

Fitnessgram in NYC

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Fitnessgram

- **FITNESSGRAM includes measured height and weight to compute BMI for all students**
- **Fitness tests are administered for students age 10 & older:**
 - **Trunk lift**
 - **Push up**
 - **Curl up**
 - **Sit & reach (left & right)**
 - **Pacer (cardiorespiratory fitness)**

New York City



VIEW TO DOWNTOWN

NEW YORK CITY



NYC Public Schools

- **>1400 schools**
- **1.1 million students (of 8.2 million total residents)**
 - **More students than 38 states combined**
- **43% of student homes – English is not primary language**

Development of NYC Fitnessgram

Fitnessgram Pilot in ~100 schools

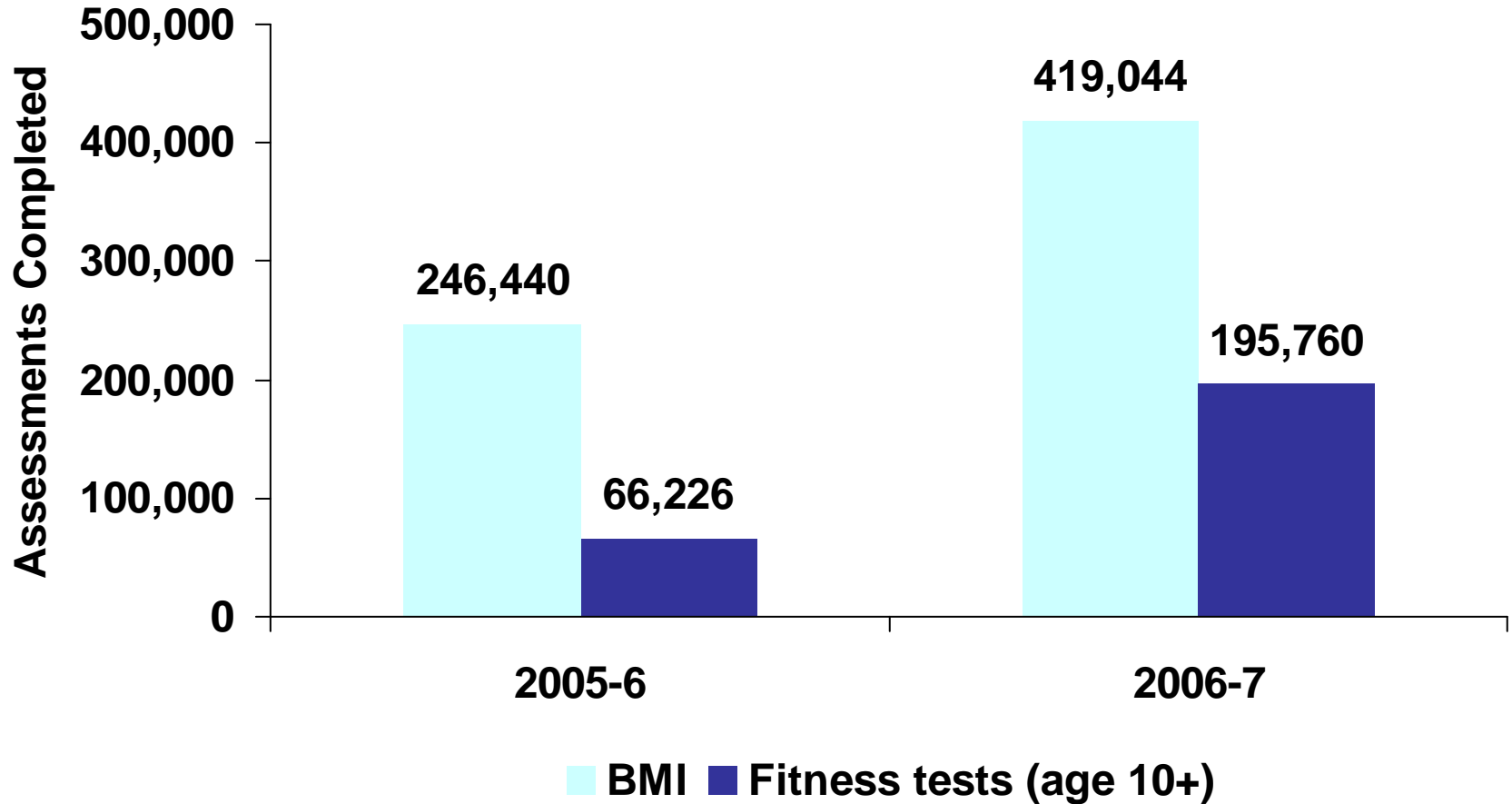


Focus groups with teachers, parents, medical providers, students, PE professionals, Office of Fitness and PE, & Div. of Informational and Instructional Technology

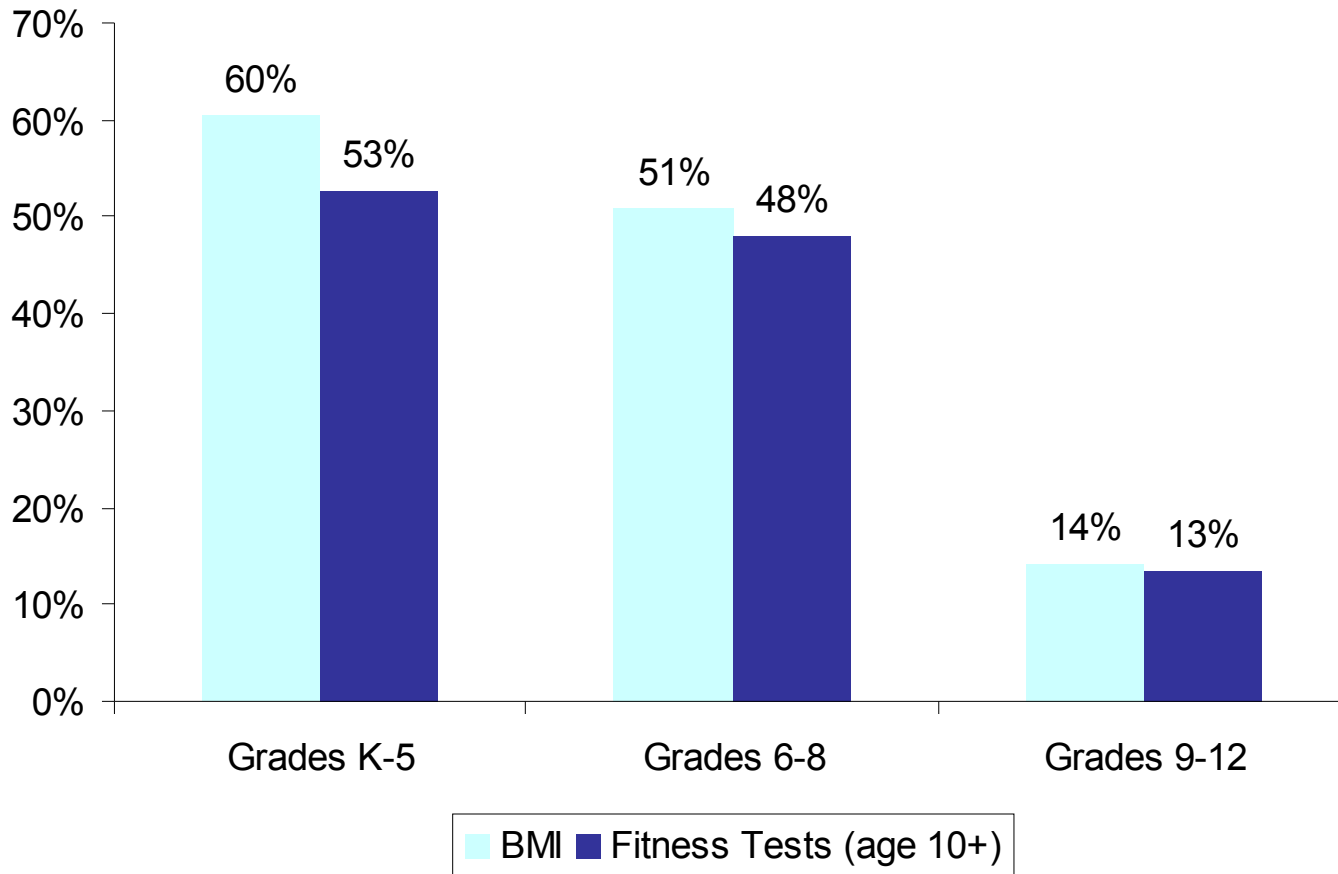


**Web-based NYC Fitnessgram (started in 2005-6 school yr)
- Report available in 9 languages**

NYC Fitnessgram Rollout Progress



Students Completing Fitnessgram Assessments, 2006-7 School Year



Obesity Begins Early: Findings Among Elementary School Children in New York City

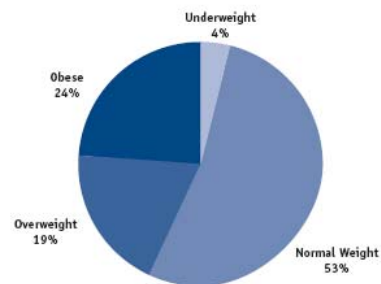
Obesity among children is a pressing concern. Nationally, the percent of children ages 6–11 years old who are obese has nearly quadrupled, from less than 4% in the 1960s to more than 15% in 2000. There are serious long-term health consequences associated with being obese in childhood, including asthma, depression, diabetes, and heart disease.

In May 2003, the New York City Department of Health and Mental Hygiene and the Department of Education conducted a representative survey of elementary school children in the city public school

system. The survey, which measured the heights and weights of nearly 3,000 children, identified that almost half of New York City school children are not at healthy weights. This special report summarizes the survey findings and outlines important overweight and obesity prevention and management recommendations for families, schools, and providers.

Obesity is calculated based on a child's weight, depending on height, age, and sex*. To learn more about how to define obesity in children, visit: <http://www.cdc.gov/growthcharts/>.

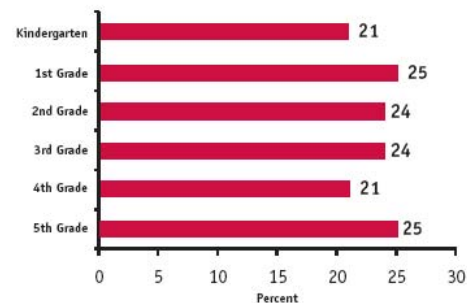
Only half (53%) of elementary school children are at a healthy weight



- Among children, 24% are obese, and an additional 19% are overweight. There is, however, also a small percent (4%) of children who are underweight.

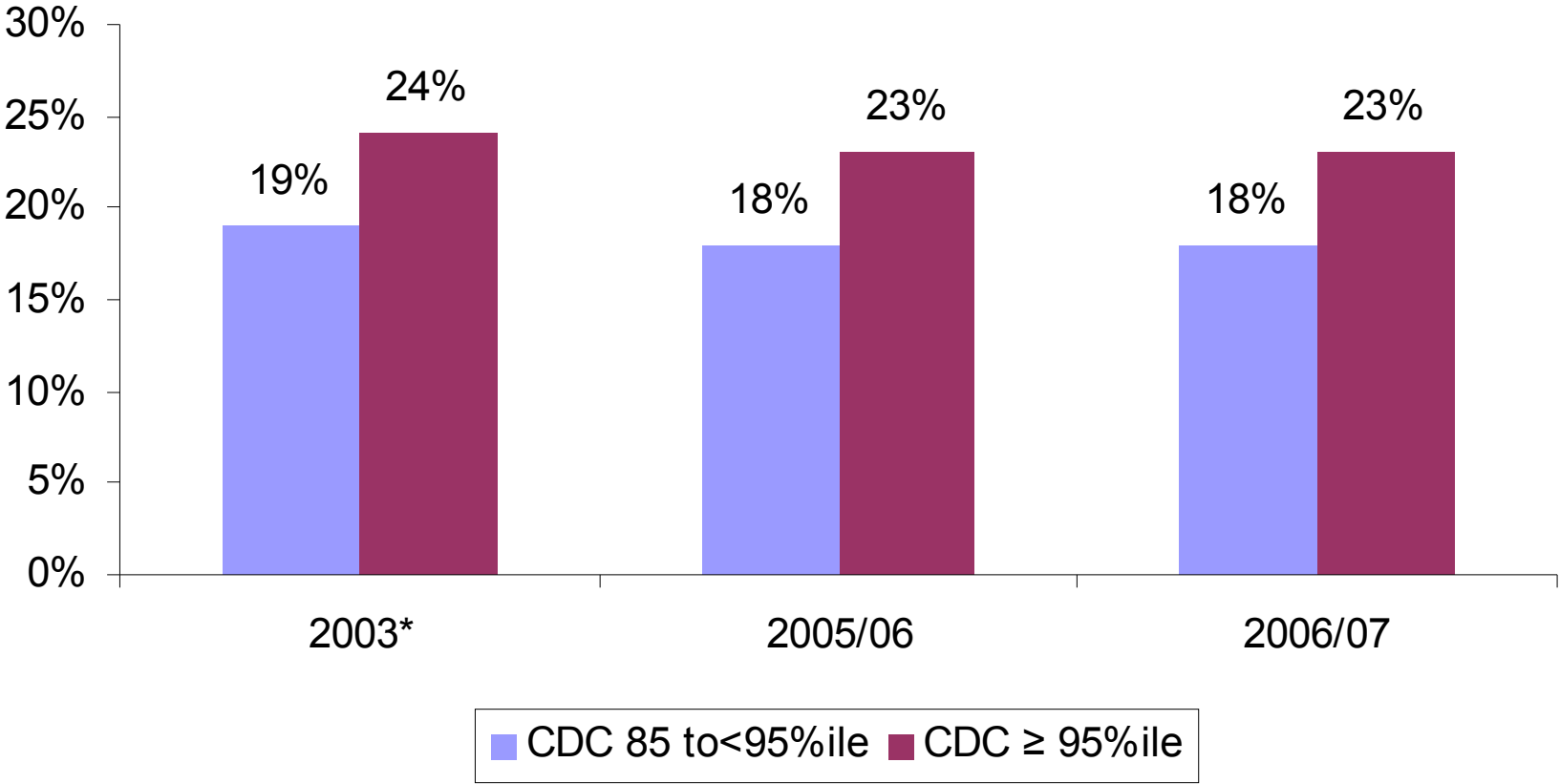
* Obesity and overweight are defined by a child's body mass index (BMI).

Obesity is already common as early as kindergarten



- In all 6 grades surveyed, more than 20% of children were obese. Obesity is already a serious problem by kindergarten (21%).

More than two in five NYC elementary school students are above a healthy weight



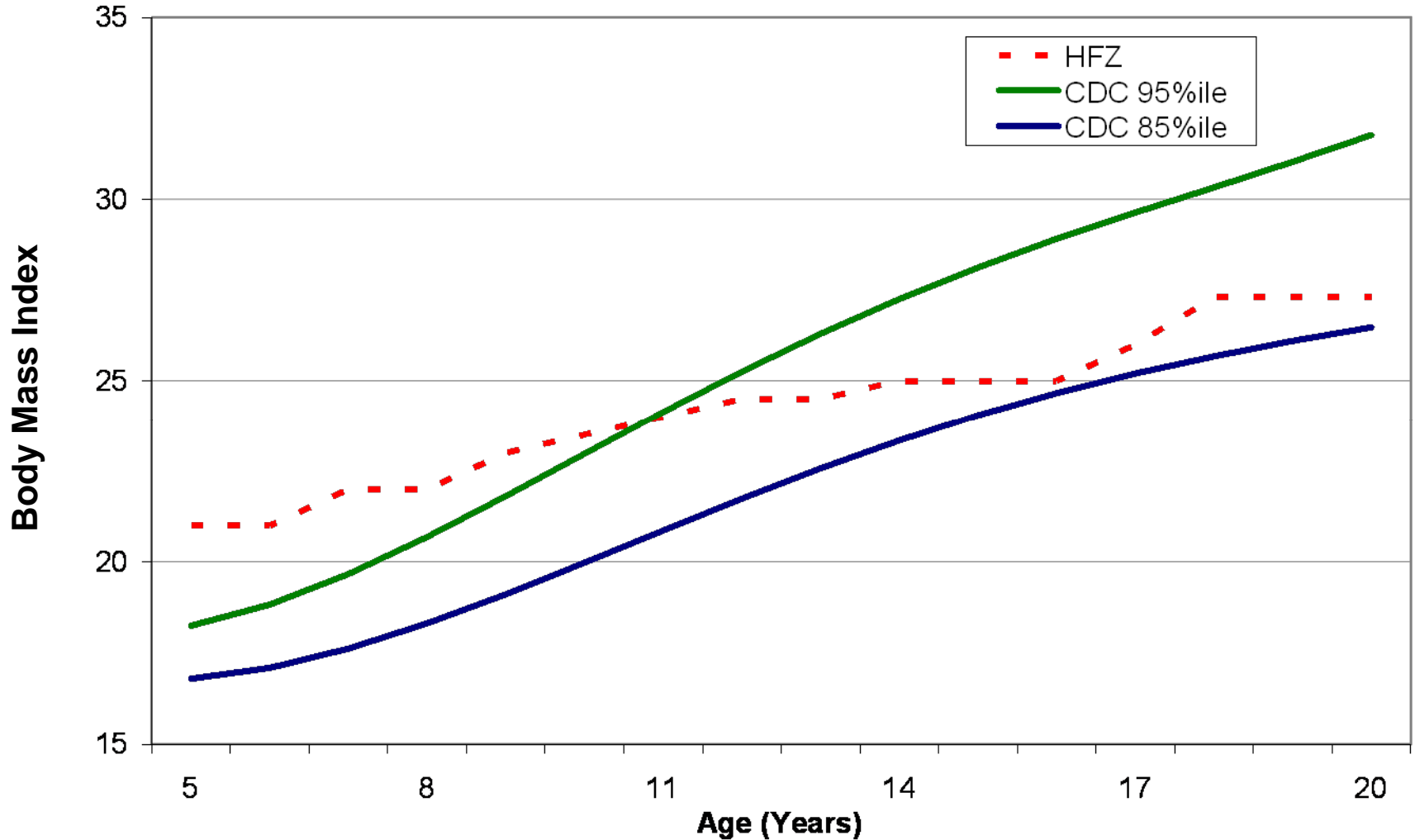
*2003 data are from survey: Thorpe et al. AJPH; 2005. 2005-7 are FG data



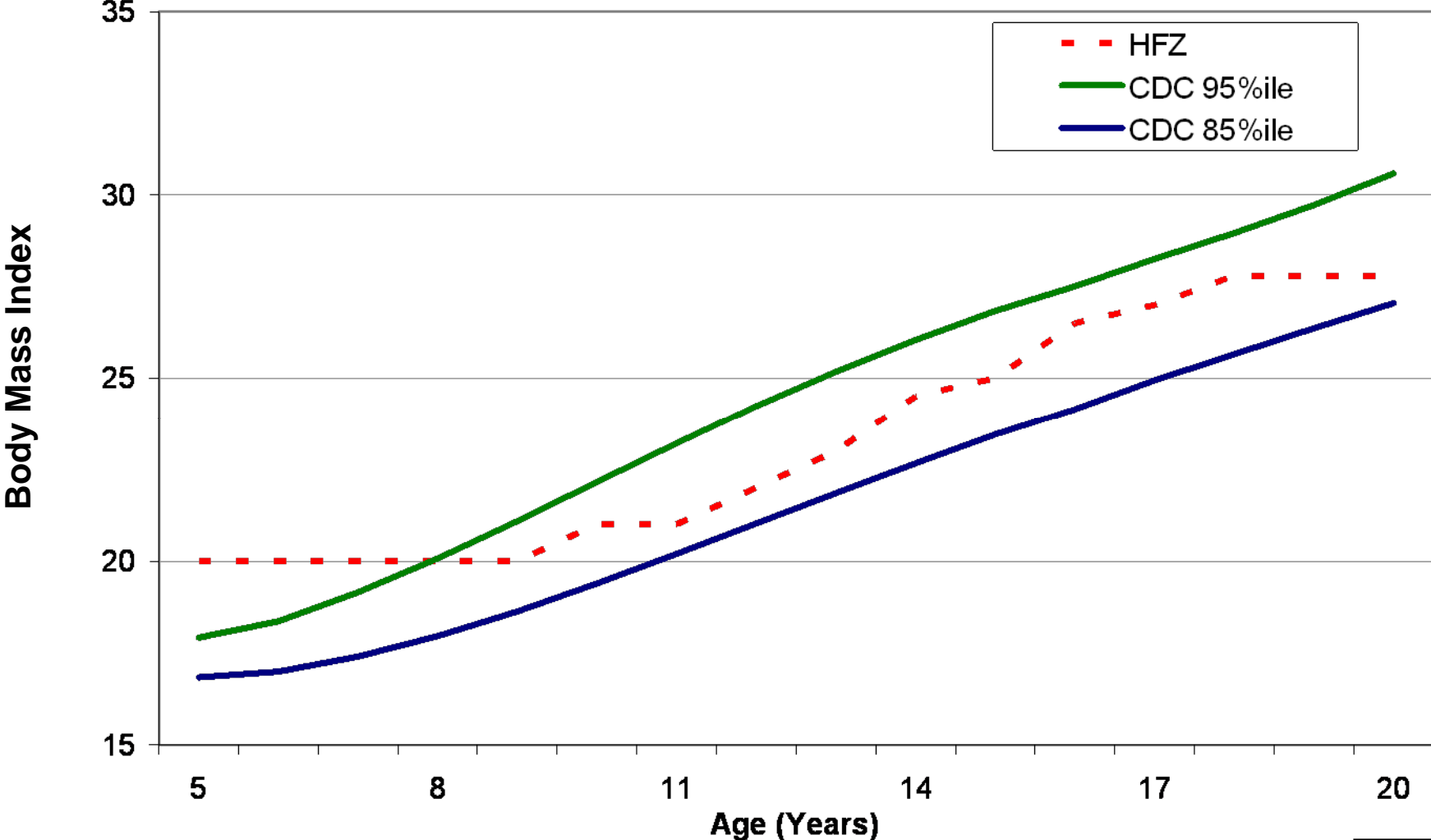
Current NYC Concerns with Fitnessgram

- **Different Cooper Institute vs CDC cut-offs for Overweight and Underweight**
- **Reports to parents that conflict with CDC definitions (CDC definitions are used by Pediatricians)**
- **Health concerns for children above CDC 85th percentile thresholds that classify as having BMI in Healthy Fitness Zone (HFZ)**
- **Overestimation of Underweight by current HFZ cut-offs**

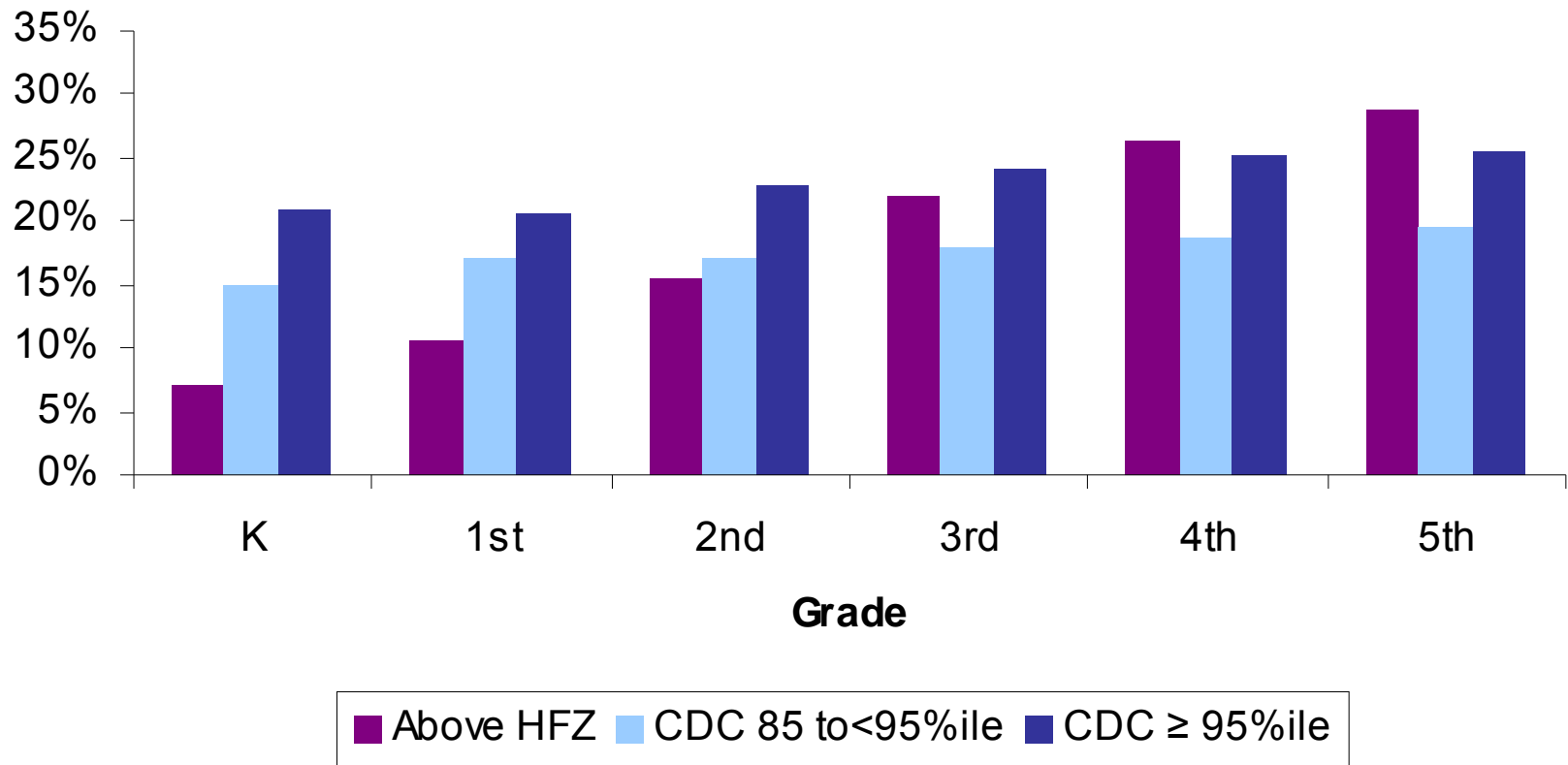
Comparing CDC and Cooper Institute BMI Cutoff Levels for Overweight (Girls)



Comparing CDC and Cooper Institute BMI Cutoff Levels for Overweight (Boys)



Prevalence of children above healthy weight by grade using HFZ and CDC criteria, NYC 2006-7



Bogalusa Heart Study

- **Estimated associations (ORs) with risk factors, especially triglycerides and insulin, stronger for CDC 95th percentiles than for triceps skinfold thickness**
- **Substantial increases in prevalence of risk factors consistently seen above 85th percentile, even at ages 5-10 years**

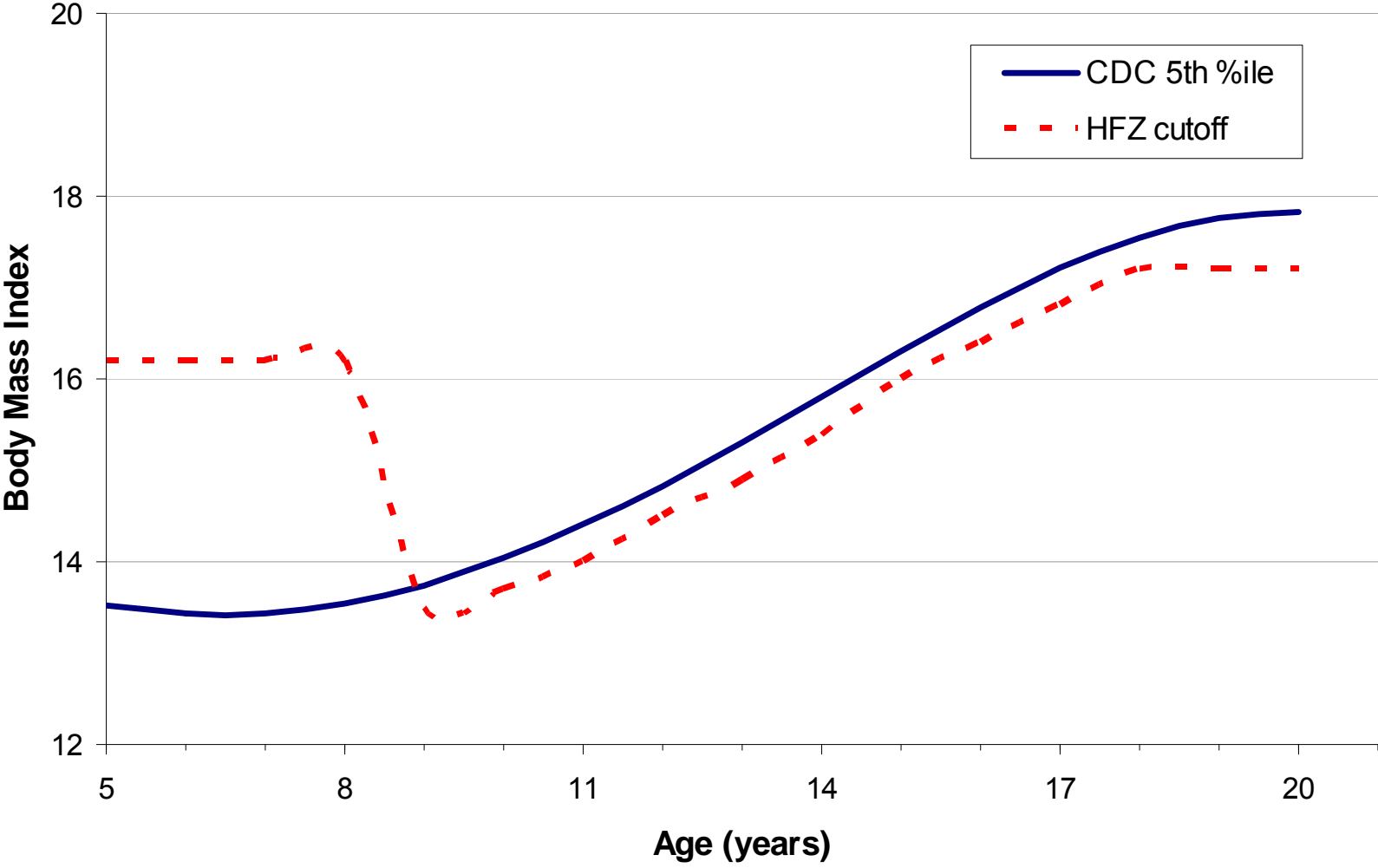
Freedman D et al. The relation of overweight to cardiovascular disease risk factors among children and adolescents: the Bogalusa Heart Study. Pediatrics 1999; 103(6): 1175-82.

Bogalusa Heart Study

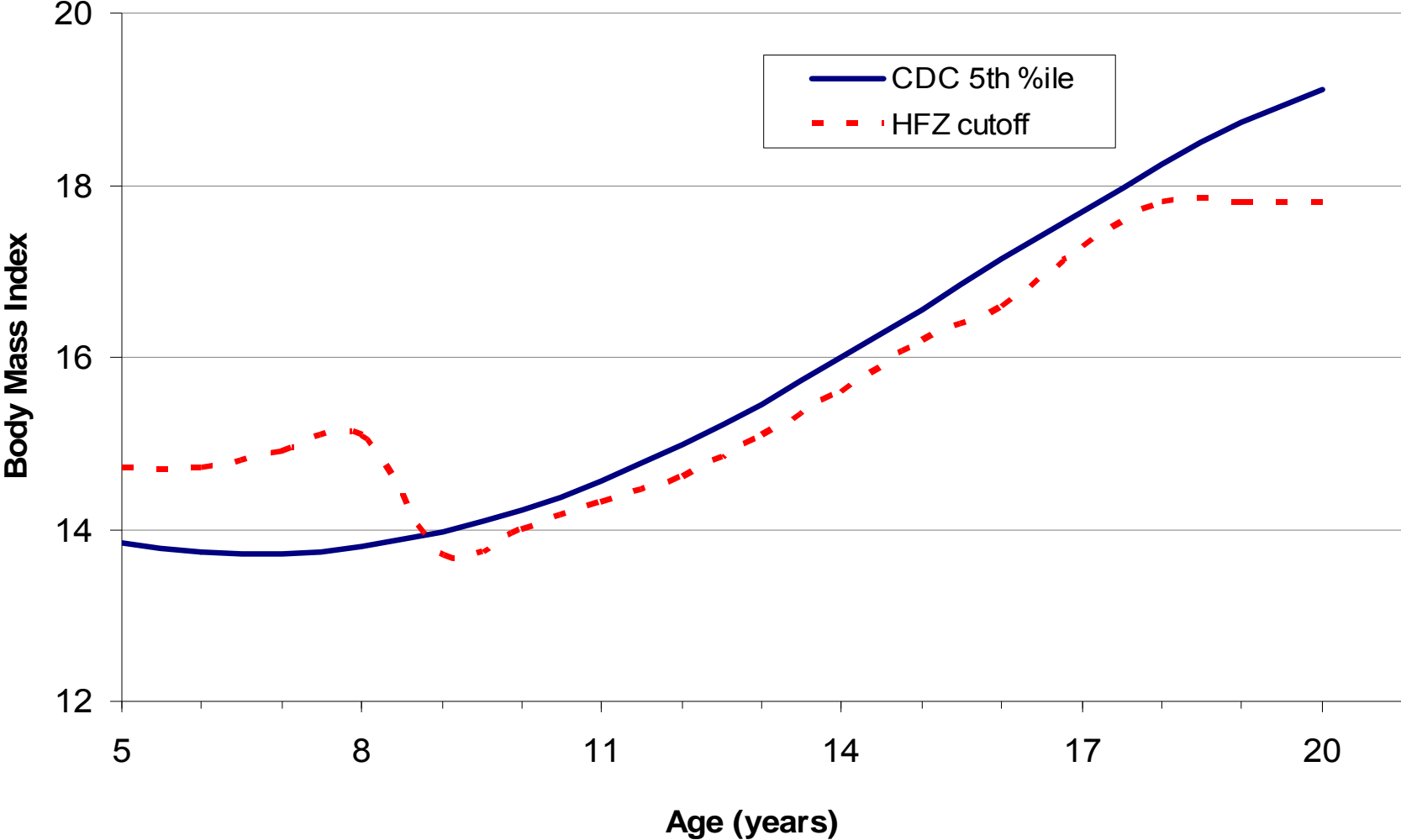
	CDC BMI Percentiles						
	<25	25-49	50-74	75-84	85-94	95-97	>97
Age 5-10y							
TC>200 (%)	9	10	10	13	18	17	23
TG>130 (%)	2	3	3	6	10	10	21
LDLC>130 (%)	8	8	9	10	18	12	23
HDLC<35 (%)	5	5	6	4	8	7	18
Age 11-17y							
TC>200 (%)	6	6	7	9	15	12	19
TG>130 (%)	3	4	5	7	12	18	32
LDLC>130 (%)	4	4	6	9	13	12	21
HDLC<35 (%)	6	9	10	12	14	16	21

Freedman D et al. The relation of overweight to cardiovascular disease risk factors among children and adolescents: the Bogalusa Heart Study. Pediatrics 1999; 103(6): 1175-82.

Comparing CDC and Cooper Institute BMI Cutoff Levels for Underweight (Girls)

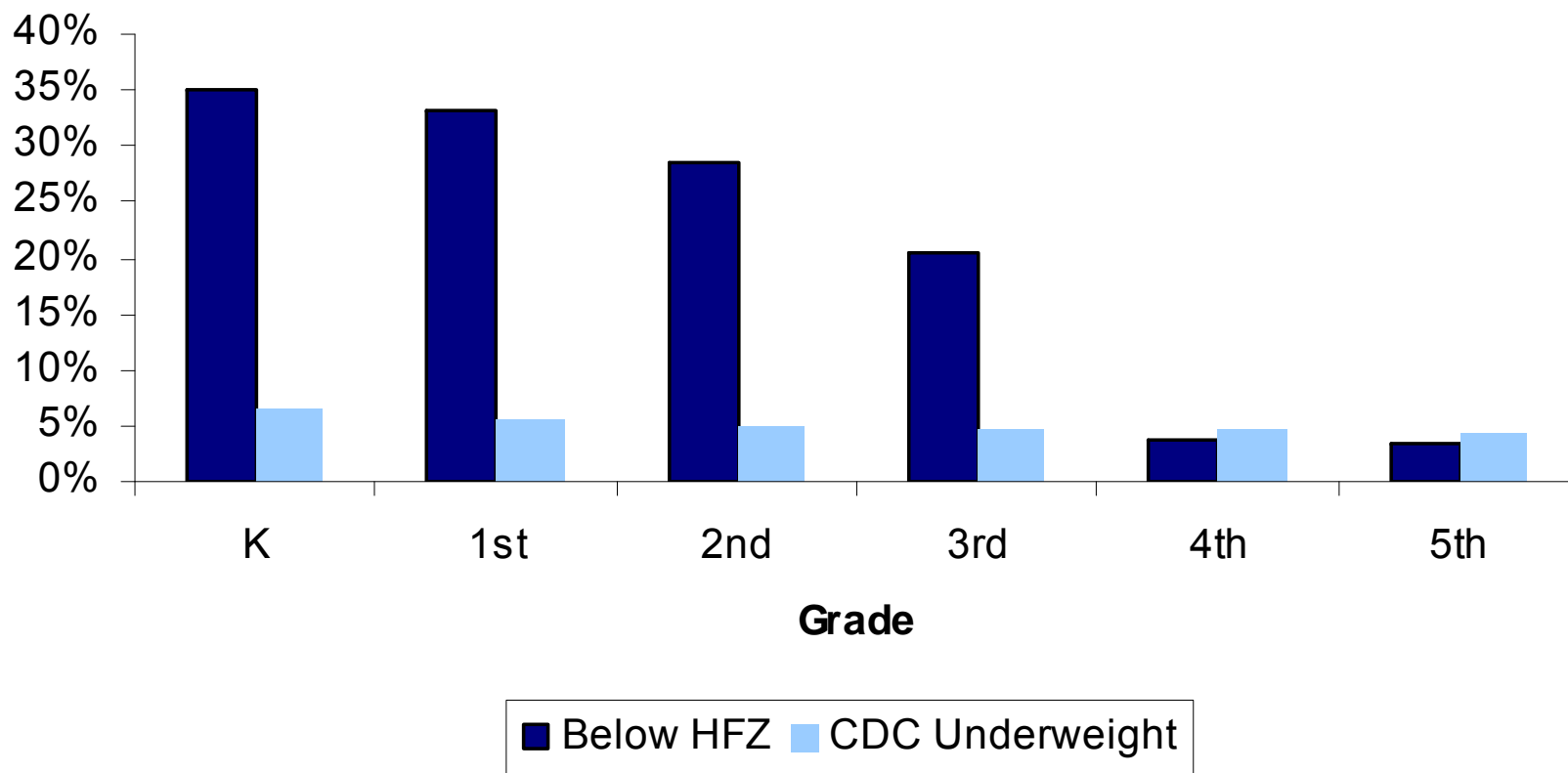


Comparing CDC and Cooper Institute BMI Cutoff Levels for Underweight (Boys)



Current HFZ BMI criteria classify many younger children as below HFZ

(30-35% of NYC K-2 students classified as underweight)



Conclusions & Recommendations

- **Align Fitnessgram BMI results with CDC cut-offs for Overweight and Underweight**
- **Ensure reports to parents and students are consistent with CDC definitions (since CDC definitions are used by Pediatricians)**
- **Since this is a screening tool, use of CDC 85th percentile thresholds as a cut-off for being above healthy weight will help direct children at increased risk of cardiovascular risk factors to their Pediatricians for diagnoses**
- **Use of CDC cut-off for Underweight should help prevent the clear overestimation of Underweight by current HFZ methods**

Acknowledgements

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 - Dr. Tom Matte, Division of Epidemiology
 - Dr. Roger Platt, Asst. Commissioner, Bureau of School Health
 - Dr. Lynn Silver, Asst. Commissioner, Bureau of Chronic Disease Prevention and Control