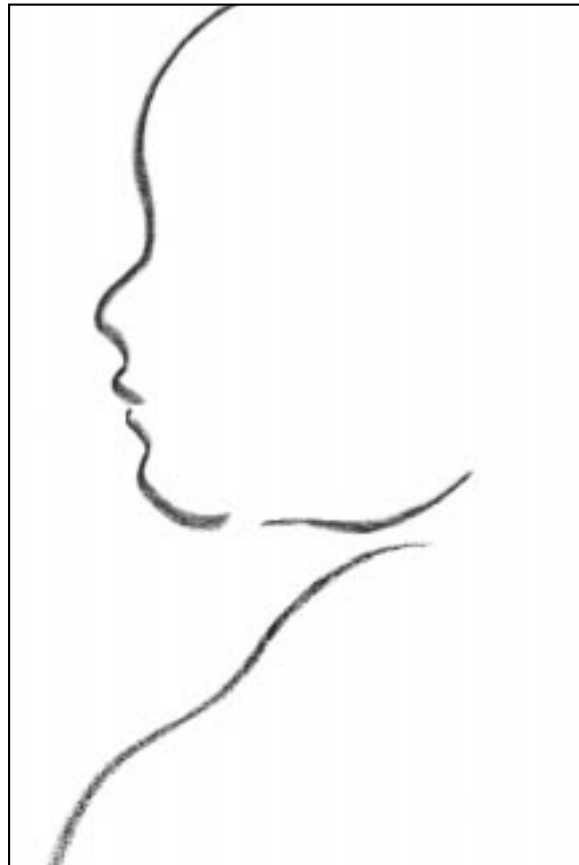


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# *pediatric nutrition*



Surveillance

1997 Executive Summary



**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**  
Centers for Disease Control and Prevention

## Pediatric Nutrition Surveillance

In 1973, CDC began working with five U.S. states to develop a system for continuously monitoring the nutritional status of low-income children in federally funded maternal and child health and nutrition programs. By 1997, the Pediatric Nutrition Surveillance System (PedNSS) had expanded to include 44 states, the District of Columbia, and five tribal governments. Together, they contributed approximately 8 million records to the system that year. This report presents 1997 data and highlights trends from 1989 to 1997.

All the records originated from federally funded programs: the Special Supplemental Nutrition Program for Women, Infants, and Children; the Early and Periodic Screening, Diagnosis, and Treatment program; Head Start; and the Title V Maternal and Child Health program. Children aged 18 years and younger are included in the PedNSS.

## Sociodemographic Characteristics

In the 1997 PedNSS, 41% of the records were from non-Hispanic white children, 29% from Hispanic children, 22% from non-Hispanic black children, 3% from Asian or Pacific Islander children, 1% from American Indian or Alaska Native children, and 4% from children of all other or unspecified races or ethnicities. Most of the PedNSS records (92%) were from children younger than 5 years, and 32% were from infants aged less than 1 year. These proportions have remained stable since 1989.

### Infant and Child Health Advances in the PedNSS Population

- Year 2000 objective to reduce short stature to less than 10% achieved in 44 states.
- Slight decrease in the prevalence of anemia.
- Increase in the percentage of infants who are breastfed.

### Infant and Child Health Concerns in the PedNSS Population

- Year 2000 objective to reduce rate of low birthweight to 5% not yet achieved.
- Steady increase in overweight among all racial and ethnic groups in many states.
- Increased rate of anemia among black children.
- Continued high rate of anemia in all racial and ethnic groups and in many states.
- Year 2000 objective that 75% of infants be breastfed not yet achieved in any state.

*Year 2000 objectives are from U.S. Department of Health and Human Services, Healthy People 2000: National Health Promotion and Disease Prevention Objectives. Washington, DC: U.S. Department of Health and Human Services, Public Health Service, 1991; DHHS publication no. (PHS) 91-50212.*

## Underweight

The low prevalence of underweight among children in the PedNSS indicates that acute malnutrition is not a public health problem in this population. The prevalence among children under 2 years of age (3.1%) and among those aged 2 to less than 5 years (1.9%) was considerably lower than the expected 5% level. The prevalence of underweight was highest among black children and Asian or Pacific Islander children. Black infants aged 0 to 2 months had the highest rate of underweight, which may reflect the high rate of low birthweight in this group.

Among children aged 2 to less than 5 years, the prevalence of underweight decreased from 2.8% in 1989 to 1.9% in 1997.

*Underweight: weight-for-height less than the 5th percentile of the National Center for Health Statistics (NCHS)-CDC age- and sex-specific reference population.*

## Anemia

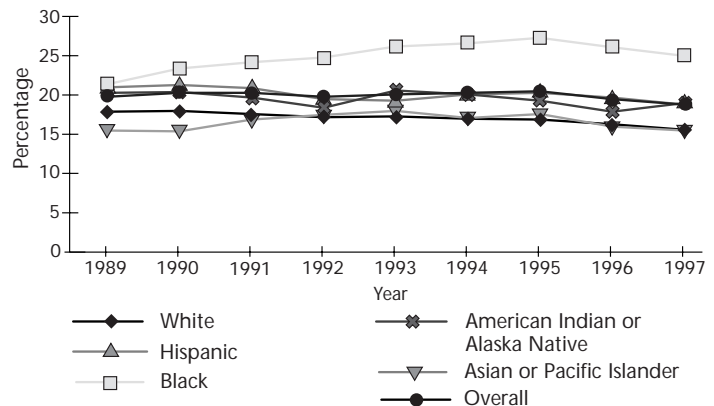
Anemia is an indicator of iron deficiency, the most common nutritional deficiency in the world. Iron deficiency in children is associated with developmental delays and behavioral disturbances.

In the 1997 PedNSS, 18.4% of children under 2 years and 16.9% of children aged 2 to less than 5 years had anemia. The rate of anemia was higher among black children (24.6%) than among American Indian or Alaska Native (18.6%), Hispanic (18.4%), white (15.2%), and Asian or Pacific Islander (15.1%) children. The overall prevalence of anemia among children under 2 years declined slightly, from 19.4% in 1989 to 18.4% in 1997. This decline was not observed among black children, for whom the rate increased (from 21.0% in 1989 to 24.6% in 1997).

*Anemia: for children aged 1 to less than 2 years, an Hb concentration <11.0 g/dL or an Hct level <33%; for children aged 2 to less than 5 years, an Hb concentration <11.2 g/dL or an Hct level <34%.*

*To optimize children's nutritional status, programs must educate parents, offer health care to all children, and provide nutritious foods to children at risk for poor dietary intake.*

Prevalence of anemia among children aged <2 years, by race or ethnicity, 1989–1997 Pediatric Nutrition Surveillance System

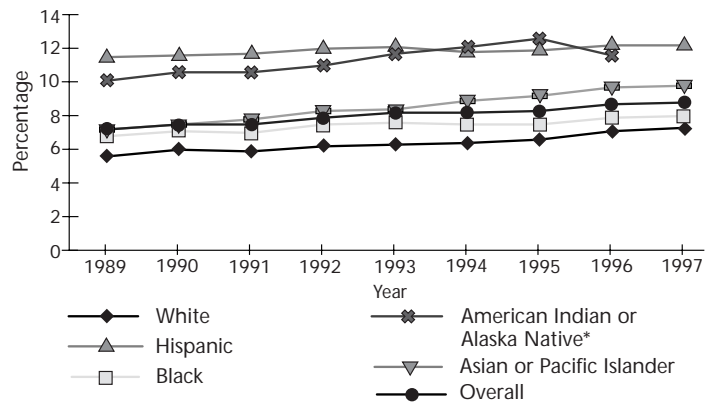


# Overweight

The prevalence of overweight among children aged less than 2 years in the 1997 PedNSS (11.3%) was more than twice what was expected. The prevalence among children aged 2 to less than 5 years was 8.6%. The prevalence was highest among Hispanic children and lowest among white children. Of particular concern is that the prevalence of overweight in the population aged 2 to less than 5 years has steadily increased, from 7.0% in 1989 to 8.6% in 1997. During the same period, overweight among infants under age 2 increased from 10.8% to 11.3%. The findings from the PedNSS are consistent with trends of increasing overweight among children in the general U.S. population.

*Overweight: weight-for-height above the 95th percentile of the NCHS-CDC age- and sex-specific reference population.*

Prevalence of overweight among children aged 2 to <5 years, by race or ethnicity, 1989–1997 Pediatric Nutrition Surveillance System



\*Data not available for 1997.

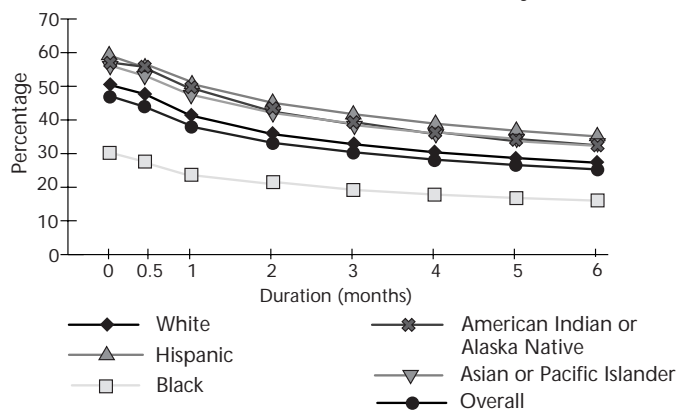
# Infant-Feeding Practices

The nutritional, immunologic, allergenic, economic, and psychological advantages of breastfeeding are well recognized. In the 1997 PedNSS, 46.2% of infants aged 6 to 8 months were ever breastfed, and 20.3% of infants were breastfed until 6 months of age. The related year 2000 objectives (75% for children who were ever breastfed and 50% for children breastfed until 5 or 6 months of age) is far from being achieved in the PedNSS population.

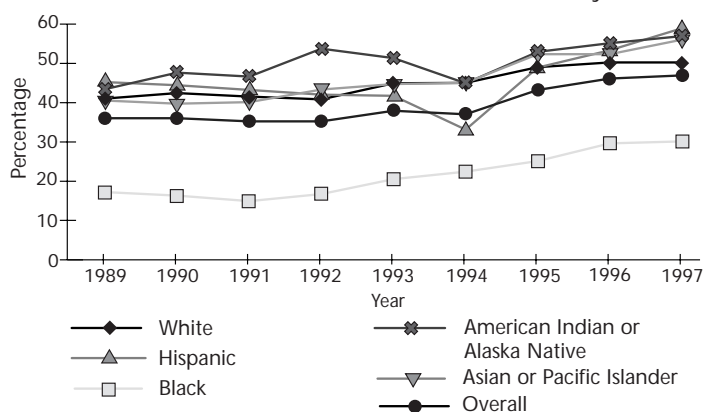
Black infants were less likely to be breastfed than were white, Hispanic, American Indian or Alaska Native, and Asian or Pacific Islander infants. The prevalence of breastfeeding among children in the PedNSS has increased (from 35.3% in 1989 to 46.2% in 1997). National data from other sources indicate that the rate of breastfeeding among all U.S. women has increased (from 52% in 1988 to 60% in 1995).

*Breastfeeding: child ever breastfed or breastfed until 6 months of age.*

Breastfeeding duration, by race or ethnicity, 1997 Pediatric Nutrition Surveillance System



Proportion of infants ever breastfed, by race or ethnicity, 1989–1997 Pediatric Nutrition Surveillance System



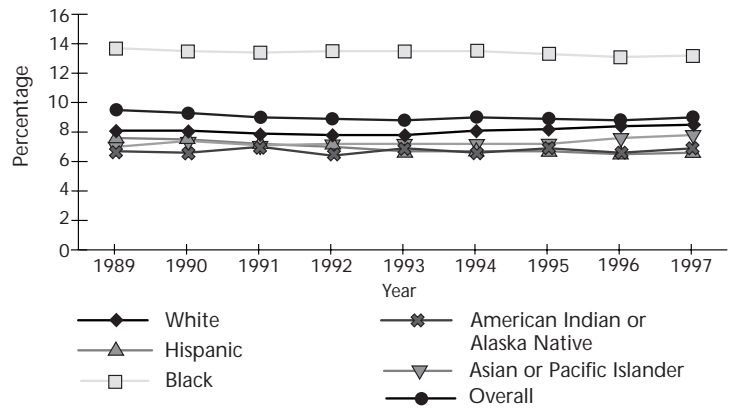
# Low Birthweight

In the 1997 PedNSS, 8.8% of infants aged less than 12 months were low birthweight; 7.3% of all infants born in the United States in 1995 were low birthweight. Low birthweight is the single most important factor affecting neonatal mortality and is a determinant of postneonatal mortality. Low-birthweight infants who survive are at increased risk for health problems ranging from neurodevelopmental handicaps to respiratory disorders. Only two 1997 PedNSS participants (Cheyenne River Sioux and Rosebud Sioux tribal governments, both in South Dakota) met the year 2000 national health objective calling for a reduction in low birthweight to no more than 5% of all live births.

The prevalence of low birthweight was higher for black infants (13%) than white (8.3%), Asian or Pacific Islander (7.6%), American Indian or Alaska Native (6.7%), or Hispanic (6.4%) infants. Since 1989, the overall prevalence of low birthweight has declined very slightly, from 9.3% in 1989 to 8.8% in 1997.

*Low birthweight: <2,500 grams (<5.5 pounds).*

Prevalence of low birthweight among children <12 months of age, by race or ethnicity, 1989–1997 Pediatric Nutrition Surveillance System



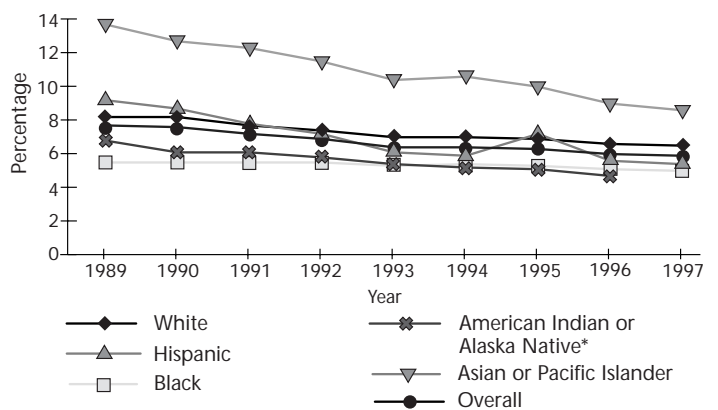
# Short Stature

The prevalence of short stature among children under 2 years of age in the 1997 PedNSS was 9.7%, nearly twice the expected level of 5%. For children aged 2 to less than 5 years, the prevalence was only 5.7%. In 1997, among children aged 2 to less than 5 years, Asian or Pacific Islander children had the highest rate of short stature. The high prevalence of short stature among black infants aged less than 1 year (14.8%) may reflect the high rate of low birthweight in this group.

From 1989 to 1997, the prevalence of short stature steadily declined among children aged 2 to less than 5 years (from 7.5% to 5.7%) and decreased among children under 2 years of age (from 10.5% to 9.7%). In 1997, the year 2000 objective to reduce the prevalence of short stature to less than 10% had been achieved in 44 of the 49 states that submitted height data to the PedNSS.

*Short stature: height-for-age less than the 5th percentile of the NCHS-CDC age- and sex-specific reference population.*

Prevalence of short stature among children aged 2 to <5 years, by race or ethnicity, 1989–1997 Pediatric Nutrition Surveillance System



\*Data not available for 1997.

## Recommendations

The PedNSS data indicate that national and state public health programs are needed to support the following interventions.

### Nutrition Interventions

- Provision of preconception nutrition care to address prepregnancy nutritional risks, such as underweight, obesity, and anemia.
- Outreach activities promoting early entry into comprehensive prenatal care, including WIC program services.
- Promotion of optimal child growth through parental education, adequate dietary intake, and comprehensive health care.
- Implementation of innovative strategies to reverse the rising trend of overweight among young children.
- Promotion of adequate dietary iron intake and screening of children at risk for iron deficiency.
- Establishment of breastfeeding as a societal norm.

- Intervention research to determine which strategies successfully reduce risk and achieve the nutritional interventions described here.

### Nutrition Monitoring

- Expanded participation of states, U.S. territories, tribal governments, and managed care programs in the PedNSS.
- Close collaboration between CDC and participating government agencies to support system initiation and maintenance as well as improved data quality.
- Enhancement of the PedNSS to include data on dietary intake, parental feeding strategies, physical activity, food insecurity, household socioeconomic status, WIC nutritional risk factors, and parental characteristics (such as body mass index).

*We acknowledge and thank all contributors to the Pediatric Nutrition Surveillance System.*

Complete information is in *Pediatric nutrition surveillance, 1997 full report*.

To receive a copy, contact the Maternal and Child Nutrition Branch, Division of Nutrition and Physical Activity, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, 4770 Buford Highway, NE, Mail Stop K-25, Atlanta, GA 30341-3717; telephone (770) 488-5702.