“Preventing Childhood Obesity – Eating Better, Moving More”

Accessible version: https://www.youtube.com/watch?v=bZB4cxBl8o
Continuing Education Information

**Continuing education:** [www.cdc.gov/getce](http://www.cdc.gov/getce)

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Acknowledgments
Healthy Places for Healthy Children: The Importance of the Early Care and Education Setting

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How Does Public Health Define Childhood Obesity?

- Body Mass Index (BMI): weight/height^2
- Inexpensive screening measure of weight status
- Not a diagnostic measure
- Age-specific BMI plotted against a sex-specific reference standard
- Percentile determined
How Does Public Health Define Childhood Obesity?

- **CDC Growth Chart** (Percentiles)
  - Obesity: ≥95\(^{th}\) percentile
  - Overweight: 85\(^{th}\) to <95\(^{th}\) percentile
  - Healthy weight: 5\(^{th}\) to <85\(^{th}\) percentile
  - Underweight: <5\(^{th}\) percentile

**Example:**
A 10-year-old girl who is 4 feet 5 inches tall and weighs 100 lbs has a BMI of 25.0
This is the 97\(^{th}\) percentile, indicating that she has obesity
Childhood Obesity is High Among All Age Groups

<table>
<thead>
<tr>
<th>Year</th>
<th>2–5 years</th>
<th>6–11 years</th>
<th>12–19 years</th>
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<td>2015–2016</td>
<td>13.9</td>
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<td>20.6</td>
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CDC/NCHS, National Health and Nutrition Examination Survey
Disparities Exist in Childhood Obesity


FPL = Federal Poverty Level

In 2014, the FPL was $23,850 for a family of four
Compared to children with healthy weight, kids who are overweight in kindergarten are 4 times more likely to have obesity by 8th grade.
Without Intervention, Over Half of Today’s Children Will Have Obesity as Young Adults

- A recent modeling study using BMI trajectories for youth shows that, by 2050, the majority of today’s children, 57.3% will have obesity by age 35 if our society doesn’t take immediate actions.
Excess Adipose Tissue Causes Harmful Changes in Body Function

- Adipose cells (body fat) are **metabolically active**
- **Amount, distribution, and secretory function** of adiposity determine its impact on body functions
- Prolonged, excess adiposity causes **vascular inflammation and accumulation of fat within muscles and organs**
- Excess weight also **impacts the body structurally**

Mechanick JI, Hurley DL, & Garvey WT. *Endocr Pract.* 2017; 23(No. 3) 372–378
Having Obesity During Childhood Increases Immediate and Future Health Risks

- 13 types of cancer
- Adult obesity
- Bullying, stigma
  - Lower self-reported quality of life

- Lower self-esteem
- Anxiety, depression

- High blood pressure
- High cholesterol
- Heart disease

- Breathing problems

- Impaired glucose tolerance
- Insulin resistance
- Type 2 diabetes

- Musculoskeletal and joint problems
Preventing Obesity Can Lead to Better Outcomes

- Improved school readiness
- Higher academic achievement
- Higher worker productivity
- Lower risk for adult obesity and many chronic diseases
- Better mental health
Preventive Factors for Obesity

Protective Individual Factors

- Early feeding behaviors (Birth to 2 yrs)
  - Breastfeeding, later introduction of foods, feeding based on hunger
- Healthy diet choices
- Regular physical activity
- Limiting sedentary time
- Getting optimal sleep
- Managing stress

Few Youth Eating Healthy Diets or Getting Enough Physical Activity

- Fewer than 1 in 10 children eat the recommended daily amount of vegetables.
- Less than 3 in 10 high school students get at least 60 min of physical activity daily.
Children Consume Empty Calories from Sugary Drinks

Sugar-Sweetened Beverage Intake Among U.S. Youth (aged 2–19 years) by Race/Ethnicity, NHANES 2011–2014

Kilocalories per day

<table>
<thead>
<tr>
<th>Kilocalories per day</th>
<th>Boys</th>
<th>Girls</th>
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<tr>
<td>Non-Hispanic White</td>
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<td>124</td>
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<tr>
<td>Non-Hispanic Black</td>
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<td>156</td>
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<tr>
<td>Non-Hispanic Asian</td>
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<td>58</td>
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<tr>
<td>Hispanic</td>
<td>156</td>
<td>115</td>
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</table>
Opportunities for Childhood Obesity Interventions at Several Levels

Individual Habits and Behaviors

Family and Parental Habits

Organizations (ECE, Schools, Healthcare)

Community

ECE: Early Care and Education
Early Care and Education (ECE): A Key Setting For Early Intervention Among Children Birth to Five

The ECE setting can directly influence what children eat and drink and how active they are, and build a foundation for healthy habits.

Over 60% of 3-5 year olds are in child care weekly.

At least 11 million children under 6 spend 30 hours a week on average in child care.
Preventing Obesity Can Save Billions of Dollars

- Obesity costs the United States healthcare system $147 billion per year.
- Research is emerging on cost-effective interventions for childhood obesity.
  - Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC)
    - 3.8 million children in child care facilities would have
      - Less screen time, more physical activity, consume fewer sugar-sweetened beverages, and...
    - Over 10 years, these efforts would result in decreases in BMI and a net healthcare cost savings of $372 million.
ECE stakeholders and care providers use this document as a guide to implement the national standards, which include:

- Infant feeding (e.g., breastfeeding, early child nutrition)
- Offering more nutritious meals, snacks, and beverages including water
- Providing many opportunities for physical activity
- Limiting screen and sedentary time
How Does the CDC Support Obesity Prevention in ECE?

- Public Health Surveillance
- Training and Technical Assistance, Peer-to-Peer Networking
- Translation Tools and Resources
- Fund Partners, States, and Communities to Implement Best Practices

ECE: Early care and education
CDC Offers Several State and Local Resources for Obesity Prevention in ECE

STATE OBESITY PREVENTION EFFORTS TARGETING THE EARLY CARE AND EDUCATION SETTING
Quick Start Action Guide (2.0)
April 2018

www.cdc.gov/obesity/strategies/childcareece.html
www.cdc.gov/nccdphp/dnpao/resources/child-teen-resources.html
Child Care Aware® of America:
Improving Quality in Early Care and Education

Krista Scott, LICSW
Senior Director, Child Care Health Policy
Child Care Aware® of America
The Importance of Obesity Prevention in Early Care and Education (ECE)

- The ECE setting is one of the best places to reach young children with obesity prevention efforts
- Child care through ECE facilities is the norm in the US
  - Child care centers
  - Day care homes
  - Head Start programs
  - Preschool and pre-kindergarten programs
Increasing Quality Early Care and Education (ECE) for all Low-Income Children

- **Child Care Development Block Grant (CCDBG) Federal Legislation**
  - Authorizes the Child Care Development Fund (CCDF), which funds states to:
    - Increase access to child care for low-income families
    - Increase capacity for licensure and inspection of child care facilities
    - Ensure basic quality of child care
  - Creates national minimum standards for 10 areas of health and safety
    - Infectious disease, sudden infant death syndrome, medication administration, allergies, physical premises safety, child abuse, emergency preparedness, hazardous materials, first-aid and CPR, and transporting children
    - Invites states to set requirements for nutrition, physical activity

- However, many states struggle to meet requirements and need guidance and support
What Influences Ability of ECE Facilities to Implement Obesity Prevention Activities?

Federal Programs
- Child Care Development Fund (CCDF) and state-level rules
- Child and Adult Care Food Program (CACFP)
- Head Start

State Programs and Requirements
- State Licensing
- Administer federal food programs (CACFP)
- Early learning and development guidelines
- Quality rating and improvement plans (QRIS)

Local Programs and Requirements
- Local public health, fire safety, and building codes*
- Training opportunities

*Some states pre-empt localities from setting additional health and safety licensing regulations for ECEs
Early Care and Education (ECE) Workforce Needs

- Low pay can lead to inequities in health for teachers, providers, and staff
  - Average hourly wage for child care providers
    - Birth to 3-year-olds: $9.30
    - 3-to 5-year-olds: $11.90
  - Many do not have education or training in nutrition or physical activity

- Teachers need support for implementing best practices with children and in living healthy lives

Resources and Referrals: Supports at all Levels

- Federal Programs
- State Programs and Requirements
- Local Programs and Requirements

Child Care Aware of America

State CCR&R Networks

Local CCR&Rs
National Support: CCDBG Implementation

- Supports states for CCDBG implementation around obesity prevention opportunities:
  - Consumer education language for state websites
  - Sample language for state plans
- Research and Governmental Affairs Teams
  - Share data, inform on what is working, what is challenging for states, state capacity issues
Voices for Healthy Kids partnership and campaign technical assistance

Strategic communications: Kentucky

- Develop messages for stakeholders (parents, healthcare, ECE) to expand 5-2-1-0 program (5 fruits and vegetables, no more than 2 hours of screen time, 1 hour of physical activity, and zero sugar-sweetened beverages daily)

Research and evidence: Build program evaluation of San Diego YMCA’s Wellness Champion Recognition program

- Anecdotal evidence of practice change
- Project: collect data on continued positive health practices in programs (past initial review), impact on home and family behaviors
Alabama: Partners for Food Access

- Can child care providers buy fresh food in their communities?
- Are there farmers markets where there are more family child care providers?
- Could farmers markets provide access to child care providers?

In Birmingham:
- 53 Licensed family child care homes
- 54 Low-income food deserts
- 22 Farmers markets
Local Support: Data Visualization, Strategic Planning, and Research

- Alabama Partnership for Children
- Alabama Farm-to-ECE Coalition
  - Alabama Department of Agriculture & Industries
  - Rev Birmingham (economic development)
  - Food Banks (Northern and Central AL)
  - Regional child care resource and referral agencies (CCR&Rs)
- Strategic planning support
- Needs assessment
- Focus groups with stakeholders
Prevalence of Obesity Among WIC Participants Ages 2–4 Years Old has Decreased Since 2010

Defined as sex-specific BMI-for-age ≥95th percentile based on 2000 CDC growth charts. WIC in 50 states (except Hi in 2002 & 2004), DC, & 5 U.S. territories.
Possible Factors in Improvements in Early Childhood Obesity

- Update of federal nutrition programs
- Investments in state and local communities
- Promotion of access to healthy foods and physical activity
- In the past decade, tremendous momentum by national and state stakeholders in supporting ECE in early childhood obesity prevention

ECE: early childhood education
Online Products Highlighting Good Practice

Provider Spotlight Videos

Recognition Program Map

usa.childcareaware.org/providersnapshots
usa.childcareaware.org/health-wellness-recognition-program/
Conclusions

- ECE providers influence health and nutrition practices for millions of children under their care
- Providers face economic and educational barriers as they seek to implement best practices that can help prevent obesity
- Our organization and others provide effective training and technical assistance to sites across the nation
- Collaboration and connections among public health, resources, and referral agencies can yield practice and policy change that improve children’s lives
Strengthening Schools as the Heart of Health

Sarah Sliwa, PhD

*Health Scientist*, Division of Population Health
National Center for Chronic Disease Prevention and Health Promotion
Centers for Disease Control and Prevention
Schools Are a Critical Setting for Prevention
Nutrition and Physical Activity Enhance Learning

Students that are:

- Physically active
  - Have improved test scores
  - Have higher grades
  - Have increased school attendance
  - Have improved classroom behavior

- Eating breakfast and healthy foods
The Whole School, Whole Community, Whole Child Framework

- **Short term**
  - Healthy students learn better

- **Long term**
  - Health behaviors and educational attainment are linked with lower risk of obesity and chronic disease
What Does the Evidence Say About Obesity Prevention?
Addressing Multiple Levels is More Effective

- Community
- School
- Home (Families)
- Students
School Health Guidelines (2011)

- Research synthesis
- 9 guidelines plus strategies
- Policy, systems, environmental approach
- Audience: researchers, program developers, and health professionals

www.cdc.gov/healthyschools/npao/strategies.htm
What Do the School Health Guidelines Say?

- Address nutrition and physical activity in ways that involve the whole school and broader community
- Focus messaging on health behaviors, not on obesity
- Do not emphasize physical appearance or stigmatize obesity
- In schools that choose to measure students’ BMI, adopt CDC recommended safeguards

www.cdc.gov/healthyschools/npao/strategies.htm
Examples of School Policy, Environmental, and Systems Changes
Knowledge Gaps:
What Co-benefits Arise From a Comprehensive Approach?

- Co-benefits may help with buy-in
  - Social and emotional learning?
  - School connectedness?
Knowledge Gaps:
What are Possible Unintended Consequences?

- **Unintended consequences**
  - Body dissatisfaction, disordered eating?
  - Weight-stigmatization?
  - Overexertion?
Knowledge Gaps: What Works in High Schools?

- Sparse evidence
- Important to address
  - Increasing obesity prevalence
  - Less protective policies
  - Competing interests

Photo courtesy of the USDA
Knowledge Gaps: How “Sticky” and Sustainable are These Interventions?

What does it take?
Training? Leadership? Materials?

What happens next?
For students? For activities and programs?

Photos (left and top right) courtesy of United States Department of Agriculture
The Health and Academics Connection

Mikki Duran

Program Leader, Health and Human Performance
Appleton Areas School District, Wisconsin
## Public Health and Education Have Different Goals

<table>
<thead>
<tr>
<th>Public Health</th>
<th>WI School Report Card</th>
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<tbody>
<tr>
<td>Childhood obesity</td>
<td>Student achievement</td>
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<tr>
<td>Chronic conditions</td>
<td>Academic growth</td>
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<tr>
<td>Local school wellness policy</td>
<td>Closing gaps</td>
</tr>
<tr>
<td>Health outcomes</td>
<td>On track and post-secondary success</td>
</tr>
</tbody>
</table>
Competing Priorities

- Schools have the same challenges fitting in healthy opportunities as most Americans
- Specific connections need to be made to gain buy-in
Connecting Health Behaviors and Academic Achievement

- The rainbow brain translates into an active fit brain
- This model creates context for the active classroom
  - Skills based curriculum emphasizes developing functional health
- Active classrooms are a direct link to positive academic outcomes and reduced disruptive behaviors in class at all levels
  - Students are more on task and focused
  - Increased memory
  - Reduced disruptive behaviors

Gathering Local Data to Improve Health and Learning

- How active are students during the school day?
- Measure student sedentary behavior
- Use strategies to improve the amount of activity students get throughout the day
Primary and Secondary Schools: Different Needs and Solutions for Physical Activity

Minutes Spent in Physical Activities by School Level, Appleton School District

<table>
<thead>
<tr>
<th>School Level</th>
<th>Active Physical Education</th>
<th>Active Classrooms</th>
<th>Active Recess and Open Gym</th>
<th>Before and After School (survey response)</th>
<th>Family and Community Activity (survey response)</th>
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<td>21</td>
<td>-</td>
<td>0</td>
<td>22</td>
<td>10</td>
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Physical activity goal is 60 minutes each day.
“Fit in 15” Adds 30 Minutes to Physical Activity Time

- Wisconsin elementary students are required to have 90 minutes of physical education per week
  - 60 minutes by a licensed physical education teacher
  - 30 minutes that can be done by a classroom teacher

- Appleton split their 30-minute time into two 15-minute segments
  - Classroom teachers provide activities that get all students vigorously active
  - Not all of our teachers make their Fit in 15 time a priority because of the pressure for academic scores, or they do not realize the importance
Fit Students Perform Better Academically

PACER: Standardized aerobic capacity test
Jefferson Elementary Data 2016-17, unpublished
Use of Wellness Rooms Reduces Negative Student Behavior Issues
Opportunities Before and After School

Before school intramurals at Horizons Elementary Appleton. Lillian Mongeau/The Hechinger Report
Families Connect to Local Schools

Appleton’s Tough Kid Challenge

Family Dinner Night
School Wellness Policies

- Valuable tool to inform and guide change
- Requiring an audit will make a difference in compliance
- Appleton School District
  - Uses CDC’s School Health Index for assessment
  - Awarded recognition from the state

CDC School Health Index: www.cdc.gov/healthyschools/shi/index.htm
Whole School, Whole Community, Whole Child (WSCC): the Educator’s Perspective on the Model
Schools Champions Make a Big Difference
“Preventing Childhood Obesity – Eating Better, Moving More”