Overview

- The link between nutrition and physical activity and academic achievement
- Children’s current nutrition and physical activity status
- Snapshot of CSDE nutrition and physical activity programs
- Recommended state board actions
Making the Connection

- Good nutrition and sufficient physical activity behaviors are essential to children's health and well-being.
- Children’s health affects learning and academic achievement.
- School and child care environments can significantly influence children's nutrition and physical activity behaviors.
Good Nutrition Improves Academic Performance

- Food-insufficient children* (ages 6-11) are more likely to
  - receive lower math scores
  - repeat a grade
  - visit a psychologist
  - have difficulty getting along with other children

*Food Insufficiency: Respondent reported that his or her family sometimes or often did not get enough food to eat

Inadequate consumption of key food groups deprives children of essential nutrients that are necessary for optimal cognitive function:

- Iron deficiency linked to shortened attention span, irritability, fatigue and difficulty concentrating.
- Low protein intake associated with lower achievement scores.

Well-nourished children who skip breakfast perform worse on tests and have poor concentration

Children who eat breakfast *learn better*
- have higher test scores, work faster, make fewer errors and are more creative
- are better able to concentrate on learning
- are healthier and have improved attendance

Children who eat breakfast *behave better*
- less likely to be sent to principal or visit school nurse
- more cooperative and get along better with classmates


Physical Activity Improves Academic Performance

- Children who are more physically *active* tend to perform better academically
  - Increased physical activity linked to improved cognitive functioning and improved mental well-being, both of which support learning

- Children who are physically *fit* are likely to have stronger academic performance
  - Emerging research links poor nutrition and lack of exercise to lower achievement

Percent Improvement in Academic Test Score by NYC FITNESSGRAM Score (Grades 4-8, 2007-08)

Physical Activity Improves Academic Performance

- Sacrificing physical education or physical activity for classroom time does *not* improve academic performance.

- Schools offering intensive physical activity programs see positive effects on academic achievement even when time is taken from academic day:
  - increased concentration
  - improved mathematics, reading and writing scores
  - reduced disruptive behaviors

Physical Activity Improves Academic Performance

- Activity breaks can improve cognitive performance and classroom behavior
- Chronic sedentary behavior compromises children's ability and achievement
  - Exercise linked to increased activity in parts of brain associated with complex thinking, planning, reasoning, abstract thought and self-control
  - When overweight, sedentary kids start to exercise regularly, their ability to think, plan and do math improves

Percent Improvement in Brain Functioning and Standard Achievement Test Score of Overweight Children (Ages 7-11)

- Executive Function (self-control, planning, reasoning, abstract thought)
- Math Achievement

Dietary Guidelines 2010

Science-based nutrition and physical activity guidelines to help Americans

- attain and maintain a healthy weight
- reduce risk of chronic disease, e.g., cardiovascular disease, hypertension, type 2 diabetes, osteoporosis, cancer
- promote overall health

Two main concepts

- Maintain calorie balance over time to achieve and sustain a healthy weight
- Focus on consuming nutrient-dense foods and beverages

Physical Activity Guidelines for Ages 6-17

- At least 60 minutes of daily physical activity, mostly aerobic
- At least 3 days per week of
  - vigorous-intensity physical activity (running, biking, jumping rope)
  - muscle-strengthening physical activity (climbing, tug-of-war)
  - bone-strengthening physical activity (running, jumping)
- Physical activities should be age appropriate, enjoyable and offer variety

Percentage of Children and Adolescents Meeting Total *Healthy Eating Index* Scores* for Whole Fruit, Dark Green and Orange Vegetables, Legumes and Whole Grains

*A score of 100 means that recommendations are being met

Contribution of Solid Fats and Added Sugars to Children’s Average Daily Calories (Ages 2-18)*

*798 of 2,027 calories (39 percent)

Recommended versus Actual Daily Consumption of Added Sugars (in Teaspoons)

Children’s Physical Activity

- Most children do not get enough physical activity

- Physical activity declines as children get older
  - begins to decrease between ages 3-5
  - by high school, 65 percent do not meet daily physical activity recommendations


In the 2008-09 school year, 51 percent of Connecticut’s students did not meet the aerobic activity standard and 64 percent could not pass all four components of a health-related physical fitness assessment.

* Data for school years 2009-10 and 2010-11 are not included because the CSDE is in the second testing year of a two-year cycle using a new generation fitness test and the data are not yet conclusive.
Percentage of Overweight Children and Adolescents Ages 2-19 Years

U. S. Children Born in 2000

1 in 3 will develop diabetes during lifetime

Association Between Body Mass Index (BMI) in Childhood and Adult Obesity

Percentage Obese (BMI > 30) in Adulthood

- Normal weight: 14%
- Overweight*: 51%
- Obese**: 77%

* BMI at or above the 85th percentile and lower than the 95th percentile
** BMI at or above the 95th percentile

Obesity Trends* Among U.S. Adults
BRFSS, 1985

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Obesity Trends* Among U.S. Adults
BRFSS, 1986

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

No Data           <10%          10%–14%


Connecticut State Department of Education • April 2011
Obesity Trends* Among U.S. Adults
BRFSS, 1987

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Obesity Trends* Among U.S. Adults
BRFSS, 1988

(*BMI ≥30, or about 30 pounds overweight for 5’ 4‖ person)

Obesity Trends* Among U.S. Adults
BRFSS, 1989

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Obesity Trends* Among U.S. Adults
BRFSS, 1990

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Obesity Trends* Among U.S. Adults
BRFSS, 1991

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Connecticut State Department of Education • April 2011
Obesity Trends* Among U.S. Adults
BRFSS, 1992

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Connecticut State Department of Education • April 2011

Obesity Trends* Among U.S. Adults
BRFSS, 1993

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1994

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Obesity Trends* Among U.S. Adults
BRFSS, 1995

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Obesity Trends* Among U.S. Adults
BRFSS, 1996

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 1997

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)


Connecticut State Department of Education • April 2011
Obesity Trends* Among U.S. Adults
BRFSS, 1998

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Obesity Trends* Among U.S. Adults
BRFSS, 1999

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

No Data          <10%           10%–14%     15%–19%     ≥20%

Obesity Trends* Among U.S. Adults
BRFSS, 2000

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Obesity Trends* Among U.S. Adults
BRFSS, 2001

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)


Connecticut State Department of Education • April 2011
Obesity Trends* Among U.S. Adults
BRFSS, 2002

(*BMI ≥30, or about 30 pounds overweight for 5’ 4’’ person)
Obesity Trends* Among U.S. Adults
BRFSS, 2003

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Obesity Trends* Among U.S. Adults
BRFSS, 2004

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
BRFSS, 2005

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Obesity Trends* Among U.S. Adults
BRFSS, 2006

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Connecticut State Department of Education • April 2011

Obesity Trends* Among U.S. Adults
BRFSS, 2007

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Obesity Trends* Among U.S. Adults
BRFSS, 2008

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

Obesity Trends* Among U.S. Adults
BRFSS, 2009

(*BMI ≥30, or about 30 pounds overweight for 5’ 4” person)

USDA Child Nutrition Programs

- Approximately $115 million annually in federal funding
  - National School Lunch Program
  - School Breakfast Program
  - Summer Food Service Program
  - Special Milk Program
  - Child and Adult Care Food Program
  - Fresh Fruit and Vegetable Program

- Requirements set at federal level
- State conducts compliance reviews
- State criteria exceed federal requirements
- Almost $8 million annually in state funding
  - State match for the National School Lunch Program
  - School Breakfast Program
  - Healthy Food Certification
Snapshot of CSDE Nutrition and Physical Activity Programs

- Healthy Food Certification
- School Breakfast
- Fresh Fruit and Vegetable Program
- Farm to School
- Physically Active Learning
- Promoting Nutrition and Physical Activity in Child Care
2010-11 Healthy Food Certification (HFC)

- 124 school districts/schools
- 67.4 percent of eligible districts/schools
- 13 new districts/schools
- 100 percent recertification rate
- 10 percent increase from 2009-10

HFC Participation To Date

- 2006-07: 50.8%
- 2007-08: 56.6%
- 2008-09: 62.6%
- 2009-10: 61.2%
- 2010-11: 67.4%
School Breakfast Program (SBP)

- Since July 2006, state SBP competitive grant funds up to 10 severe need schools each year to establish SBPs in the classroom (Section 10-215g of the Connecticut General Statutes)

- The CSDE’s Connecticut Breakfast Expansion Team (CBET) recruits new schools and promotes SBP participation

- From 2007 to 2010, participating SBP schools increased by almost 12 percent and participating students increased by 23 percent

- Connecticut still lags behind the nation when comparing the number of National School Lunch Program schools that also participate in SBP
Fresh Fruit and Vegetable Program

- Annual grant through the U.S. Department of Agriculture (USDA)
- Schools with 50 percent or more of students eligible for free or reduced-price meals can apply
- Provides fresh fruits and vegetables free of charge to all children throughout the school day, separately from school meals
- Requires nutrition education
- 73 sites received funds for 2010-11
Farm to School Program

- Implemented by the Connecticut Department of Agriculture in partnership with other state agencies such as the CSDE

- Connects schools (preK-12) and local farms with the objectives of
  - serving healthy meals in school cafeterias
  - improving student nutrition
  - providing agriculture, health and nutrition education opportunities
  - supporting local and regional farmers

- Currently 89 school districts participate

www.ct.gov/doag/cwp/view.asp?a=2225&q=299424
Physically Active Learning

Physically Active Schools

- Implementing school wellness plans
- Making schools physically active places for students and staff
- Promoting schoolwide physical activity events, e.g., field days, fitness breaks, walking initiatives

Physically Active Learning

- Integrating physical education and physical activity throughout all subjects
- Providing *Physical Education Cadre of Trainers* professional development programs for schools
- Improving physical education curricula and instruction to encourage lifetime physical activity and fitness, e.g., *Healthy and Balanced Living Curriculum Framework*
Promoting Nutrition and Physical Activity in Child Care

- Helps child care programs and communities encourage healthy lifestyles in children by developing and implementing comprehensive nutrition and physical activity policies.

- Addresses policy recommendations, rationale, implementation strategies and resources for six policy components:
  - Nutrition Standards
  - Eating Environment
  - Nutrition Education
  - Physical Activity
  - Communication and Promotion
  - Evaluation

ACTION GUIDE
FOR CHILD CARE NUTRITION AND PHYSICAL ACTIVITY POLICIES
Best Practices for Creating a Healthy Child Care Environment

CSDE, June 2010
Outcomes and Measures

All Connecticut children have access to

- healthy foods throughout the entire school or child care environment
  - number of districts that participate in HFC
  - correlation of HFC to increased meal participation in the NSLP
  - average daily attendance in CACFP sites
  - total number of meals served in CACFP sites
  - number of CACFP sites that implement state nutrition standards

- a healthy breakfast at school
  - number of students participating in the SBP
  - number of schools participating in the SBP

- a physically active learning environment
  - percentage of students meeting state physical fitness standards
  - number of schools meeting national standards for physical education

- an environment that consistently promotes health and learning
  - number of districts and child care sites with strong wellness policies
Recommended State Board Actions

- Embed nutrition and physical activity policy recommendations in the Five-Year Comprehensive Plan for Education 2012-2016
- Consider recommendations to include health, nutrition and physical activity in all school improvement plans developed under Section 10-223 of the Connecticut General Statutes
- Support policy strategies to improve nutrition and physical activity in all Connecticut schools, such as legislative proposals to strengthen school wellness policies
- Support strategies for statewide data collection to correlate health and achievement
Connecticut State Department of Education
Bureau of Health/Nutrition, Family Services and Adult Education
25 Industrial Park Road
Middletown, CT  06457

Connecticut State Department of Education • April 2011