

## Prevalence of High Weight-for-recumbent Length Among Infants and Toddlers From Birth to 24 Months of Age: United States, 1971–1974 Through 2015–2016

by Cheryl D. Fryar, M.S.P.H., Margaret D. Carroll, M.S.P.H., and Cynthia L. Ogden, Ph.D., Division of Health and Nutrition Examination Surveys

Excess weight in infants is often defined using weight-for-recumbent length. The Centers for Disease Control and Prevention (CDC) recommends using the World Health Organization (WHO) growth standards to monitor growth in children under age 2 years in the United States. The recommended definition of excess weight in infants is +2 z scores (corresponding to the 97.7th percentile) on the WHO sex-specific weight-for-recumbent length growth standards. Some analyses have used the 95th percentile on the CDC sex-specific weight-for-recumbent length growth charts as a cut point for excess weight in infants. Consequently, this report presents estimates of excess weight using both definitions.

Based on the WHO growth standards, results from the 2015–2016 National Health and Nutrition Examination Survey (NHANES), using measured recumbent lengths and weights, indicate that an estimated 8.9% of infants and children under age 24 months have high weight-for-recumbent length. Based on the CDC growth charts, an estimated 9.9% of infants and children under 24 months have high weight-for-recumbent length.

[Table 1](#) shows the unweighted sample sizes for infants and toddlers with measured recumbent length and weight by age for each survey cycle. Because data collection began at different ages in different surveys, [Table 2](#) shows the prevalence of high weight-for-recumbent length from birth to 24 months, from 6 to 24 months, and from 12 to 24 months by survey years. The 1976–1980 NHANES included individuals starting at 6 months, while the 1988–1994 NHANES included individuals aged 2 months and over. Beginning with 1999–2000, NHANES included individuals from birth. Therefore, trends from 1976–1980 to the present can be reported only for the 6- to 24-month age group.

NHANES, conducted by the National Center for Health Statistics, uses a stratified, multistage probability sample of the civilian noninstitutionalized U.S. population. A household interview and a physical examination are conducted for each survey participant. During the physical examination, conducted in a mobile examination center, recumbent length and weight are measured as part of a more comprehensive set of body measurements. These measurements are taken by trained health technicians, using standardized measuring procedures and equipment. Observations for persons missing a valid recumbent length or weight measurement are not included in the data analysis.

For additional information on NHANES methods, visit: <https://www.cdc.gov/nchs/nhanes/analyticguidelines.aspx>.

## References

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This *Health E-Stat* supersedes the earlier version, “Prevalence of High Weight-for-recumbent Length Among Infants and Toddlers From Birth to 24 Months of Age: United States, 1971–1974 Through 2013–2014,” available from: [https://www.cdc.gov/nchs/data/hestat/high\\_weight\\_recumbent\\_2013-14/high\\_weight\\_recumbent\\_length\\_2013\\_14.htm](https://www.cdc.gov/nchs/data/hestat/high_weight_recumbent_2013-14/high_weight_recumbent_length_2013_14.htm).

**Table 1. Unweighted sample size for infants and toddlers from birth to 24 months with measured weight and recumbent length, by age: United States, 1971–1974 through 2015–2016**

Survey period	Age (months)		
	Birth to under 24	6–24	12–24
1971–1974	---	---	553
1976–1980	---	1,014	719
1988–1994	---	2,442	1,287
1999–2000	671	466	256
2001–2002	667	488	256
2003–2004	766	574	332
2005–2006	822	602	345
2007–2008	719	524	295
2009–2010	703	521	317
2011–2012	584	403	219
2013–2014	609	450	240
2015–2016	630	465	272

--- Data not available.

SOURCE: NCHS, National Health and Nutrition Examination Survey.

**Table 2. High weight-for-recumbent length among infants and toddlers from birth to 24 months, by age: United States, 1971–1974 through 2015–2016**

Survey period	WHO growth standards <sup>1</sup>			CDC growth charts <sup>2</sup>		
	Birth to under 24 months	6–24 months	12–24 months	Birth to under 24 months	6–24 months	12–24 months
	Percent (standard error)					
1971–1974	---	---	6.5 (1.2)	---	---	6.7 (1.3)
1976–1980	---	6.3 (1.0)	6.8 (1.1)	---	7.1 (1.0)	7.2 (1.2)
1988–1994	---	7.8 (0.7)	8.0 (1.0)	---	8.8 (0.7)	8.5 (1.1)
1999–2000	9.2 (1.3)	9.8 (1.7)	7.9 (2.1)	10.4 (1.6)	10.5 (1.6)	7.8 (2.1)
2001–2002	7.8 (1.1)	7.7 (1.3)	6.3 (1.3)	7.9 (1.1)	7.8 (1.3)	6.4 (1.3)
2003–2004	8.5 (1.2)	9.0 (1.7)	9.0 (2.1)	9.5 (1.3)	10.1 (1.6)	9.8 (2.1)
2005–2006	7.1 (1.0)	7.1 (1.4)	6.7 (1.7)	8.2 (1.1)	8.1 (1.5)	6.9 (1.7)
2007–2008	8.8 (0.9)	9.7 (1.1)	9.7 (1.1)	9.5 (1.1)	10.4 (1.2)	10.1 (1.2)
2009–2010	8.6 (1.3)	9.6 (1.7)	9.4 (2.1)	9.7 (1.1)	10.7 (1.6)	9.6 (2.0)
2011–2012	7.1 (1.3)	8.2 (1.6)	*7.1 (2.2)	8.1 (1.2)	8.2 (1.6)	*6.3 (2.0)
2013–2014	8.1 (1.2)	8.4 (1.5)	7.9 (1.8)	9.1 (1.4)	9.5 (1.7)	8.3 (1.7)
2015–2016	8.9 (0.9)	9.0 (1.1)	8.4 (1.3)	9.9 (1.2)	10.2 (1.3)	8.1 (1.5)

--- Data not available.

\* Estimate has a confidence interval width between 5 and 30 and a relative confidence interval width greater than 130% and does not meet standards of reliability or precision; see "National Center for Health Statistics Data Presentation Standards for Proportions," available from: [https://www.cdc.gov/nchs/data/series/sr\\_02/sr02\\_175.pdf](https://www.cdc.gov/nchs/data/series/sr_02/sr02_175.pdf).

<sup>1</sup>High weight-for-recumbent length is at or above the 97.7th percentile of the sex-specific weight-for-recumbent length WHO growth standards, available from: [https://www.cdc.gov/growthcharts/who\\_charts.htm](https://www.cdc.gov/growthcharts/who_charts.htm).

<sup>2</sup>High weight-for-recumbent length is at or above the 95th percentile of the sex-specific weight-for-recumbent length 2000 CDC growth charts, available from: [https://www.cdc.gov/growthcharts/cdc\\_charts.htm](https://www.cdc.gov/growthcharts/cdc_charts.htm).

NOTE: WHO is World Health Organization; CDC is Centers for Disease Control and Prevention.

SOURCE: NCHS, National Health and Nutrition Examination Survey.