Preventing Obesity Among Rural Children: Improving School Nutrition and Physical Activity Options through Targeted Environmental Actions

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Presenter Disclosures
Deborah H. John
“No relationships to disclose”

Session Objectives
• Participants will be able to:
  – Describe the prevalence of overweight and obesity among rural elementary school students.
  – Describe the purpose and application of the School Nutrition and Physical Activity (SNPA) tool as an environmental approach to obesity prevention for rural elementary schools.

Obesity Trends Among U.S. Children

Childhood Obesity: Place Matters

• Rural residency increases the risk of childhood overweight and obesity
  • Rural Healthy People 2010
• Odds of obesity as much as 50% higher among rural elementary school children
  • McMurray et al., J Rural Health, 1999
• Why?

Promoting Environments that Support Obesity Preventing Behaviors

• Reducing obesity prevalence is dependent upon the extent to which obesity-preventing lifestyles can be adopted and sustained.
• Rural children, families and communities face unique challenges.
• Research supports multi-level efforts as “best practice”

Measuring Obesity Prevalence Among Rural Elementary School Students
Height-Weight Assessment

• Conducted during the 2012-2013 school-year in six rural elementary schools.
• Conducted by research staff in partnership with Extension field faculty and school volunteers.

All GROW Schools, Prevalence of Overweight or Obese, by Grade and Sex

Prevalence among US Children ages 6-11 is 32.6%

All GROW Schools, Prevalence of Obese, by Grade and Sex

Prevalence among US Children ages 6-11 is 18%

Promoting Healthy Schools

• Schools are critically important environments that have significant impact on children’s health behaviors.
• In the past decade, schools have made progress in nutrition and physical activity policies and practices; however, there remains room for improvement.

Improving School Nutrition and Physical Activity Options through Targeted Environmental Actions

School Nutrition and Physical Activity (SNPA) Environmental Action Tool

Developed to:
- **Address** gaps in existing assessment tools
- **Assess** nutrition and physical activity context of the school
- **Align** ‘best practice’ strategies for changing the context with assessment-driven actions
SNPA Model

Physical Activity (N=16)
- Physical
  - PA & Wellness Policy
  - Atmosphere/Ambiance
  - Movement Opportunities
  - Portable Equipment

Nutrition (N=11)
- Physical
  - Cafeteria Atmosphere
  - Garden Features

Policy
- PA & Wellness Policy
- Structured Physical Education

Each item is scored and the tool provides a baseline measure that is sensitive to change. The SNPA also works as an intervention strategy identifying areas of "opportunity" to improve the SNPA environment.

Utility: Data Sources, Informants, and Criteria

<table>
<thead>
<tr>
<th>Category</th>
<th>Policy Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Data Sources</td>
<td>Informant: PE Teacher, Principal</td>
</tr>
<tr>
<td>- PE Teacher</td>
<td>TE Teacher</td>
</tr>
<tr>
<td>- other, please specify</td>
<td>-</td>
</tr>
</tbody>
</table>

Description:
The school has a structured physical education/physical activity program that is coordinated and/or instructed by trained/credentialed physical education(s).

Criteria:
A. The school has a trained/credentialed Physical Education Teacher
B. Students participate in a minimum of 150 minutes of structured physical activity education per week
C. PE teachers are based on a written and sequential physical activity curriculum that is consistent with national standards for physical education (see appendix)

Area of Interest 10 Score:
2/3 criteria met

Scored by agreement of SNPA auditors

School Meals
- Meals served to students are attractively presented in a pleasant (friendly, comfortable, and inviting) environment with sufficient time for eating.

Suggestions for action...
Follow the recommendations in the Action Guide for School Nutrition and Physical Activity Policies. See the section "Surroundings for Eating" (pg. 122).

E. HAND-WASHING/SANITIZING STATIONS

Suggestions for action...
Follow the recommendations in the Action Guide for School Nutrition and Physical Activity Policies. See the section "Surroundings for Eating" (pg. 122).
SNPA Applications
1) Assess school resources and readiness to implement environmentally-focused “best” practices
2) Plan and implement partnerships, programs, and policies to change school nutrition and PA contexts
3) Evaluate effectiveness of school-level efforts to increase resources and improve practices that support students’ nutrition and PA behaviors

Scoring the SNPA

LEVEL 1 Poor Practice
LEVEL 2 Fair Practice
LEVEL 3 Good Practice
LEVEL 4 Best Practice
LEVEL 5 Better than Best

< 25% 26 < 50% 51 < 75% 76 < 100% > 100%

SNPA Scoring Scale
1. Each Area of Interest is scored by: # criteria met/# criteria available = % met
2. Categorical scores may be calculated in the following environmental domains:
   - Physical Activity
   - Nutrition
   - Situational
   - Policy
3. Overall SNPA score (# criteria met/# criteria available = % met)

Results: Descriptive Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>County 1</th>
<th>County 2</th>
<th>County 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Student enrollment</td>
<td>553</td>
<td>441</td>
<td>494</td>
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<tr>
<td>Eligible (%) for free/reduced meals</td>
<td>69.8</td>
<td>67.8</td>
<td>57.3</td>
</tr>
<tr>
<td>Race/Ethnicity (%)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>80.7</td>
<td>63.5</td>
<td>92.3</td>
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<tr>
<td>Other</td>
<td>8.3</td>
<td>3.6</td>
<td>4.5</td>
</tr>
<tr>
<td>Hispanic</td>
<td>11.0</td>
<td>32.9</td>
<td>3.2</td>
</tr>
</tbody>
</table>
GROW HKC Schools - Baseline
SNPA, Physical Activity, and Nutrition Scores

SNPA Score

1 2 3 4 5 6

Schools

SNPA Physical Activity Nutrition

CON INT INT INT INT

Meets Best Practice

GROW HKC Schools - Baseline
Nutrition Environments

SNPA Score

1 2 3 4 5 6

Schools

Physical Environment Situational Environment Policy Environment

CON INT INT INT CON CON

Meets Best Practice

GROW HKC Schools - Baseline
Physical Activity Environments

SNPA Score

1 2 3 4 5 6

Schools

Physical Environment Situational Environment Policy Environment

CON CON CON INT INT INT

Meets Best Practice

Report and Resource Guide

The SNPA Report and Resource Guide can be leveraged to:

- Secure grant funding
- Document school-level changes resulting from national, state, and/or district policies
- Evaluate school wellness, health and performance factors & practices

Conclusions from baseline assessments...

Rural Students
- Overweight and obesity prevails among K-6 grade students and follows an upward trend beginning around grade 3

Rural Schools
- Vary across Areas of Interest and schools but generally fail to meet best practices
- Prioritize improvements to environments that will make easier students' weight-healthy behaviors
- Need resources to address the areas of improvement identified by the SNPA assessment

July 2013 – October 2013

OR Farm to School - School District $20,400
Community on the Move Fitness Trail – Elementary School, HEAL

Community School Garden Camp - $500
Fuel Up and Play 60 Elementary School - OR Dairy Council $4000
Fuel Up and Play 60 Elementary School - OR Dairy Council $500

Playworks - Elementary School - Kaiser Permanente $2500
Fuel Up and Play 60 Elementary School - OR Dairy Council $500

Key:
Green = Nutrition Environment
Purple = Physical Activity Environment

Community School Garden Camp - $500
Fuel Up and Play 60 Elementary School - OR Dairy Council $1000

Community School Garden Camp - $500
Fuel Up and Play 60 Elementary School - OR Dairy Council $4000

OR Farm to School - School District $20,400
Community on the Move Fitness Trail – Elementary School, HEAL

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Key:
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Questions?

Our GROW HKC Team!