SCHOOL-BASED HEALTH ALLIANCE
The National Voice for School-Based Health Care

BMI Assessment in Well Visits for School-Aged Children and Adolescents

April 25, 2024

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School-Based Health Alliance
Transforming Health Care for Students

Our **Focus**
The School-Based Health Alliance Works to Support & Grow SBHCs

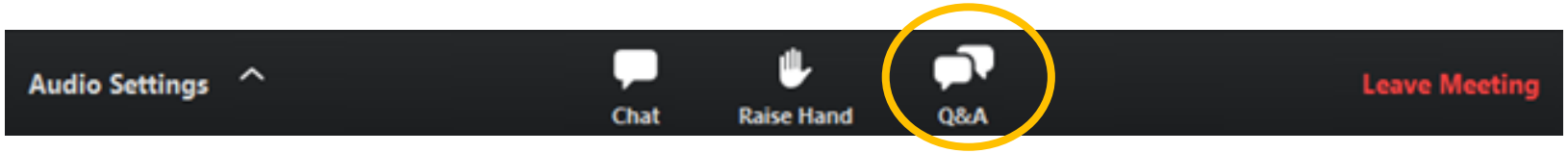
Policy	Standards	Data	Training
Establishes and advocates for national policy priorities	Promotes high-quality clinical practices and standards, including for telehealth	Supports data collection and reporting, evaluation, and research	Provides training, technical assistance, and consultation

We support the improvement of students' health via school-based health care by supporting and creating community and school partnerships.

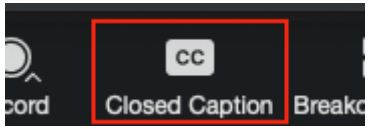
www.sbh4all.org

REMINDERS

- All attendees are in listen-only mode.
- To ask a question during the session, use the “Q&A” icon that appears on the bottom your Zoom control panel.



- To turn on closed captioning, click on the “CC” button



- Please complete evaluation poll questions at the end of the presentation.

Learning Objectives

1. Define Body Mass Index (BMI)
2. Explain how to assess BMI at visits
3. Identify a program strategy to increase partnerships with students and families

TODAY'S PRESENTER

Ranbir Bains, PhD, MSN, APRN, CPNP
Certified Pediatric Nurse Practitioner
Barnard Environmental School-Based Health Center

Poll Question

- How would you rate your screening and counseling practices for children and adolescents?
  - Room for Improvement
  - Pretty Good
  - Great

Body Mass Index (BMI)

- A person's weight in kilograms divided by the square of height in meters.
- An easy screening method for categorizing weight.
- Does not measure body fat directly but is correlated with direct measures of body fat
- Should be used with further assessments such as skinfold thickness measurements, diet, exercise history, and family medical history.

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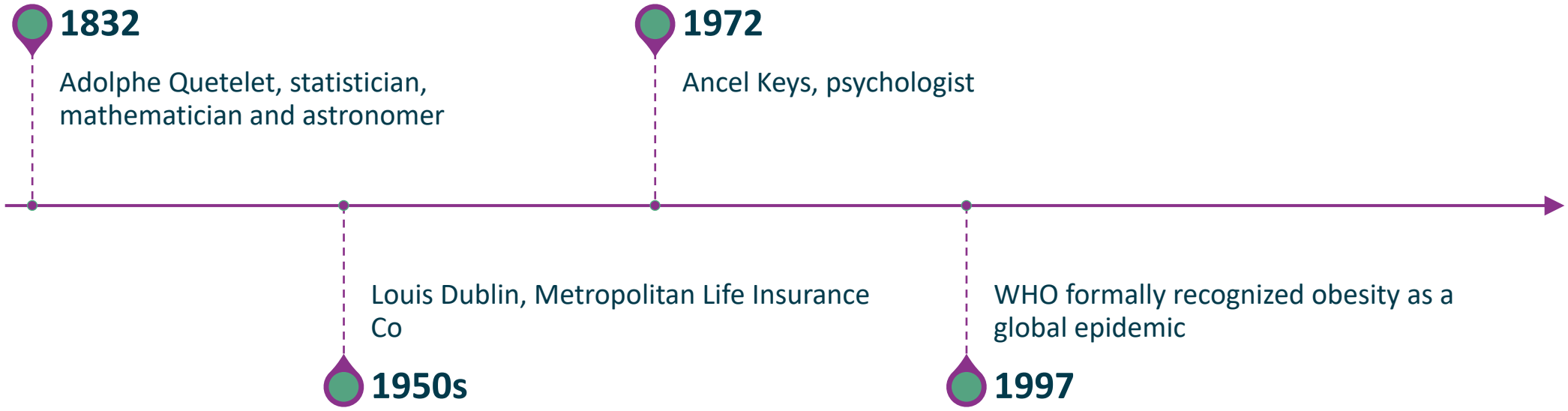
BMI Background



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BMI Calculation

Measurement Units	Formula and Calculation
Kilograms and meters (or centimeters	Formula: weight (kg) / [height (m)]^2 With the metric system, the formula for BMI is weight in kilograms divided by height in meters squared. Because height is commonly measured in centimeters, divide height in centimeters by 100 to obtain height in meters. Example: Weight = 68 kg, Height = 165 cm (1.65 m) Calculation: 68 ÷ (1.65)^2 = 24.98
Pounds and inches	Formula: weight (lb) / [height (in)]^2 x 703 Calculate BMI by dividing weight in pounds (lbs) by height in inches (in) squared and multiplying by a conversion factor of 703. Example: Weight = 150 lbs, Height = 5’5” (65”) Calculation: [150 ÷ (65)^2] x 703 = 24.96

About Adult BMI | Healthy Weight, Nutrition, and Physical Activity | CDC

BMI Interpretation

In adults, it is the same for men and women

BMI	Weight Status
Below 18.5	Underweight
18.5 – 24.9	Healthy Weight
25.0 – 29.9	Overweight
30.0 and Above	Obesity

Height	Weight Range	BMI	**Weight Status**
5’ 9”	124 lbs or less	Below 18.5	Underweight
	125 lbs to 168 lbs	18.5 to 24.9	Healthy Weight
	169 lbs to 202 lbs	25.0 to 29.9	Overweight
	203 lbs or more	30 or higher	Obesity

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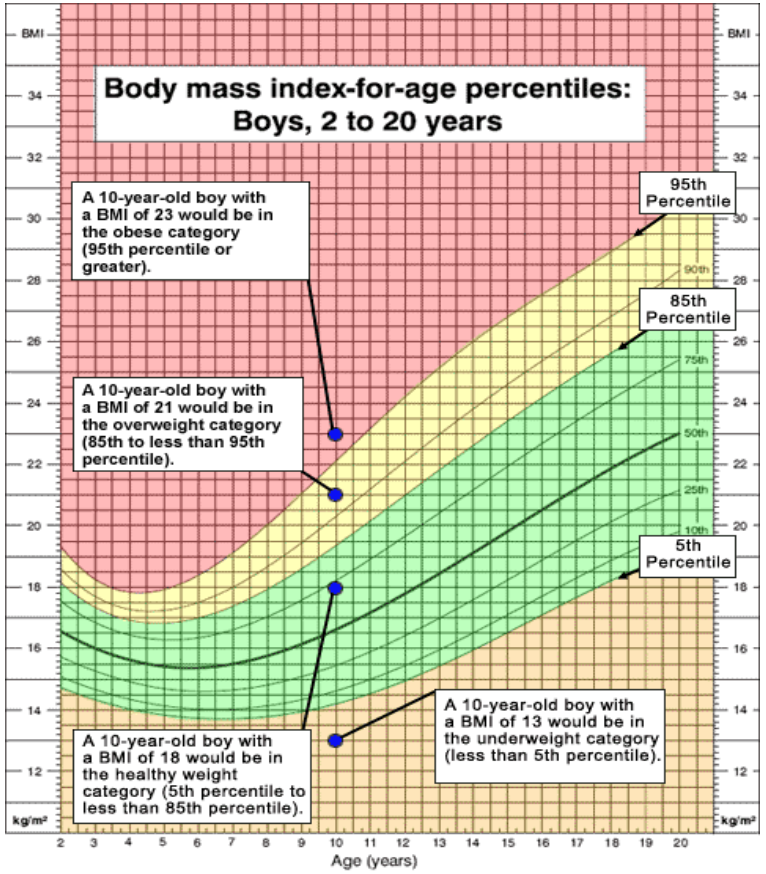
BMI in Children and Adolescents

Calculated the same way but interpreted differently	Screens for potential weight and health-related issues	Checked once a year at least
Evaluate the trend of BMI for a child	Skinfold thickness measurements, evaluations of family history, eating patterns and physical activity	AAP recommendations-age 2 years old

BMI in children and adolescents



BMI-for-age weight status categories and the corresponding percentiles

Weight Status Category	Percentile Range
Underweight	Less than the 5th percentile
Healthy Weight	5th percentile to less than the 85th percentile
Overweight	85th to less than the 95th percentile
Obesity	Equal to or greater than the 95th percentile

Defining Childhood Prediabetes Risk Factors

- **Body mass index (BMI) is used to determine childhood overweight and obesity.**
- **Overweight is defined as a BMI at or above the 85th percentile and below the 95th percentile for children and teens of the same age and sex.**
- **Obesity is defined as a BMI at or above the 95th percentile for children and teens of the same age and sex.**
- **Severe obesity is defined as a BMI at or above the 120th percentile for children and teens of the same age and sex**

Prevalence of Childhood Obesity in the United States

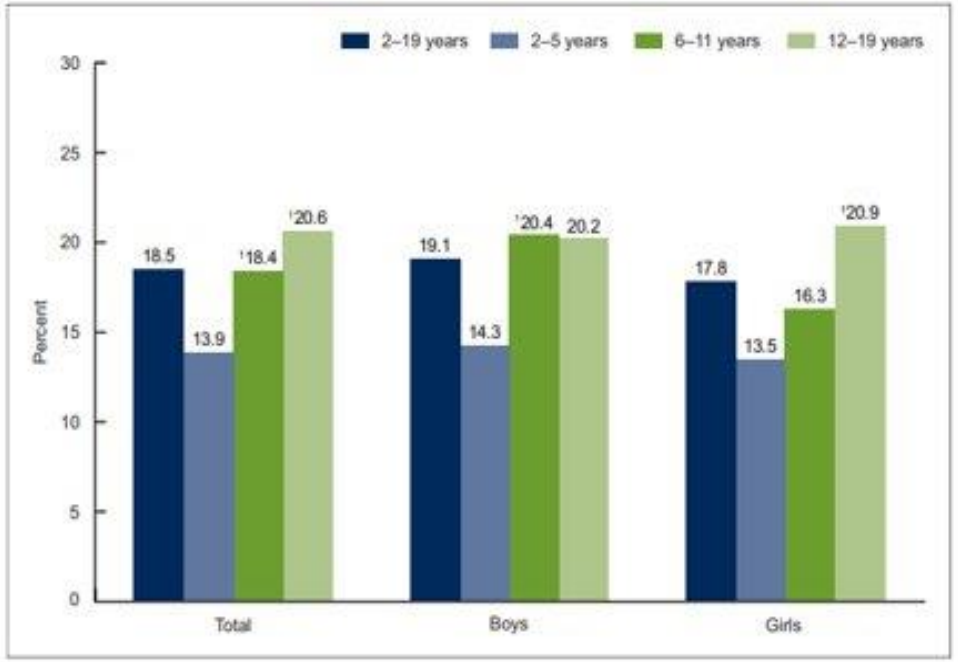
For children and adolescents aged 2-19 years:

- **The prevalence of obesity was 19.3% and affected about 14.4 million children and adolescents.**
- **Obesity prevalence was 13.4% among 2- to 5-year-olds, 20.3% among 6- to 11-year-olds, and 21.2% among 12- to 19-year-olds.**

Childhood obesity is also more common among certain populations.

- **Hispanics (25.6%) and non-Hispanic blacks (24.2%) had higher obesity prevalence than non-Hispanic whites (16.1%).**
- **Non-Hispanic Asians (8.7%) had lower obesity prevalence than non-Hispanic blacks and Hispanics.**
- **Prevalence of obesity among adults was 39.8%**

Figure 3. Prevalence of obesity among youth aged 2–19 years, by sex and age: United States, 2015–2016



†Significantly different from those aged 2–5 years.
NOTE: Access data table for Figure 3 at https://www.cdc.gov/nchs/data/databriefs/db288_table.pdf#3.
SOURCE: NCHS, National Health and Nutrition Examination Survey, 2015–2016.

Effects of Childhood Obesity

Clinical

- Increased risk of impaired glucose tolerance, insulin resistance, and type 2 diabetes.
- High blood pressure and high cholesterol.
- Breathing problems, such as asthma and sleep apnea.
- Joint problems and musculoskeletal discomfort.
- Fatty liver disease, gallstones, and gastro-esophageal reflux (i.e., heartburn).

Social

- Anxiety and depression.
- Low self-esteem and lower self-reported quality of life.
- Social problems such as bullying and stigma.

Long-Term Health Risks

- Children who have obesity are more likely to become adults with obesity
- Adult obesity is associated with increased risk of several serious health conditions including heart disease, type 2 diabetes, and cancer
- If children have obesity, their obesity and disease risk factors in adulthood are likely to be more severe.

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Recommendations

American Academy of Pediatrics

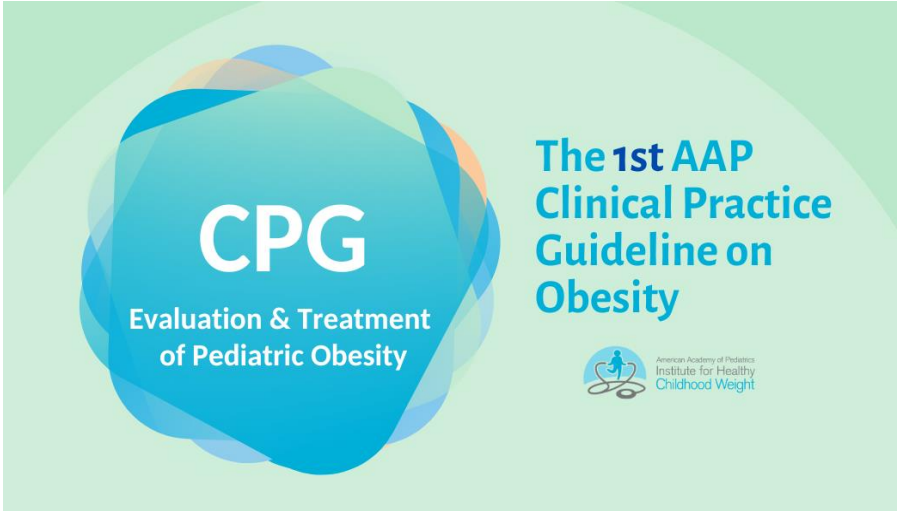
- Assess all children for onset of obesity-related risk factors
- Provide tailored counseling
  - Screening for patient and family stress
  - Disordered eating
  - Social determinants of health

Center for Disease Control and Prevention

- Increase access to evidence-based pediatric weight management programs
- Increase access to food assistance resources

Clinical Screening Guidelines

- Primary Themes
  - Assessment and Diagnosis
    - BMI and BMI percentiles to assess and diagnose child >2 years old
  - Prevention and Management
    - Nutrition
    - Activity
    - Sleep
  - Behavior Modification
    - Parental role
  - Multidisciplinary approach
    - Programs with multidisciplinary teams



WSCC

CDC framework for addressing health in schools

Student-centered

Emphasizes the role of community in supporting the school, the connections between health and academics, and evidence-based school policies and practices

10 components

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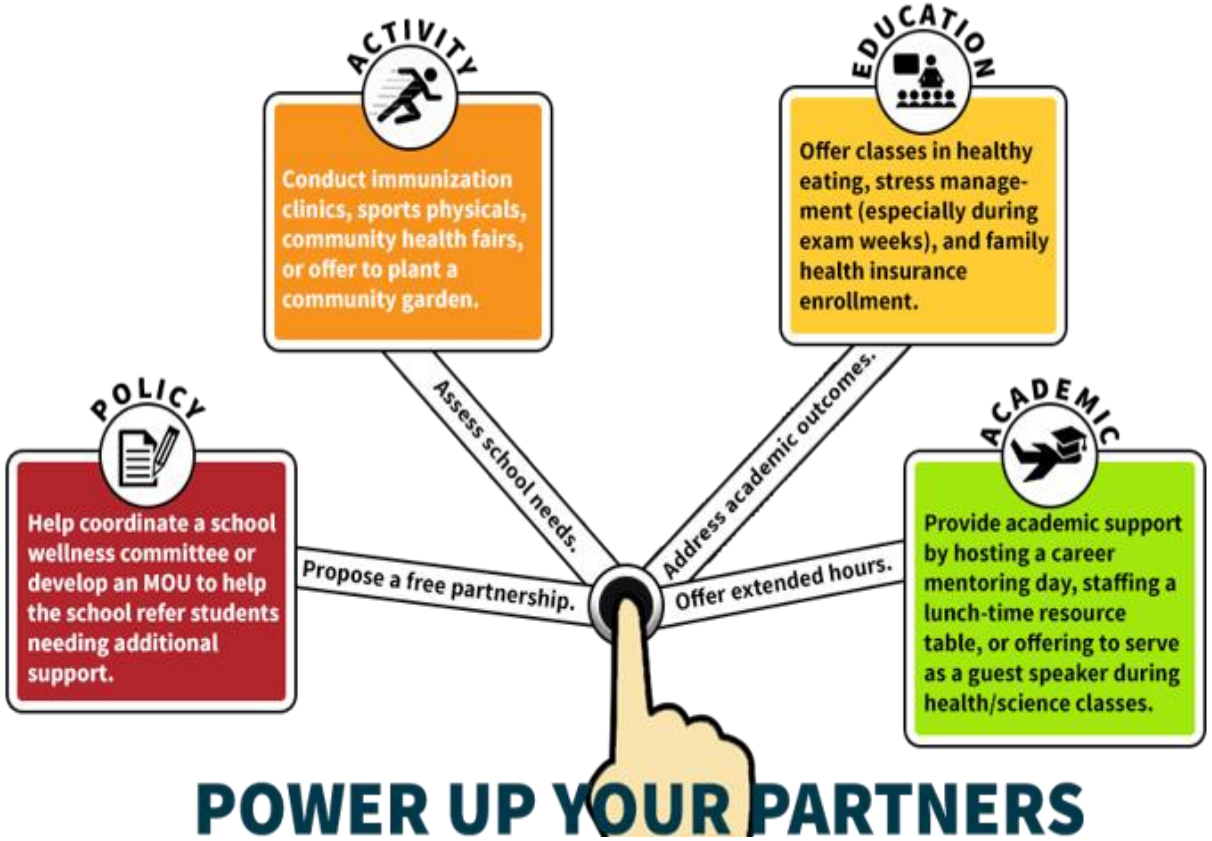
Promoting wellness in SBHCs

Innovating Practice: Partnerships



Look to partnerships to expand your reach and impact!

- **Walking Groups**
- **Family education through newsletters and school/community wide events**

Health Centers and Schools: Uniting for Young People's Success, https://sbh4all.org/chc-schoolpartnership.php/

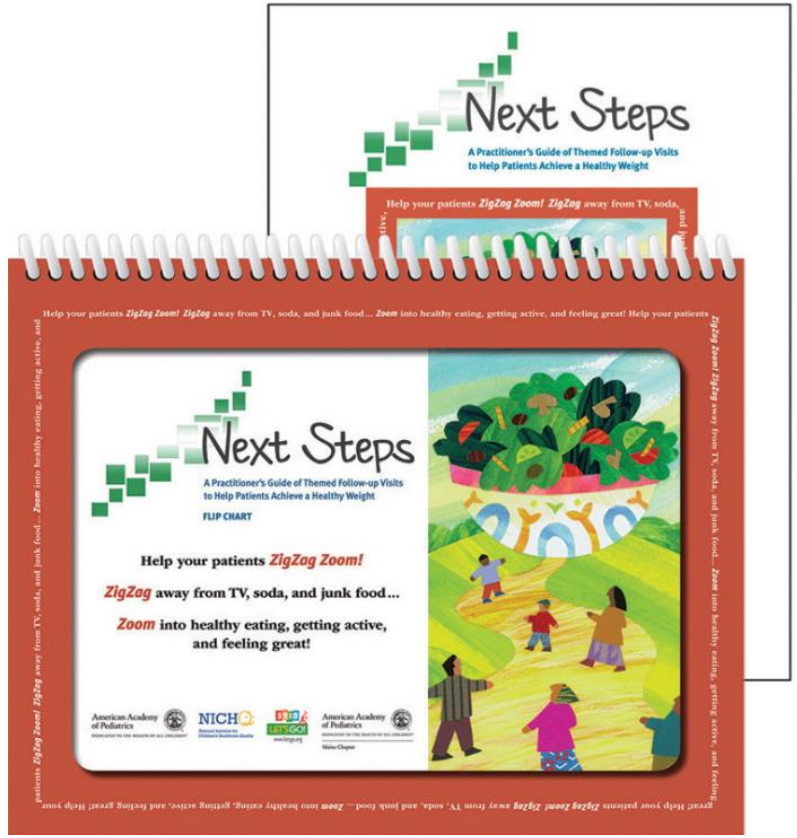
Next Step Program

Goals

- To increase knowledge of nutrition and exercise among selected 6th and 7th grade students with a BMI of 85% and higher
- To maintain consistent engagement in the nutrition and exercise program among selected 6th and 7th grade students with a BMI of 85% and higher

Program Design

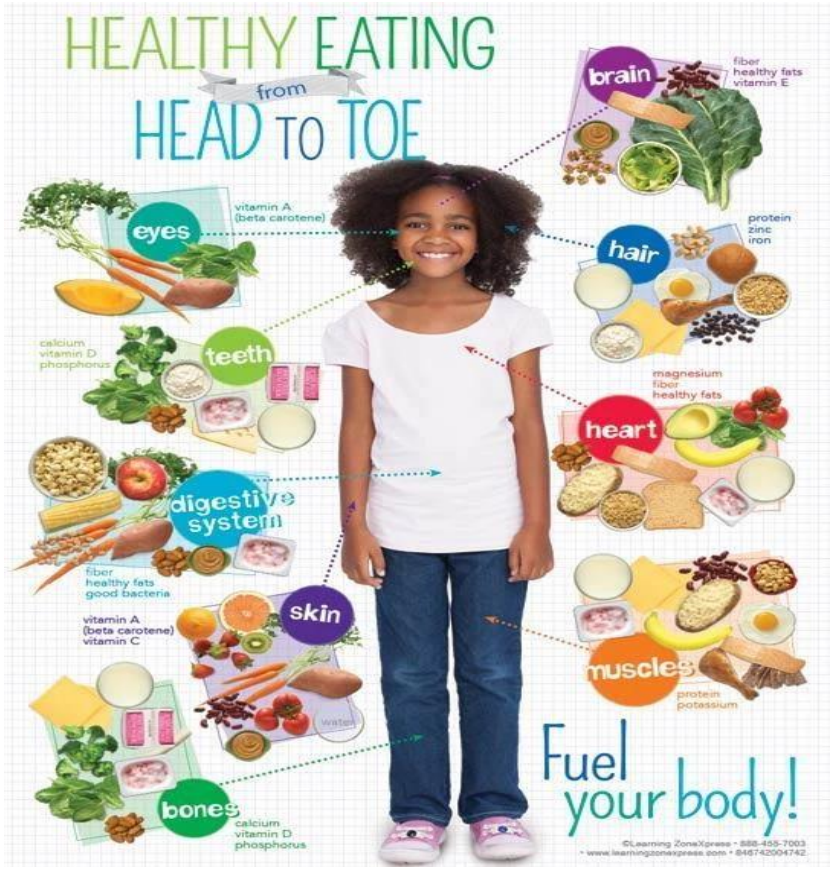
- 6 sessions
- Each session 20-30 minutes
- Each student meets 4 out of 5 engagement criteria
  - Attendance
  - Student initiates questions
  - Shared handouts with parent/guardian
  - Summarizes key points from the session
  - Documents one behavior change after the previous session



American Association of Pediatrics: https://shop.aap.org/next-steps-a-practitioners-guide-for-themed-follow-up-visits-for-their-patients-to-achieve-a-heal/

Next Step Program Phases

- Introduction to program and outreach phone call to parent
- Baseline BMI
- Pre-test
- Education
  - How nutrition effects your body
  - Introduction to MyPlate and basic food groups
  - Understanding Healthy Foods
  - Reading Food labels
  - Healthy Beverages
  - Healthy Exercise
  - Guide to Eating Out
  - Smart Snacks
- Post test
- BMI
- Wrap up and review
- Questions
- Goal Setting



Education Material

Iterating on Innovative Practices

Building on Innovative Practices

Integration of health into science education:

- **Nutrition and exercise integrated into the school health program**
- **Small grant**
- **Food science program integrating academics into healthy nutrition and exercise.**

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Questions?

Please enter your questions into the "Q & A" box of the Zoom control window.

SAVE THE DATE

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2024 National School-Based Health Care Conference

June 30 to July 2

Westin Washington, DC Downtown Hotel (formerly the Renaissance Downtown Hotel) in Washington, D.C

More information here.

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THANK YOU!

Additional Questions? Contact us at: info@sbh4all.org

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