

THE GROWING EPIDEMIC

Child Overweight Rates on the Rise in
California Assembly Districts



California Center for Public Health Advocacy
August 2005



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In Memoriam

Ruth Roemer (1916-2005)

This study is dedicated to the loving memory of Ruth Roemer, JD, founding board member of CCPHA, and colleague, mentor, and good friend to so many of us.



About the California Center for Public Health Advocacy

The California Center for Public Health Advocacy is an independent, nonpartisan, non-profit organization that raises awareness about public health issues and mobilizes communities to promote the establishment of effective health policies. The California Public Health Association-North and the Southern California Public Health Association founded the Center in 1999. The Center is currently supported by grants from The California Endowment, The California Vitamin Cases Consumer Settlement Fund, the California Nutrition *Network*, The California Wellness Foundation, Kaiser Permanente and contributions from other individuals and organizations.

The California Center for Public Health Advocacy provides updates on state legislation regarding physical activity, physical education and nutrition, and information about advocacy tools to a statewide network of advocates via email. Health and public health professionals, community activists, teachers and parents interested in addressing the epidemics of childhood overweight and inactivity through policy reform are urged to join the network by going to our web site (www.publichealthadvocacy.org) and clicking on “Join Advocacy Network.”

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Acknowledgments

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The views expressed in this report are those of CCPHA and do not necessarily reflect the views of the members of the Scientific Panel or their institutions.

Funding: Support for this project was provided by a grant from The California Vitamin Cases Consumer Settlement Fund. The 2001 analysis was funded by a grant from The Robert Wood Johnson Foundation.

Additional information: This report, an accompanying policy brief, and fact sheets for all 80 California Assembly districts can be accessed on-line at www.publichealthadvocacy.org.

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Summary

In 2002, the California Center for Public Health Advocacy (CCPHA) released a study reporting that 26.5 out of every 100 children enrolled in grades 5, 7, and 9 in California in 2001 were overweight. In this updated study, CCPHA reports that in 2004 childhood overweight rates had increased by 6%, to 28.1 out of every 100 children. Between 2001 and 2004, the percentage of overweight children increased among all demographic groups – boys and girls, students in all grades studied, and children of all racial/ethnic backgrounds – and in almost 90% of Assembly districts.

The growing levels of childhood overweight point to two of the most serious public health crises facing California today: unhealthy diets and low levels of physical activity among our children. Poor eating and inadequate physical activity put California children at risk for diabetes and other chronic diseases in their youth, can lead to expensive and preventable adult illnesses, and may reduce their life expectancy.

These crises reflect not only factors under the control of children and their parents, but also conditions in schools and communities that encourage children to eat and drink unhealthy foods and beverages and that limit their physical activity. Unfortunately, not enough has been done to address these problems. To address this growing epidemic, the California Center for Public Health Advocacy calls on policy makers to establish comprehensive policies that support parents in providing opportunities for their children to make healthy choices about eating and physical activity.

Chapter 1: Background

Childhood Overweight in the United States

During the past three decades, the prevalence of overweight (defined as an age-specific body mass index at or above the 95th percentile) among children in the United States more than tripled among youngsters aged 6 to 11 years, and more than doubled among adolescents aged 12 to 19 years.¹ These figures are alarming because of the health problems associated with overweight. Children and adolescents who are overweight are more likely to have risk factors for cardiovascular disease (such as increased blood pressure and cholesterol) and to have behavioral problems and depression; moreover, they are at increased risk for type II diabetes mellitus, asthma, and orthopedic problems.^{2,3} In addition, children and adolescents who are overweight are more likely to remain so as adults.^{4,5} Among overweight adolescents, an estimated 75 percent will be overweight as young adults.⁵

Adult Obesity in the United States – Health Consequences and Costs

Obese adults are at increased risk for heart disease, stroke, osteoarthritis, and several forms of cancer.⁶⁻¹⁰ These health risks result in increased human suffering, reduced quality of life, and premature death among obese persons.¹¹⁻¹³ In addition, costs for health care attributable to excess body weight account for up to 7% of annual U.S. health-care expenditures among adults,¹⁴⁻¹⁹ at a cost of more than \$90 billion (2002 U.S. dollars) per year.¹⁹ In 2005, medical care, workers' compensation, and lost productivity attributable to overweight, obesity, and physical inactivity among adults will cost California an estimated \$28 billion.²⁰

Childhood Overweight in California

In California, several sources of data describe the prevalence of overweight among children and adolescents. In 2003, among children less than 5 years old, 17.6% of children in California were overweight compared to 14.7% of children nationwide.²¹ The most recent data for children aged 9 to 11 (for the year 1999) show that 14% of California children were overweight and 18% were at risk for overweight (defined as an age-specific body mass index between the 85th and 95th percentile).²² Among adolescents aged 12 to 17 studied in 2003, 12.4% were overweight.²³ The proportion of adolescents who were at risk for overweight has been estimated at 22% among African Americans, 19% among Latinos, 14% among whites, and 11% among Asians.²⁴

Factors Associated with Childhood Overweight

Food Intake. The dramatic increase in the number of overweight children in the United States can be linked to a variety of environmental, social, and cultural changes. The food environment in the U.S. has changed considerably during the past few decades. Ready-to-eat food is widely available for purchase, and the average number of calories available for consumption per person in the United States has increased from about 3,300 calories per day during 1970 to about 3,900 calories per day during 2000.²⁵ Among adolescents aged 12 to 19 years, average energy intake increased by

243 calories per day among males and 124 calories per day among females from 1977-78 to 1994-96.²⁶ In addition, the contribution of foods prepared outside the home (such as store-bought ready-to-eat or restaurant/fast food) to the proportion of total calories consumed by children aged 2 to 18 years increased from 10% during 1977-1978 to almost 20% during 1994-1996.²⁷ Foods prepared outside the home tend to contain greater amounts of fat, salt, and calories compared to foods prepared at home.²⁸ Among children aged 4 to 19 years who participated in a national survey of food intake, children who ate fast food during a typical day consumed an average of 187 calories more than children who did not eat fast food during a typical day.²⁹ The extra calories in children's diets from foods prepared outside the home might contribute to excessive weight gain and might increase risks for becoming overweight.

Soft Drinks. Changes in typical beverage consumption among children and adolescents in the United States might also contribute to the increasing prevalence of overweight. Between 1977-78 and 1994-98, average daily soft drink consumption among children aged 6 to 17 years increased from 5 ounces to 13 ounces among boys and from 5 ounces to 10 ounces among girls.³⁰ Children who drink soft drinks consume almost 200 calories more per day than children who do not drink soft drinks and are also significantly less likely to consume adequate quantities of milk.³¹ Decreased milk consumption and increased soft drink consumption are linked to decreases in nutrient intake, including calcium, protein, and vitamins A, C, and D.^{28,31,32} In addition, soft drink consumption has been linked to weight gain among children and adolescents, and one study showed that reduced soft drink consumption was linked to a reduction in the proportion of children who were overweight.^{28,32-34}

Physical Activity. The Centers for Disease Control and Prevention recommend that school-aged children participate in at least 60 minutes of physical activity every day.³⁵ Among U.S. high school students, approximately one-third are not active enough to achieve the recommended levels of physical activity.³⁶ Cross-sectional data show that among children aged 9 to 13 years, 23% do not engage in any physical activity during free time.³⁷ In California, 30% of adolescents aged 12-17 years do not achieve the recommended levels of physical activity, and 7% get no regular physical activity at all.³⁸ Inadequate physical activity is associated with increased risks for chronic diseases, including type II diabetes mellitus and cardiovascular disease, and is also associated with increased risks for becoming overweight or obese.³⁵⁻³⁸ In addition to its association with health, physical activity is also related to academic performance. Research suggests that regular physical activity is associated with better academic performance.^{35,39-41} In California, children with higher scores on the state's Physical Fitness Test also achieved higher scores on the California Standards Tests for language and mathematics.⁴¹

Media Use. Multiple studies have shown that children and adolescents who report the most time spent watching television are more likely to be overweight.^{3,37} In addition, greater amounts of time spent watching television were associated with less time spent engaging in physical activity among adolescent boys and girls.³⁷ Higher levels of video-game and computer use are also associated with overweight.³

Physical Education. Among U.S. high school students, daily participation in physical education classes decreased from 42% during 1991 to 28% during 2003.⁴² Specific data are not available for younger students, but on average, half of schools require physical education for students in grades one through five, and fewer than one-third of schools require physical education for students in grades six through eight.⁴³ In California, 15% of adolescents aged 12 to 17 years reported that their school does not require or offer physical education classes.³⁸ These students are less likely to engage in regular physical activity than are students whose schools require physical education classes.³⁸

Summary

The prevalence of overweight among children and adolescents in the United States has reached epidemic levels, with overweight among children in California higher than the national average. The growing levels of childhood overweight point to two of the most serious public health crises facing California today: unhealthy diets and low levels of physical activity among our children. Poor eating and inadequate physical activity put California children at risk for diabetes and other chronic diseases in their youth, can lead to expensive and preventable adult illnesses, and may reduce their life expectancy.

The increasing prevalence of overweight has been linked to a variety of social, cultural, and environmental factors. Some of these factors include increased overall calorie intake; increased consumption of soft drinks and high-fat, high-calorie, ready-to-eat foods; low levels of physical activity; increasing amounts of time spent in sedentary activities, such as watching television and using computers and video games; and limited access in many low-income neighborhoods to healthy foods.

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Chapter 2: Methods

Data Sources

The data used to conduct the analysis are described below:

- Physical Fitness Test Scores: Scores for each student from the 5th, 7th and 9th grade who participated in the 2004 *FITNESSGRAM* test were obtained from Education Data Systems, Incorporated (EDS), which compiles the data for the California Department of Education (CDE). Each record represents one student and includes a unique identifier number (i.e., CDS code) for the student's school, the results for each of the six *FITNESSGRAM* test components, and demographic information.
- Public School Location Data: CDE provided a public-access data file that contains the name, address including zip code, CDS code, and grade span for all public schools in California. The data file is updated monthly and is available at <http://www.cde.ca.gov/ds/si/ds/pubschls.asp>. The data file was downloaded in December 2004.
- Public School Enrollment Data: Public school enrollment data for the 2003-2004 school year were obtained from CDE, which provides public-access data files. The data files contain the number of students enrolled in each California public school as identified by its CDS code by grade level, sex, and race/ethnicity. The data file is available at <http://dq.cde.ca.gov/DataQuest/downloads/sifenr.asp>. The data file was downloaded in December 2004.
- Assembly District Zip Code Data: The California State Senate Office of Demographics provides a public-access data file that lists the zip codes present in each Assembly district in California for the district boundaries established during the 2002 reapportionment based on U.S. Census 2000 data. For zip codes that are present in more than one Assembly district, the database provides the proportion of the population for such zip codes that is present within each district. The zip codes in this file are current as of November 2001.

Allocation of Students to Zip Codes by Assembly District

Public school location and enrollment data were linked by CDS code to determine the number of students in 5th, 7th and 9th grade for each of the 8,579 schools with these grades. There were 1,521,445 students in 5th, 7th, and 9th grades enrolled in California public schools during the 2003-2004 school year. Next, the combined school location and enrollment data were linked to the fitness data reported by 7,749 schools (90.3%). A total of 7,624 schools (88.9%) had both complete enrollment and address data and fitness data for 1,375,214 students (90.4%). The students were grouped by the zip code for the school they attended. There were 1,440 zip codes for the schools that reported fitness data as well as school location and enrollment data files.

Assembly District Analysis

The 1,440 zip codes that were present on both the school location and enrollment data files were matched to legislative district zip codes based on the California State Senate Office of Demographics zip code file. Of the 1,440 zip codes, 32 (2.2%) could not be matched to the Assembly district zip code file. Data for a total of 1,353,095 (88.9%) students in 5th, 7th, and 9th grade in 1,408 zip codes were used in the analysis.

Statistical Analysis

For each Assembly district, the percentage (e.g., crude rate) of students considered overweight was calculated by dividing the number of students who failed the body composition component of the California Physical Fitness Test by the total number of students who passed or failed the test. Students who were within or below the Healthy Fitness Zone for the body composition test were considered to have passed, and students who exceeded the Healthy Fitness Zone were considered to have failed. Rates were calculated for all students, by gender, grade, and race/ethnicity for the entire state and for each Assembly district.

Students who had incomplete or invalid data for each test were excluded from the analysis. Reasons for incomplete or invalid data included missing gender, grade, or race/ethnicity data, or student absence on a test date and/or dates for make-up sessions. Students with missing race/ethnicity data were only excluded from the race/ethnicity portion of the analysis. Rates based on 30 or fewer students were not reported both because such small numbers might produce unreliable information and to maintain student confidentiality.

Next, the overweight rates for each Assembly district were sorted from lowest to highest and grouped into quintiles (from one to five). These quintiles, which represent the lowest one-fifth to the highest one-fifth rate of overweight students in the Assembly districts were used to create maps that show the distribution of overweight students throughout the state.

Data from our own analysis of 2001 Physical Fitness Test results were readily available for comparison to the 2004 data. The overall rates for overweight students in 2004 and 2001 were compared in each legislative district and for the entire state. Changes in the quintile rank between 2004 and 2001 were also examined.

Chapter 3: Results

Number of Children Included in the 2004 Analysis

A total of 1,375,214 out of 1,521,445 (91%) children enrolled in 5th, 7th, or 9th grade during the 2003-2004 school year participated in the Physical Fitness Test. These children attended a total of 7,749 out of the 8,579 (90%) California public schools that reported having children enrolled in 5th, 7th, or 9th grade during the 2003-2004 school year. After exclusion of student records with missing or invalid data for gender, grade, ethnicity or school enrollment, data from a total of 1,375,214 children (90%) in 7,624 schools (89%) were available for analysis. The children who participated in the Physical Fitness Test during the 2003-2004 school year were not substantially different from all children enrolled in grades 5, 7, and 9 in terms of gender, grade distribution or race/ethnicity (Table 1).

Children who participated in the Physical Fitness Test did not necessarily complete all six parts of the test. There are numerous reasons for invalid or missing data: student absence on the test date and on all subsequent make-up sessions, parent request to excuse the student from the test, a waiver granted by the California Board of Education, children who were excused from the test for medical reasons, and extraordinary circumstances. Because children could miss one part of the Physical Fitness Test for any of these reasons but could still participate in any of the five other parts of the test, the total numbers of children who completed each specific part of the Physical Fitness Test (such as aerobic capacity or body composition) and could thus be included in the calculations differ from one tested function to another.

For the body composition test (the test used to determine overweight status), 1,250,784 (91%) children had valid data; 9% had invalid or missing data. Across all 80 Assembly districts, the proportion of students with invalid or missing data ranged from 5% to 18%. Among those with valid data, 92% of children were assessed based on body mass index, 6% based on skin-fold thickness, and 2% based on bioelectrical impedance.

Statewide Percentages of Overweight Children

Overall, 28.1% of children enrolled in grades 5, 7, and 9 in California were overweight during 2004 (Table 2). Boys were more likely to be overweight (33.9%) than girls (22.0%). The percentage of all children who were overweight decreased with increasing grade level.

The percentage of children who were overweight was highest among Pacific Islanders (35.9%), followed by Hispanic (35.4%) and American Indian/Alaskan Native (31.7%) children. The lowest percentage of overweight was found among Asian children (17.9%), followed by non-Hispanic white children (20.6%).

Change in Statewide Percentages of Overweight Children between 2001 and 2004

Statewide, the percentage of children in grades 5, 7, and 9 who were overweight increased 6% to 28.1 per 100 children in 2004, from 26.5 per 100 children in 2001. (Figure 1). The percentage of overweight children increased among both boys and girls, and among children in all three grades.

The percentage of overweight children also increased among children in all race/ethnicity categories (Figure 2). American Indian/Alaskan Native children experienced the largest increase in overweight, from 25.1% during 2001 to 31.4% during 2004. Non-Hispanic African-American children experienced the smallest increase in overweight, from 28.6% during 2001 to 28.7% during 2004.

Assembly District Findings

Across all 80 Assembly districts, the percentage of children enrolled in grades 5, 7, and 9 who were overweight during 2004 ranged from 18.2% to 39.1% (Table 3). In 55 out of 80 (69%) Assembly districts, at least one out of four children was overweight.

Results varied according to sex, grade, and ethnic/racial makeup. In all 80 Assembly districts, the percentage of overweight boys was higher than the percentage of overweight girls. In 76 out of 80 (95%) Assembly districts, the percentage of overweight fifth-grade children was higher than the percentage of overweight ninth-grade children.

In all 80 Assembly districts the percentage of overweight Hispanic children was higher than the overall percentage of overweight children, and the percentages of overweight Asian children and of overweight non-Hispanic white children were lower than the overall percentage of overweight children for the district (Table 4).

Assembly districts in the Los Angeles area had particularly high percentages of children who were overweight (see Map). Eight out of ten (80%) Assembly districts with the highest percentages of overweight children were located in the Los Angeles area. Assembly districts in the San Francisco Bay Area had particularly low percentages of children who were overweight. Five out of ten (50%) Assembly districts with the lowest percentage of overweight children were in the San Francisco Bay Area.

Change in Percentage of Overweight Children by Assembly District between 2001 and 2004

Between 2001 and 2004, the percentage of children enrolled in grades 5, 7, and 9 who were overweight increased in 71 out of 80 (89%) Assembly districts (Tables 5 and 6). More than one-third of districts experienced a 10% or greater increase in the percentage of children who were overweight. Only 9 out of 80 Assembly districts experienced a decrease in the percentage of children who were overweight. The change in percentages of overweight children ranged from a decrease of 18% to an increase of 19%.

Three Assembly districts experienced the largest changes in the percentage of children who were overweight between 2001 and 2004:

- In Assembly District 23, the percentage of children who were overweight increased by 19%, to 31.6 per 100 children from 26.6 per 100 children;
- In Assembly District 6, the percentage of children who were overweight increased by 17%, to 20.5 per 100 children from 17.5 per 100 children; and
- In Assembly District 22, the percentage of children who were overweight decreased by 18%, to 20.9 per 100 children from 25.5 per 100 children. %;

Changes in the number of enrolled students, the proportion of students who participated in the Physical Fitness Test, the relative proportions of children in grades 5, 7, and 9, or the demographic composition of the children enrolled in schools in these Assembly districts might account for the changes in the percentage of children who were overweight. However, other districts experienced large changes in these factors without also experiencing large changes in the percentage of children who were overweight. When the data for the districts with the largest relative changes were removed, the overall percentage of children who are overweight remained 28.1%.

Chapter 4: Policy Recommendations

The epidemic of childhood obesity will not be solved by calling for individual behavior change alone. To address this health crisis, state and local leaders must address the conditions in schools and communities that contribute to the epidemic and undermine parents' efforts to protect their children's health. The California Center for Public Health Advocacy (CCPHA) calls on policy makers throughout the state to take immediate action. The following recommendations are based on those made by a national Scientific Panel brought together by CCPHA and on recommendations recently developed by the Strategic Alliance for Healthy Food and Activity Environments.¹

1. Institute healthy food and beverage standards for all items available in pre-school, school, and after-school programs. Standards should address levels of fat, sugar, and calories.
2. Ensure that all children receive physical education that meets minimum standards for quality, duration, and frequency. Students should be active, classes should be of appropriate size, and teachers should be credentialed and well-trained.
3. Establish grocery stores with produce and other fresh, healthy items in all underserved neighborhoods.
4. Eliminate the advertising of unhealthy foods and beverages to children and youth.
5. Provide health plan benefits that cover age-appropriate nutrition counseling and education as well as physical activity programs.
6. Make school recreational facilities available for after-hours use by children and families, especially in neighborhoods that lack adequate, safe, and accessible park and recreational facilities.
7. Adopt and implement "complete streets" policies to provide safe and convenient roadway access for people who walk, bicycle, or use wheelchairs.
8. Provide financial incentives for establishing physical activity facilities, grocery stores, and farmers markets, and improving walkability, particularly in low-income communities.

¹ Strategic Alliance for Healthy Food and Activity Environments. *Taking Action for a Healthier California: Recommendations to Improve Healthy Food and Activity Options, 2005*. Available on-line at: <http://www.eatbettermovemore.org>.

Chapter 5: Conclusion and Comments

Conclusion

Across California, the percentage of children in grades 5, 7, and 9 who were overweight increased 6% to 28.1 per 100 children in 2004, from 26.5 per 100 children in 2001. The increase occurred among both boys and girls and among children of all racial/ethnic backgrounds. An increase in the percentage of children who were overweight occurred in 71 out of 80 Assembly districts – almost 90% of all districts. The increase in the percentage of overweight children in California is a reflection of two of the most critical public health problems facing California children today: unhealthy diets and low levels of physical activity. In order to address these problems, statewide policies must be implemented to support parents in helping their children make healthy choices about eating and physical activity.

Strengths

The analysis had several strengths. First, data were available from nearly 1.4 million children – 90% of all children enrolled in grades 5, 7, and 9 in California public schools. The high percentage of eligible children who participated in the fitness study means the data are highly representative of the total population of children in California. Second, the California Department of Education uses a nationally recognized test to collect information on physical fitness among California children. The *FITNESSGRAM* test was developed by a panel of experts in physical activity and its validity has been evaluated on multiple occasions. Finally, the *FITNESSGRAM* test uses criterion-referenced standards to assess each of its six components. These standards provide a reliable means of evaluating physical fitness among children.

Limitations

The analysis also had some limitations. First, data collection methods may vary among schools. Because there is little training on how to administer the *FITNESSGRAM* tests, and because the conditions under which tests are conducted may differ among schools, it is difficult to assess how accurate the measurements are. Consequently – and this is the second limitation – it is difficult to assess why some Assembly districts had large changes in the percentage of children who were overweight between 2001 and 2004. Factors such as the number of enrolled children, the proportion of children who participated in each test, the relative proportions of children in grades 5, 7, and 9, or the demographic composition of the enrolled children might account for the changes in the percentage of children who were overweight. However, several Assembly districts experienced large changes in these factors without also experiencing large changes in the percentage of children who were overweight. When the data for the districts with the largest relative changes were removed, the overall percentage of children who are overweight remained 28.1%.

A third limitation is that the *FITNESSGRAM* test criterion-referenced standards are different from commonly used CDC standards that are based on body mass index (BMI) for age (see Appendixes A and B). This difference makes it difficult to compare the findings from this analysis to those of other studies. In general, children who were classified as overweight based on *FITNESSGRAM* criteria had a BMI for age at or above the 90th percentile. CDC standards define overweight among children as a BMI for age at or above the 95th percentile, and they classify children with a BMI for age between the 85th and 95th percentiles as at risk for overweight. Although these two sets of standards differ somewhat, both the *FITNESSGRAM* and the CDC standards define a level of weight that is associated with substantial threats to health.

The increase in the percentage of overweight children in California is a reflection of the true problems that our children face – unhealthy diets and a lack of regular physical activity. These problems are occurring statewide in California. Unless steps are taken to improve children’s diets and to increase their levels of physical activity, California’s children face a lifetime of health problems, high health care costs, and shortened life spans. In order to address these problems and to provide a healthier future for our children, statewide policies must be implemented.

Table 1

**Demographics of Students Participating in California Physical Fitness Test
and of All Students in Enrolled in Grades 5, 7, and 9 in California Public Schools,
2004**

Category	2004 Physical Fitness Test Participants		School Enrollment (Grades 5, 7, and 9)	
	Number of Students	%	Number of Students	%
All Children	1,375,214	100.0	1,521,445	100.0
Gender				
Boys	702,898	51.1	779,479	51.2
Girls	672,316	48.9	741,966	48.8
Grade				
5th	474,565	34.5	492,472	32.4
7th	468,146	34.0	500,412	32.9
9th	432,503	31.5	528,561	34.7
Race/Ethnicity				
African American	112,576	8.2	128,765	8.5
American Indian/Alaskan Native	12,552	0.9	12,924	0.8
Asian	110,358	8.0	121,182	8.0
Pacific Islander	10,600	0.8	9,584	0.6
Filipino	35,780	2.6	38,247	2.5
Latino	622,867	45.3	693,489	45.6
White	447,673	32.6	498,897	32.8
Other	19,973	1.5	18,357	1.2

From SIFb0304_enrl. Downloaded on December 5, 2004 from
<http://dq.cde.ca.gov/DataQuest/downloads/sifenr.asp>

Table 2**Percentage of Children in Grades 5, 7, and 9 in
California Who Were Overweight in 2004**

Category	Overweight (%)
All Children	28.1
Gender	
Boys	33.9
Girls	22.0
Grade	
5 th	29.3
7 th	29.1
9 th	25.4
Race/Ethnicity	
African American	28.7
American Indian/Alaskan Native	31.7
Asian	17.9
Pacific Islander	35.9
Filipino	24.7
Latino	35.4
White	20.6
Other	24.4

Table 3

**Percentage of Children in Grades 5, 7, and 9 in
California Assembly Districts Who Were Overweight in 2004,
By Gender and Grade**

Assembly District	All Children	Boys	Girls	5th Graders	7th Graders	9th Graders
1	27.71	32.32	22.92	29.60	28.92	24.58
2	26.21	31.01	21.15	26.89	28.48	23.06
3	22.82	27.16	18.24	24.82	22.17	21.65
4	20.65	25.02	16.14	21.64	21.91	18.41
5	22.75	27.08	18.19	21.03	26.14	21.20
6	20.53	25.88	14.75	22.04	22.42	16.85
7	27.31	32.88	21.35	28.37	27.80	25.37
8	26.86	32.01	21.47	26.30	28.47	25.62
9	30.08	34.35	25.62	30.57	31.62	27.34
10	25.24	30.13	20.06	25.29	25.58	24.82
11	29.33	34.97	23.52	29.49	31.55	26.46
12	22.45	27.31	17.35	23.87	23.03	20.82
13	28.83	33.86	23.53	29.91	29.24	26.77
14	24.00	28.24	19.64	23.91	26.71	20.07
15	19.99	25.06	14.78	19.77	21.67	18.46
16	27.91	33.21	22.48	28.65	28.99	25.45
17	32.24	37.85	26.27	31.85	34.65	29.34
18	29.10	34.40	23.61	31.34	29.46	26.13
19	24.93	30.27	19.51	25.59	25.86	23.46
20	24.43	30.40	17.94	25.33	24.76	23.07
21	19.80	25.60	13.61	19.06	19.23	21.54
22	20.91	26.50	14.99	22.76	21.80	17.68
23	31.61	38.53	24.30	34.14	32.31	26.95
24	25.28	30.93	19.36	27.53	24.81	23.38
25	26.64	31.31	21.88	28.41	26.71	24.74
26	30.25	35.49	24.80	30.31	31.35	29.06
27	24.20	29.89	18.10	24.68	24.70	23.29
28	33.71	40.21	26.97	34.68	34.72	31.13
29	28.41	33.88	22.88	29.22	29.03	26.84
30	33.91	39.24	28.49	33.78	36.13	31.15
31	33.21	38.90	27.37	33.53	35.44	29.73
32	28.07	33.20	22.85	26.79	29.83	27.50
33	26.27	32.34	19.87	26.14	27.17	25.40
34	30.22	35.37	25.03	29.85	31.77	28.80
35	28.04	32.54	23.24	28.61	30.89	24.59

Table 3, continued

Assembly District	All Children	Boys	Girls	5th Graders	7th Graders	9th Graders
36	27.28	31.99	22.55	26.31	29.81	25.47
37	23.24	29.78	16.69	24.20	25.17	19.51
38	23.75	29.69	17.35	24.20	24.93	22.12
39	37.76	45.26	30.02	39.08	38.01	34.43
40	31.93	39.01	24.52	33.53	32.70	28.78
41	23.98	29.90	17.79	25.22	25.18	20.70
42	26.95	34.15	19.52	29.91	24.67	26.38
43	30.76	38.10	23.28	34.08	25.64	31.16
44	27.94	33.88	21.63	28.76	29.35	25.84
45	36.33	43.45	28.84	39.20	35.48	33.02
46	39.14	47.21	30.90	41.72	39.26	33.44
47	32.57	38.36	26.67	33.34	33.10	31.25
48	36.79	44.77	28.58	38.36	35.72	35.08
49	31.11	38.18	23.76	31.78	30.98	30.32
50	35.20	42.55	27.71	37.86	34.29	32.51
51	33.48	38.98	27.94	33.55	34.95	30.62
52	37.42	44.32	30.48	38.95	37.05	35.24
53	23.95	29.71	17.83	24.44	25.33	21.62
54	26.92	34.01	19.59	29.03	27.23	21.19
55	31.35	37.37	25.28	34.34	34.52	24.88
56	31.50	39.36	23.45	34.83	30.66	28.65
57	34.29	40.96	27.65	34.16	37.65	30.02
58	31.90	38.60	24.95	34.20	30.86	30.82
59	24.55	29.93	19.09	24.73	25.96	22.77
60	23.10	30.19	15.68	25.91	23.36	20.05
61	33.37	40.70	25.73	30.60	39.71	29.69
62	34.92	40.68	29.02	35.16	35.66	33.72
63	26.39	32.10	20.57	26.67	27.61	24.68
64	26.62	31.88	21.12	25.94	29.16	24.22
65	27.12	31.61	22.42	26.74	28.65	25.96
66	26.09	32.01	20.00	26.42	27.84	23.38
67	22.92	29.65	15.97	24.89	24.72	18.88
68	27.77	34.96	20.40	29.31	29.70	23.44
69	35.30	42.65	27.83	38.27	35.52	29.87
70	18.21	23.65	12.40	18.18	18.29	18.14
71	19.16	24.56	13.57	19.07	18.38	20.06
72	28.01	35.14	20.62	31.28	29.84	22.57
73	20.44	26.65	13.81	24.47	20.24	14.44
74	23.04	28.82	16.95	24.10	24.68	19.91
75	18.23	23.24	13.01	20.09	18.68	16.18
76	27.95	32.48	23.00	26.97	29.99	26.21
77	24.32	30.56	17.83	24.50	25.01	21.35

Table 3, continued

Assembly District	All Children	Boys	Girls	5th Graders	7th Graders	9th Graders
78	27.99	34.23	21.36	30.35	26.91	26.35
79	33.38	40.43	25.77	35.38	31.78	32.83
80	33.24	39.61	26.81	34.07	35.37	29.93

Table 4

**Percentage of Children in Grades 5, 7, and 9 in California Assembly Districts
Who Were Overweight in 2004, by Race/Ethnicity**

Assembly District	All Children	African-American	American Indian/ Alaska Native	Asian	Filipino	Latino	Pacific Islander	White	Other
1	27.71	28.55	38.22	23.43	25.14	35.45	25.80	24.33	28.74
2	26.21	28.93	35.05	20.48	23.71	35.18	29.74	23.27	21.55
3	22.82	25.25	34.73	22.22	29.44	31.38	36.10	20.77	15.96
4	20.65	25.69	28.24	15.54	19.91	30.28	30.71	18.69	21.02
5	22.75	28.28	22.67	20.72	20.24	31.13	28.84	20.60	23.87
6	20.53	26.98	25.01	14.07	18.73	32.01	39.68	17.32	17.22
7	27.31	32.36	32.94	14.79	26.01	35.77	41.95	20.81	22.86
8	26.86	29.83	26.84	19.62	26.09	36.37	30.66	21.62	28.50
9	30.08	30.00	34.37	23.90	28.48	36.43	45.19	26.01	27.84
10	25.24	28.97	30.92	21.70	27.08	32.86	31.54	21.77	16.91
11	29.33	31.19	31.87	21.69	28.11	34.68	49.50	24.16	32.28
12	22.45	30.45	34.68	14.75	26.09	36.29	50.37	17.23	20.91
13	28.83	32.61	38.08	16.89	25.81	38.94	65.36	20.79	21.73
14	24.00	31.57	26.43	18.09	27.59	36.63	35.32	15.02	15.91
15	19.99	27.43	22.00	13.90	19.24	32.25	30.56	16.78	14.95
16	27.91	30.24	48.47	17.95	27.57	36.60	42.51	19.47	17.28
17	32.24	31.10	37.79	24.02	25.85	37.00	33.31	26.89	25.95
18	29.10	31.72	28.41	17.12	29.12	37.55	34.89	23.69	22.57
19	24.93	29.80	27.40	16.12	26.07	33.47	43.03	21.12	23.42
20	24.43	29.29	26.36	16.41	27.26	34.70	45.75	22.92	23.57
21	19.80	25.04	17.70	13.32	20.90	31.52	49.64	14.37	17.30
22	20.91	28.13	31.98	13.07	27.53	36.08	36.86	18.90	11.12
23	31.61	30.40	34.69	18.72	29.80	36.71	33.74	30.10	32.82
24	25.28	28.70	32.69	16.33	23.43	33.96	36.13	22.13	21.03
25	26.64	29.84	28.61	21.72	26.93	33.79	26.66	22.59	23.57

Table 4, continued

Assembly District	All Children	African-American	American Indian/ Alaska Native	Asian	Filipino	Latino	Pacific Islander	White	Other
26	30.25	31.52	33.20	22.07	28.71	36.03	42.89	25.03	21.05
27	24.20	21.74	22.27	15.59	25.44	34.85	39.49	19.02	19.58
28	33.71	31.14	43.68	20.59	27.04	36.60	31.83	25.86	27.92
29	28.41	31.65	31.63	26.08	22.08	35.71	22.32	21.83	19.25
30	33.91	32.13	35.53	19.48	29.56	36.74	39.22	25.34	35.26
31	33.21	30.10	41.46	25.48	26.09	36.04	24.75	29.08	21.44
32	28.07	27.32	30.42	24.33	22.07	33.17	31.68	24.08	28.74
33	26.27	24.80	23.83	20.80	24.33	31.82	32.05	21.79	27.25
34	30.22	26.68	39.19	18.84	23.89	34.90	40.54	25.03	27.57
35	28.04	30.61	33.56	17.17	24.99	35.09	36.67	17.51	25.12
36	27.28	27.16	26.14	20.77	20.77	33.31	34.09	21.13	25.86
37	23.24	28.35	28.69	19.93	18.26	34.39	13.93	17.17	19.92
38	23.75	26.48	27.62	18.36	20.24	32.20	22.94	19.00	18.19
39	37.76	29.35	27.29	21.30	27.14	38.95	x	30.58	x
40	31.93	27.32	13.95	21.08	26.64	36.32	42.31	23.69	37.45
41	23.98	25.59	28.82	15.35	22.68	36.06	21.28	15.00	x
42	26.95	24.09	x	18.34	26.41	35.80	x	18.27	x
43	30.76	24.32	x	19.80	25.12	37.08	x	26.80	x
44	27.94	29.55	34.79	15.99	23.84	36.91	34.48	21.09	22.16
45	36.33	28.41	x	18.85	28.23	38.56	x	26.67	x
46	39.14	35.27	x	20.18	18.59	39.67	x	22.76	x
47	32.57	30.48	x	17.79	21.69	38.53	x	17.52	x
48	36.79	31.87	x	22.36	23.97	39.61	x	19.50	x
49	31.11	28.51	x	18.57	22.32	37.19	x	24.89	x
50	35.20	28.00	26.78	17.44	24.63	35.70	x	33.72	36.91
51	33.48	30.02	x	21.34	32.59	36.09	42.47	27.13	27.64
52	37.42	31.12	x	27.85	30.47	39.12	52.55	30.33	x
53	23.95	27.75	24.78	16.17	26.06	34.30	37.79	18.82	20.43
54	26.92	26.84	30.12	18.24	25.40	34.43	48.40	19.37	x
55	31.35	28.62	33.88	18.07	25.80	35.12	51.35	24.06	x

Table 4, continued

Assembly District	All Children	African-American	American Indian/ Alaska Native	Asian	Filipino	Latino	Pacific Islander	White	Other
56	31.50	27.34	43.04	16.00	24.51	35.74	36.15	29.54	20.10
57	34.29	30.17	37.32	21.24	25.86	36.49	44.04	28.42	x
58	31.90	27.00	19.87	19.49	22.40	33.88	37.08	25.95	x
59	24.55	27.21	27.01	18.10	21.59	31.16	32.96	20.69	21.46
60	23.10	19.65	28.80	17.59	19.61	30.82	26.78	20.34	x
61	33.37	30.04	31.06	18.48	22.94	36.20	33.38	27.31	33.14
62	34.92	28.58	30.15	23.70	26.63	37.50	51.32	28.74	x
63	26.39	25.08	25.68	20.23	22.07	32.56	39.75	20.73	31.92
64	26.62	25.86	30.52	18.95	18.03	33.23	43.39	19.82	21.32
65	27.12	25.86	36.04	19.63	21.24	32.22	47.40	21.94	27.29
66	26.09	25.21	36.08	19.55	20.49	33.52	28.57	19.86	20.38
67	22.92	23.11	19.48	15.50	22.00	32.96	30.63	19.56	18.41
68	27.77	33.63	23.24	15.90	24.52	35.91	42.15	21.87	23.29
69	35.30	35.95	x	18.80	22.22	37.72	47.57	20.49	x
70	18.21	24.72	19.45	13.21	19.72	30.12	22.01	15.36	14.26
71	19.16	24.89	25.99	13.81	18.16	31.10	22.51	14.55	x
72	28.01	27.67	33.31	14.20	28.40	35.33	41.68	20.98	24.14
73	20.44	21.98	22.45	11.78	17.29	29.98	37.55	14.33	26.47
74	23.04	22.62	32.09	13.67	21.07	33.02	40.43	15.14	28.21
75	18.23	24.65	22.77	13.14	22.82	29.95	19.28	14.31	14.95
76	27.95	26.65	28.28	18.36	21.55	34.52	32.06	21.26	x
77	24.32	24.37	33.44	21.03	24.57	32.41	29.52	21.15	20.84
78	27.99	26.92	28.58	20.54	22.97	33.00	38.72	21.91	23.80
79	33.38	29.29	38.56	24.49	24.86	35.76	40.56	25.82	x
80	33.24	24.52	47.74	20.90	24.93	35.58	x	24.46	31.05

Table 5

**Children in Grades 5, 7, and 9 in California Assembly Districts Who Were
Overweight in 2001 Compared to 2004, and the Percentage Change
Between 2001 and 2004.**

Assembly District	2001 rate per 100 children	2004 rate per 100 children	2001 - 2004 % Change
1	24.94	27.71	11.11%
2	24.07	26.21	8.88%
3	19.65	22.82	16.14%
4	20.58	20.65	0.35%
5	20.34	22.75	11.84%
6	17.54	20.53	17.03%
7	26.98	27.31	1.22%
8	26.45	26.86	1.57%
9	26.04	30.08	15.50%
10	23.68	25.24	6.59%
11	25.82	29.33	13.59%
12	20.49	22.45	9.60%
13	25.22	28.83	14.32%
14	23.50	24.00	2.13%
15	17.90	19.99	11.68%
16	27.22	27.91	2.55%
17	30.29	32.24	6.45%
18	25.12	29.10	15.83%
19	24.27	24.93	2.70%
20	22.62	24.43	8.01%
21	18.86	19.80	4.98%
22	25.48	20.91	-17.96%
23	26.60	31.61	18.85%
24	22.06	25.28	14.62%
25	24.15	26.64	10.33%
26	28.81	30.25	4.98%
27	22.56	24.20	7.28%
28	35.04	33.71	-3.82%
29	24.56	28.41	15.66%
30	31.28	33.91	8.41%

Table 5, continued

Assembly District	2001 rate per 100 children	2004 rate per 100 children	2001 - 2004 % Change
31	30.20	33.21	9.99%
32	28.21	28.07	-0.48%
33	25.47	26.27	3.17%
34	27.27	30.22	10.82%
35	26.47	28.04	5.92%
36	24.54	27.28	11.15%
37	21.59	23.24	7.60%
38	22.45	23.75	5.78%
39	35.59	37.76	6.10%
40	27.68	31.93	15.35%
41	25.08	23.98	-4.40%
42	25.12	26.95	7.28%
43	27.17	30.76	13.23%
44	25.22	27.94	10.81%
45	34.40	36.33	5.60%
46	36.77	39.14	6.45%
47	30.31	32.57	7.45%
48	35.08	36.79	4.85%
49	26.77	31.11	16.22%
50	34.31	35.20	2.61%
51	31.98	33.48	4.69%
52	34.84	37.42	7.40%
53	22.71	23.95	5.45%
54	23.24	26.92	15.85%
55	30.10	31.35	4.17%
56	28.37	31.50	11.01%
57	32.36	34.29	5.95%
58	30.39	31.90	4.97%
59	21.61	24.55	13.62%
60	23.79	23.10	-2.89%
61	30.17	33.37	10.60%
62	31.82	34.92	9.75%
63	23.72	26.39	11.24%
64	25.40	26.62	4.83%
65	26.07	27.12	4.04%
66	23.71	26.09	10.04%
67	22.40	22.92	2.35%

Table 5, continued

Assembly District	2001 rate per 100 children	2004 rate per 100 children	2001 - 2004 % Change
68	24.71	27.77	12.40%
69	36.08	35.30	-2.15%
70	16.91	18.21	7.68%
71	18.52	19.16	3.45%
72	24.58	28.01	13.97%
73	20.56	20.44	-0.58%
74	22.41	23.04	2.83%
75	17.27	18.23	5.53%
76	27.15	27.95	2.93%
77	23.44	24.32	3.74%
78	30.21	27.99	-7.35%
79	36.00	33.38	-7.29%
80	31.13	33.24	6.77%

Table 6

**Changes in Percentage of Overweight Children from 2001 to 2004
in California Assembly Districts**

Change in Percentage of Overweight Children from 2001 to 2004	Number of Assembly Districts
> 10% increase	27
5% - 10% increase	23
0% - 5% increase	21
No Change	0
0% - 5% decrease	6
> 5% decrease	3

Figure 1

**Percentage of California Children in Grades 5, 7, and 9
Who Were Overweight by Gender and Grade, 2001 and 2004**

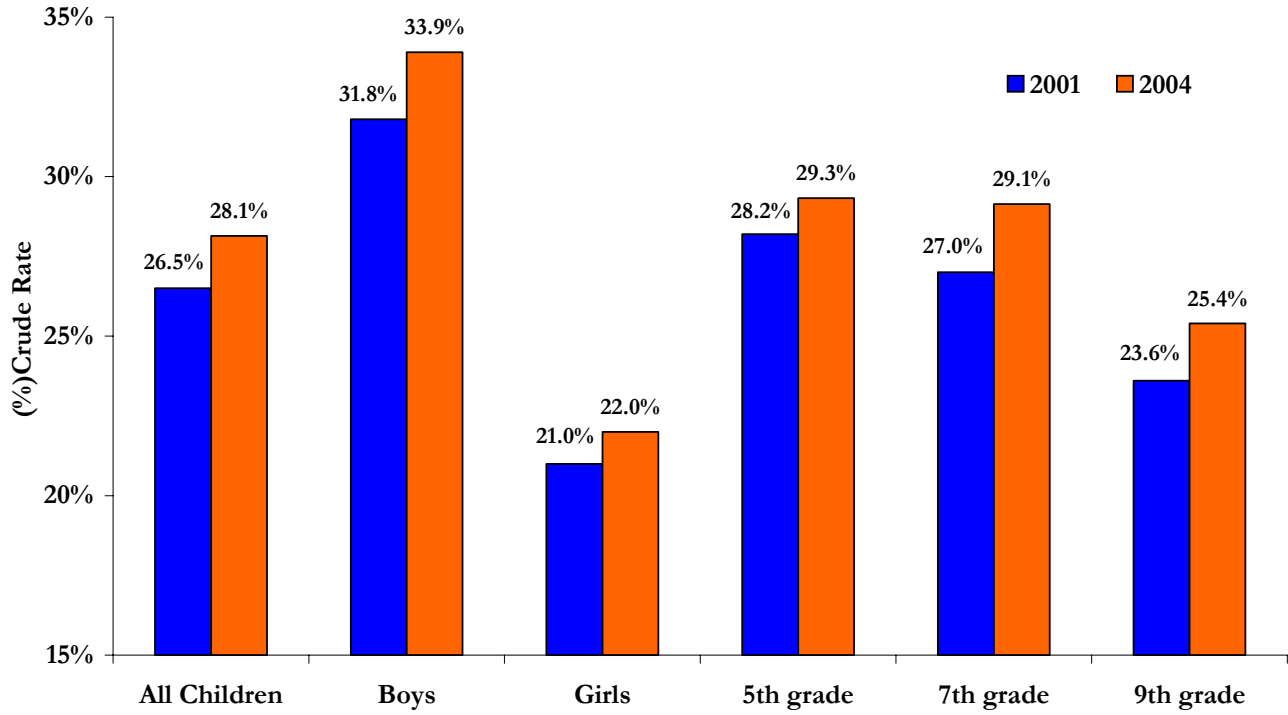


Figure 2

Percentage of Children in Grades 5,7, and 9 in California Who Were Overweight in 2001 Compared to 2004, by Race/Ethnicity

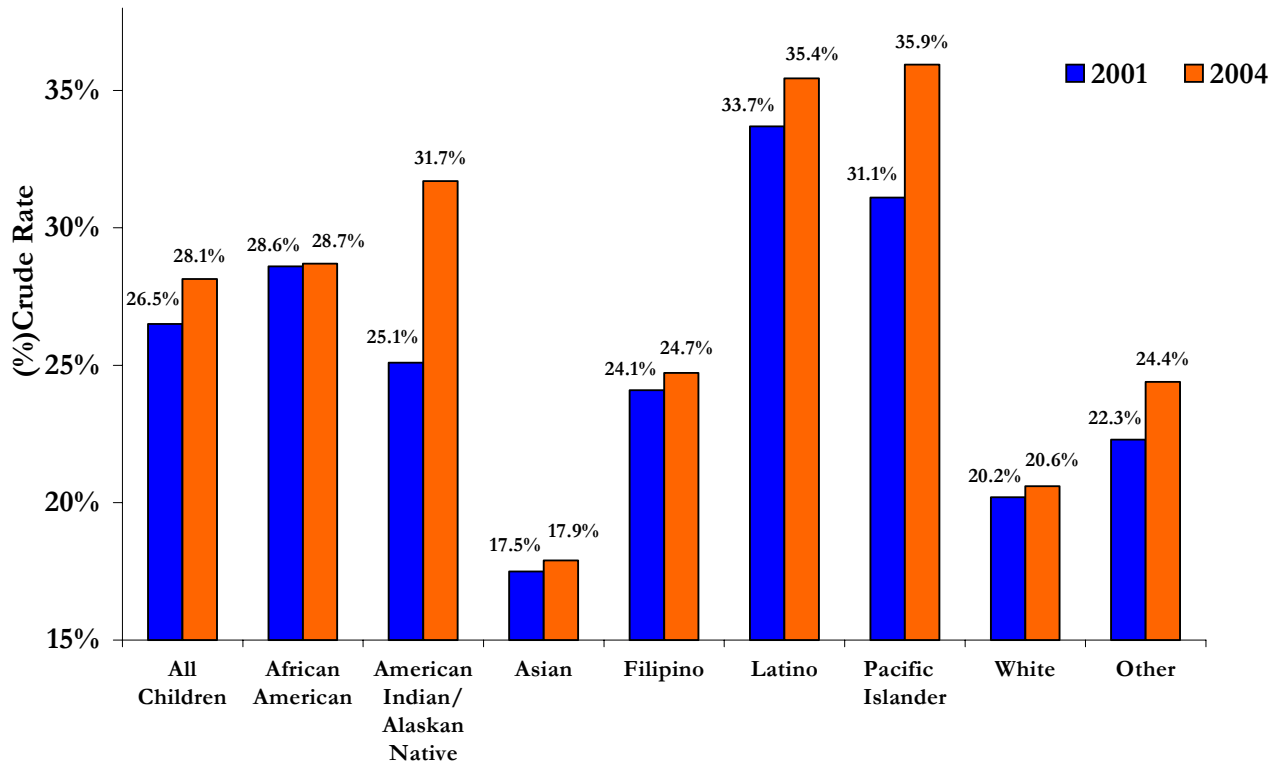
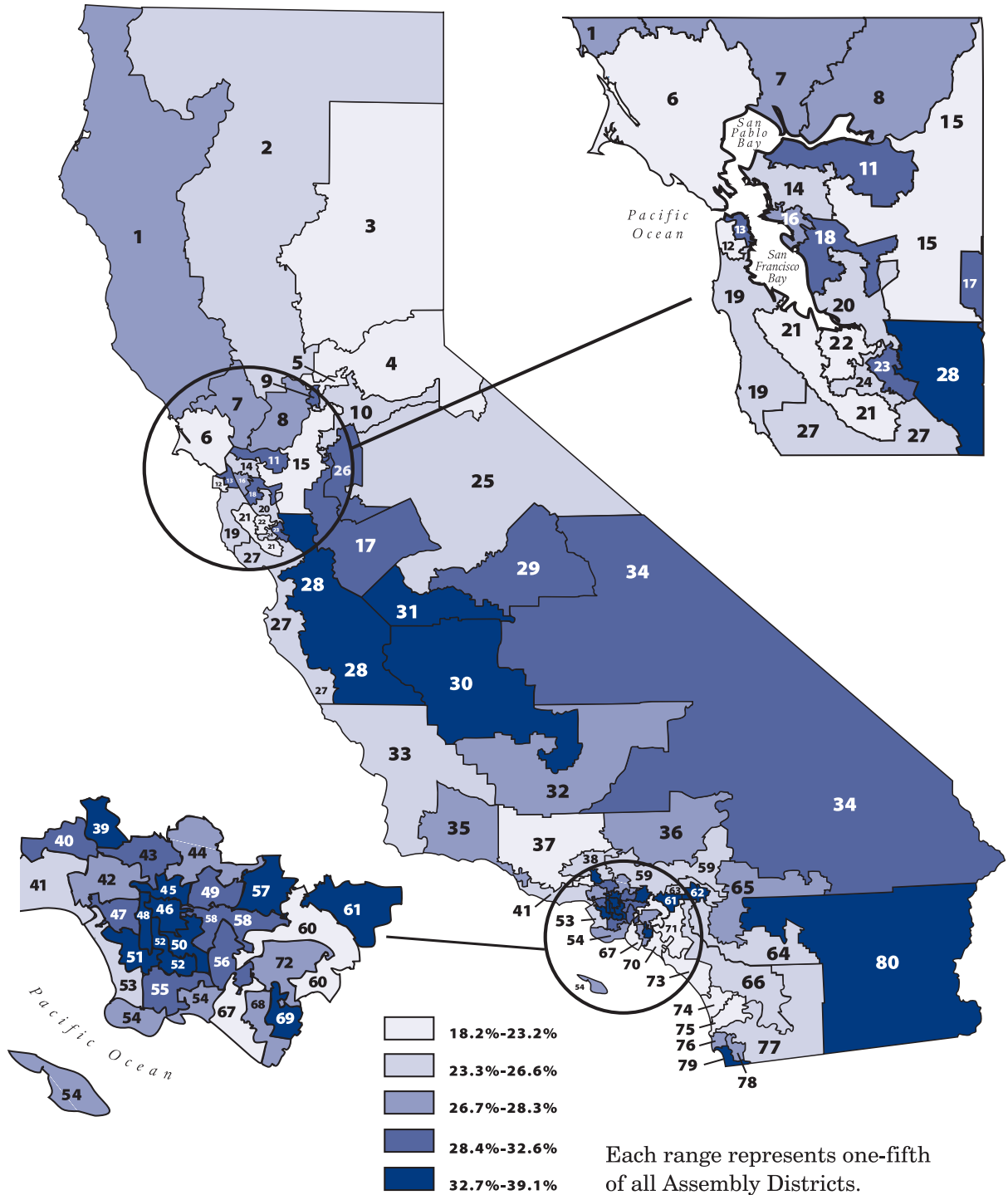


Figure 3

PERCENTAGE OF CHILDREN IN EACH ASSEMBLY DISTRICT WHO WERE OVERWEIGHT IN 2004



Appendix A

Comparison Between CDC Growth Charts and FITNESSGRAM Healthy Fitness Zone for Body Composition

Girls¹

Age	Body Mass Index for Age (kg/m ²)				
	CDC 95 th percentile*	CDC 90 th percentile	CDC 85 th percentile**	Healthy Fitness Zone Upper Limit	Healthy Fitness Zone relationship to CDC percentiles
10	23.0	21.0	20.0	23.5	Above 95 th
11	24.1	22.0	20.8	24.0	Just under 95 th
12	25.2	22.9	21.7	24.5	Between 90 th -95 th
13	26.3	23.8	22.5	24.5	Between 90 th -95 th
14	27.2	24.7	23.3	25.0	Between 90 th -95 th
15	28.1	25.4	24.0	25.0	Between 85 th -90 th
16	28.9	26.1	24.6	25.0	Between 85 th -90 th

Boys²

Age	Body Mass Index for Age (kg/m ²)				
	CDC 95 th percentile*	CDC 90 th percentile	CDC 85 th percentile**	Healthy Fitness Zone Upper Limit	Healthy Fitness Zone relationship to CDC percentiles
10	22.1	20.3	19.4	21.0	Between 90 th -95 th
11	23.2	21.2	20.2	21.0	Just under 90 th
12	24.2	22.1	21.0	22.0	Just under 90 th
13	25.1	23.0	21.8	23.0	90 th
14	26.0	23.8	22.6	24.5	Between 90 th -95 th
15	26.8	24.6	23.4	25.0	Between 90 th -95 th
16	27.6	25.4	24.2	26.5	Between 90 th -95 th

Note: Decimal points in CDC percentiles are approximations from the CDC growth charts

*CDC definition of overweight: Body Mass Index (BMI) for age \geq 95th percentile

** CDC definition of at-risk for overweight: BMI for age 85th percentile to < 95th percentile

¹ <http://www.cdc.gov/nchs/data/nhanes/growthcharts/set1clinical/cj41c024.pdf>

(SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000). <http://www.cdc.gov/growthcharts>; Published May 30, 2000 (modified 10/16/00)

² <http://www.cdc.gov/nchs/data/nhanes/growthcharts/set1clinical/cj41c023.pdf>

(SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000). <http://www.cdc.gov/growthcharts> Published May 30, 2000 (modified 10/16/00).

Appendix B

FITNESSGRAM Healthy Fitness Zone Standards for Body Composition

Age	Body Mass Index(kg/m²)*	
	Girls	Boys
10	16.6 - 23.5	15.3 - 21.0
11	16.9 - 24.0	15.8 - 21.0
12	16.9 - 24.5	16.0 - 22.0
13	17.5 - 24.5	16.6 - 23.0
14	17.5 - 25.0	17.5 - 24.5
15	17.5 - 25.0	18.1 - 25.0
16	17.5 - 25.0	18.5 - 26.5

* Number on left is lower limit of HFZ; number on right is upper limit of HFZ.