Partners for prevention: Collaboration for sustainable change in low-income urban schools

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- 9 county Finger Lakes region
- 1.2 million residents, over ½ in Monroe County
- City of Rochester poverty rate: 33%
- 56% of children live in poverty in the City of Rochester
- Top 75 metro areas, only 3 cities - Detroit, Cleveland, Dayton - have higher childhood poverty rates
- 1st in extreme poverty
- Black and Hispanic children have disproportionate rates of poverty in Rochester & Monroe County
• Health conversion/legacy foundation established in 2006 through purchase of not-for-profit health care plan

• Assets ~$240M; annual distribution ~$10-12M

• **Mission:** To improve the health status of residents of the Greater Rochester community, including people whose unique health care needs have not been met because of race, ethnicity, or income.

• Serves a nine-county area in the Finger Lakes Region
**Strategy Summary**

**Goal:** Increase the Prevalence of Healthy Weight to 85%, as Measured by Body Mass Index (BMI), in Monroe County Children Ages 2-10 over a 10-Year Period

**Duration:** 2007-2018  
**Funding:** ~$22.8 M

**Key Strategies:**
- Increase physical activity and improve healthy eating in schools, home and community
- Advance policy and practice solutions
- Execute a community communications campaign
- Engage the clinical community

**Strategy Revised:** 2012-2018
### Healthy Weight Strategy Revision (2012)

**Outcomes and Learnings**
- Mixed effects on nutrition and physical activity, BMI
- High awareness but little behavior change from 5210 media campaign
- No improvement in overweight/obesity between 2007-2012
- *Need for greater synergy and focus*
- *Need for better parent engagement*

**Strategic Review Process**
- Comprehensive review of research- and practice-based evidence
- Expert consultation and national context (PSE & SDoH)

**Strategy Changes**
- Scope: City of Rochester, children ages 4-10
- Focus on urban school-based obesity prevention
- Track interim metrics in addition to BMI
- Comprehensive evaluation with additional BMI analyses
# Multicomponent Approach

<table>
<thead>
<tr>
<th>Component</th>
<th>Programs/Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical activity and nutritional programs &amp; practices</td>
<td>• Expanded recess, classroom PA, nutrition education, equipment, physical enhancements</td>
</tr>
<tr>
<td>Staff training</td>
<td>• Playworks, Cafeteria staff, Math &amp; Movement; Action-based learning</td>
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<tr>
<td>Advocacy</td>
<td>• Daily recess policy, better school food, water access, safe play</td>
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<tr>
<td>Out-of-school time programs and parent engagement</td>
<td>• YMCA, afterschool sports, free health-focused summer camp, family health fairs</td>
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<tr>
<td>Communications Campaign</td>
<td>• 5210 / Be a Healthy Hero Media, workshops/displays; Street Team</td>
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Healthy Weight Outcomes Framework

Improved physical activity and nutrition
- Step counts
- Recess time
- Self-reported food consumption

School policy and practice change
- School Physical Activity Policy Assessment (S-PAPA)
- Cafeteria and recess observations

Body Mass Index
- Height & weight data from school Fitnessgram assessment
# Child Weight Status

Comparison of weight status by age group, gender and location in Monroe County, 2007 & 2012

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Normal</th>
<th>Overweight</th>
<th>Obese</th>
<th>Normal</th>
<th>Overweight</th>
<th>Obese</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All</strong></td>
<td>69.9%</td>
<td>15.0%</td>
<td>15.1%</td>
<td>68.4%</td>
<td>16.4%</td>
<td>15.2%</td>
</tr>
<tr>
<td>2-10 yrs</td>
<td>71.5%</td>
<td>14.3%</td>
<td>14.3%</td>
<td>68.5%</td>
<td>16.4%</td>
<td>15.1%</td>
</tr>
<tr>
<td>11-18 yrs</td>
<td>67.3%</td>
<td>16.2%</td>
<td>16.5%</td>
<td>67.9%</td>
<td>16.5%</td>
<td>15.6%</td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td>69.3%</td>
<td>14.8%</td>
<td>16.0%</td>
<td>67.8%</td>
<td>16.9%</td>
<td>15.3%</td>
</tr>
<tr>
<td><strong>Female</strong></td>
<td>70.6%</td>
<td>15.3%</td>
<td>14.1%</td>
<td>68.9%</td>
<td>15.9%</td>
<td>15.2%</td>
</tr>
<tr>
<td>Suburban</td>
<td>74.5%</td>
<td>13.9%</td>
<td>11.6%</td>
<td>71.0%</td>
<td>16.1%</td>
<td>12.9%</td>
</tr>
<tr>
<td>Urban</td>
<td>61.1%</td>
<td>17.1%</td>
<td>21.8%</td>
<td>62.2%</td>
<td>17.1%</td>
<td>20.7%</td>
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</table>
BMI Analyses: 2013-2018

**Comparison**
Compared students in intervention to all other RCSD K-6 schools

**Sample**
N=~8,000

**Limitations**
Non-randomized design
High level of missing data

**Sensitivity analyses**
Mixed model with covariate control and propensity score matched samples
BMI & BMI z-score
Subgroup analyses (gender, initial weight, duration)
BMI Results in Context

- BMI findings are inconsistent across studies and meta-analyses
- Long-term follow-up is rare
- Little population-level change in child obesity
- Importance of policy and environmental changes for healthier behaviors
PA & Nutritional Outcomes

Child Survey: Healthy Schools Questionnaire

- Sports drink/sweetened fruit punch/regular soda
- Diet soda

Avg # Times Per Day

- Fall 13-14 (n=936): 2.3
- Spring 13-14 (n=935): 1.9
- Fall 14-15 (n=1085): 1.8
- Spring 14-15 (n=706): 1.9
- Fall 15-16 (n=1162): 1.8
- Spring 15-16 (n=1181): 1.9
- Fall 16-17 (n=1496): 1.9
- Spring 16-17 (n=1404): 1.9
- Fall 17-18 (n=1341): 1.8
- Spring 17-18 (n=1376): 0.3
Child Survey: Healthy Schools Questionnaire

- Grain-based desserts (cookies, cakes), chocolate candy
- Fried foods, fries and chips

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall</th>
<th>Spring</th>
<th>Fall</th>
<th>Spring</th>
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<tbody>
<tr>
<td>2013-14</td>
<td>2.4</td>
<td>2.1</td>
<td>1.6</td>
<td>1.7</td>
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<tr>
<td>2014-15</td>
<td>1.9</td>
<td>1.7</td>
<td>1.6</td>
<td>1.6</td>
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<tr>
<td>2015-16</td>
<td>1.9</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>2016-17</td>
<td>1.9</td>
<td>1.7</td>
<td>1.7</td>
<td>1.6</td>
</tr>
<tr>
<td>2017-18</td>
<td>2.1</td>
<td>1.8</td>
<td>1.6</td>
<td>1.5</td>
</tr>
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Average times per day.
Average # Minutes of Recess Time: Across Intervention Schools

(F(2,2004) = 44.7, p<.001)
Activity Level Measured as Steps per School Day

Intervention school students tended to have higher activity levels overall. The differences between the two groups were statistically significant each time point with the exception of Time 1 (fall 2013-2014) and both fall and spring of the final year of programming.
Qualitative Observations

- Smoother transitions between recess
- Improvements in quality recess (e.g., cooperative games, SE supports) linked with Playworks training
- More orderly cafeteria environment
- Cafeteria staff encouraging students to make healthier choices
Policy and Practice Changes

• Pediatric practice changes

• Daily recess mandate in RCSD wellness policy

• Expanded recess at building level

• Increased access to healthy food options - installation of salad bars, Hybrid kitchens

• Playful sidewalks

• Ongoing community partnerships (Playworks, Foodlink, City of Rochester 2034)
Lessons Learned: Role of Funders

- Board dynamics, “impact”, push for BMI; appropriate outcomes and timeframes
- BMI change, level of analysis, addition of GWU
- Convening/coordinating partnerships: training, advocacy, technical assistance
- Building relationships to secure & support school stakeholder engagement and buy-in
- Culture and policy change are key to sustainability
Whole Child Health & Schools

• Build on progress and partnerships with schools
• Adopt whole child approach
• Shift focus from implementation of grant-funded interventions to systemic and culture change
• School teams (vs grant coordinators) leading WCH work
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