Policy Recommendations: Childhood Obesity

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Childhood Obesity

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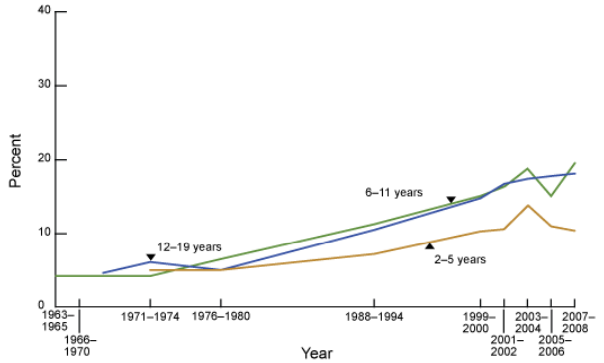
Childhood obesity is now considered a national epidemic. There are numerous contributing factors. Schools are one avenue to address childhood obesity. They play a critical role in promoting healthy environments to support healthy choices and lifestyles.

Childhood Obesity in the US

Figure 1. Trends in obesity among children and adolescents: United States, 1963–2008



NOTE: Obesity is defined as body mass index (BMI) greater than or equal to sex- and age-specific 95th percentile from the 2000 CDC Growth Charts.
SOURCES: CDC/NCHS, National Health Examination Surveys II (ages 6–11), III (ages 12–17), and National Health and Nutrition Examination Surveys (NHANES) I–III, and NHANES 1999–2000, 2001–2002, 2003–2004, 2005–2006, and 2007–2008.

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Table 1. Prevalence of obesity among U.S. children and adolescents aged 2-19, for selected years 1963-1965 through 2007-2008

Age (in years)[1]	NHES 1963-1965 1966-1970[2]	NHANES 1971-1974	NHANES 1976-1980	NHANES 1988-1994	NHANES 1999-1900	NHANES 2001-2002	NHANES 2003-2004	NHANES 2005-2006	NHANES 2007-2008
Total	(3)	5.0	5.5	10.0	13.9	15.4	17.1	15.5	16.9
2-5	(3)	5.0	5.0	7.2	10.3	10.6	13.9	11.0	10.4
6-11	4.2	4.0	6.5	11.3	15.1	16.3	18.8	15.1	19.6
12-19	4.6	6.1	5.0	10.5	14.8	16.7	17.4	17.8	18.1

[1]Excludes pregnant females starting with 1971-1974. Pregnancy status not available for 1963-1965 and 1966-1970.
[2]Data for 1963-1965 are for children aged 6-11; data for 1966-1970 are for adolescents aged 12-17, not 12-19 years.
[3]Children aged 2-5 were not included in the surveys undertaken in the 1960s.

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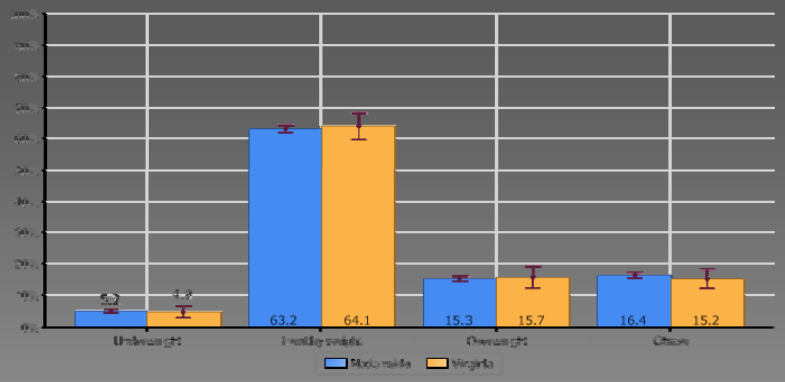
CHILDHOOD OBESITY IN VIRGINIA

National Survey of Children's Health: 30.9% of Virginia youth (10 – 17) overweight or obese

Virginia Foundation for Healthy Youth - 22% of Virginian children overweight or obese



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Consequences of childhood obesity

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Consequences

Higher

- Diabetes
- High blood pressure
- Osteo-arthritis
- Adult overweight
- Sleep disorders
- Absenteeism at school
- Feelings of isolation

Lower

- Self-esteem
- Perceived quality of life

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COST OF CHILDHOOD OBESITY

Estimated medical expenses attributed to obesity (for adults): $1.47 billion per year.

- Overweight/obese children more likely to participate in more primary care sick visits and mental health-related visits over 1-year
- **Cost:** approx. **$72 more** per year than a healthy weight child

(Finkelstein, 2009; Estabrooks, 2007)

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Contributors to Childhood Obesity

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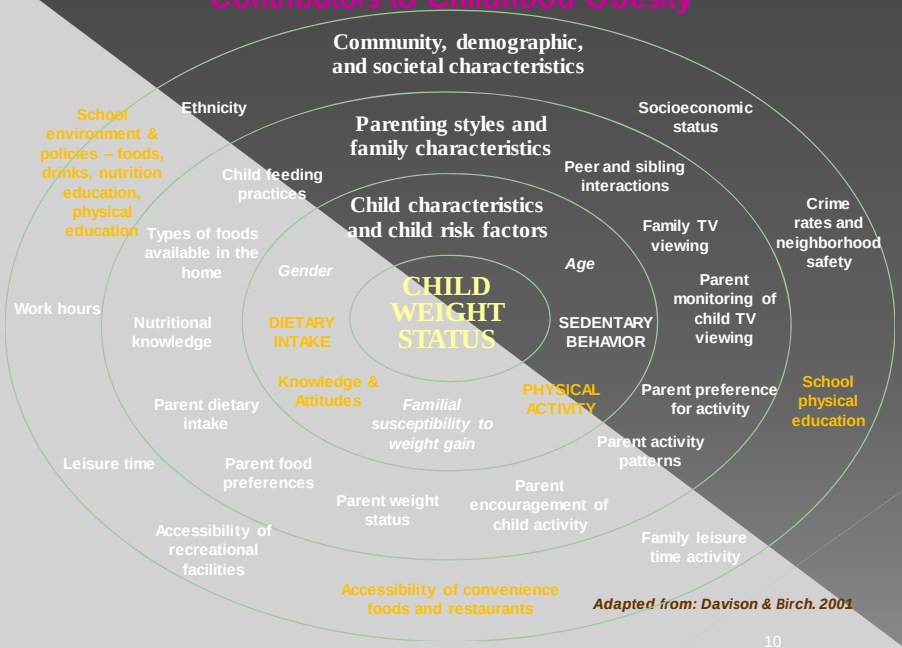
Contributors to Childhood Obesity



Adapted from: Davison & Birch. 2001

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Sugar Sweetened Beverages

- Daily calories from sugar sweetened beverages **increased:**
  - **55 kcal** in 1965
  - **204 kcal** in 1999-2004
- Strong link between sweetened beverages (soda, soft drink, fruit drink, etc.), especially sugar-sweetened, and:
  - Dental caries
  - Increase in overall calories
  - Weight status

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Sugar Sweetened Beverages

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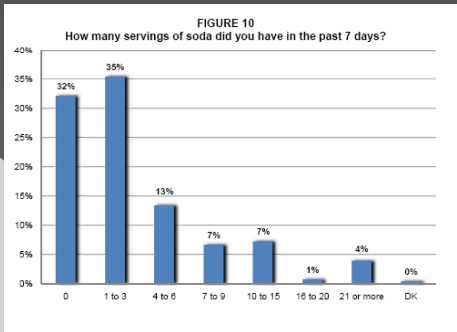
The CDC has identified 6 evidence-based strategies for preventing and reducing overweight and obesity.

"Decreasing the consumption of sugar-sweetened beverages."

One of the only consistent behaviors linked to weight

Sugar Sweetened Beverages

- In Virginia, youth who are overweight (23%) or obese (23%) are more likely to have 1 or more sodas per day in the past 7 days



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PHYSICAL ACTIVITY

Of all U.S. deaths from major chronic diseases, 23% are linked to sedentary lifestyles

A recent study showed that the plaque buildup in the neck arteries of obese children is similar to those levels seen in middle-aged adults.

Children's physical activity level drops dramatically between the ages of 9 and 15

The US military reports that 27% of young Americans are too overweight to join, and around 15,000 potential recruits fail their physicals every years because they are too heavy

- Physical activity offers young people many health benefits:
  - aerobic endurance
  - muscular strength
  - build lean muscle
  - reduce fat
  - prevents or reduces high blood pressure
  - weight control

(G Raghuveer, 2008)

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Physical Activity

Higher Rates

- Academic achievement
- Cognitive ability

Lower Rates

- Absenteeism
- Insomnia
- Depression
- Anxiety

(Active Living Research, 2009; Shore, et al., 2008; Geier & coll., 2007)

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Physical Education

- Daily physical education only offered by:
  - 3.8% of elementary schools
  - 7.9% of middle schools
  - 2.1% of high schools
  - 22% do not require students to take ANY P.E.
- Regular participation in physical education classes helps reduce obesity in low-income teenagers

(CDC, 2006; Madsen KA. et al., 2009)

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Recommendations

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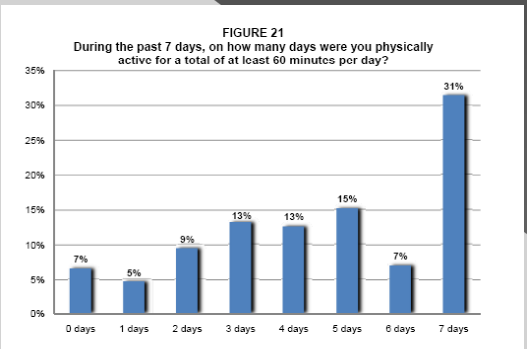
It is recommended that children engage in at least 60 minutes of moderate to vigorous physical activity each day.

30 minutes at school is reasonable .

The national recommendation for PE is 150 minutes per week for elementary and 225 minutes for middle and high schools.

(Geier, 2007)

Physical Activity



- 34% not active most days of the week
- Boys and young men (37%) more likely to have been active compared to girls and young women (26%)

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Solutions

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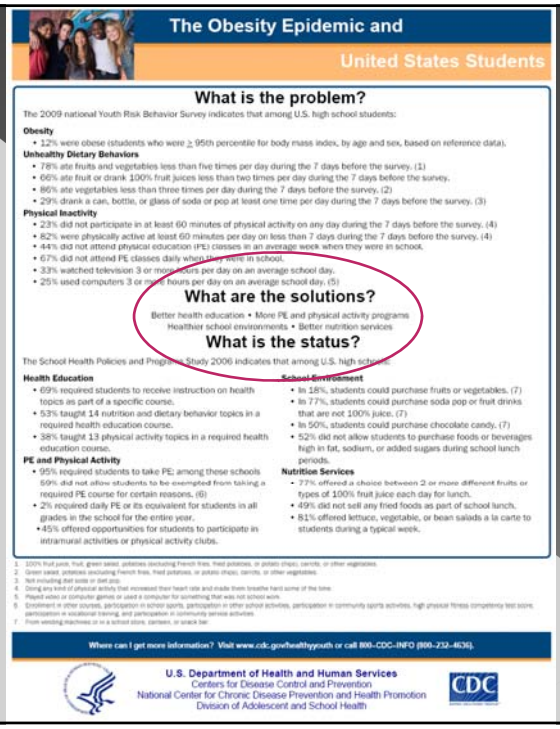

The Obesity Epidemic and United States Students

What is the problem?

The 2009 national Youth Risk Behavior Survey indicates that among U.S. high school students:

Obesity

- 12% were obese (students who were ≥ 95th percentile for body mass index, by age and sex, based on reference data).

Unhealthy Dietary Behaviors

- 78% ate fruits and vegetables less than five times per day during the 7 days before the survey. (1)
- 66% ate fruit or drank 100% fruit juices less than two times per day during the 7 days before the survey.
- 86% ate vegetables less than three times per day during the 7 days before the survey. (2)
- 29% drank a can, bottle, or glass of soda or pop at least one time per day during the 7 days before the survey. (3)

Physical Inactivity

- 23% did not participate in at least 60 minutes of physical activity on any day during the 7 days before the survey. (4)
- 82% were physically active at least 60 minutes per day on less than 7 days during the 7 days before the survey. (4)
- 44% did not attend physical education (PE) classes in an average week when they were in school.
- 67% did not attend PE classes daily when they were in school.
- 33% watched television 3 or more hours per day on an average school day.
- 25% used computers 3 or more hours per day on an average school day. (5)

What are the solutions?

Better health education • More PE and physical activity programs
Healthier school environments • Better nutrition services

What is the status?

The School Health Policies and Programs Study 2006 indicates that among U.S. high schools:

Health Education

- 69% required students to receive instruction on health topics as part of a specific course.
- 53% taught 14 nutrition and dietary behavior topics in a required health education course.
- 38% taught 13 physical activity topics in a required health education course.

PE and Physical Activity

- 95% required students to take PE; among these schools 59% did not allow students to be exempted from taking a required PE course for certain reasons. (6)
- 2% required daily PE or its equivalent for students in all grades in the school for the entire year.
- 45% offered opportunities for students to participate in intramural activities or physical activity clubs.

School Environment

- In 18%, students could purchase fruits or vegetables. (7)
- In 77%, students could purchase soda pop or fruit drinks that are not 100% juice. (7)
- In 50%, students could purchase chocolate candy. (7)
- 52% did not allow students to purchase foods or beverages high in fat, sodium, or added sugars during school lunch periods.

Nutrition Services

- 77% offered a choice between 2 or more different fruits or types of 100% fruit juice each day for lunch.
- 49% did not sell any fried foods as part of school lunch.
- 81% offered lettuce, vegetable, or bean salads a la carte to students during a typical week.

1. 100% fruit juice, fruit, green salad, potatoes (excluding French fries, fried potatoes, or potato chips), carrots, or other vegetables.
2. Green salad, potatoes (excluding French fries, fried potatoes, or potato chips), carrots, or other vegetables.
3. Not including diet soda or diet pop.
4. Doing any kind of physical activity that increased their heart rate and made them breathe hard some of the time.
5. Played video or computer games or used a computer for something that was not school work.
6. Enrollment in other courses, participation in school sports, participation in other school activities, participation in community sports activities, high physical fitness competency test score, participation in vocational training, and participation in community service activities.
7. From vending machines or in a school store, canteen, or snack bar.

Where can I get more information? Visit www.cdc.gov/healthyyouth or call 800–CDC–INFO (800–232–4636).

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion
Division of Adolescent and School Health

CDC

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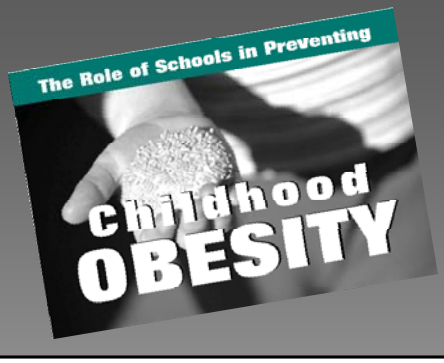
ROLE OF SCHOOLS

- Significant power to influence health decisions
- Kids' "work" and social world
- Opportunity to guide and shape healthy eating and physical activity habits for a lifetime



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Child Nutrition & WIC Reauthorization Act, 2004

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Required that each local school division participating in the USDA school breakfast and lunch program adopt a local (school) wellness policy to address five areas:

1. School foods
2. Physical education
3. Physical activity
4. Nutrition education
5. School wellness

Proposed Policy (2006)/Actual Policy (2007)	Planned 2006 n=81 (%)	Recommendation (%)	Specific Recommendation (%)	Requirement (%)	Specific Requirement (%)	Total # of School Divisions with Req. or Rec. (%)
Classroom Teaching	74 (91.3)	4 (5.4)	0	53 (71.6)	3 (4.1)	60 (81.1)
Teacher Training	48 (59.2)	2 (4.1)	0	28 (58.3)	0	30 (62.5)
Education & Marketing	68 (83.9)	3 (4.4)	0	38 (55.8)	3 (4.4)	44 (64.7)
Nutritional Guidelines for Foods and Beverages	68 (84.0)	2 (2.9)	0	39 (48.1)	13 (19.1)	54 (79.4)
Portion Size	42 (51.9)	0	1 (2.4)	5 (11.9)	4 (9.5)	10 (23.8)
A-la-carte and Vending	60 (74.0)	11 (18.3)	3 (5.0)	8 (13.3)	18 (30.0)	40 (66.7)
After School Parties	25 (30.9)	6 (24.0)	4 (16.0)	0	2 (8.0)	12 (48.0)
Celebrations	42 (51.9)	13 (31.0)	8 (19.0)	0	4 (9.5)	25 (59.5)
Food As Rewards	43 (53.1)	6 (14.0)	4 (9.3)	8 (18.6)	6 (14.0)	24 (55.8)
Fundraising	39 (48.1)	13 (33.3)	5 (12.8)	1 (2.6)	7 (17.9)	26 (66.7)
Food or Beverage Contracts3	45 (55.5)	0	0	0	1 (2.2)	1 (2.2)
VAFHK² Guidelines³	29 (35.8)	0	0	4 (13.8)	0	4 (13.8)
Sustainable Foods Practice	15 (18.5)	2 (13.3)	0	1 (6.7)	0	3 (20.0)
Requirement	30 (37.0)	0	0	6 (20.0)	1 (3.3)	7 (23.3)
PE Teacher-Student Ratio	9 (11.1)	0	0	0	0	0
PE Standards	47 (58.0)	1 (2.1)	0	15 (31.9)	0	16 (34.0)
FIT Standards	39 (48.1)	2 (5.1)	0	16 (41.0)	2 (5.1)	20 (51.2)
PE Certification/Training	29 (35.8)	0	0	15 (51.7)	0	15 (51.7)
PA Outside of PE	46 (56.8)	13 (28.3)	2 (4.3)	16 (34.7)	1 (2.2)	32 (69.6)
Recess Requirements	48 (59.3)	2 (4.2)	0	30 (62.5)	3 (6.3)	35 (72.9)
Walking/Biking to School	8 (9.9)	9 (112.5)2	0	8	1	18 (225.0)

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Foods, Drinks, and Schools

- Students consume up to 50% of their daily calories at school
- The sale of low-nutrition foods in schools outside of school meals is associated with higher weight status
  - 1/5 of average increase in BMI between 1994 and 2000 is due to increased availability of 'junk foods' in schools

(Kubik, Lytle, Story, 2005)

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Drinks at Schools

- Between 1991 and 2005, the percentage of schools with vending machines increased from:
  - 42% to 82% in middle schools
  - 76% to 97% in high schools
- The most common items sold at schools (outside of school meals) include candy, sugar-sweetened beverages, chips, cookies, and snack cakes

(USDA, 2007)

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New Virginia Legislation

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Requires nutrition standards for snacks and competitive foods sold in schools, based on guidelines set by the Alliance for a Healthier Generation or the Institute of Medicine

Beverages not included in legislation

Summary

- Childhood obesity prevalence rates are growing…and will likely continue to grow
- There are several contributing factors, including sugar-sweetened beverages and physical education
- Schools can play a critical role in promoting healthy eating and active living for a lifetime

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Policy Recommendations

1. Require nutrition standards for beverages sold in schools, based on guidelines set by the Alliance for a Healthier Generation or the Institute of Medicine

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Policy Recommendations

2. Require every student in grades K-8 to participate in daily physical education for the entire school year, including students with disabling conditions and those in alternative education programs.
   - Students in the elementary schools shall participate in physical education for at least 150 minutes during each school week
   - Students in middle schools shall participate for at least 225 minutes per week

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Policy Recommendations

3. Require local (school) wellness policies (that were mandated as part of the Child Nutrition & WIC Reauthorization Act of 2004) to contain language that 'requires' policies in the following areas:
   - School foods
   - Physical education
   - Physical activity
   - Nutrition education
   - School wellness

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