 1- to 5-year-olds were asked to report on how many days in the previous week their child played with other children their own age. Overall, 30.0 percent of young children played with others of the same age every day in the previous week, 61.4 percent did so on 1-6 days, and 8.6 percent had not played with others of the same age on any day in the previous week. Children in urban and small rural areas were slightly more likely to play with their peers every day than those in large rural areas, while children in both small and large rural areas were more likely than those in urban areas to have not played with others.

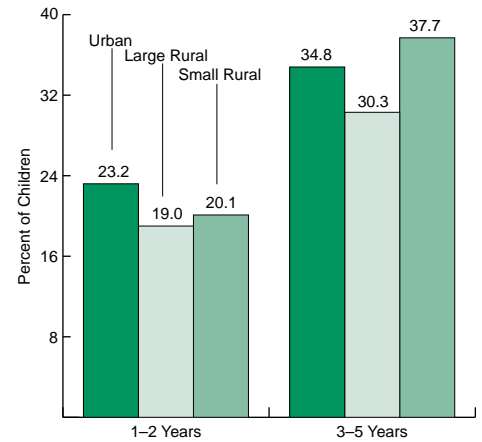
In all locations, children aged 3–5 years were more likely than younger children to play with their peers every day; approximately one-third did so, compared to less than one-quarter of children aged 1–2 years. Among 3- to 5-year-olds, the proportion playing with their peers every day differed for children in rural areas: 37.7 percent of children in small rural areas did so, compared to 30.3 percent of those in large rural areas.

Within each racial and ethnic group, the percentage of children who played with their peers every day did not vary significantly by location, except that Hispanic children in urban

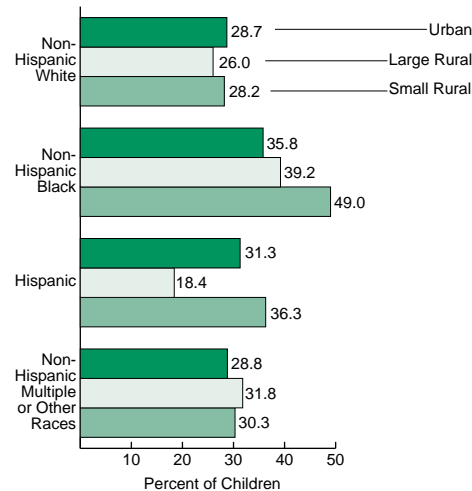
Children Aged 1–5 Who Play With Others Their Own Age, by Location



Children Aged 1–5 Who Play With Others Their Own Age Every Day, by Location and Age



Children Aged 1–5 Who Play With Others Their Own Age Every Day, by Location and Race/Ethnicity



and small rural areas were more likely to do so than those in large rural areas (31.3 and 36.3 compared to 18.4 percent, respectively). Within large rural areas, non-Hispanic Black and non-Hispanic children of multiple or other

racess (39.2 and 31.8 percent, respectively) were more likely than Hispanic children (18.4 percent) to play every day with others their own age.



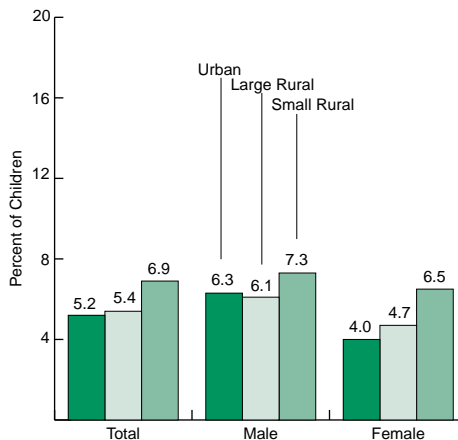
Early Intervention and Special Education

The Individuals with Disabilities Education Act (IDEA) provides for early intervention services for young children (from birth until age 3) and special education services for older children (ages 3 and older) to minimize the effects of developmental delays and learning disabilities that could otherwise limit children's developmental and educational prospects. Early intervention can include physical, occupational, speech, and other therapies and services for young children and their families, and special education programs provide therapies and educational services. Overall, 5.3 percent of children aged 1-5 years and 11.3 percent of children aged 6-17 years received services under IDEA (data not shown). These percentages did not vary significantly by location.

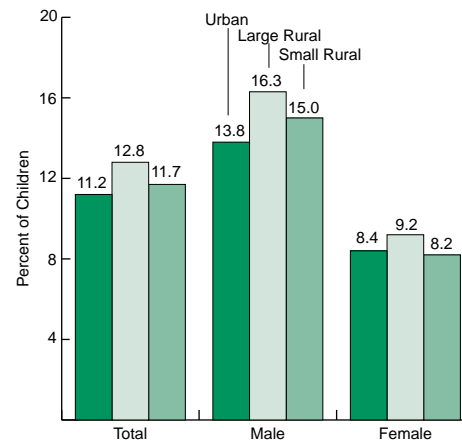
Among children aged 6-17 years in all locations, boys were more likely to receive special education services than girls. Males in urban areas were slightly more likely than girls to have received early intervention services, though there were no differences in the proportion of males and females receiving early intervention in rural areas. Receipt of early intervention and special education services did not vary across locations for older or younger children.

For younger children, receipt of early intervention and special education services did not vary with household income overall or by location. For older

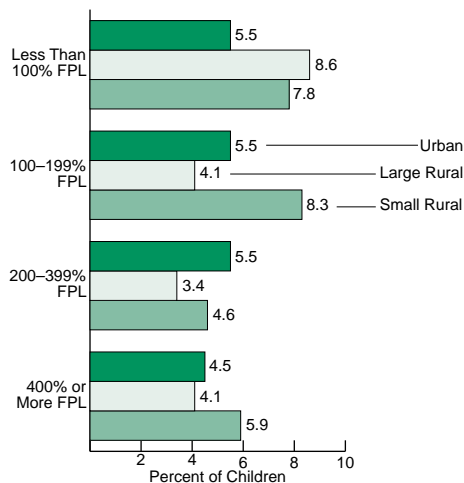
Children Aged 1-5 Receiving Early Intervention and Special Education Services, by Location and Sex



Children Aged 6-17 Receiving Special Education Services, by Location and Sex

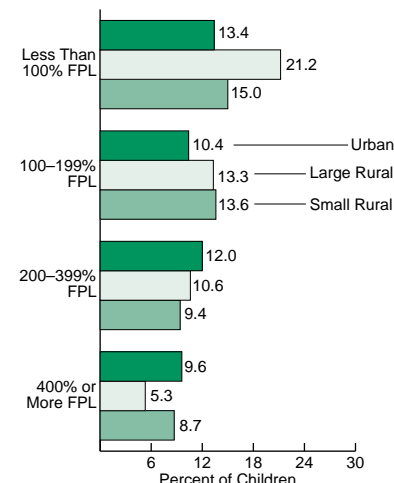


Children Aged 1-5 Receiving Early Intervention and Special Education Services, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

Children Aged 6-17 Receiving Special Education Services, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

children, however, there were some notable differences in the proportion of children receiving special education services by household income and location. Among children living in households with incomes below the Federal Poverty Level (FPL), those in urban and small rural areas were significantly less likely to receive services than children in large rural areas (13.4 and 15.0 versus 21.2 percent, respectively). The reverse was true, how-

ever, for children in households with incomes of 400 percent or more of the FPL: 9.6 percent of urban children and 8.7 percent of children in small rural areas received special education services compared to only 5.3 percent of those in large rural areas. Within each location, children with household incomes below 100 percent of the FPL were generally more likely to receive special education services than children in higher income categories.



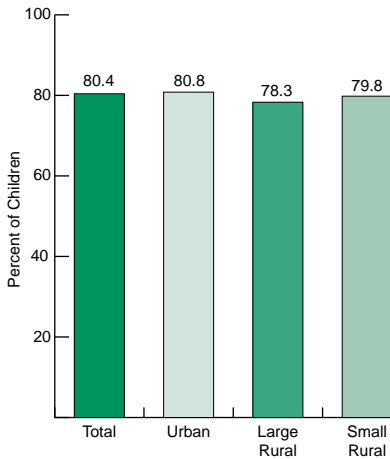
School Engagement

Parents of school-aged children (aged 6–17 years) were asked two questions to assess their child's engagement in school: whether the child cares about doing well in school and whether the child does all required homework. Children were considered to be engaged in school if their parent responded "usually" or "always" to both of these items. Overall, 80.4 percent of children aged 6–17 years were engaged in school. Children in urban areas were only slightly more likely than those in large rural areas to be engaged in school (80.8 versus 78.3, respectively).

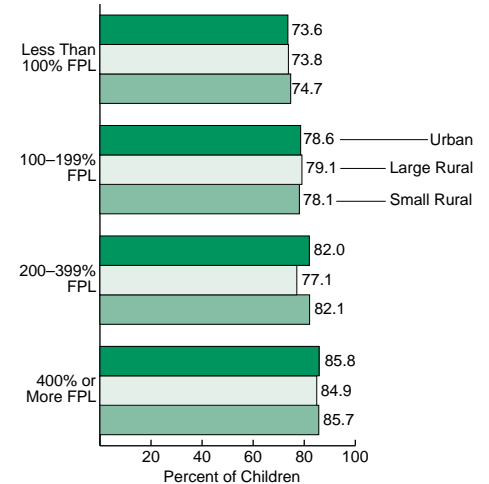
In all locations, children in the highest income categories were most likely to be adequately engaged in school than those with lower household incomes. For example, among large rural children, the percentage who were engaged in school ranges from 73.8 percent of those with household incomes below the Federal Poverty Level (FPL) to 84.9 percent of those with household incomes of 400 percent or more of the FPL. Within each income group, however, the rate of school engagement was similar across locations.

With regard to racial and ethnic groups, there were few differences in the percentage of children engaged in school across locations. The one exception was among non-Hispanic White children: those in urban areas were significantly more likely than

Children Aged 6–17 Engaged in School, by Location

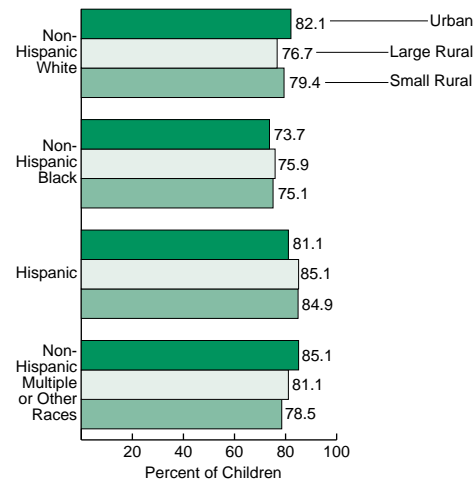


Children Aged 6–17 Engaged in School, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

Children Aged 6–17 Engaged in School, by Location and Race/Ethnicity



children in rural areas to be engaged in school. Within each location there were some differences across racial and ethnic groups. For instance, in both large and small rural areas non-Hispanic White and non-Hispanic

Black children were less likely than Hispanic children to be engaged in school. In urban areas, non-Hispanic Black children were less likely than all other racial and ethnic groups to be engaged in school.



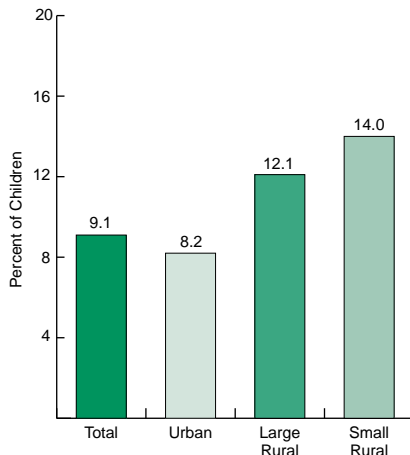
Repeating a Grade

Parents of school-aged children (aged 6-17 years) were asked if their children had repeated one or more grades since starting school. Overall, 9.1 percent of children aged 6-17 years had repeated a grade. Repeating a grade was more common in rural areas, with 12.1 percent of school-aged children in large rural areas and 14.0 percent in small rural areas repeating a grade, compared to 8.2 percent of urban children.

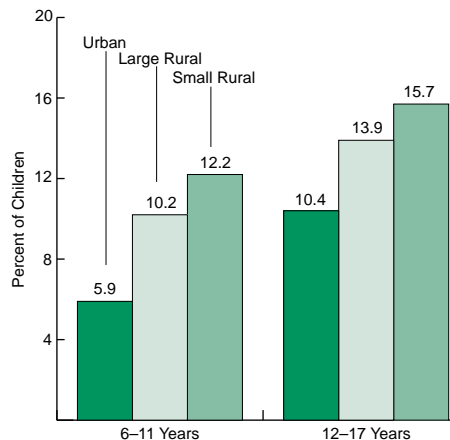
Generally, older children were more likely to have repeated a grade because they have had more opportunities to do so, and this was true for both urban and large rural areas. Within each age group, the percentage of children who had repeated a grade was significantly higher in rural than urban areas. Among children aged 12-17 years, for example, 15.7 percent of those in small rural areas and 13.9 percent of those in large rural areas had repeated a grade, compared to 10.4 percent of urban children.

In all locations, boys were more likely than girls to have repeated a grade. Again, for both sexes, the percentage of children who had repeated a grade was highest in small and large rural areas and significantly lower in urban areas.

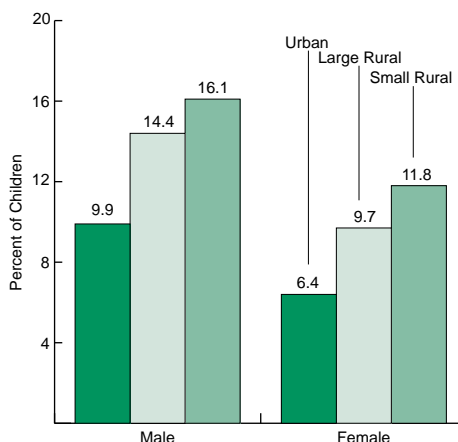
Children Aged 6-17
Who Have Repeated a Grade,
by Location



Children Aged 6-17
Who Have Repeated a Grade,
by Location and Age



Children Aged 6-17
Who Have Repeated a Grade,
by Location and Sex



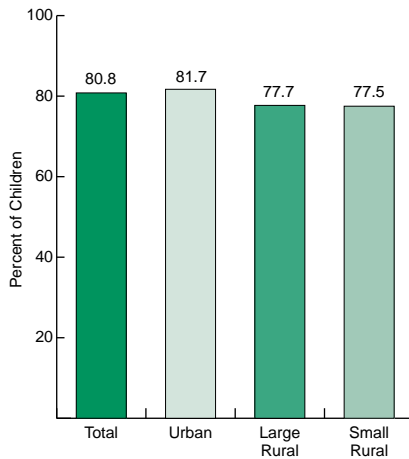


Activities Outside of School

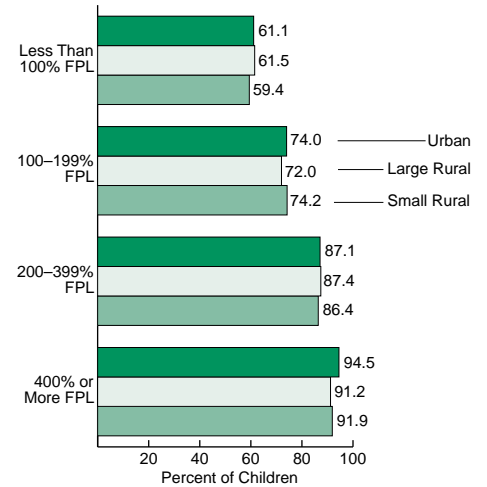
For school-aged children, participation in organized activities—such as sports teams, lessons, Scouts, religious groups, or Boys’ or Girls’ Clubs—after school or on the weekends can be an important part of overall development, provide enrichment, and contribute to the development of social skills. Parents of children aged 6–17 years were asked whether their children had participated in any of these types of activities in the previous year. Overall, 80.8 percent of school-aged children participated in at least one organized activity outside of school. This percentage was slightly higher in urban areas (81.7 percent) than in large or small rural areas (77.7 and 77.5 percent, respectively).

In all locations, children in lower-income households were significantly less likely than those in higher-income households to participate in organized activities outside of school. For instance, among children in small rural areas, 59.4 percent of children with household incomes below 100 percent of the Federal Poverty Level (FPL) participated in activities outside of school, as did 74.2 percent of those with incomes of 100–199 percent of the FPL, and 91.9 percent of those with incomes of 400 percent or more of the FPL. In general, the percentage of children who participate in activities does not vary significantly across locations, except that urban children with household incomes of 400 per-

Children Aged 6–17
Who Participate in Activities Outside of School, by Location

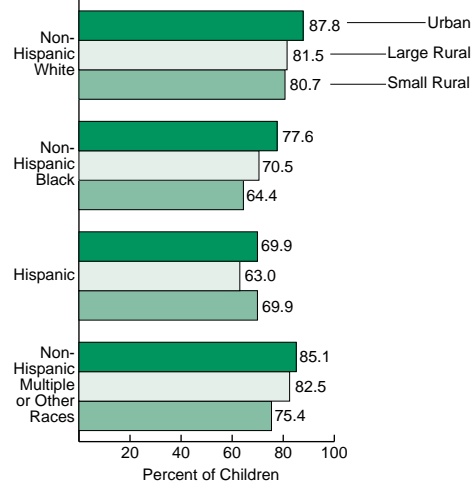


Children Aged 6–17
Who Participate in Activities Outside of School, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

Children Aged 6–17
Who Participate in Activities Outside of School, by Location and Race/Ethnicity



cent or more of the FPL (94.5 percent) were more likely to do so than their peers in large or small rural areas (91.2 and 91.9 percent, respectively).

In all locations, non-Hispanic Black and Hispanic children were less likely to participate in activities outside of

school than non-Hispanic White children. Among non-Hispanic children of each race, those in small rural areas were significantly less likely to participate in activities than their peers in urban areas.



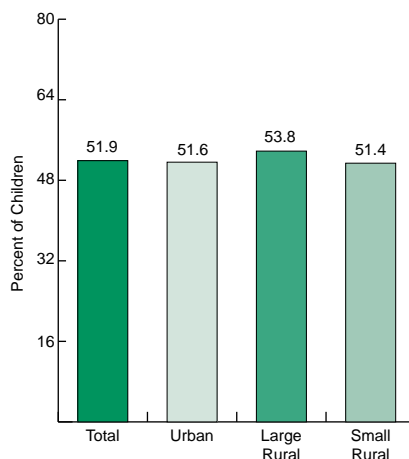
Screen Time

The *Bright Futures* guidelines for infants, children, and adolescents recommend that parents limit children's screen time to 1-2 hours per day for children aged 1-5 years. Parents of children aged 1-17 years were asked how many hours children spent watching TV or videos on weekdays. Overall, more than half of children watched TV or videos for more than 1 hour per weekday; this percentage did not vary by location.

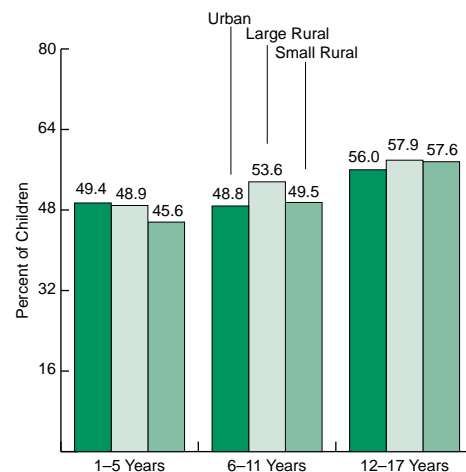
Older children were more likely than younger children to watch TV or videos for more than 1 hour per weekday. In general, the percentage of children within each age group who had more than an hour of screen time per day did not vary by location, except among children aged 6-11 years. In that age group, those in large rural areas were more likely than those in urban areas to have more than an hour of screen time per day (53.6 versus 48.8 percent, respectively).

In general, children with higher household incomes were less likely to watch more than an hour of TV or videos a day. However, this difference was smallest in small rural areas, where the percentage of children with more than an hour of screen time a day ranged from 55.9 percent among children with household incomes below 100 percent of the Federal Poverty Level (FPL) to 46.7 percent among those with incomes of 400 percent or more of the FPL. In urban

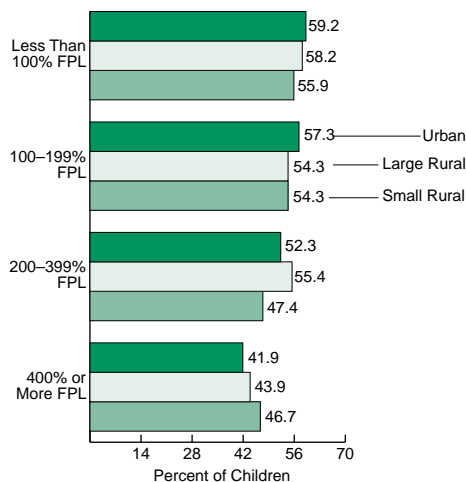
Children Aged 1-17 Who Watch More Than 1 Hour of TV or Videos per Weekday, by Location



Children Aged 1-17 Who Watch More Than 1 Hour of TV or Videos per Weekday, by Location and Age



Children Aged 1-17 Who Watch More Than 1 Hour of TV or Videos per Weekday, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

areas, by contrast, only 41.9 percent of children with household incomes of 400 percent or more of the FPL watched more than an hour of TV or videos a day, compared to 59.2 percent of those with household incomes

of less than 100 percent of the FPL. In general, within each income group, there were few significant differences by location in the percentage of children with more than an hour of screen time per day.



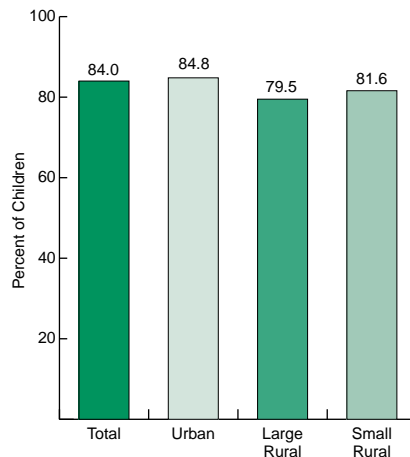
Reading for Pleasure

Parents of school-aged children (aged 6–17 years) were asked how much time their child spent reading for pleasure on an average school day. Overall, 84.0 percent of children in this age group read for pleasure for some amount of time. The percentage of children who read for pleasure was slightly higher in urban areas (84.8 percent) than in large and small rural areas (79.5 and 81.6 percent, respectively).

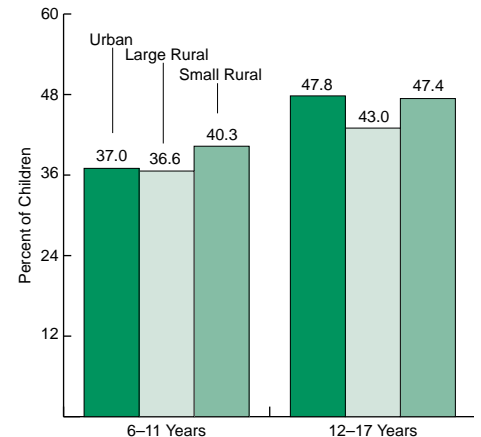
In all locations, older children (aged 12–17) were more likely to read for more than 30 minutes a day than younger children (aged 6–11). Among 12- to 17-year olds, those in urban areas were slightly more likely to read for pleasure for more than 30 minutes per day than those in large rural areas (47.8 versus 43.0 percent, respectively). There were no significant differences across locations among children aged 6–11 years.

Girls were also more likely to read for pleasure than boys in all locations. Approximately half of girls in all locations read for more than 30 minutes a day, compared to less than 36 percent of boys. Females in small rural areas were significantly more likely to read for more than 30 minutes a day compared to their large rural peers, however, no other differences were significant across locations.

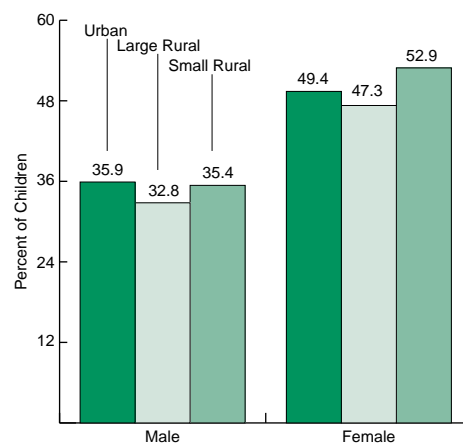
Children Aged 6–17 Who Read for Pleasure, by Location



Children Aged 6–17 Who Read for Pleasure for More Than 30 Minutes per Day, by Location and Age



Children Aged 6–17 Who Read for Pleasure for More Than 30 Minutes per Day, by Location and Sex

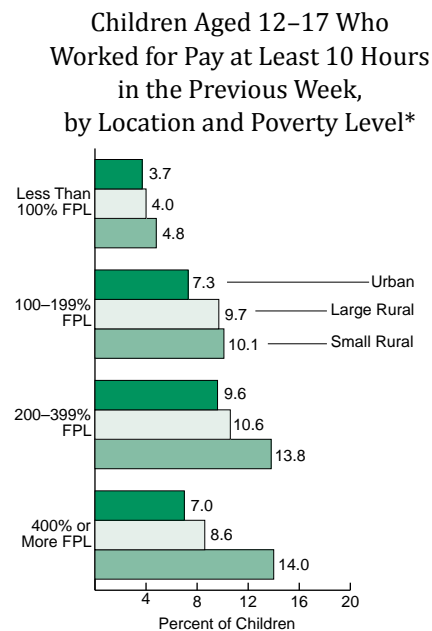
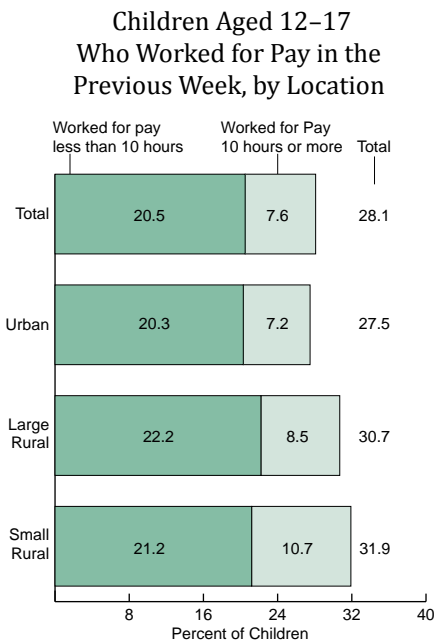




Working for Pay

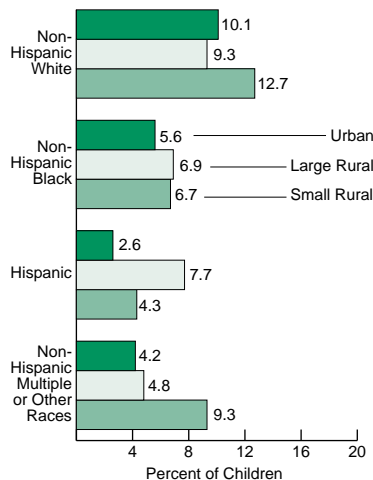
Parents of children aged 12 and older were asked whether their children worked outside the home for pay in the previous week and, if so, how many hours their children had worked for pay in the previous week. Overall, 28.1 percent of children aged 12-17 years had worked for pay in the previous week. Working for pay was more common among adolescents in small rural areas than in urban areas; 31.9 percent of those in small rural areas worked for pay, compared to 27.5 percent of urban adolescents.

The percentage of adolescents who worked at least 10 hours for pay in the previous week was lower among children in households with incomes below 100 percent of the Federal Poverty Level (FPL) compared to children from higher-income households. This difference was greatest in small rural areas where 14.0 percent of adolescents with household incomes of 400 percent or more of the FPL worked at least 10 hours compared to 4.8 percent of those with incomes below 100 percent of the FPL. Within each income category, the percentage of teens who worked for pay did not vary significantly across locations, except among adolescents with household incomes of 400 percent or more of the FPL. Among adolescents in this income category, those in small rural areas were significantly more likely to have worked for pay than those in urban and large rural areas (14.0 versus 7.0 and 8.6 percent, respectively).



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

Children Aged 12-17 Who Worked for Pay at Least 10 Hours in the Previous Week, by Location and Race/Ethnicity



With regard to race and ethnicity, the proportion of non-Hispanic Black and non-Hispanic children of multiple or other races who worked at least 10 hours did not vary across locations. Hispanic youth in large rural areas, however, were more likely to work

than their peers in urban areas (7.7 versus 2.6 percent, respectively). Non-Hispanic White adolescents in small rural areas were significantly more likely than those in large rural and urban areas to have worked at least 10 hours for pay (12.7 versus 9.3 and 10.1 percent, respectively).



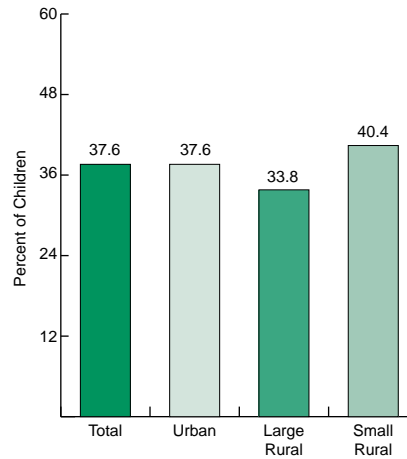
Volunteering

Parents of children aged 12–17 years were asked how often their children had participated in community service or volunteer activities during the previous year, including activities at school, church, and in the community. Among children in this age group, 78.7 percent volunteered a few times a year or more (data not shown) and 37.6 percent volunteered a few times a month or more. The percentage of children volunteering a few times a month or more did not vary greatly across locations.

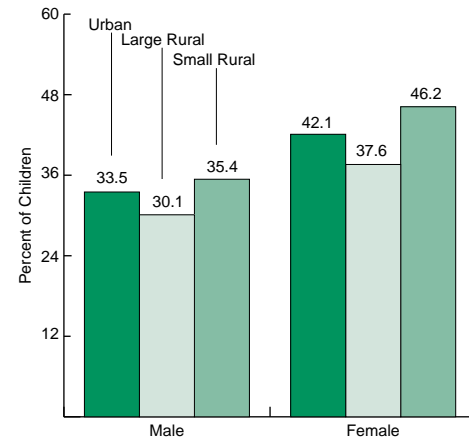
Adolescent girls were more likely than boys to volunteer a few times a month or more and this was true across all locations. The percentage of male and female adolescents who volunteered regularly did not vary greatly by location.

With regard to household income, the proportion of adolescents volunteering a few times a month or more did not vary across locations, though there were some differences within locations. Among youth in small rural areas, those with incomes 200 percent or more of the Federal Poverty Level (FPL) were more likely to volunteer than those in households with lower incomes. In urban areas, adolescents living in households with incomes of 400 percent or more of the FPL were more likely than those with incomes below 100 percent of the FPL. In large rural areas, the proportion of adolescents volunteering did not differ by household income categories.

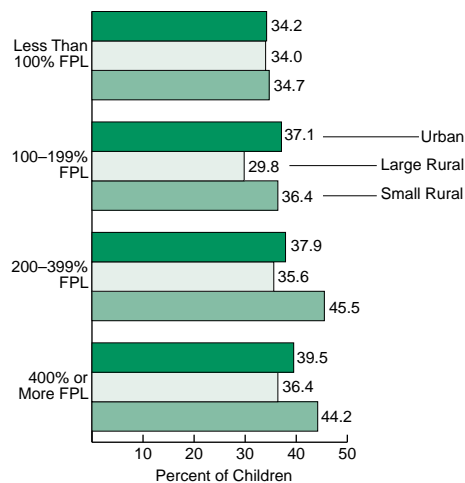
Volunteering at Least a Few Times a Month Among Children Aged 12–17, by Location



Volunteering at Least a Few Times a Month Among Children Aged 12–17, by Location and Sex



Volunteering at Least a Few Times a Month Among Children Aged 12–17, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.



The Child's Family

The family environment, which includes activities in and around the home as well as the parents' physical and emotional health, provides the backdrop and context for children's health and development. Therefore, the survey explored a number of aspects of the family, including shared activities (such as reading, singing, telling stories to young children and sharing meals) as well as risk factors (such as smoking in the household, parenting stress, and the health status of the child's parents). These indicators provide a picture of some factors that can influence a child's health and well-being.

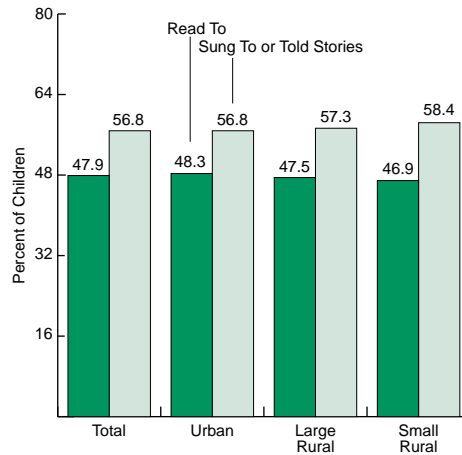


Reading, Singing, and Telling Stories to Young Children

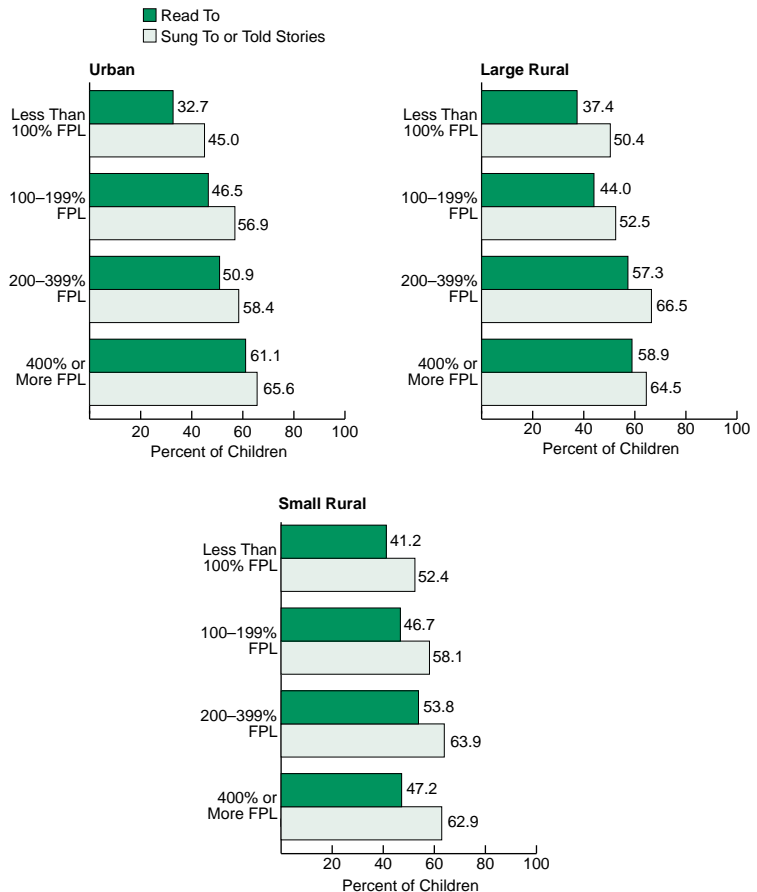
Reading, singing, and telling stories to young children regularly can lay the foundation for future literacy and educational success. Parents of children aged 0–5 were asked how often their children were read to during the past week. A total of 47.9 percent of children in this age group were read to (by a parent or other family member) every day. Parents were also asked how often they or other family members sang or told stories to their children in the past week. Overall, 56.8 percent of children aged 0–5 years were sung to or told stories every day. Neither of these percentages varied significantly across locations.

Children in low-income households were less likely to have a family member read to them every day. Among children in large rural areas, the parents of 37.4 percent of children with household incomes below the Federal Poverty Level (FPL) read to them every day, compared to 58.9 percent of children with household incomes of 400 percent or more of the FPL. The percentage of children whose parents sing or tell stories to them every day varied significantly by income within each location. In urban areas, for example, 45.0 percent of children with household incomes below the FPL were sung to or told stories every day, compared to 65.6 percent of those with incomes of 400 percent or more of the FPL.

Children Aged 0–5 Who Were Read to, Sung to, or Told Stories Every Day, by Location



Children Aged 0–5 Who Were Read to, Sung to, or Told Stories Every Day, by Location and Poverty Level*



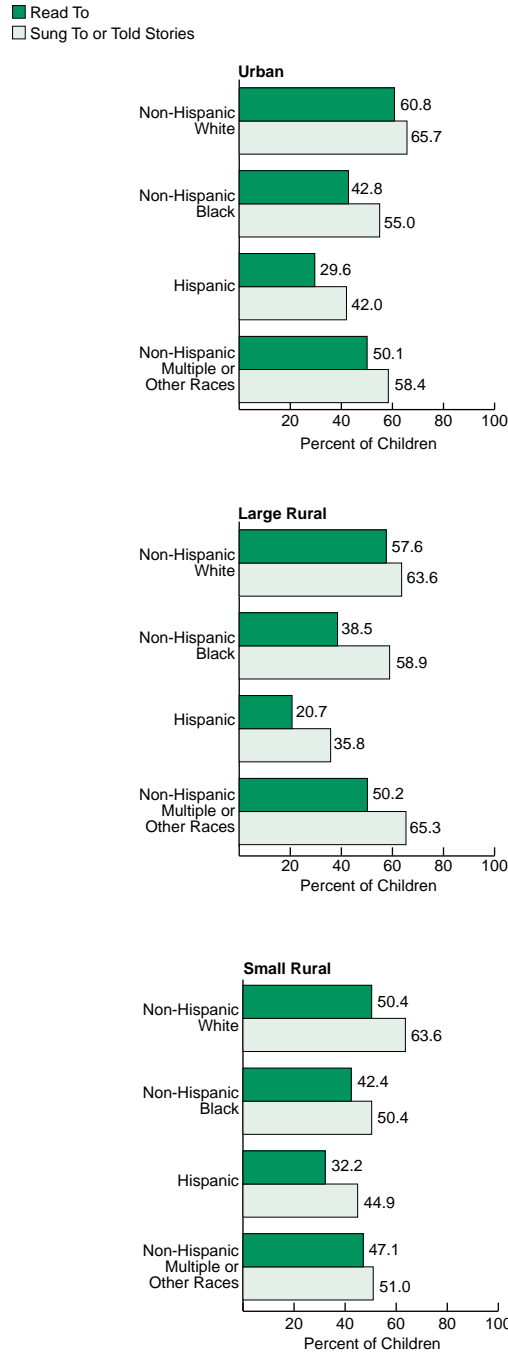
*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.



Reading, Singing, and Telling Stories to Young Children (continued)

The percentage of children who were read to, sung to, or told stories by family members every day varied significantly across racial and ethnic groups, with Hispanic children least likely to be read, sung to, or told stories to every day in both urban and large rural areas. Within each racial and ethnic group, the proportions of children engaging in these activities every day generally did not vary greatly by location. One exception was among non-Hispanic White children: Within this group, children living in small rural areas were less likely to be read to than those in urban and large rural areas (50.4 versus 60.8 and 57.6 percent, respectively).

Children Aged 0-5 Who Were Read to, Sung to, or Told Stories Every Day, by Location and Race/Ethnicity





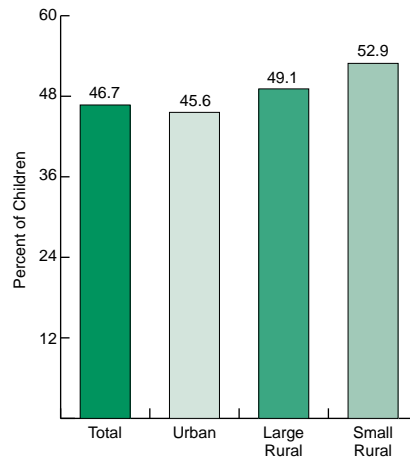
Family Meals

Eating together as a family can promote family bonding and good nutrition and eating habits.¹ Overall, the parents of 46.7 percent of children reported that their families had eaten at least one meal together every day during the previous week. Nearly 32 percent of families were reported to eat meals together on 4–6 days per week, while 18.1 percent ate meals together on only 1–3 days per week and 3.5 percent of families did not eat at least one meal together during the previous week (data not shown). The percentage of children who shared a meal with their families every day in the past week was highest in small rural areas, where 52.9 percent of children did so, followed by those in large rural areas (49.1 percent) and urban areas (45.6 percent).

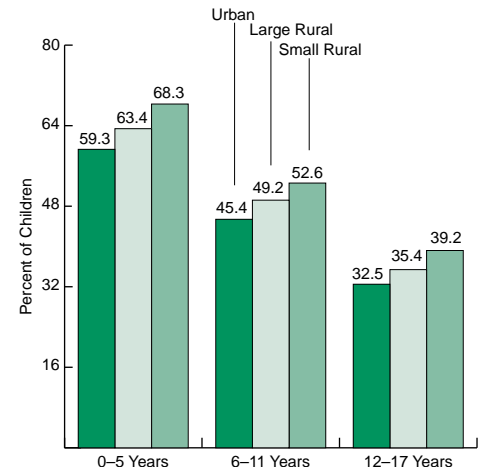
In all locations, younger children were significantly more likely than older children and adolescents to share meals with their families. In small rural areas, for example, 68.3 percent of children aged 0–5 shared meals with their families every day, compared to 39.2 percent of adolescents aged 12–17. In all age groups, the percentage of children who shared meals with their families every day was significantly higher in small rural areas than in urban areas.

Children with household incomes below the Federal Poverty Level (FPL) were also significantly more likely to share meals with their families than children in higher income families, regardless of location. In large rural

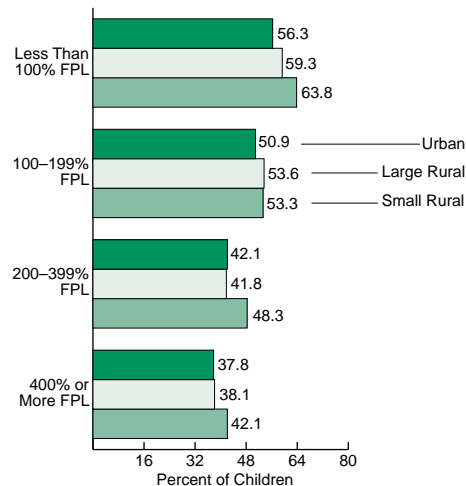
Children Sharing Meals With Their Families Every Day in the Previous Week, by Location



Children Sharing Meals With Their Families Every Day in the Previous Week, by Location and Age



Children Sharing Meals With Their Families Every Day in the Previous Week, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

areas, 59.3 percent of children with household incomes below the Federal Poverty Level (FPL) shared a meal with their families every day, compared to 38.1 percent of children with household incomes of 400 percent or more of the FPL. The percentage of children in small rural areas who

shared meals with their families every day was significantly higher than that of children in urban areas, for only the highest and lowest income categories.

1 Hammons AJ & Fiese BH. Is Frequency of Shared Family Meals Related to the Nutritional Health of Children and Adolescents? Pediatrics. 2011;127(6):e1565-e1574.

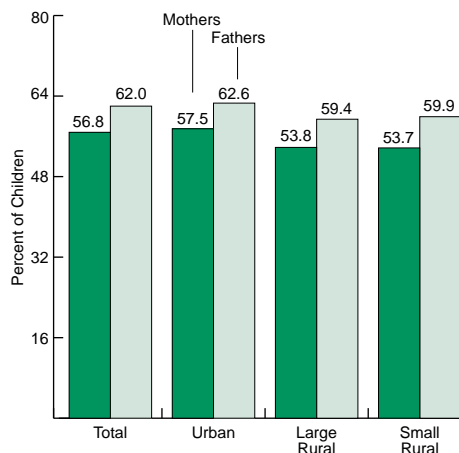


Parental Health Status

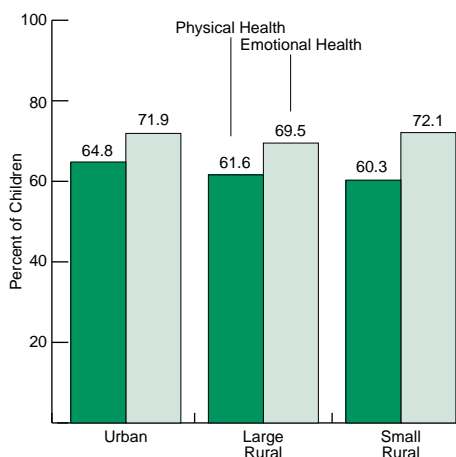
The physical and emotional health of a child's parents can affect their ability to care for their child and can influence the health of the family as a whole. Among children whose mothers were present in the home, the parents of 56.8 percent of children rated both the mother's physical and emotional health as "excellent" or "very good." This percentage was significantly lower in small and large rural areas (53.7 and 53.8 percent, respectively) than in urban areas (57.5 percent). Of children whose fathers were in the home, the parents of 62.0 percent reported that the father's physical and emotional health were both either "excellent" or "very good." Mirroring the physical and emotional health status of mothers, the percentage of fathers whose physical and emotional health was rated as "excellent" or "very good" was significantly lower in small and large rural areas (59.9 and 59.4 percent, respectively) than in urban areas (62.6 percent).

When considering physical and emotional health separately, some similar differences were observed by location. The mothers of children in urban areas were significantly more likely than those in rural areas to be in excellent or very good physical health: 64.8 percent of urban children had mothers whose physical health was excellent or very good, compared to 61.6 percent of children in large rural areas and 60.3 percent of those in small rural areas. The percentage of

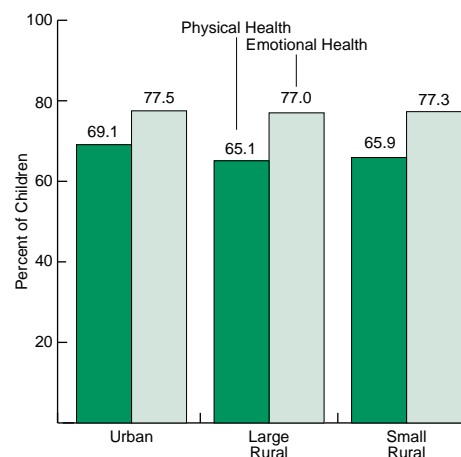
Children Whose Parents Are in Excellent or Very Good Physical and Emotional Health, by Location



Children Whose Mothers Are in Excellent or Very Good Physical and Emotional Health, by Location and Type



Children Whose Fathers Are in Excellent or Very Good Physical and Emotional Health, by Location and Type



children whose mothers were in excellent or very good emotional health was around 70 percent in all areas.

The same pattern was evident for the health status of fathers. Of children in urban areas, the fathers of 69.1 percent were reported to be in

excellent or very good physical health, compared to 65.1 percent of children in large rural areas and 65.9 percent of those in small rural areas. In the case of fathers' emotional health, there was no significant difference by location.

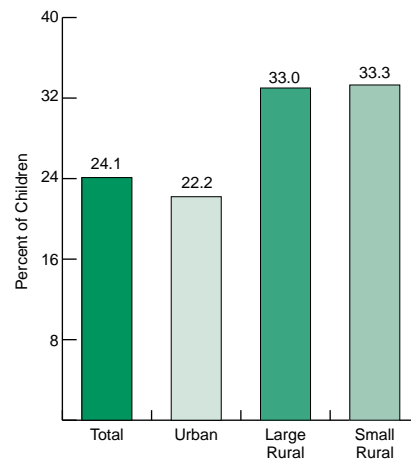


Smoking in the Household

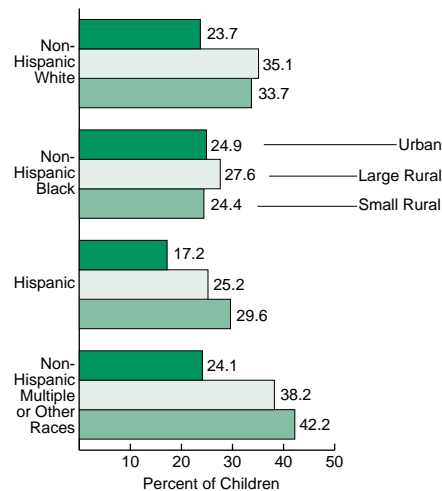
Exposure to environmental smoke—from cigarettes, cigars, or pipes—can be a serious health hazard for children. Secondhand smoke causes numerous health problems in infants and children, including more frequent and severe asthma attacks, respiratory infections, ear infections, and sudden infant death syndrome (SIDS). Smoking during pregnancy results in more than 1,000 infant deaths annually.^{1,2} Parents were asked whether anyone in the household used cigarettes, cigars, or pipe tobacco. Overall, 24.1 percent of children were reported to live in households where someone smokes, and 4.9 percent of children were exposed to secondhand smoke inside their homes (data not shown). The percentage of children who lived in a household with a smoker was significantly higher in rural areas compared to urban areas. One-third of children in large and small rural areas lived with a smoker, compared to 22.2 percent of urban children.

Non-Hispanic White, Hispanic, and non-Hispanic children of multiple or other races living in small and large rural areas were significantly more likely to report living with a smoker than their urban counterparts. Among children in both large and small rural areas, non-Hispanic White and non-Hispanic children of multiple or other races were significantly more likely than non-Hispanic Black children to live with a smoker.

Children Living in Households With a Smoker, by Location



Children Living in Households With a Smoker, by Location and Race/Ethnicity





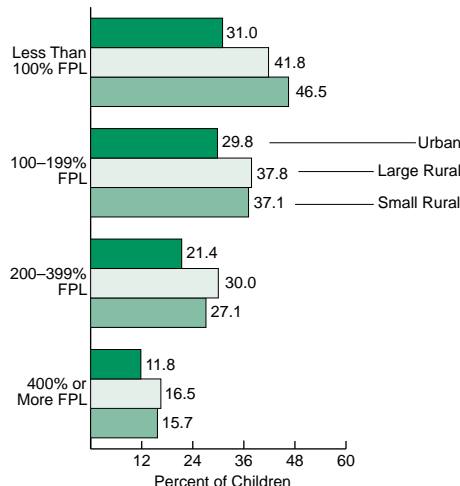
Smoking in the Household (continued)

In all locations, children with higher household incomes were significantly less likely to live with a smoker. For example, among children in large rural areas, 41.8 percent of those with household incomes below the Federal Poverty Level (FPL) lived with a smoker, compared to 30.0 percent of children with incomes of 200-399 percent of the FPL and 16.5 percent of those with household incomes of 400 percent or more of the FPL. Within each income group, the percentage of children who lived with a smoker was significantly higher in both large and small rural areas than in urban areas.

1 U.S. Department of Health and Human Services. *Lets Make the Next Generation Tobacco-Free: Your Guide to the 50th Anniversary Surgeon Generals Report on Smoking and Health*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014.

2 U.S. Department of Health and Human Services. *The Health Consequences of Smoking 50 Years of Progress: A Report of the Surgeon General*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014.

Children Living in Households With a Smoker, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.



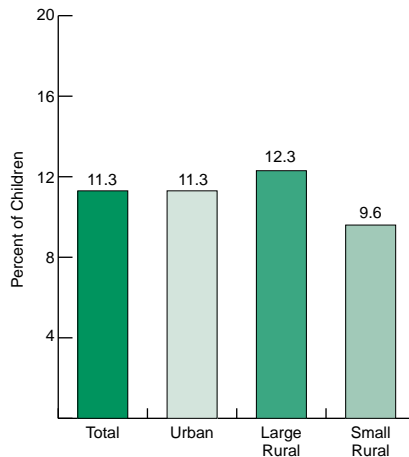
Parental Stress

The demands of parenting can cause considerable stress for families. Parents were asked how often during the past month they had felt that their child was much harder to care for than others of his or her age, how often the child did things that really bothered them a lot, and how often they had felt angry with the child. Parents were considered to feel stressed often if they answered “usually” or “always” to at least one of these measures. Overall, parents of 11.3 percent of children reported often feeling stress. Parents in small rural areas (9.6 percent) were significantly less likely to report often feeling stress than those in urban or large rural areas (11.3 and 12.3 percent, respectively).

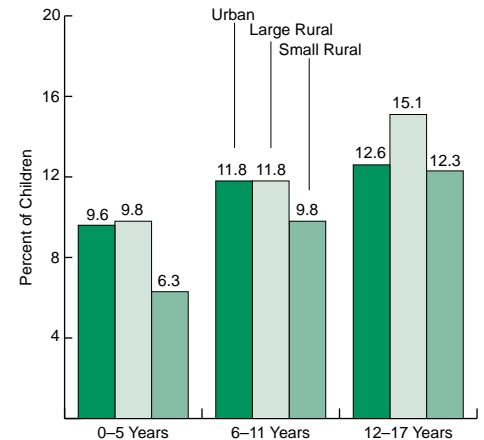
In all locations, parents of adolescents (aged 12–17) were significantly more likely to report often feeling stress than parents of younger children. This difference was greatest in small rural areas, where the percentage of children whose parents felt stress was nearly twice as high for adolescents as for young children aged 0–5 years. Within each age group, the percentage of children whose parents felt stress did not generally vary by location with the exception of parents of children aged 0–5; those in small rural areas were significantly less likely to report often feeling stress than those in urban and large rural areas.

The proportion of children whose parents reported often feeling stress due to parenting decreased signifi-

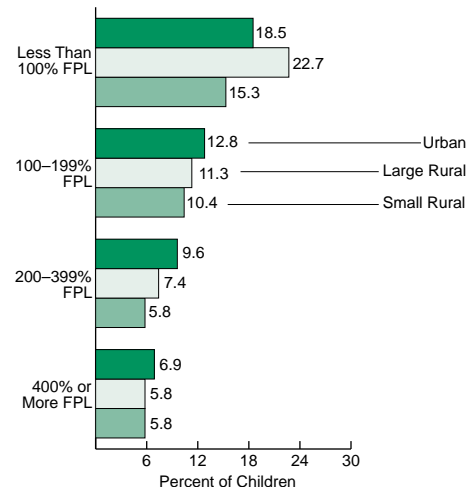
Children Whose Parents Usually or Always Feel Stress, by Location



Children Whose Parents Usually or Always Feel Stress, by Location and Age



Children Whose Parents Usually or Always Feel Stress, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

cantly as household income increased. In all locations, children in households with incomes below the Federal Poverty Level (FPL) were most likely to report often feeling stress. More than one-fifth of children in large rural areas with incomes below the FPL had parents who often felt stress, compared to less than 8 percent of those with incomes of 200–399 percent

and 400 percent or more of the FPL. Among those with household incomes below the FPL, the proportion of children whose parents felt stress varied significantly across locations: those in large rural areas had the highest rates (22.7 percent), followed by children in urban areas (18.5 percent), while children in small rural areas were least likely to have parents who felt stress often (15.3 percent).



Flourishing

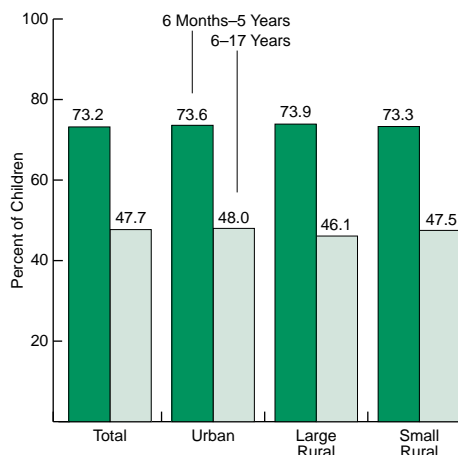
Children's well-being within their families can be measured by assessing their ability to function within the family and community. Parents were asked a series of questions, based on the child's age, about the extent to which they were flourishing in these contexts. For young children aged 6 months-5 years, parents were asked how often during the previous month the child was affectionate or tender, bounced back quickly when things didn't go his or her way, showed interest and curiosity in learning new things, and smiled and laughed a lot. For children aged 6-17 years, parents were asked how often during the previous month the child finished the tasks he or she started and followed through with what he or she said that he or she would do, stayed calm and in control when faced with a challenge, and showed interest and curiosity in learning new things. Overall, 73.2 percent of children aged 6 months-5 years were reported to usually or always meet all four items, and 47.7 percent of children aged 6-17 years were reported to usually or always meet all three items for their age group. These percentages did not vary significantly by location.

For both age groups and in all locations, children with higher household incomes were significantly more likely to meet all of the criteria for flourishing. Among young children, this difference was greatest in small rural areas,

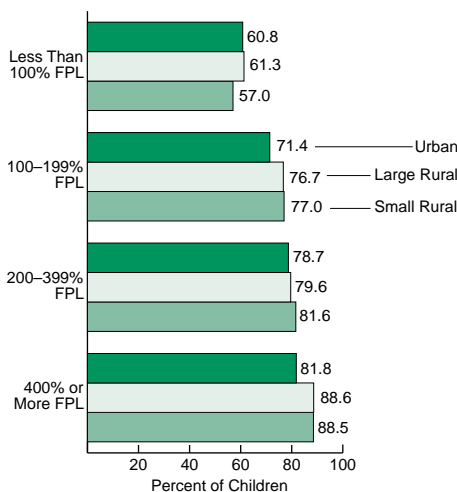
where 57.0 percent of children with household incomes below the Federal Poverty Level (FPL) met all the criteria for flourishing, compared to 88.5 percent of children with household incomes of 400 percent or more of the FPL. In general, within each income

category, the percentage of young children reported to be flourishing did not vary significantly by location, except that children in large and small rural areas with household incomes of 400 percent or more of the FPL were more likely to meet all the criteria

Children Meeting All Criteria for Flourishing, by Age and Location

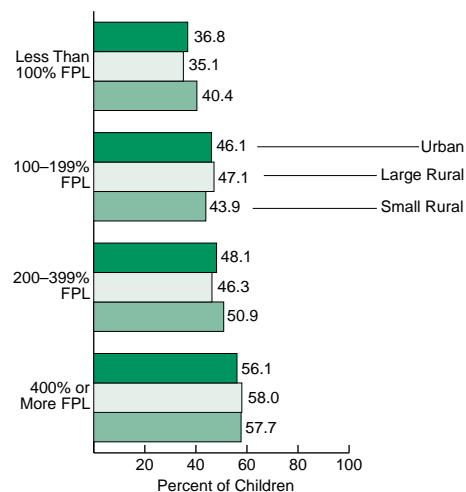


Children Aged 6 Months-5 Years Meeting All Criteria for Flourishing, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

Children Aged 6-17 Years Meeting All Criteria for Flourishing, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.



Flourishing (continued)

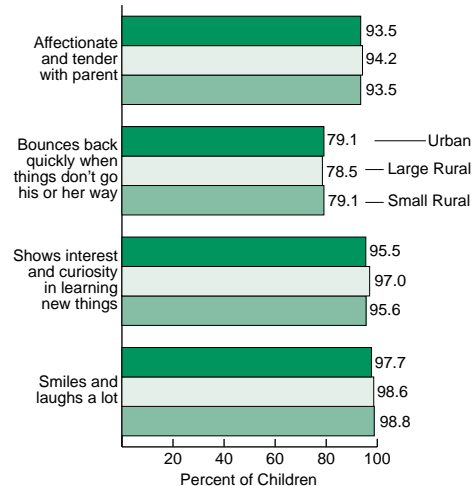
than their urban peers (88.6 and 88.5 versus 81.8 percent, respectively).

Among school-aged children, the greatest differential between income groups was seen in large rural areas, where 35.1 percent of children with household incomes below the FPL were reported to be flourishing, compared to 58.0 percent of children with household incomes of 400 percent or more of the FPL. Within each income group, there were no significant differences across locations in the percentage of children meeting all criteria for flourishing.

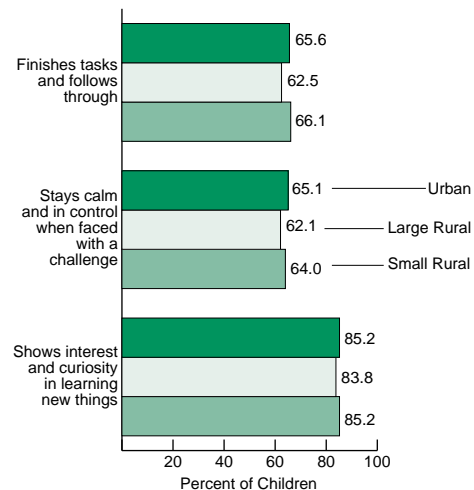
Among young children, nearly all children in all locations were reported to usually or always be affectionate and tender with their parents, smile and laugh a lot, and show interest in learning new things. A smaller percentage, approximately 79 percent were reported to usually or always bounce back quickly when things did not go their way.

Among school-aged children, about 85 percent of children in all locations were reported to usually or always show interest in learning new things. A smaller percentage, just under two-thirds, were reported to usually or always finish tasks and follow through and to stay calm and in control when faced with a challenge. There were a few differences in flourishing criteria by location: children in large rural areas were slightly less likely than those

Children Aged 6 Months–5 Years
Usually or Always Meeting
Criteria for Flourishing, by Location



Children Aged 6–17 Years
Usually or Always Meeting
Criteria for Flourishing, by Location



in urban and small rural areas to be reported as usually or always finishing tasks and following through. Children in large rural areas were also slightly

less likely than those in urban areas to be reported to usually or always stay calm and in control when faced with a challenge.

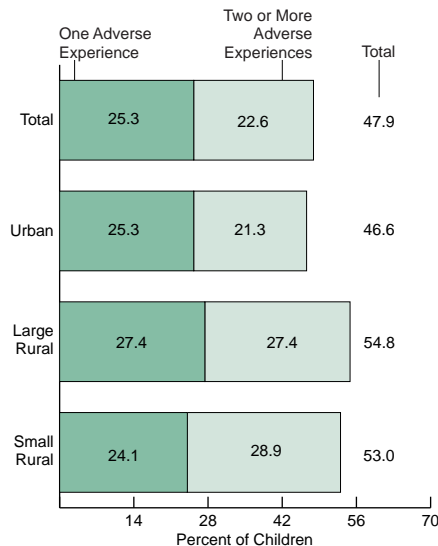


Adverse Childhood Experiences

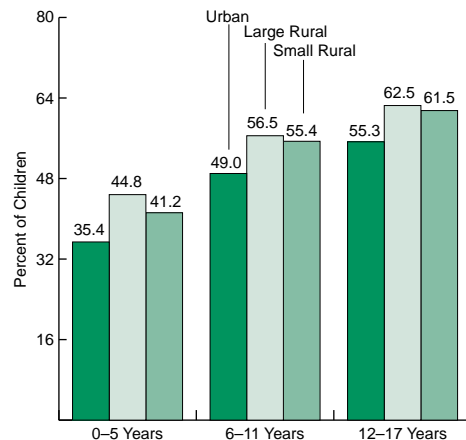
Challenging experiences, such as death, divorce or separation of parents, witnessing violence, and living with someone with mental health or substance abuse problems can undermine a child's emotional health and overall well-being. Parents were asked about nine specific adverse experiences which the child may have confronted in his or her lifetime: (1) whether it was hard to get by on the family's income "very often" or "sometimes often," (2) whether the child experienced the divorce or separation of parents, (3) whether the child experienced the death of a parent, (4) whether a parent served time in jail, (5) whether the child witnessed domestic violence, (6) whether the child was a victim of neighborhood violence, (7) whether the child lived with someone who was mentally ill or suicidal, (8) whether the child lived with someone who had alcohol or drug problems, and (9) whether the child was treated or judged unfairly due to their race or ethnicity.

Overall, 25.3 percent of children had experienced one of these adverse experiences, and 22.6 percent had experienced two or more. Children in large rural areas were more likely than their peers in urban or small rural areas to have had at least one adverse childhood experience, and children in urban areas were less likely than those in rural areas to have had two or more.

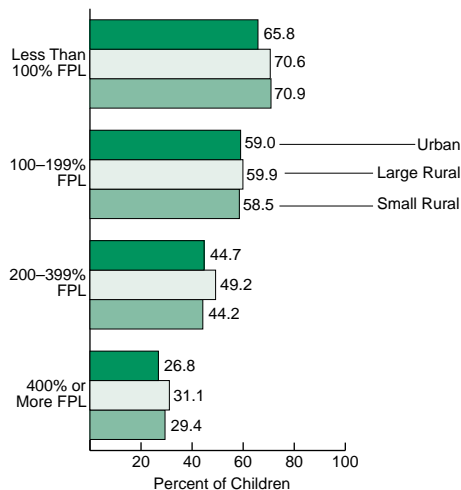
Children With One or More Adverse Childhood Experiences, by Location



Children With One or More Adverse Childhood Experiences, by Location and Age



Children With One or More Adverse Childhood Experiences, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

Because these measures were assessed for children since birth, the percentage of older children who had had adverse experiences in their lifetimes was greater than that of younger children. In all age groups, children living in urban areas were significantly less likely than those in

small or large rural areas to have had at least one adverse experience in their lifetimes.

In all locations, the proportion of children experiencing one or more adverse events significantly decreased with increasing household income. For instance, 70.9 percent of children

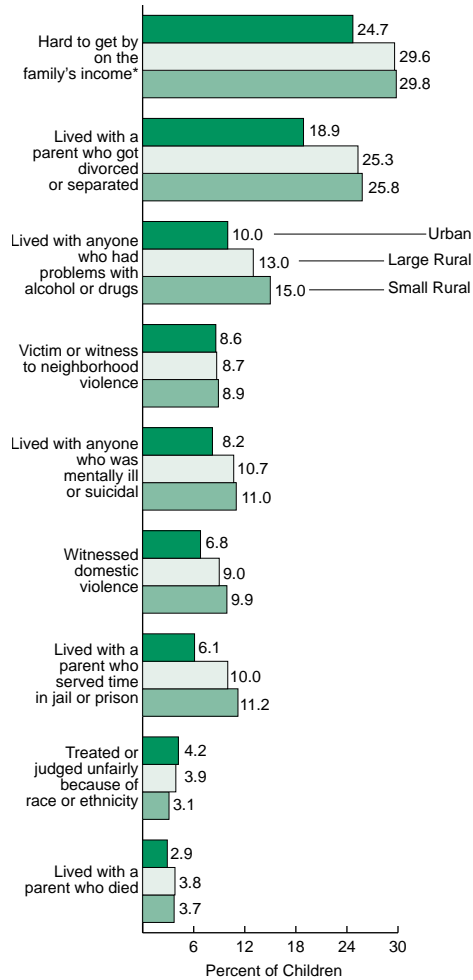


Adverse Childhood Experiences (continued)

in small rural areas with household incomes below the Federal Poverty Level (FPL) experienced one or more adverse events, compared to 29.4 percent of those in households with incomes of 400 percent or more of the FPL. Among children with household incomes below the FPL, those in urban areas were significantly less likely to experience one or more adverse events when compared to children in large and small rural areas.

In all locations, the adverse experience most commonly reported was economic insecurity, and this was significantly more common among children in rural than urban areas. The parents of nearly 30 percent of children in small and large rural areas reported that it was somewhat often or very often hard to get by on the family's income, compared to 24.7 percent of urban children. Children in rural areas were also more likely than their urban counterparts to report other adverse childhood experiences, including: the divorce or separation of parents, living with a parent who served time in jail or prison, witnessing domestic violence, living with someone who was mentally ill or suicidal, and living with someone who had a problem with alcohol or drugs.

Children With Specific Adverse Childhood Experiences, by Location



*Very often or somewhat often



The Child and Family's Neighborhood

The neighborhood in which a child lives can positively impact their development and overall health. A child's safety in their neighborhood and at school, as well as the amenities available and the physical condition of the neighborhood can all influence a family's comfort with outdoor activities and the child's freedom within the community. A number of questions within the survey were used to develop indicators that reflect aspects of the child and family's neighborhood that may impact a child's health and well-being.



Neighborhood Amenities

The availability of neighborhood amenities, such as playgrounds, community centers, and libraries, provides children with opportunities for recreation, education, and socializing without going far from home. Overall, 76.6 percent of children were reported to live in neighborhoods with sidewalks or walking paths; 84.6 percent had a park or playground in their neighborhood; 88.6 percent had a library or bookmobile in the community; and 69.2 percent had a recreation center, community center, or Boys & Girls Club. Only 3.7 percent of children were reported to live in neighborhoods with none of these amenities, while 54.1 percent of children lived in neighborhoods with all of these amenities.

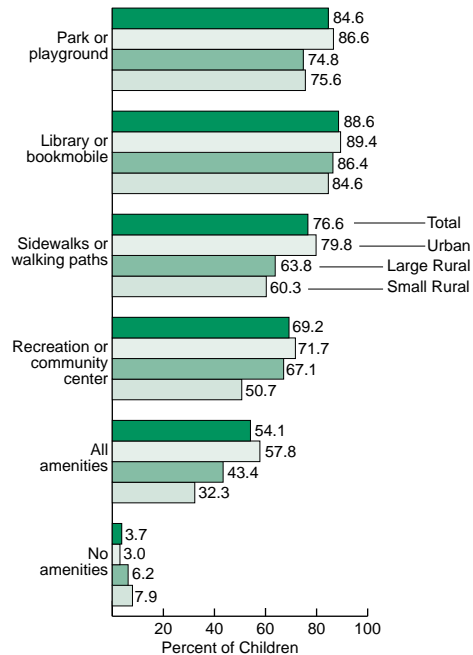
Children in urban areas were more likely to have access to neighborhood amenities than rural children, and children in small rural areas were less likely than those in large rural areas to have access. More than half of urban children (57.8 percent) had access to all four amenities, compared to 43.4 percent of children in large rural areas and 32.3 percent of those in small rural areas. Very few children in urban areas (3.0 percent) had access to none of the amenities assessed, compared to 6.2 percent of children in large rural areas and 7.9 percent of those in small rural areas. However, rural communities might have other features, such as swimming holes or

hiking trails that were not included in the survey.

Libraries and bookmobiles were most likely to be available in all locations; more than 80 percent of children in both urban and rural areas have access to a library. Children in small rural areas were least likely to

have access to a recreation center or community center; this was reported to be available to only 50.7 percent of children in these areas. Among children in large rural areas, the amenity least often reported was sidewalks or walking paths, available to 63.8 percent of children.

Children's Access to Neighborhood Amenities, by Location





Neighborhood Conditions

The physical environment can affect the physical health, safety, social opportunities, and development of a child. Poor neighborhood conditions, such as rundown housing, evidence of vandalism, and litter or garbage on the street may contribute adversely, either directly or indirectly, to a child's overall well-being.

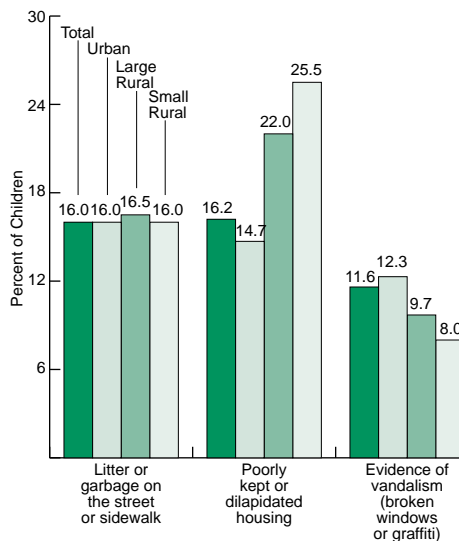
Approximately 16 percent of children in all locations were reported to live in neighborhoods with litter or garbage on the street or sidewalk. Children in small rural areas were most likely to live in neighborhoods with poorly kept or dilapidated housing (25.5 percent), followed by those in large rural areas (22.0 percent), while only 14.7 percent of urban children did so. Children in urban areas were the most likely to live in neighborhoods with evidence of vandalism (12.3 percent), compared to 9.7 percent of children in large rural areas and 8.0 percent of those in small rural areas.

The number of detracting elements in children's neighborhoods varied by location, with urban children more likely to report none of these conditions, as well as all three conditions than their rural peers. Overall, 72.3 percent of children in urban areas were reported to live in neighborhoods with none of these conditions, compared to 67.3 percent of children in large rural areas and 65.5 percent

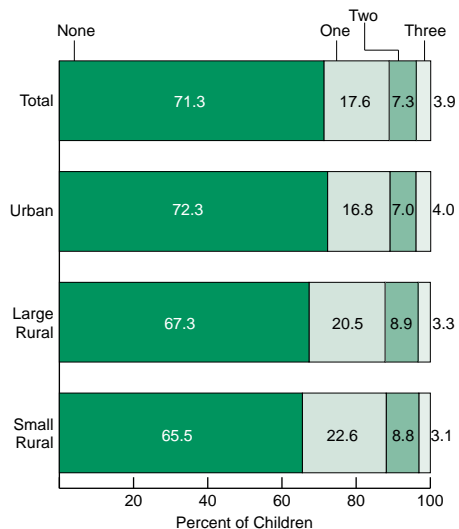
of those in small rural areas. A small percentage of children (3.9 percent) lived in areas with all three of these conditions, and this was more common among children in urban areas.

The percentage of children whose neighborhoods have any of these conditions was highest in small rural areas (34.5 percent) and lowest in urban areas (27.8 percent).

Condition of Child's Neighborhood, by Location



Number of Detracting Elements in Child's Neighborhood, by Location





Supportive Neighborhoods

To assess whether families and children were supported in their neighborhoods, parents were asked whether they agreed with the following statements:

- People in the neighborhood help each other out.
- We watch out for each other's children.
- There are people I can count on in the neighborhood.
- If my child were outside playing and got hurt or scared, there are adults nearby whom I trust to help my child.

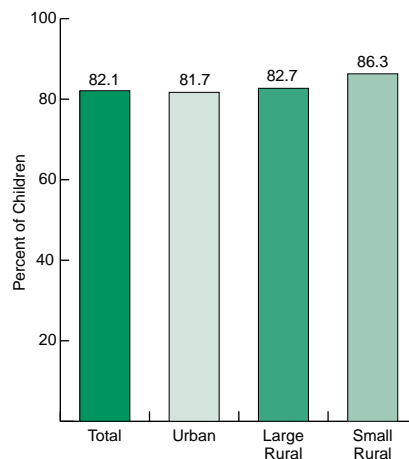
Families were considered to live in supportive neighborhoods if they answered “definitely agree” or “somewhat agree” to each of the four statements. Overall, parents of 82.1 percent of children reported that they lived in supportive neighborhoods. This percentage was higher in small rural areas (86.3 percent) than in urban areas (81.7 percent) or large rural areas (82.7 percent).

In all locations, children with household incomes below 100 percent of the Federal Poverty Level (FPL) were less likely than those with household incomes of 200 percent or more of the FPL to live in supportive neighborhoods. Among children with household incomes below 100 percent of the FPL, those in small

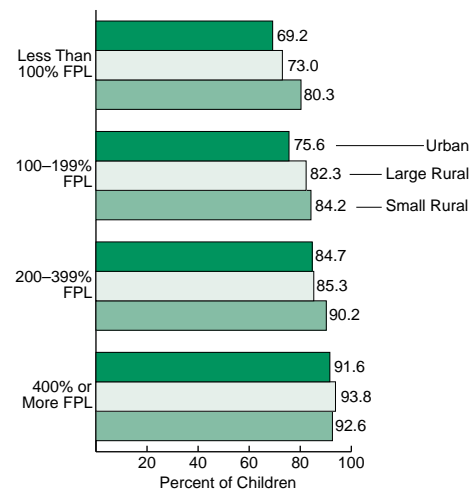
rural areas were more likely than their large rural and urban peers to do so (80.3 versus 73.0 and 69.2 percent, respectively). At all income levels, children in small rural areas

were more likely than those in urban areas to live in supportive neighborhoods with the exception of children in the highest income category, where at least 91 percent lived in supportive neighborhoods.

Children Living in Supportive Neighborhoods, by Location



Children Living in Supportive Neighborhoods, by Location and Poverty Level*



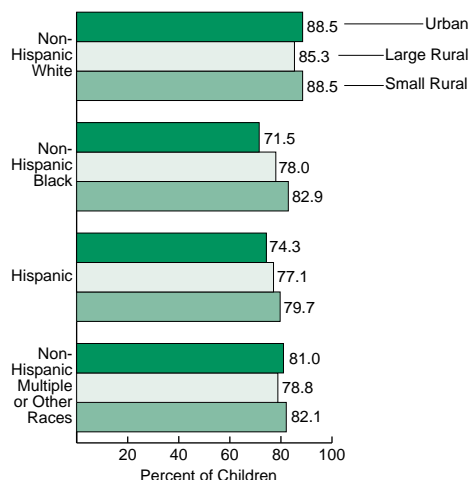
*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.



Supportive Neighborhoods (continued)

In all locations, non-Hispanic White children were more likely than children of other races and ethnicities to live in supportive neighborhoods. Among non-Hispanic Black children, those in rural areas were more likely than children in urban areas to live in a supportive neighborhood: 82.9 and 78.0 percent of non-Hispanic Black children in small and large rural areas, respectively, did so compared to 71.5 percent of those in urban areas. There were no statistically significant differences across locations for Hispanic and non-Hispanic children of multiple or other races.

Children Living in Supportive Neighborhoods, by Location and Race/Ethnicity



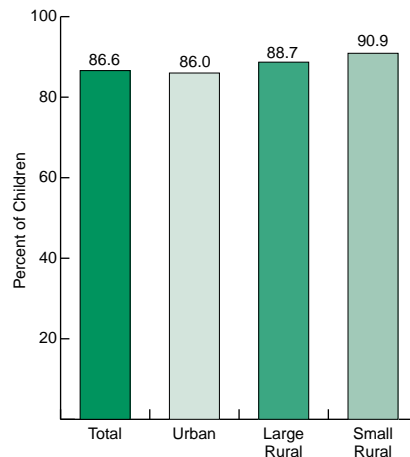


Safety in the Neighborhood

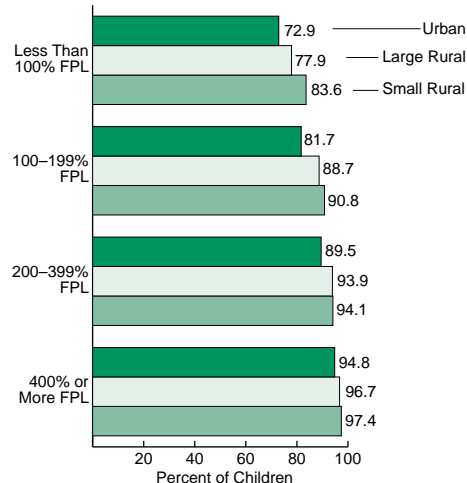
Families are more likely to feel comfortable in a neighborhood if they feel that their children are safe. Parents were asked how often they felt that their child was safe in their community or neighborhood—never, sometimes, usually, or always. Overall, parents of 86.6 percent of children reported that they felt that their child was usually or always safe in their neighborhood. This percentage was highest in small rural areas (90.9 percent), followed by large rural areas (88.7 percent), and lowest in urban areas (86.0 percent).

In all locations, children with higher household incomes were more likely than lower-income children to live in safe neighborhoods. This difference was greatest among urban children: 72.9 percent of those with household incomes below 100 percent of the Federal Poverty Level (FPL) were reported to usually or always be safe in their neighborhoods, compared to 94.8 percent of children with household incomes of 400 percent or more of the FPL. In all income groups, children living in rural areas were more likely to be reported to be safe in their neighborhoods than their urban peers. The greatest differences were seen among children in the lowest income category: among children with household incomes below 100

Children Who Are Usually or Always Safe in Their Neighborhoods, by Location



Children Who Are Usually or Always Safe in Their Neighborhoods, by Location and Poverty Level*



*Federal Poverty Level (FPL) is based on the U.S. Department of Health and Human Services poverty guidelines; poverty was \$23,050 for a family of four in 2012.

percent of the FPL, 83.6 percent of children in small rural areas and 77.9 percent of those in large rural areas

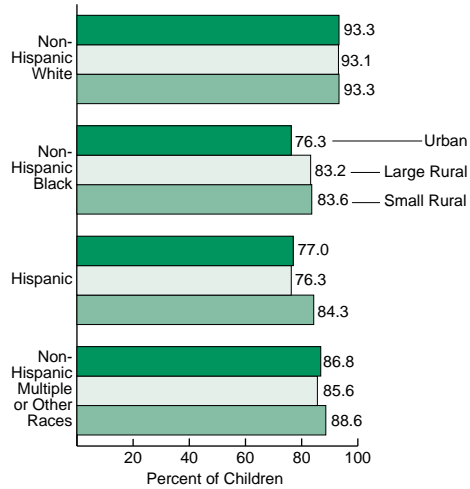
were reported to be safe in their neighborhoods, compared to 72.9 percent of those in urban areas.



Safety in the Neighborhood (continued)

Within each racial and ethnic group, the likelihood that a child lives in a safe neighborhood varied by location only for non-Hispanic Black and Hispanic children. Among non-Hispanic Black children, those in rural areas were more likely to live in a safe neighborhood compared to their urban peers (more than 83 percent versus 76.3 percent, respectively). With regard to Hispanic children, those in small rural areas were more likely to live in a safe neighborhood than those in urban areas (84.3 versus 77.0 percent, respectively). Within each location, a higher percentage of non-Hispanic White children lived in safe neighborhoods than non-Hispanic Black, Hispanic, and non-Hispanic children of multiple or other races.

Children Who Are Usually or Always Safe in Their Neighborhoods, by Location and Race/Ethnicity



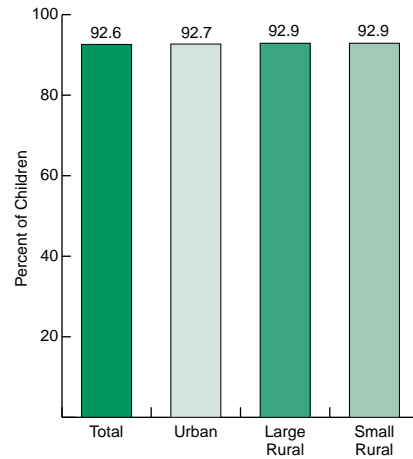


Safety at School

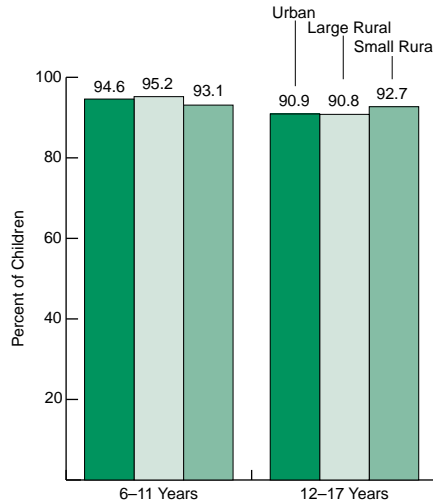
Parents of school-aged children (aged 6-17 years) were asked how often they felt that their children were safe in school. Overall, parents of 92.6 percent of children reported that their children were usually or always safe in school. This percentage does not vary significantly by location.

While there were no differences in the proportions of children considered to be safe at school across locations by age group, children aged 6-11 years were more likely to be considered safe at school than adolescents aged 12-17 in both urban and large rural areas. About 95 percent of children aged 6-11 in both urban and large rural areas were reported to be safe at school, compared to less than 91 percent of those aged 12-17 years.

Children Aged 6-17 Who Are Usually or Always Safe at School, by Location



Children Aged 6-17 Who Are Usually or Always Safe at School, by Location and Age



Technical Appendix

About the Survey

The National Survey of Children's Health (NSCH) was fielded using the State and Local Area Integrated Telephone Survey (SLAITS) mechanism. SLAITS is conducted by the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC). It uses the same large-scale random-digit-dial sampling frame as the CDC's National Immunization Survey (NIS), augmented by additional numbers in States in which the NIS sample was not large enough to meet NSCH sample targets.¹

After eliminating numbers that were determined to be nonresidential or nonworking, the remaining numbers were called to identify households with children less than 18 years of age. From each household with children, one was randomly selected to be the focus of the interview.

The respondent was the parent or guardian in the household who was knowledgeable about the health and health care of the randomly selected child. For 68.6 percent of the children, the respondent was the mother. Respondents for the remaining children were fathers (24.2 percent) or other relatives or guardians (7.2 percent).

Surveys were conducted in English, Spanish, Mandarin, Cantonese, Vietnamese, and Korean. In total, 4,905 interviews were completed in Spanish, and 229 interviews were conducted in one of the four Asian languages.

Data Collection

Data collection began on February 28, 2011, and ended on June 25, 2012, with interviews conducted from telephone centers in Chicago, IL, and Las Vegas, NV. A computer-assisted telephone interviewing system was used to collect the data. A total of 95,677 interviews were fully or partially completed for the NSCH. The number of completed interviews varied by state, ranging from 1,811 in South Dakota to 2,200 in Texas. Of the 95,677 completed interviews, 31,972 were conducted with respondents' cell phones. The number of cell phone interviews ranged from 592 in Wisconsin to 942 in Maryland.

The interview completion rate, which is the proportion of interviews completed after a household was determined to include a child under age 18, was 54.1 percent for the landline sample and 41.2 percent for the cell phone sample. The overall response rates—calculated as the product of the resolution rate (the proportion of telephone numbers identified as residential or nonresidential), the screener completion rate (the proportion of households successfully screened for children), and the interview completion rate—were 38.2 percent for the landline sample, 15.5 percent for the cell phone sample, and 23.0 percent overall.

Overall response rates ranged from 19.5 percent in California to 34.3 percent in Montana and Wyoming. Several efforts were made to increase response rates, including sending letters to households in advance to introduce the survey, toll-free numbers left on potential respondents' answering machines to allow them to call back, and small monetary incentives for those households with children who initially declined to participate.

Data Analysis

For producing the population-based estimates in this report, the data records for each interview were assigned a sampling weight. These weights are based on the probability of selection of each household telephone number within each State, with adjustments that compensate for households that have multiple telephone numbers, for households without telephones, and for nonresponse.

With data from the U.S. Bureau of the Census, the weights were also adjusted by age, sex, race, ethnicity, household size, and educational attainment of the most educated household member to provide a dataset that was more representative of each State's population of noninstitutionalized children less than 18 years of age. Analyses were conducted using statistical software that accounts for the weights and the complex survey design.

Responses of "don't know" and "refuse to answer" were considered to be missing data. Records with missing data on the variables of interest were excluded from those analyses, with one exception. For households with missing data for income or household size, the household income relative to the Federal Poverty Level was multiply imputed.

Children's areas of residence were classified according to the 2006 v2.0 Rural-Urban Commuting Areas (RUCAs) developed by the Federal Office of Rural Health Policy.² The 10 RUCA codes were grouped into three categories. Urban-focused areas (RUCA codes 1.0, 1.1, 2.0, 2.1, 3.0, 4.1, 5.1, 7.1, 8.1, and 10.1) include metropolitan areas and surrounding towns

from which commuters flow to an urban area; large rural areas (RUCA codes, 4.0, 4.2, 5.0, 5.2, 6.0, and 6.1) include large towns (“micropolitan” areas) with populations of 10,000–49,999 and their surrounding areas; and small or isolated rural areas (all remaining codes) include small towns with populations of 2,500–9,999 and their surrounding areas.

Accuracy of the Results

The data from the NSCH are subject to the usual variability associated with sample surveys. Small differences between survey estimates may be due to random survey error and not to true differences among children or across States.

The precision of the survey estimates is based on the sample size and the measure of interest. Estimates at the national level will be more precise than estimates at the urban/rural level. Estimates for all children will be more precise than estimates for subgroups of children (e.g., children 0–5 years of age or children with the same race). For national estimates of the health and health care for all children, the maximum margin of error is 0.73 percentage points.

Availability of the Data

Except for data suppressed to protect the confidentiality of the survey subjects, all data collected in the NSCH are available to the public on the NCHS and MCHB websites.

Data that were suppressed for confidentiality reasons other than personally-identifiable information, such as specific geographic location, race, and language, can be accessed through the NCHS Research Data Center (<https://www.cdc.gov/rdc>).

Data documentation and additional details on the methodology are available from the National Center for Health Statistics (<http://www.cdc.gov/slits>). Interactive data queries are possible through the Data Resource Center for the NSCH (<http://nschdata.org>). The Data Resource Center provides immediate access to the survey data, as well as resources and assistance for interpreting and reporting findings.

- 1 Zell ER, Ezzati-Rice TM, Battaglia MP, Wright RA. National immunization survey: the methodology of a vaccination surveillance system. *Public Health Reports*. 2000;115:65–77.
- 2 WWAMI Rural Health Research Center and the U.S. Department of Agriculture, Economic Research Service. Rural-Urban Commuting Area Codes. <http://depts.washington.edu/uwruca/index.php>