Addressing Childhood Obesity: Creating Healthy Environments Through Community-Based Interventions

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INTRODUCTION
Childhood obesity rates have reached epidemic levels in the United States (U.S.) after more than tripling to roughly 17% of the population since the 1960s (Fryar, Carroll, & Ogden, 2012; WHTFCO, 2010). The long-term health and well-being outcomes of obese children in the U.S. may lead to serious health concerns throughout adulthood, compounding the healthcare cost burdens that affect everyone (Allcock, Gardner, & Sowers, 2009; WHTFCO, 2010). To date, state and federal policy initiatives have focused on increasing knowledge and changing behaviors such as nutrition awareness, food labeling, and healthy nutrition options in school. Other policies have focused on increasing physical activity through school programs and neighborhood accessibility, while others have addressed the role of the food industry in marketing unhealthy foods to children. Sustaining the current momentum to reduce childhood obesity requires identifying which interventions are successful and how they can be replicated throughout communities in the U.S. (WHTFCO, 2010; Winterfeld, Shinkle, & Morandi, 2012). This brief will define childhood obesity, explain its causes, evaluate policy alternatives using a cost-effectiveness analysis and a multi-attribute analysis, and provide a comprehensive recommendation for reducing childhood obesity in the U.S.

CHILDHOOD OBESITY: TRENDS & IMPACTS
According to the National Center for Health Statistics (2002), overweight and obesity is classified according to Body Mass Index (BMI). Children whose BMI is equivalent to or above the sex- and age-specific 95th percentile of population on the Centers for Disease Control and Prevention (CDC) recommended growth chart are typically considered obese (NCHS, 2002). Approximately 17% of children and adolescents in the U.S. aged two to 19 years are obese (Ogden, Carroll, Kit, & Flegal, 2012).

Childhood obesity places a significant economic burden on everyone in the U.S. Cawley (2010) denotes that in 2008 approximately $147 billion was spent treating adult obesity-related illnesses. During the same year direct costs of childhood obesity, including annual prescription drug, emergency room, and outpatient costs were $14.1 billion, in addition to inpatient costs of $237.6 million (Cawley, 2010).

Children who are obese are more likely to have serious health consequences such as heart disease, diabetes, strokes, certain cancers, and osteoarthritis (CDC, 2013). At current rates, it is anticipated that the epidemic of obese children will result in unmanageable health outcomes (Allcock et al., 2009). Finkelstein et al. (2012) estimated adult obesity prevalence in the U.S. through 2030 based on a nonlinear regression model. The authors suggest, “if obesity were to remain at 2010 levels, the combined savings in medical expenditures over the next 2 decades would be $549.5 billion” (Finkelstein et al., 2012, p. 568).

Distinct trends in childhood obesity have emerged between racial, ethnic, and gender categories in the U.S. Between 1976–1980 and 2009–2010 obesity increased from 5% to 18.4% among adolescents aged 12–19. Specific indicators revealed that non-Hispanic black girls and Hispanic boys maintained the highest overweight and obesity rates, 24.8% and 28.9% respectively (Fryar et al., 2012). Although overweight and obesity rates have steadily increased since the 1960s, rates have leveled off in the last decade (Anderson & Butcher, 2006; CDC, 2013; Fryar et al., 2012).
Obesity rates are declining in several cities and states that are taking comprehensive action to address this epidemic. The four states leading the decline in obesity rates are: California (-1.1%), Mississippi (-13.3%), New York (-5.5%), and Pennsylvania (-4.7%) (RWJF, 2012b). Among cities, Philadelphia “achieved the most significant declines in obesity rates among African-American males and Hispanic females, two groups at high risk for obesity” (RWJF, 2012b, p. 2).

ANALYZING THE PROBLEM
Several factors contribute to childhood obesity, including social norms, values, and environment. Importantly, most children do not have control over their diets or physical activity due to the influence of social, environmental, and economic factors. Studies show that those who have control over a child’s diet, including guardians and school administrators, tend to choose cheaper and more convenient foods, which tend to be high in calories (Larson, Story, & Nelson, 2009). Further, not having access to community design factors such as parks, sidewalks, and safe areas to ride a bicycle affects a child's level of physical activity (Sallis & Ganz, 2006).

Social & Environmental Factors
Nutritional knowledge in guardians and adults that plan a child’s diet influence food attitudes and practices among young children (Berkowitz & Borchard, 2009). Guardian’s lack of information regarding food and a general level of educational attainment influence children’s nutrition and food choices. In fact, “between 1988-1994 and 2005-2008 the prevalence of obesity increased in children at all levels of income and education, except among girls in households where the head [of the household] had at least a college degree” (Ogden, Lamb, Carroll, & Flegal, 2010, p. 245). Thus an opportunity to educate parents and guardians about introducing affordable and healthy diets to their children at an early age.

Crawford, Story, Wang, Ritchie, and Sabry (2001) explain that all children from various backgrounds are consuming more calories and participating in less activity, leading to increased rates of childhood obesity. Children’s decisions about healthy foods are affected by their home, childcare center, school, or community (CDC, 2011). People in rural, minority, and lower-income neighborhoods have less access to stores and supermarkets that sell healthy, affordable foods, such as fresh fruits and vegetables (Larson et al., 2009). According to the WHTFCO these communities have an abundance of fast-food restaurants and convenience stores, which mainly sells lower quality healthy foods. Further, costs of fresh foods in these areas tend to be much higher (WHTFCO, 2010).

As many as 55 million children eat meals and snacks at school every day in the U.S. (Snyder, Dillow, & Hoffman, 2008). In the school system, there are presently no comprehensive federal standards for “competitive foods”, which are typically foods with little nutritional value, to guide the type of products that are available and marketed in schools (McGinnis, Gootman, & Kraak, 2006). Due to budget constraints and the need to focus on activities that will maximize test scores, there is a lack of quality physical activity in schools (WHTFCO, 2010). Looking at physical activity trends in children, the U.S. Department of Health and Human Services found that the majority of adolescents did not meet the recommended 60 minutes a day of aerobic physical activity. In fact, in 2007 only 18% of students in high school met this recommendation (DHHS, 2008).
Another environmental factor affecting childhood obesity is the lack of safe or appealing places to be active, and many communities are built in ways that make it difficult or unsafe to be active. Many families have difficulty accessing parks and recreation centers, and lack of transportation can be a serious challenge. Many children do not have access to safe walking and biking routes that can be used for playing or going to school. Half of all children in the U.S. do not have a community center, park, or sidewalk in their neighborhood (CDC, 2012b). Without safe, accessible environments for physical activity, children are more likely to participate in sedentary behaviors such as watching television, playing video games, and using computers and other technology (Salis & Glanz, 2006).

**Economic Factors**

Economic factors contribute to the problem of childhood obesity at consumer and industry supply levels. Processed and minimally nutritious foods are often less expensive to purchase than fresh items such as fruits and vegetables, increasing the likelihood that low-income families will rely on them as a primary source of nutrition (Drewnowski & Darmon, 2005). Another factor that contributes to the prevalence of childhood obesity is the use of frequent and targeted advertising by manufacturers of high-calorie processed foods. Half of all U.S. middle and high schools allow advertising of high-calorie foods, which, in turn, reduce children’s ability to make healthy food choices. Further, $1.6 billion per year is spent on advertisements to promote high-calorie foods and drinks to youth, mostly targeting low-income and minority communities (CDC, 2011). Studies show that adolescents request more high-calorie foods after reviewing commercials that promote such items (Committee on Communication, 2006).

The economic incentives driving the food industry also contribute to the childhood obesity epidemic. The abundance of processed food in relation to the inaccessibility of fresh food are, in part, due to the commodification of food. This results in high profit margins for processed food but low profit margins or losses for fresh food. Further, the ability of processed foods with higher calorie counts to yield substantial profitability correlates with the willingness of industries to spend more money marketing these products to consumers (Wilson, 2004).

**ALTERNATIVES**

An array of policy solutions to address childhood obesity have been proposed and implemented over the past decade. The criteria for choosing the alternatives below included political and economic feasibility, as well as data and research available to support a plausible policy solution for childhood obesity. Each alternative has a range of advantages and disadvantages that will be discussed to provide context for an informed policy recommendation.

**Advertising**

Regulating food marketing to children and youth has been a popular approach among the possible solutions to end the obesity epidemic. In the U.S. billions of dollars are invested in advertising and media placement each year, and it is hypothesized that product placement and advertising frequency contributes to childhood obesity (CDC, 2011). The Committee on Food Marketing and the Diets of Children and Youth found that “food and beverage marketing influences the preferences and purchase requests of children, influences consumption at least in the short term, is a likely contributor to less healthful diets, and may contribute to negative diet-related health outcomes and risks” (McGinnis et al., 2006, p. 307). Past policies have suggested
advertisement regulations and have included federal agencies, such as the Interagency Working Group (IWG) on Food Marketed to Children.

Advertising and product placement are the most visible components of marketing practices. Through advertisement and product placement, children and adolescents watch more than 40,000 commercials per year, less than three percent of which promote healthy foods. Further, research has shown that adolescents request more high-calorie foods after viewing commercials for similar foods (Committee on Communication, 2006). Valid policy alternatives related to marketing healthy food include supporting public service announcements with positive messages about healthy foods and increasing the frequency of advertisements for healthy foods to be competitive with unhealthy foods.

When discussing markets and childhood obesity, Cawley (2006) explains that the government has the right to intervene under three rationales. The first rationale is that free markets generally do not provide the necessary information for consumers to make educated decisions so an appropriate function of the government would be to provide this kind of information. The second rationale deals with the cost burden of obesity on taxpayers, which allows the government to offer solutions to alleviate these costs. The final rationale is that children are not rational consumers, and therefore the government can put in place regulations and policies to protect them. The last two rationales are difficult to address, and since no policy would fully do so, Cawley warns that policies such as protecting children from junk food advertisements are “second-best” options that are subject to political challenges, as the U.S. has “tolerated little regulation of commercial speech” (2006, p. 79). Regulatory approaches have mixed support. Critics such as The Heritage Foundation argue that banning or regulating advertisers infringes on freedoms and does not solve the underlying problem (Andersen, 2011). However, successful regulations have reduced or eliminated advertisements aimed at children, such as endorsements of cigarettes and alcohol, and household names such as the Disney Channel have restricted advertisement of high-caloric foods (Barnes, 2012).

Schools
Crafting a policy that focuses solely on schools would potentially reach a large majority of children, since 95% of children in the U.S. are enrolled in school (Wechsler, McKenna, Lee, & Dietz, 2004). This assumes that the policy is accurately implemented across the country. However, such policies would not necessarily change a child’s eating habits while at home during the evenings, weekends, or extended winter and summer breaks (Leviton, 2008). While at school, a majority of children will have at least one school meal, in addition to snacks and other supplementary foods. Although the National School Lunch Program requires specific nutritional standards, less than eight percent of schools actually reach these requirements (WHTFCO, 2010).

“Competitive foods” are “foods of little nutritional value that compete with the school breakfast and lunch” (Leviton, 2008, p. 39). There are presently no comprehensive federal competitive foods standards to guide the products available and marketed in schools and other venues (McGinnis et al., 2006). However, 39 states have enacted legislation to limit the availability of competitive foods sold in schools, creating a patchwork of guidelines that vary in effectiveness (CDC, 2012a). Although federal standards to address nutritional requirements of “competitive foods” were proposed in February 2013, the political feasibility of this policy is yet to be
Meals served in the cafeteria represent another variable in the school environment. A Wall Street Journal Online and Harris Interactive poll conducted in 2005 found that 84% of respondents favored stricter public school regulation of less healthful foods and beverages (McGinnis et al., 2006). Although regulating school meals could be politically feasible, they might not be effective or economically feasible. Groups such as The Heritage Foundation argue that children will not choose healthier foods, even if they are available, and that schools are effectively wasting taxpayer dollars on these pricey, unwanted foods (Andersen, 2011).

Research has shown that physical education and active recess enhance academic performance (Leviton, 2008). However, many schools have cut physical education due to budget constraints, resulting in children spending a great deal of time sitting in classrooms, and less time engaged in physical activity (WHTFCO, 2010). An increase in screen time and a growing disconnect from the outdoors compounds this sedentary lifestyle (Anderson & Butcher, 2006).

Community-Based Development
A third alternative is to increase access to fresh food and physical activity through community development. Community development that increases access to fresh food can include farmers’ markets, community supported agriculture (CSA), local gardens, and grocery stores. Giang, Karpyn, Laurison, Hillier, and Perry (2008) argue that lack of access to fresh food is a significant barrier to diet modification. Increasing the number of grocery stores in communities can be a way to offer more food variety than the processed high caloric foods often found in convenience stores in underserved communities. Farmers’ markets and CSA provide access to fresh food, including fruits and vegetables, and the opportunity for farmers to participate in the local economy. Farmers’ markets and CSA are linked with a net increase in local economic activity, an increase in fresh food consumption, and an opportunity for local farmers to refine their products and services (Brown & Miller, 2008). Community gardens provide the opportunity for multiple stakeholder engagement across different sectors of communities, offering residents direct control and access to fresh food, increased consumption of fresh food, development of underused and unsafe spaces, and increased civic engagement. Gardens also provide opportunities for children and adults to engage in experiential learning by growing food, learning about the benefits of fruits and vegetables, and understanding the role these foods play in healthy lifestyles (Draper & Freedman, 2010).

Increasing access to physical activity through community development can be accomplished by implementing a variety of programs such as “walking school busses,” summer camps, afterschool activities, and park district athletics. Additionally, changes to community infrastructure increase access to physical activity, can increase the safety of a neighborhood by investing in land that had previously gone unused or underdeveloped, and encourage community members to increase their presence in local neighborhoods (CDC, 2010). Examples of this kind of community development include the addition of neighborhood parks and pedestrian spaces.

COMPARING THE ALTERNATIVES
In order to compare the advertising interventions, school-based interventions, and community-based interventions, a cost-effectiveness analysis and a multi-attribute analysis were conducted.
After conducting a preliminary comparison of the economic feasibility, political feasibility, and quality and quantity of data available for each of the previously discussed alternatives, an in-depth review of the costs and benefits associated with each alternative was conducted, as illustrated below.

**Cost-Effectiveness Analysis**

A study conducted by Carter et al. (2009) analyzed the cost-effectiveness of numerous and varied intervention programs with the goal of addressing childhood obesity in Australia. The researchers used the Assessing Cost-Effectiveness (ACE) approach to determine which interventions were most cost-effective. Table 1 shows two of the approaches utilized in Australia, and compares the costs and outcomes of these selected approaches. A sensitivity analysis was also performed to address any variation. These examples of interventions were selected because of the robust data collected for each type of intervention, and both Australia and the U.S. are ranked among the top five most obese countries in the world (OECD, 2012). For the community-based intervention, *Mass in Motion*, a successful program that promotes healthy eating and physical activity to children in Massachusetts, was examined.

Table 1: Cost-Effective Analysis: Comparing the Interventions

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Target Population</th>
<th>Gross Cost</th>
<th>Net Cost (Savings)</th>
<th>Cost per Child</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertising Interventions¹</td>
<td>5-14 years</td>
<td>$135,121</td>
<td>$310,780,486</td>
<td>$0.56</td>
<td>0.17 BMI Point Reduction per Child</td>
</tr>
<tr>
<td>School-Based Interventions²</td>
<td>6-8 years</td>
<td>$56,335,459</td>
<td>$14,551,594</td>
<td>$491.64</td>
<td>1.1 BMI Point Reduction per Child</td>
</tr>
<tr>
<td>Community-Based Interventions³</td>
<td>6-12 years</td>
<td>$300,500,000</td>
<td>$11,715,415³</td>
<td>$303.24</td>
<td>2.4% BMI Overall Reduction</td>
</tr>
</tbody>
</table>


Reducing television advertising of high fat and/or high sugar foods and drinks to children was proven to be a very low-cost intervention. However, the authors note a key a concern with this alternative is that it neglects to incorporate the cost of changing regulations, costs to families due to changing food buying patterns (i.e. healthy food is often more expensive), and the impact on revenue for advertising and media companies. Taking these additional costs into consideration would make this intervention significantly less cost-effective. The school-based intervention consisting of nutrition and physical education was one of the highest costing interventions in the study. The potential for substantial health outcomes, however, offset the potential costs, resulting in a net savings. This approach proved to be very successful in Australia, but the initial costs of implementation were quite high (Carter et al., 2009). Similarly, the community-based...
interventions have a high initial cost, but are effective in creating net cost savings that continue to increase over the long-term.

Multi-Attribute Analysis
A Multi-Attribute Analysis was conducted to compare the potential success of these policy alternatives. First, five evaluative criteria were selected and defined for these policy alternatives. Next, each alternative was evaluated according to the probability of success per criterion. Next, weights were assigned for each criterion based on importance. Finally, probability values were multiplied by the weights to give an overall desirability for each alternative. Table 2 shows the data generated by this process.

<table>
<thead>
<tr>
<th>Options</th>
<th>Weights</th>
<th>Economic Feasibility</th>
<th>Political Feasibility</th>
<th>Stakeholder Engagement</th>
<th>Sustainability</th>
<th>Effectiveness</th>
<th>Overall Desirability</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertising Interventions</td>
<td>Probability</td>
<td>0.8</td>
<td>0.2</td>
<td>0.2</td>
<td>0.8</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weight</td>
<td>25</td>
<td>25</td>
<td>10</td>
<td>30</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>W * P</td>
<td>20</td>
<td>5</td>
<td>2</td>
<td>24</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School-Based Interventions</td>
<td>Probability</td>
<td>0.2</td>
<td>0.5</td>
<td>0.6</td>
<td>0.5</td>
<td>0.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weight</td>
<td>25</td>
<td>25</td>
<td>10</td>
<td>30</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>W * P</td>
<td>5</td>
<td>12.5</td>
<td>6</td>
<td>15</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community-Based Interventions</td>
<td>Probability</td>
<td>0.7</td>
<td>0.9</td>
<td>0.9</td>
<td>0.9</td>
<td>0.7</td>
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<td></td>
<td>Weight</td>
<td>25</td>
<td>25</td>
<td>10</td>
<td>30</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>W * P</td>
<td>17.5</td>
<td>22.5</td>
<td>9</td>
<td>27</td>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the table above, economic feasibility was defined to include cost-effectiveness, ability of the alternative to generate revenue, and the diversity and strength of the funding sources for the alternative. Political feasibility refers to the ability of the policy to gain support within the current political climate. Stakeholder engagement is the degree of involvement of diverse groups in the planning and implementation of the policy. Sustainability is the ability of the policy to be implemented over the long-term, and the extent to which the policy is reliant on government funding. Effectiveness is the extent to which all children affected by childhood obesity in the U.S. are reached through the policy.

Each policy alternative was analyzed independently using the above criterion before a comparison was conducted and yielded a high inter-rater reliability. Each alternative has particular strengths and weaknesses. Advertising interventions, although able to a wide group of children, are not the most politically feasible because they regulate corporations and impact freedoms of speech and choice (Andersen, 2011). Policies focused on school-based interventions only target children during a portion of the day, and state-based policies can lack consistency in
implementation (Leviton, 2008). Community-based interventions require a longer time frame to enact. However, they are politically feasible because of the opportunity for diversity in stakeholder participation. This diversity also promotes policy adoption since multiple sectors can benefit from community-based solutions (Kraak & Story, 2010).

Based on an analysis using these criterion to compare the interventions, the community-based intervention received the highest overall desirability ranking. Community development provides a broader scale on which to include successful school-based initiatives and offers learning opportunities that prohibition-based initiatives do not. As reducing the prevalence of childhood obesity is a complex problem, marketing and school-based interventions can be important components of the solution. However, a community-based intervention offers a more comprehensive approach for addressing the issue because it impacts a wider range of children year-round, and can be crafted to a neighborhood’s unique needs.

**RECOMMENDATION**

The Community and Sustainability

Addressing childhood obesity on a community level offers community members the opportunity to participate in an environment that promotes healthy lifestyles (Kraak & Story, 2010). Community is the space where people engage as an interacting society participating in the problem-solving process (Dewey, 1954). A critical aspect of developing communities is connecting the fragmented aspects of daily life, including: schools, governments, businesses, and neighborhoods to encourage healthy behavior (Block, 2009). Further, Whitacre and Burns (2009) argue, "community knowledge is an essential building block in reducing childhood obesity" (p. 23). Targeting interventions on a community level respects the community’s inherent uniqueness, fulfilling the need for solutions to arise from within the population and ultimately lead to sustainable solutions (Chinman, Imm, & Wandersman, 2004). Increased sustainability benefits the population long-term and encourages policy adoption through the incorporating a broader range of people who benefit (Kraak & Story, 2010).

Policy solutions should focus on activities, partnerships, and programs that increase physical activity and the consumption of fresh fruits and vegetables (Convergence Partnership, 2011; DHHS, 2008; National Conference of State Legislatures, 2012). Creating policy that focuses on community development to increase access to fresh food and physical activity requires a two-step process. First, evidence of successful interventions that target childhood obesity by increasing access to fresh food and physical activity must be gathered and analyzed. Second, support is needed for public-private partnerships that translate the evidence into community appropriate-strategies for reducing childhood obesity.

**Step 1: Create a National Task Force**

The literature on childhood obesity consistently lacks data and evidence to document intervention outcomes (Carter et al., 2009). This must be addressed as a policy issue through support of program evaluations of community-based interventions that increase physical activity and access to fresh food. The primary duty for the national task force is to identify evidence-based practices that can inform legislation. Interpreting and communicating evidence plays an important step in translating data into policy. Evidence must be presented to all stakeholders in a manner that conveys its political context and relevance for specific policy (Dodson et al., 2009;
Whitacre & Burns, 2009).

Sustaining the policy efforts of the previous decade requires demonstrating their successes and challenges. Replication of successful programs in other communities is one step in the direction of reducing childhood obesity rates in the U.S. Evidence of program success, coupled with a focus on the unique needs of communities, will need to drive policy that can institutionalize the interventions that work. This allows policies to focus on benefitting all children in the U.S., while also being crafted to address the children’s needs within the unique backdrop of their communities, such as the legislation AB 581 California Healthy Food Financing Initiative (Policy Link, 2013).

Step 2: Support Public-Private Partnerships
Addressing childhood obesity as a community development issue requires accounting for costs, community-wide participation, and the appropriate fit between interventions and the target population. Policy needs to support practices that demonstrate positive results by convening the public and private sectors in communities that could benefit from such interventions. This includes providing incentives and funding for community development that encourages fresh food and physical activity, and integrating these strategies into zoning and community development plans. Ultimately, this policy solution will identify how local governments can institutionalize practices that demonstrate progress (Harvard Pilgrim Health Care Foundation, 2012; RWJF, 2012b).

Public-private partnerships that address childhood obesity are as diverse in their approach as are the governments, non-profits, and for-profits that sponsor them. This diversity allows for tailored interventions, more effective programming, and greater range of skills and perspectives (Kraak & Story, 2010). The diversity of partnerships also provides the flexibility to develop communities in accordance to needs. An inability to engage in physical activity in one community may be due to a lack of outdoor space, whereas in another community, it may be a safety risk.

As a community-based intervention, public-private partnerships can pair multiple strategies to address the complex nature of childhood obesity, and attract further support from agencies not traditionally associated with this issue (Kraak & Story, 2010). Since increasing access to fresh food and physical activity is a multi-dimensional approach, there are plenty of opportunities for different private entities to support aspects that directly contribute to their business (Giang et al., 2008; Ohri-Vachaspati, et al. 2010). Public-private partnerships provide funding and resources for the increasing cost in health care services, and encourage the behavioral modifications needed to address the problem of childhood obesity by building upon resources already embedded in the communities (DiMattia & Denney, 2008; Kraak & Story, 2010).

The Emerging Evidence
As data continues to emerge that physical activity plays a key role in reducing obesity, community development must focus on incorporating these opportunities for children (American Academy of Pediatrics, 2006; Guinhouya, 2012). Successful implementation of Maine's 5210 Let’s Go program, which focuses on increasing physical activity, has led to significant improvements in the lifestyles for children in Maine (Let's Go, 2013). It has also shown results
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as a replicated program in several states, including Hawaii, and integrated into similar initiatives such as the Harvard Pilgrim Health Care Foundation's Growing Up Healthy campaign in Massachusetts.

These programs, grounded in building healthy environments through public-private partnerships, have demonstrated that increased physical activity as part of a healthy environment strategy produce outcomes that lead to reduced childhood obesity rates (Harvard Pilgrim Health Care Foundation, 2012). This policy solution will increase physical activity through the construction of parks, pedestrian spaces such as sidewalks and bike trails, and playgrounds.

Examples of successful efforts to increase access to fresh food through public-private partnership community development include the Pennsylvania Fresh Food Financing Initiative and the California Fresh Works Fund. These programs provide funding options through diverse stakeholders that increase the availability of fresh foods in communities with the critical goal of community development (Policy Link, 2013; Giang et al., 2008). This policy solution will increase access to fresh food including grocery stores, farmers’ markets, CSA, and community gardens.

CONCLUSION
Crafting policy to address childhood obesity requires proof of successful interventions that are designed to combat this issue. Policy options must be informed by evidence-based interventions that demonstrate desired results. Childhood obesity is an immense and complex issue, the solution for which requires a commitment from multiple stakeholders in the public and private sectors. Through an examination of causal factors and an analysis of potential alternatives, this brief demonstrates that a policy solution addressing childhood obesity must be comprehensive and offer people learning opportunities to engage in healthy lifestyles. Community-based interventions fill this need by providing residents the necessary access to physical activity and fresh food. Through parks, pedestrian space such as sidewalks and bike trails, and playgrounds, children will have the opportunity to be more active. Infrastructure such as grocery stores, farmers’ markets, and community gardens, will provide guardians the opportunity to access fresh food, which affect their children’s health. Community-based interventions supported by public-private partnerships will provide the platform for creativity in solutions, flexibility in application, and fiscal support.
REFERENCES


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