Landscape Analysis to Inform Coalition Strategic Planning: Childhood Obesity Prevention

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About the Gretchen Swanson Center for Nutrition
The Gretchen Swanson Center for Nutrition is an independent research institution providing scientific expertise, partnership and resources to improve diet and physical activity behaviors among youth and their families to help grow a healthier next generation.

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Introduction
Reducing and preventing childhood obesity is a national public health priority. Childhood obesity prevention is a strategic priority for many community organizations that serve children such as schools, childcare centers, and health care clinics and providers. In Omaha, a coalition including several child-focused entities are convening to determine metro- and county-wide initiatives that cross multiple sectors and leverage local resources to improve the health of Nebraska children. A landscape analysis was conducted to identify the current state of the science on childhood obesity prevention programming and identify local activity around childhood obesity prevention. This effort was spearheaded by Live Well Omaha Kids (LWOK) with funding support from Children’s Hospital & Medical Center, CHI Health, and UNMC’s College of Public Health. The coalition partnered with the Gretchen Swanson Center for Nutrition (GSCN) to complete the landscape analysis, in two phases, as a first step in determining the future directions of LWOK and the coalition. This landscape analysis is one of several points of data that will be used during the strategic planning process that is currently underway for LWOK.

Phase 1 Methods and Results
The goal of Phase 1 was to complete a comprehensive review of the national scientific peer-reviewed literature, “gray” literature such as reports or policy briefs, and current funding sources related to childhood obesity prevention. The first step was review of the peer-reviewed scientific literature for both quantitative and qualitative studies to determine what childhood obesity prevention strategies and programs are evidence-based.

The identified systematic reviews support a location or sector-based approach to childhood obesity prevention. The sectors most often identified in the literature include schools, early care and education (ECE) settings, home, community-based, and clinical settings. Despite the attention on childhood obesity prevention, school-based interventions (including wellness policies) are not likely to impact childhood obesity. In fact, one review called for a move away from schools, describing the venue as the most “over-studied” sector for childhood obesity prevention, and citing that the available evidence is insufficient.
Additionally, the current and emerging evidence for childcare settings is mixed and there is limited evidence to support changes in weight outcomes for children. Importantly, ECE changes do not translate into improved child-level diet or physical activity outcomes. In short, approaches centered at school or in childcare settings should be considered with caution. Conversely, other key locations or sectors, including home and clinical settings, are understudied in the research literature.

Beyond place, the systematic reviews identified the types of strategies or programs most likely to improve weight outcomes. Single-focus interventions, such as diet or nutrition education only or physical activity only, are not likely to yield significant changes in child-level weight outcomes. The programs or interventions that included both physical activity and nutrition components had the strongest evidence. Complementary behaviors like reducing screen time, reducing sedentary activities, or reducing sugar-sweetened beverages are not supported by the evidence for childhood obesity prevention. Importantly, in many studies, weight or change in weight was not measured, which limits the ability to determine the effectiveness of an obesity prevention effort. Therefore, programs focused on reducing childhood obesity should aim to measure and track weight status, body mass index (BMI), or BMI percentile to determine program effectiveness. Secondary outcomes that measure obesity-related behaviors such as minutes of physical activity and diet-related outcomes are also supported by the research literature and may be used along with weight or instead of weight.

In summary, a single-sector approach is not likely to be effective for childhood obesity prevention. Setting + approaches, or those that target childhood obesity prevention in two or more places, show the most promise. Multi-sector approaches, based in strong collaborative relationships that reach and engage the child over time, could allow for long-term assessment of outcomes. Further, single focus intervention approaches (i.e., diet only, physical activity only) are unlikely to have an impact on child weight outcomes. Sustained programming and following children over longer periods of time would contribute significantly to the evidence base for childhood obesity prevention.
Phase 2 Methods and Results
GSCN designed and administered a brief, online survey to collect targeted information about efforts related to childhood obesity prevention among local organizations. The survey was available in an electronic format, required approximately 20 minutes to complete, and went to key contacts from 43 local organizations identified by members of the coalition.

Nineteen individuals participated in the survey, and all but one indicated they were still engaged in childhood obesity work in Omaha and surrounding communities. Four of these organization indicated they are working across multiple sectors (e.g., school, community, and home), and in most cases home was a setting that was under represented. Of the organizations that responded, all but one mentioned that they focus on both physical activity and nutrition strategies in their work, while one concentrated only on nutrition. In addition to these alignments to Phase 1 findings, participants were asked a variety of additional questions to further detail their work.

These results show:
• Seven (39%) reported using social marketing and some of the examples included the 5-4-3-2-1 Go®, Every Kid Healthy and Fuel Up to Play 60.
• Eight (44%) reported using built environment strategies, such as funding school physical activity structures such as playground equipment, blacktop stencils, walking tracks, and school gardens.
• Fifteen participants (83%) indicated they were utilizing a model, theory, or evidence based approach to guide their work.
• Sixteen participants (89%) indicated they use data or evaluation to guide their work.

Conclusions and Next Steps
The research and gray literature reviewed in Phase 1 of the landscape analysis demonstrated that interventions with a multi-sectoral approach are the most effective for the prevention of childhood obesity. These sectors were identified as school, community, and home. The coalition further defined community as also including clinical settings. In addition to the consideration for multi-sector approaches, increased effectiveness is also demonstrated when the intervention includes a dual diet and physical activity intervention focus. Importantly, insufficient evidence is due to relatively short studies with limited follow-up data or a lack of weight outcomes reported.
Thus, longitudinal approaches that track children over longer periods of time and measure and track weight status over time are needed. The results of Phase 1 were reported to the coalition during regular coalition meetings to inform ongoing strategic planning efforts. These discussions also informed the direction and content of information sought in Phase 2 from local organizations working in childhood obesity prevention.

The survey developed and administered in Phase 2 of the landscape analysis aimed to identify those local organizations that were utilizing the effective approaches identified in Phase 1 and determine any other leading approaches in the community, as well as to identify potential areas of need/improvement that the coalition could provide to those organizations. Phase 2 found that few local groups are working across the key sectors identified, with a particularly low number working in the home setting. However, several survey respondents indicated that ECE-based work was ongoing and important. Based on survey responses, potential areas of need/support include funding, training on evaluation, and the utilizations of evidence-based approaches and theoretical framework.

Phase 1 and 2 results provide a synthesis of the current evidence base for childhood obesity prevention and information specific to local work in this area. In combination with other local data, partnerships, and resources, these findings can serve as background information for the ongoing strategic planning by LWOK, the coalition and other local partners.
Background

Childhood obesity - a public health concern. One of our nation’s most pressing health concerns is obesity among children (Ogden et al., 2016). The prevalence of childhood obesity has increased steadily and currently more than one in three children are overweight in the United States (Centers for Disease Control and Prevention, 2015; Ogden, Carroll, Kit, & Flegal, 2014). Increased prevalence of obesity in children is driving the onset of “adult” diseases such as type 2 diabetes and hypertension in children. Further, overweight and obese children do not outgrow their weight status; rather they are at increased risk of being overweight or obese through adulthood (Cook, Weitzman, Auinger, Nguyen, & Dietz, 2003; Richards et al., 1985). Seventeen percent, or 12.7 million, children and adolescents 2-19 years old in the U.S. are obese and are at risk for adverse health outcomes associated with obesity (Ogden et al., 2014; Y. Wang & Beydoun, 2007). Youth in Nebraska follow these national trends. One source finds 14.3% of Nebraska’s 2-4 year olds, 13.8% of 10-18 year olds and 13% of high school students are obese (Nebraska Department of Health and Human Services, 2013). Similar to national trends, low-income and minority children in Nebraska are at increased risk for overweight and obesity.

Obesity develops as a consequence of positive energy balance, or a greater number of calories consumed compared to calories expended (Spiegelman & Flier, 2001). The drivers of positive energy balance in children are lack of physical activity and the overconsumption of calories (Hill, Wyatt, & Peters, 2012; Lustig, 2005; Spiegelman & Flier, 2001). It is estimated that children consume an extra 110-165 calories per day, often in the form of salty or sweet snacks that lack nutritional value (Guthrie & Morton, 2000; Wang, Gortmaker, Sobol, & Kuntz, 2006). These relatively small values, coupled with increasing time spent in sedentary activities, contribute to excess weight. In environments where food, particularly snacks are readily available and too few opportunities for movement, many children will struggle to stay at a healthy weight. Nebraska youth are not meeting daily nutrition recommendations for fruit and vegetables, for minutes of physical activity, and exceeding recommendations for screen time (Nebraska Department of Health and Human Services, 2013). Further, in Nebraska, school-aged children may not have opportunities during the school day to participate in meaningful physical activity as elementary schools are not required to offer daily physical education (PE) or to provide recess (Shape America, 2016).

For local youth-serving organizations, preventing childhood obesity and providing opportunities for children to live full and healthy lives is critical. Live Well Omaha Kids (LWOK) has been working to strategically address childhood obesity in the Omaha metro area. In 2016, LWOK, along with key coalition partners, initiated a strategic planning effort to set the agenda for upcoming years. Identifying and understanding the current evidence for effective childhood obesity prevention programs is key to this planning effort. Also understanding what local organizations, beyond the coalition, are doing related to childhood obesity prevention is important when identifying potential partners and areas for collaboration. To that end, LWOK and the Gretchen Swanson Center for Nutrition (GSCN) initiated a landscape analysis.
Purpose of the landscape analysis.
A landscape analysis is a measurement technique used to determine the current work, and/or research and practice gaps within a certain topic area (Shrimpton et al., 2014). The process can then be expanded to determine the status of this topic in a certain geographic area. Results from a landscape analysis are typically used to inform future funding decisions. However, they can also be useful at the beginning of new collaborations, which is the case for LWOK and the key backbone organizations recently convened to address childhood obesity in Douglas County. The proposed landscape analysis, will highlight the evidence-based and emerging areas in community-based childhood obesity prevention and how those strategies are being applied locally. The landscape analysis will provide LWOK and the other backbone organizations with recommendations for strengthening local strategies and partnerships.
Understanding the distinction between childhood obesity treatment and prevention.
The goals and outcomes of treatment and prevention programs are different (Flegal & Ogden, 2011). Many research studies, particularly clinical trials, focus on obesity treatment. Treatment programs aim to identify and enroll patients with the greatest risk for adverse outcomes, thereby targeting a smaller number of patients who fall into the tail of the distribution. For example, childhood obesity treatment programs would have specific eligibility criteria including clinical guidelines such body mass index (BMI) z-scores in the 85th, 90th, or 95th percentile to enroll, thus targeting children who are obese, not merely overweight.

The goal of a treatment program is weight loss. Conversely, prevention programs aim to include everyone in the target population regardless of current disease status. For childhood obesity, prevention programs would enroll all children in the target population regardless of their current BMI z-score or weight status. The prevention program would not focus on weight loss, but may focus on overall health by increasing health promoting behaviors (i.e., increased physical activity) and reducing less healthy behaviors (i.e., screen time). To reduce childhood obesity prevalence in Omaha area youth, both strategies are necessary. There is a need for highly effective programs and strategies for children who already carry excess weight and are at increased risk for obesity-related health conditions such as diabetes, hyperlipidemia, or hypertension. Simultaneously, there is a need to identify and implement broad prevention efforts across the community to ensure additional children do not become overweight or obese. The scope of this landscape analysis is on childhood obesity prevention.

Determining program effectiveness.
The distinction in treatment and prevention is essential to determine if programs or strategies are effective. Program effectiveness could be reported as 1) change in weight status pre- to post-program, 2) the magnitude of the weight change, or 3) weight maintenance over time (Flegal & Ogden, 2011; Wang et al., 2013). In prevention programming, the pre-post change in weight or the magnitude of effect, is typically smaller than in treatment programs. Therefore, it can seem as if a prevention program is less effective. The smaller change in weight occurs in obesity prevention programs because not all children who participated in the program would have been overweight or obese. Additionally, the goal of a prevention program may not be weight loss, but rather to increase healthy behaviors. This doesn’t absolve prevention programs from pursuing effectiveness or using strong evaluation approaches; rather the criteria for success or effectiveness in a prevention program should not be compared to treatment programs. For prevention programs, a “slowing” of weight gain or a plateau in weight are successful as they allow a child to grow into their weight. Further, a decrease in overall obesity prevalence in the target population and increases in healthy behaviors (i.e., physical activity, fruit and vegetable intake) are indicators of success.

What is the ‘ideal’ amount of weight loss?
There is a wide range of weight loss reported in the childhood obesity literature, but general agreement is that even relatively small reductions in weight have health benefits for obese
children. Reductions in BMI z-scores of 0.14 in children and 0.25 or greater in adolescents are sufficient to yield positive clinical outcomes in treatment programs (Birch, Perry, Penfold, Beynon, & Hamilton-Shield, 2016; Ford, Hunt, Cooper, & Shield, 2010; Kolsgaard et al., 2011). These relatively small reductions in BMI z-scores can improve several physiological parameters such as lipids, blood pressure, or body composition (i.e., body fat percentage) that are related to overall health (Kolsgaard et al., 2011). There is not a direct conversion of BMI z-scores to BMI (as measured in adults) or to weight (i.e., pounds or kilograms) making the interpretation of a BMI z-score more complicated. Further, there is a wide body of literature that supports physical and mental health benefits of increasing physical activity in youth and long-term positive health impacts of a healthier diet, regardless of weight loss (Kolsgaard et al., 2011).

Another way to determine program effectiveness is by the magnitude of effect, which is reported as an effect size (Sullivan & Feinn, 2012). An effect size is computed to allow for comparisons across studies that are different in size, length, or other characteristics. Effect sizes are often reported in systematic reviews and meta-analyses. Although there are different ways to categorize effect sizes, a common classification is “small” =0.20, “moderate” =0.50 or “large” ≥0.60. An average change in weight status is not the same as an effect size (Sullivan & Feinn, 2012). Again, for prevention programs, the magnitude of effect or overall change in weight (if it is measured) is expected to be smaller than in treatment programs. The articles reviewed for this analysis are restricted to childhood obesity prevention programs only, therefore we expect to find smaller changes in weight status or smaller effect sizes than in treatment studies.

Current evidence for childhood obesity prevention programs - review of the literature. Systematic reviews and meta-analyses are technical approaches to synthesize the scientific literature, and an overview of terminology associated with both is provided in Figure 1.

Figure 1. Useful Definitions

**Systematic review:** Review of previously published literature with specific search criteria and review procedures in order to summarize the current state of science around a narrowly defined topic.

**Meta-analysis:** A quantitative study, and a specific analytic technique to statistically estimate the magnitude of effect across multiple studies. Meta-analyses are used to inform an evidence base for treatment effectiveness, risk factor assessment, or other outcomes in medicine.

A meta-analysis is distinct from systematic reviews in that it uses statistical tools to compute effect sizes and weighted averages. Meta-analysis can be a powerful tool for synthesizing studies of different sizes and designs for a single topic area to determine overall effectiveness.
Strength of evidence (SOE) is another important concept used in systematic reviews. SOE ratings provide a framework to objectively evaluate the strength of individual studies and the overall set of studies within the review. SOE frameworks use the best available evidence and weight the evidence across various indicators to create an overall index score—the SOE (Wang et al., 2013). For example, if the stated goal of a study is to reduce weight in children, a key SOE indicator is if the study measures weight or BMI as the primary outcome. In short, a study designed to change weight needs to measure weight to determine effectiveness. Those studies that use weight as the outcome measure receive a higher SOE than studies that report proxy measures such as changes in physical activity, changes in dietary habits, or reduction of screen time. Other factors that are considered in SOE include the risk of bias, the magnitude of effect, the sustained/maintenance of effects, and study design. The sidebar here provides additional details on a SOE rating and its interpretation.

Relevant to this landscape analysis, the SOE ratings for the included literature are based on the primary outcome of weight status, BMI or BMI percentile (BMI z-score). The hierarchy of outcomes for SOE ratings gives a higher score to studies that measure these outcomes: weight, BMI z-score, BMI, prevalence of obesity and overweight, percent body fat, waist circumference, and skinfold thickness. If a study included BMI z-score and weight (two key outcomes) only the BMI z-score was scored for SOE. Other outcomes related to weight status could be reported and these intermediate outcomes include: energy intake (calories), fruit and vegetable (FV) intake, fatty food intake, sugar sweetened beverage (SSB) intake, physical activity (PA), and sedentary behavior or screen time. Studies that report only intermediate outcomes receive a lower SOE rating because they do not include a weight-related measure.

**Strength of evidence (SOE):**

* a framework to assess the overall quantity, quality, and consistency of the scientific evidence for a narrowly defined research question or outcome.

**SOE grading is as follows:**

**HIGH**, indicating high confidence that the evidence reflects the true effect; further research is unlikely to change our confidence in the true effect.

**MODERATE**, indicating moderate confidence that the evidence reflects the true effect; further research may change our confidence in that estimate and change the estimate of effect.

**LOW**, indicating low confidence that the evidence reflects the true effect; further research is likely to change our confidence in the estimate of the effect and is likely to change the estimate.

**INSUFFICIENT**, indicating the evidence is unavailable, or there was only one study and it had a moderate to high risk of bias or a conclusion could not be drawn based on the data.

**Notes on interpretation of SOE:**

High SOE doesn’t equal effectiveness of the intervention.

Studies can receive a HIGH SOE but the evidence may support that an intervention is ineffective for reducing weight.

Additionally a LOW or INSUFFICIENT SOE may indicate there are too few studies or mixed results to support a conclusion.
Introduction.
The landscape analysis was designed as a sequential two phase exploration of national and local childhood obesity prevention efforts. The guiding questions for this effort include:

1) What are the most effective or evidence-based strategies or programs for childhood obesity prevention?

2) Are local organizations using any of these evidence-based programs or strategies to address childhood obesity prevention in Omaha?

Phase 1 reviewed the scientific literature on childhood obesity prevention to identify effective interventions, programs, or strategies. Phase 2 obtained information from local organizations working in childhood obesity prevention. The methods, results, and conclusions for Phase 1 and 2 are outlined in the following sections.
The goal of Phase 1 was to complete a comprehensive review of the scientific peer-reviewed literature, “gray” literature, and current funding sources related to childhood obesity prevention. The first step was to review of the peer-review scientific literature for both quantitative and qualitative studies. The methods for the search and findings are outlined for each in the following sections.

**Phase 1 Quantitative Methods**

*Quantitative approaches to childhood obesity prevention.* The scientific literature search was initiated by keyword searches in databases for scientific, peer review publications including PubMed, Google Scholar, PsychInfo, and EbscoHost. The keyword search identified one published report and four published peer review articles specific to childhood obesity prevention. In 2013, the Agency for Health Care Research and Quality (AHRQ) published a comparative effectiveness review and meta-analysis on childhood obesity prevention programs (Wang et al., 2013). The authors of this report subsequently published three peer-reviewed papers based on the findings of that report. The report is summarized in the following sections due to its comprehensive nature; however, the peer review papers may be useful resources for future efforts by the group with a more refined or narrowed scope to this work (Bleich, Segal, Wu, Wilson, & Wang, 2013; Showell et al., 2013; Wang et al., 2015). More recently, Sisson et al. (2016) published a systematic review specific to childcare settings and childhood obesity prevention, which is also summarized as part of the landscape analysis.

**Phase 1 Quantitative Results**

*Findings from the scientific literature.* In 2013, AHRQ released a systematic review on childhood obesity prevention (Wang et al., 2013). The inclusion criteria included: studies conducted in the U.S. or other high-income countries; studies targeting obesity in children ages 2-18 years of age; and randomized control trials (RCT), quasi-experimental, or natural experiments. Additionally, studies had to follow the children for at least 6 months in school-based studies and for non-school based studies, a one year follow-up was required. Studies were excluded if they only enrolled overweight/obese children, conducted interventions specific to weight-loss, and included children with specific chronic conditions. The inclusion/exclusion criteria are summarized in Table 1.

The AHRQ search and review process identified N=124 studies (from 131 published articles) and categorized studies grouped on “place” or point of intervention (i.e., school-based, home-based, primary care- or clinic-based, childcare setting, community-based). One hundred and four (n=104/124) were school-based, n=6 home-based, n=1 primary care-based; n=4 childcare, and n=9 community-based. The majority were randomized control trials (n=83/124).
**Table 1.** Overview of AHRQ systematic review study selection criteria (Wang et al., 2013).

<table>
<thead>
<tr>
<th>Age range of children</th>
<th>2-18 years of age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary outcome</td>
<td>BMI (including BMI, BMI z-score, BMI distribution in overall population), weight, waist circumference, percent body fat (composition (adiposity)), population-based prevalence of obesity.</td>
</tr>
<tr>
<td>Secondary outcomes</td>
<td>Clinical outcomes related to obesity (i.e., blood pressure, lipids); behavioral outcomes related to energy balance (dietary intake, physical activity, sedentary behaviors).</td>
</tr>
<tr>
<td>Study design</td>
<td>RCT, quasi-experimental, or natural experiments. Study designs not included: observational designs such as cross-sectional or cohort studies.</td>
</tr>
<tr>
<td>Study length</td>
<td>Varied from 6-12 months; with follow-up periods of 6 months to 1 year.</td>
</tr>
<tr>
<td>Inclusion criteria for studies</td>
<td>Population-based studies (no weight-based inclusion criteria), high-income counties or the U.S., and published in English</td>
</tr>
<tr>
<td>Exclusion criteria</td>
<td>Studies that targeted only overweight or obese children; intervention was primarily for weight loss (treatment not prevention); qualitative studies.</td>
</tr>
</tbody>
</table>

The report synthesizes the research findings for individual settings and for multiple settings. For example, school only interventions were interventions in which the majority (>70%) of the components were implemented at school. School-based plus home studies were those in which intervention components were delivered mostly at school, but had intervention components targeting home-based behaviors. The SOE is outlined for setting-only and then for combination of setting. As a reminder, the SOE is based on the primary outcomes of BMI, BMI z-score, or other weight-related outcomes. Secondary outcomes for SOE rating include physical activity (PA), fruit and vegetable intake (FV) and reducing screen time. **Table 2** summarizes these findings.
### Definition of Setting (# of Studies)

<table>
<thead>
<tr>
<th>Setting</th>
<th>SOE primary outcome</th>
<th>SOE for secondary outcomes</th>
<th>Key points</th>
</tr>
</thead>
<tbody>
<tr>
<td>School-based Interventions (N=104)</td>
<td>Insufficient/Low evidence</td>
<td>Moderate PA+DIET, Moderate for PA or DIET</td>
<td>Most studies focused on PA, fewer on nutrition education and/or reduction of SSB</td>
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<td></td>
<td></td>
<td></td>
<td>Some positive impact from PA studies on clinical outcomes</td>
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<td></td>
<td></td>
<td></td>
<td>Longer studies tend to have better outcomes in behavior (increasing FV or PA) compared to shorter studies</td>
</tr>
<tr>
<td>School+ Interventions</td>
<td>School based + home: Low</td>
<td>School based + home + community: High</td>
<td></td>
</tr>
<tr>
<td></td>
<td>School based + home + community: High</td>
<td>School + other locations: Insufficient/Low</td>
<td></td>
</tr>
<tr>
<td></td>
<td>School based + home + community: Insufficient for PA, High for PA+DIET interventions</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>School + other locations: Insufficient/Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Care-based Interventions (N=1)</td>
<td>Insufficient/Low evidence</td>
<td>Moderate PA+DIET, Moderate for PA or DIET</td>
<td></td>
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<tr>
<td></td>
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<td></td>
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<tr>
<td>Childcare-based Interventions (N=4)</td>
<td>Insufficient</td>
<td>Low PA+DIET</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Insufficient for PA only</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>No studies were DIET only</td>
<td></td>
</tr>
<tr>
<td>Community-based and Environment-level Interventions (N=9)</td>
<td>Insufficient</td>
<td>Insufficient for DIET only, PA only or PA+DIET</td>
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<td></td>
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<tr>
<td>Consumer Health Informatics (CHI)-Based Interventions (N=6)</td>
<td>Insufficient</td>
<td>Insufficient for DIET only, PA only or PA+DIET</td>
<td>CHI interventions only occurred in conjunction with other interventions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CHI interventions contributed to improvements in intermediate outcomes; particularly PA and reducing sedentary behavior.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CHI interventions did not have positive impact on BMI or weight.</td>
</tr>
</tbody>
</table>

**PA=physical activity intervention, DIET=nutrition, nutrition education or dietary focused intervention, PA+DIET=interventions that combined physical activity and nutrition strategies.**

**note this is distinct from school+home interventions; interventions in home + are those based at home or targeting at home behaviors and then move out to school or another location.**

**These 6 studies are all represented in counts of other categories.**
Findings for childcare and early care education. In addition to the AHRQ review, the search identified another recent systematic review specific to children 3-5 years old in childcare settings (Sisson, Krampe, Anundson, & Castle, 2016). This review focused on secondary outcomes such as physical activity, nutrition, or sedentary time. Given the lack of support for childcare settings in the AHRQ report, the Sisson review is summarized here. The inclusion criteria for the review were: 1) interventions performed in center-based childcare settings including preschools, 2) children 3-5 years of age, and 3) included body weight and/or obesogenic behaviors, such as diet, physical activity, or screen use. The main exclusion criteria include non-childcare settings or home-based childcare settings and studies with no outcome data. Seventy-one interventions were identified in 97 peer-reviewed papers. The studies ranged from < 3 weeks up to two school years. Two-thirds of the interventions (68%, 48/71) were multi-level or interventions that targeted child, teacher, or parent; 15% (n=11/71) of the interventions targeted children only; and 18% (n=13/71) targeted environmental changes only (Sisson et al., 2016).

Table 3. Summary of findings from Sisson, et al. (2016) review on obesogenic behaviors in childcare settings

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Brief overview of results (N=71 articles)</th>
</tr>
</thead>
</table>
| BMI, BMI z-score, or similar weight related outcome | • 41% (n=29/71) report primary outcome as BMI or weight.  
• Nearly 50% (n=14/29) demonstrated positive results for weight reduction or weight maintenance.  
• This finding is limited by short follow-up or no follow-up data reported. |
| Physical Activity (PA)    | • 58% (n=41/71) of the interventions included at least one measure of PA.  
• Interventions with "structured" or teacher-led PA had positive impacts on child-level PA.  
• Interventions that included a parental component for PA generally had positive impacts on child-level PA.  
• Interventions focused on center-level environmental changes to improve access or quality of play spaces did not positively impact PA of children. |
| Dietary Outcomes (DIET)   | • 63% (n=45/71) interventions included at least one dietary outcome.  
• Interventions with teacher-led education aimed at children had positive impact on child-level DIET outcomes.  
• Interventions with nutrition components aimed at parents also had positive impact on child-level DIET outcomes.  
• Interventions focused on center-level environment did not consistently improve child dietary outcomes. |
| Screen Time (SCREEN)      | 11% (n=8/71) 8/71 studies included at least one indicator of SCREEN  
• No change or no reduction in SCREEN across the studies.  
• No two studies used the same SCREEN measure limiting the ability to compare across studies.  
• Most studies focus on TV-time (childcare standard) and this doesn’t capture all other types of screens.  
• Most centers in the studies already followed ECE best practices that do not allow TV at centers. |
Summary of the quantitative studies. In summary, the review supported positive changes to obesogenic behaviors in childcare centers, with interventions focused on multiple behavior changes being the most common. The review did not provide effect sizes or a systematic SOE assessment for the studies included. Importantly, changes in BMI or weight status due to intervention components was not a review criteria, therefore comparative effectiveness of the interventions cannot be determined. A key finding was that the translation of policy or environmental changes at the childcare center-level did not result in sustained child-level behavioral changes indicating additional support or efforts to translate practices and policies into outcomes for preschoolers.

Phase 1 Qualitative Methods

Qualitative approaches to childhood obesity prevention. Quantitative methods and study designs such as RCTs are essential to determining intervention and program effectiveness. However, well-designed qualitative studies can provide nuanced information about intervention effectiveness not captured in quantitative approaches. Thus, a second systematic search using the same key words and scientific databases, but restricted to qualitative studies was conducted. This search identified two relevant systematic reviews on qualitative approaches to childhood obesity prevention (Clarke, Fletcher, Lancashire, Pallan, & Adab, 2013; Pocock, Trivedi, Wills, Bunn, & Magnusson, 2010). A summary of each review is provided below, with one review focused on parental perspectives and the second review focused on school stakeholders.

Phase 1 Qualitative Results

In 2010, Pocock and colleagues published a systematic review of qualitative studies to identify and synthesize qualitative research regarding parental perceptions of healthy behaviors for overweight/obese young children. The inclusion criteria for this systematic review included: primarily qualitative in study design and approach, primary or secondary prevention approaches, and parents of children 0-12 years of age. The reviewers further completed a quality assessment (QA) using a modified version of the quality framework. The QA was low across the articles, including lack of clear study methods reported in the articles, poor articulation of the study purpose, and lack of conceptual or theoretical framework. The authors’ search netted a total of 21 studies, 19 conducted in community settings, one home-based setting, and one clinic-based study. The majority of the participants were mothers as the primary caregiver. The authors used thematic networking to synthesize broad and micro-themes across the studies. Thematic extractions yielded six broad themes and 42 thematic categories and these themes were mapped onto the socio-ecological model (Clarke et al., 2013).

The broad organizing themes were:

- Child-level factors
- Family dynamics
- Parenting skills
- Knowledge and beliefs
- Extra familial influences (social and institution)
- Resources and environment

Themes were ranked by frequency in which they occurred across the studies and a brief overview of these findings is presented in Table 4.
Table 4. Brief summary and examples of themes identified by parents related to childhood obesity prevention (Pocock et al., 2010).

<table>
<thead>
<tr>
<th>Broad Theme</th>
<th>Micro-theme</th>
<th>Barriers related to micro-theme (selected examples)</th>
</tr>
</thead>
</table>
| **Child-level factors**      | Food preference                       | • Dislike new foods  
• “Picky eaters”  
• Parents relied on fast food because they were afraid children wouldn’t eat anything else |
|                              | Preference for sedentary activities   | • Child resistant to being active  
• Reconciling sibling and/or parental preference for activity  
• Parents did not have a good idea of quantity of TV watched |
|                              | Child self-esteem                     | • Teasing and bullying by others                                                                                   |
| **Family dynamics**          | Parents as role models                | • Lack of time to role model healthy behaviors such as physical activity                                             |
|                              | Conflict between parents and/or other family members | • “Others” sabotaged mothers’ efforts related to healthy behaviors  
• Food was commonly used as a reward  
• Food used as a bribe especially if it was “healthy” food  
• No one wanted to be the spoilsport who restricted treats or TV time |
|                              | Different weight children in same family | • Hard to restrict food of one child in multi-child family  
• Physical activities were often "group based" for all children (not by child preference)  
• Younger siblings ended up waiting around on older siblings (e.g. younger sibling was sedentary while older brother/sister had soccer practice)  
• Only participated in activities where multi-age groups ran simultaneous or where both genders could participate |
|                              | Gender difference                     | • Parents perceived overweight or excess weight a larger problem for daughters (compared to sons)                |
| **Parent self-efficacy**     | Lack of time                          | • No extra time to walk to school  
• No time to take children to activities  
• Many parents perceived children as unwilling/unable to wait for cooked meal  
• No time to cook or shop for healthy food |
| (Self-efficacy among parents to influence children’s weight-related behaviors) | Safety                                  | • Concern for general safety (i.e. walking to school; playing at playground; playing outside)  
• Environmental pollution, poor air quality  
• Safety from strangers  
• Safety from traffic |
|                              | Responsibility for weight management of child | • Some sense that it was family responsibility  
• Many parents felt that it was "out of their hands" and the responsibility of "others" such as school or childcare  
• Mothers reported a loss of control within family (sabotaged by others) and outside (school/childcare is where they eat) |
| **Knowledge and beliefs**    | Healthy habits should begin early      | • Overweight in older children was more of a problem (compared to young children)  
• Overweight and obesity affected "other" children (not their own children) |
| **Extra-familial influences**| Media and marketing                   | • Gifts and advertising using popular children’s characters  
• Influence of peers  
• Influence of wider societal norms, specific norms for sedentary activities. |
| **Resources & environment**  | Lack of local facilities/places for physical activity | • Location was important due to lack of transportation to facilities such as pools or recreation centers  
• Cost of transportation (time/money) |
|                              | Safety concerns (i.e. light, traffic, pollutants) | • Safety of walking to school or playing outside was common across all studies |
|                              | Cost                                  | • Costs of programming  
• Costs of healthy food |
|                              | Lack of transportation                | • Lack of car or access to car                                                                                     |
A more recent review of qualitative studies from Clarke and colleagues (2013), focused on the view of school stakeholders, including school officials, teachers, and parents, regarding the roles of each in the prevention of childhood obesity. This review identified N=18 studies, which included N=1,079 stakeholders. The authors completed a QA rating, concluding that the quality of the studies was very good. Parents were largest group of stakeholders, followed by students, school staff, school nurses/health educators, and school leaders, and women in general, made up the majority of the study participants. In the 18 studies, six broad themes were identified and 37 micro level themes.

**Table 5. Brief summary and examples of qualitative themes identified by school stakeholders (Clarke et al., 2013).**

<table>
<thead>
<tr>
<th>Broad Theme</th>
<th>Micro Theme</th>
<th>Barriers related to micro-theme (selected examples)</th>
</tr>
</thead>
</table>
| School as a key setting                          | Schools have a responsibility                                              | • Low knowledge based among parents, children and some school personnel about healthy eating (HE) and physical activity (PA) strategies  
• Low priority among school officials; not as important as academic outcomes |
|                                                | Desire to improve children’s health and academic outcomes through improved health | • Lack of structure within school system such as formal policies or government direction on activities  
• Lack of facilities including gyms, playgrounds & equipment for PA  
• Time constraints-not enough time in school day |
| What should schools be doing to promote HE?     | Schools should work in partnership with parents                            | • Reinforce good habits at school  
• Use of unhealthy foods as rewards, classroom celebrations or fundraisers |
|                                                | School lunchtimes                                                          | • Lack of time  
• Costs to improve food served  
• Lack of facilities to provide healthy, high quality food  
• Lack of interest in healthy food by children |
|                                                | Teaching good eating habits and nutrition education                        | • Schools viewed their role as "back-up" to messaging and activities at home or by the family.  
• Primary responsibility still lies with parents and family  
• Contradiction between what is taught as healthy and what is offered at school cafeteria for children |
| What should schools be doing to promote PA?    | Schools should provide more opportunities for PA, including additional PE  | • Lack of time for PA  
• Lack of priority (other curriculum needs) for PA, particularly PE daily  
• Removal of recess or PA for punishment |
|                                                | Schools should work in partnership with parents to share responsibility for children’s PA and provide positive messaging to children. | • Schools viewed role as ‘back-up’ to messaging and activities at home or by the family.  
• Primary responsibility still lies with parents and family.  
• Closed facilities (after school/non-school hours)  
• Legal issues related to school use  
• Concerns about overprotective parents |
|                                                | Schools provide space, facilities and equipment for PA                     | • Lack of knowledge by school staff  
• Lack of good habits and/or overweight staff  
• Lack of parental involvement for activities that promote PA |
|                                                | Role modeling by                                                           | • Focus on competitive, sport-based games |
Summary of the qualitative reviews. The two qualitative studies provide some insight into themes and barriers for parents and school stakeholders regarding childhood obesity prevention. Common themes across the two reviews were 1) burden of responsibility—whose job is it to address childhood obesity; 2) non-reinforcement in other locations—parents do not reinforce healthy behaviors outside of school and schools do not reinforce parental efforts to improve healthy behaviors at home; 3) concerns around the use of school grounds for physical activity, and 4) opportunities for healthy behaviors at school (i.e., school lunch or time allotted for physical activity) do not align with messages about healthy lifestyles. The qualitative data in these reviews can not be interpreted as “effectiveness” related to interventions or strategies. However, they do provide useful contextual information that may inform future implementation efforts by LWOK and the coalition.

Findings from "gray" literature on childhood obesity prevention. “Gray” literature includes reports, white papers, or policy briefs that does not go through a peer-review process. Depending on the source, “gray” literature can be evidence-informed and data driven and, in some cases, appropriate for consideration. GSCN research staff conducted searches for “gray” literature and did not find studies or programs that were not included in one of the systematic reviews already included. The search did identify a few forward-focused reports that identified future directions for childhood obesity prevention and outlined metrics and targets to gauge success (National Academies of Sciences, Engineering, and Medicine, 2017; World Health Organization, 2016). Again, these reports may be useful for future discussion within the strategic planning process and included in the reference section.

Review of current funding announcements. Funding announcements can indicate current gaps in knowledge prioritized for funding. Paired with a careful review of the scientific literature, funding announcements can help organizations align activities and strategies in ways that may appeal to funders. A reliable resource for childhood obesity news and current funding announcements is the National Collaborative on Childhood Obesity Research (NCCOR, http://nccor.org). NCCOR consolidates current research findings, surveillance data, measures, and funding announcements specific to childhood obesity. Typical federal sources would include the National Institutes of Health (NIH), United States Department of Agriculture (USDA)-particularly the NIFA program-, and large foundations such as the Robert Wood Johnson Foundation (RWJF). GSCN research staff reviewed the current funding announcements located at the NCCOR site and samples of the grant opportunities are provided in Table 6. Each funding announcement was reviewed for potential age groups, the required setting for funded activities, and potential interventions or programming of interest.

The external funding environment, even non-federal, remains highly competitive. However, childhood obesity prevention and programming for healthy, active lifestyles remains a key initiative for several funders. Relevant to the goals of the landscape analysis, most funders are seeking collaborative applications that include multiple sectors. Funders are requiring theory-driven programs, and many require use of evidence-based programs or strategies. A wide range of behaviors, including physical activity, diet-related behaviors, and sedentary time can be targeted. Similarly, obesity may be the targeted outcome, but several funders are interested in co-morbid conditions such as type 2 diabetes.
Table 6. A selected example of current funding opportunities related to childhood obesity prevention.

<table>
<thead>
<tr>
<th>Agency Name</th>
<th>Funding Link</th>
<th>Description provided by funder</th>
</tr>
</thead>
<tbody>
<tr>
<td>RWJF</td>
<td>Healthy Eating Research: Building Evidence to Prevent Childhood Obesity</td>
<td>The program supports research on environmental and policy strategies with strong potential to promote healthy eating among children to prevent childhood obesity, especially among groups at highest risk for obesity (black, Latino, American Indian, Asian/Pacific Islander) and children who live in lower-income communities (urban, suburban, and/or rural).</td>
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<tr>
<td>NIH</td>
<td>Pragmatic Research in Healthcare Settings to Improve Diabetes and Obesity Prevention and Care (R18)</td>
<td>The purpose of this Research Demonstration and Dissemination Projects (R18) Funding Opportunity Announcement (FOA) is to encourage research applications to test approaches to improve diabetes and obesity prevention and/or treatment in routine healthcare settings. Research applications should be designed to test practical and potentially sustainable strategies to improve processes of care and health outcomes for individuals who are overweight or obese or at risk for becoming overweight or obese and/or at risk for or have type 1 or type 2 diabetes.</td>
</tr>
<tr>
<td>NIH</td>
<td>Reducing Health Disparities Among Minority and Underserved Children (R01)</td>
<td>This initiative encourages research that targets the reduction of health disparities among children. Specific targeted areas of research include bio-behavioral studies that incorporate multiple factors that influence child health disparities such as biological (e.g., genetics, cellular, organ systems), lifestyle factors, environmental (e.g., physical and family environments), social (e.g., peers), economic, institutional, and cultural and family influences; studies that target the specific health promotion needs of children with a known health condition and/or disability; and studies that test and evaluate the comparative effectiveness of health promotion interventions conducted in traditional and nontraditional settings.</td>
</tr>
<tr>
<td>USDA</td>
<td>NIFA childhood obesity challenge area</td>
<td>This Challenge Area focuses on the societal challenge to end obesity among children, the number one nutrition-related problem in the US. Food is an integral part of the process that leads to obesity and USDA has a unique responsibility for the food system in the United States. This program is designed to achieve the long-term outcome of reducing the prevalence of overweight and obesity among children and adolescents 2-19 years.</td>
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<tr>
<td>NIH</td>
<td>Testing Interventions for Health-Enhancing Physical Activity (R01)</td>
<td>The purpose of this Funding Opportunity Announcement (FOA) is to fund highly innovative and promising research that tests multi-level intervention programs of one to two years in length that are designed to increase health-enhancing physical activity: 1) in persons or groups that can benefit from such activity; and 2) that could be made scalable and sustainable for broad use across the nation.</td>
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<tr>
<td>NIH</td>
<td>Systems Science and Health in the Behavioral and Social Sciences (R01)</td>
<td>This FOA calls for research projects that are applied and/or basic in nature (including methodological and measurement development), have a human behavioral and/or social science focus, and employ methodologies suited to addressing the complexity inherent in behavioral and social phenomena, referred to as systems science methodologies.</td>
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</table>
Phase 1 Conclusions

In short, there are gaps in the evidence for the effectiveness of childhood obesity prevention programming or interventions (Sisson et al., 2016; Wang et al., 2013). The vast majority of the studies (84%) were conducted in school settings. However, even in this large pool of well-designed studies, school-based interventions have limited evidence to support the reduction of childhood obesity. At best, school-based interventions appear to have moderate impacts on secondary outcomes such as physical activity or nutrition (Wang et al., 2013). Similarly, there is low or insufficient evidence to support childhood obesity prevention interventions in ECE settings. Despite widespread interest in ECE and a move towards “center-based” policies or environmental changes at the childcare level, the current evidence doesn’t support that these setting-level changes translate into results for the children (Sisson et al., 2016). Importantly, these SOE findings don’t mean that these efforts can’t or won’t yield improvements, but the studies conducted to date do not support effectiveness. The small number of studies for primary care settings and home-based settings make it difficult to determine true potential of these locations and these locations are largely understudied.

There is strong potential for cross-sector interventions to have positive impacts (Wang et al., 2013). For example, the highest strength of evidence comes from school-based interventions that also include community and home components. Across all locations or settings, combination interventions, or those that include both DIET and PA strategies, are most effective. In some instances, PA only interventions demonstrate moderate or high effectiveness. Rarely do DIET only, particularly nutrition education alone, interventions produce positive weight-related results (Sisson et al., 2016; Wang et al., 2013).

Further, understanding the perceptions of various stakeholders could influence intervention effectiveness and implementation of programs. The qualitative reviews highlight that both parents and schools share a sense of responsibility for childhood obesity prevention. Yet there is skepticism that the “other” is acting in a way that sabotages these efforts either at home or at school. Collaborative, grass-roots approaches that engage all stakeholders (including teachers, parents, and site-staff) in program planning and implementation could reduce barriers, while increasing trust and support amongst parents and the teachers or caregivers. Additionally, intra-family dynamics are complicated and “whole” family approaches that include strategies for all caregivers and programming that includes all children (including siblings) may help families navigate this process. A more expansive definition of family, certainly moving beyond the mother-child dyad, could reduce the burden or fault assigned to mothers around childhood obesity. Engaging a broader family unit, including fathers, siblings, grandparents, or others, provide support for adoption of family-wide healthy behaviors.

Finally, considering the funding announcements available, childhood obesity prevention and programming for healthy, active lifestyles remains a key initiative for several funders. An engaged and established coalition, such as LWOK, could provide a strong foundation for future applications. Creating opportunities for local partners to collaborate and demonstrate success in small scale projects, critical to larger applications may be a role for this coalition.
Phase 2 was designed to build on the findings from Phase 1, specifically the support for a multi-sector approach, with a combined school, community, and home-based program or intervention. Phase 1 also found programs or interventions that included combined nutrition and physical activity strategies produced better outcomes than those that focus on either nutrition-only or physical activity-only. Therefore, the purpose of Phase 2 was to collect information on local organizations working in the area of childhood obesity prevention to identify their programmatic, strategic, and geographic focus, along with their alignment to the best practices identified in Phase 1.

Phase 2 Methods

Partners in the coalition provided a list of local organizations working in the childhood obesity sphere. This information was paired with previous sources gathered by LWOK to create a list of potential survey participants. GSCN designed a brief, online survey to collect targeted information about efforts related to childhood obesity prevention. The survey consisted of 16 items (See Appendix A) and covered the following broad categories: 1) organizational background, 2) scope of work, 3) foundational resources that inform direction, 4) success, 5) barriers, and 6) current needs necessary for future success. The survey was available in an electronic format, required approximately 20 minutes to complete, and open for completion from December 16, 2016 - January 6, 2017. Respondents were assured anonymity in reporting unless they opted to have their organization’s participation publically recognized.

Phase 2 Results

Organization Background.

This potential participant list was made up of 57 individuals representing different programs across 43 organizations. Some contact email addresses were invalid or missing, thus 46 individuals actually received the survey. The survey was completed by 19 individuals (41% response rate). Participating individuals/organizations did not receive an incentive. Of the 19 organizations that responded, 18 were currently engaged in childhood obesity prevention work. These 18 respondents identified their organization as primarily working in programming (n=13, 68%), clinical services (n=2, 11%), research and evaluation (n=1, 5%), and funding (n=1, 5%). No participants identified as working primarily in policy and/or advocacy, while one participant selected “other” and commented that they worked across each of these categories. The majority of organizations have been operating for over 5 years (n=14, 78%).

Location and scope of work.

Sectors. Participants were asked to identify each of the sectors where they were currently working. Table 7 shows that some organizations were aligned with Phase I recommendations (n=4) and were working across multiple sectors (e.g., school, community, and home). However, few targeted the home setting in their efforts.
Table 7. Sectors where each organization was working. Shaded area shows Phase 1 alignment (n=17).

<table>
<thead>
<tr>
<th>Schools (n=13)</th>
<th>Community (n=10)</th>
<th>Home (n=4)</th>
<th>Clinical (n=7)</th>
<th>Early childhood (n=9)</th>
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**Childhood obesity strategies.** Aligned with Phase 1 findings, organizations also identified which types of strategies they used for obesity prevention. All but one organization utilized physical activity or nutrition and most did both. Other strategies mentioned included heart health and social and emotional learning. Participants provided descriptions for these strategies, which are available in Appendix B.
Participants were also asked about their use of social marketing strategies or built environment improvements in addressing childhood obesity. Seven (39%) reported using social marketing including the 5-4-3-2-1 Go®, Every Kid Healthy and Fuel Up to Play 60 campaigns. Multiple organizations were using 5-4-3-2-1 Go®. For the built environment strategies, eight (44%) organizations answered positively and provided the following examples of their activities:

- Developed partnerships with UNO’s College of Education, playground companies, and design firms to explore how young children (0-3) play in outdoor childcare environments
- Facilitated the development of school wellness policies
- Provided funds for school physical activity structures such as playground equipment, blacktop stencils, walking tracks, and school gardens
- Provided programmatic support for sustainable changes in schools to increase access to physical activity throughout the school day
- Supported summer garden programs, bike friendly areas, and walking trails
- Started walking programs in the morning and funded playground updates

**Underlying foundations for organizations.**

**Models, theories, and evidence-based approaches.** Fifteen participants (83%) indicated they were utilizing a model, theory, or evidence-based approach to guide their work. Of these, the most common examples provided were the socio-ecological model and evidence-based curricula. However, others mentioned additional strategies, such as pre/post tests and expert advice.

**Data or evaluation.** Sixteen participants (89%) indicated they use data or evaluation to guide their work. Of those, the majority is using either a formative or summative evaluation of their program (n=9), while others are using community health needs assessment findings (n=6), national secondary data (n=5), and state-level secondary data (n=2). Other data sources mentioned include county- and school-level data.

**Results of the Work and Next Steps**

**Successes.** Participants were asked to describe the key success their organization has experienced related to their childhood obesity prevention work. The most common themes included program longevity, which in some cases included expansion of the program, program evaluation efforts that are showing positive results, and their ability to build trust and partnership within the community.
**Barriers and future needs.** Participants were also asked about barriers they have encountered in this work, as well as what is needed to overcome these barriers to continue their childhood obesity prevention efforts. The most prominent themes for barriers included a lack of funding, difficulties in finding local/on-site champions, and program attendance and completion by participants. All of these barriers resulted in an overarching challenge to show measurable change and impact of the organization’s work.

When asked about future needs to overcome these challenges 10 out of 12 participants that responded mentioned funding was their primary need. Some participants offered secondary needs of staffing and supportive statewide policies.

**Phase 2 Conclusions and Recommendations**

The purpose of this survey was to examine the local childhood obesity landscape and determine potential actionable steps for the coalition.

**The following recommendations could be considered:**

1. During Phase 1, the evidence was not strong for ECE-based settings and the coalition decided not to pursue activities in children < 5 years of age. However, in Phase 2, nine of the participants (50%) indicated they were currently working in this area. Revisiting ECE in our scope may be warranted given this information about local efforts.

2. Currently partners do not engage in or recognize their activities as advocacy or policy. They could use additional support in this area.

3. Funding support is an important and ongoing issue.

4. Support and capacity building for evaluation of childhood obesity efforts. For example, 83% indicated they do some evaluation, but most of these evaluation efforts do not meet the criteria explored in Phase 1. Capacity building, for evaluation and measurement of outcomes among local youth-serving organizations may be a future space for this LWOK collaborative.
The landscape analysis process provided evidence that the most effective childhood obesity prevention efforts are multi-sector, including combinations of school, community, and home settings, as well as those utilizing both diet and physical activity strategies. For sectors with limited or insufficient evidence such as home-based or ECE settings, there are opportunities for LWOK and the coalition partners to contribute and improve upon the reviewed studies. There are several funding announcements at the federal and foundation level indicating the ongoing need to pursue childhood obesity prevention strategies. Phase 1 information presented here may be useful to many community partners and may inform the strategic planning process and future directions of the coalition. The landscape analysis also built on local knowledge by surveying organizations working in childhood obesity prevention efforts locally which identified some opportunities to align the national evidence and local efforts.

Based on Phase 1 and 2 results, the coalition may choose to plan future efforts with the following in mind:

• When developing new programs and interventions, a multi-sector approach is warranted. Thus facilitation of partnerships and a network of connected and collaborative youth-serving organizations are needed in Omaha. The coalition and LWOK are well positioned to serve as a facilitator and connector for organizations.

• When developing new programs and interventions, utilizing approaches that include diet and physical activity strategies is suggested. Identifying partners with the capacity and expertise in both physical activity and nutrition will strengthen coalition efforts to address childhood obesity prevention. These partners could be local professionals with this expertise (e.g. dieticians, fitness professionals) and Omaha area institutions that have expertise in these areas (e.g. UNO, UNMC, Creighton).

• Local organizations working in childhood obesity prevention could benefit from training or partnerships that increase their capacity in several areas. For example:
  
  • The development of evaluation plans to produce measureable program outcomes.
  
  • The utilization of evidence-based approaches, matched for setting, program, and age of youth targeted.
  
  • Increased capacity among local organizations to pursue additional funding for these efforts, including grant writing and evaluation.

As LWOK and coalition partners proceed in the strategic planning process, these findings provide a basis to ensure the group aligns with national evidence likely to yield positive outcomes related to childhood obesity prevention. Further, there are opportunities for LWOK to provide guidance, along with connecting and facilitating collaboration among local organizations working in this space.
Appendix A – Survey

Childhood Obesity Prevention Landscape Analysis – Local Efforts

You are invited to take part in this survey as the key contact for a local organization working in childhood obesity prevention. This survey should take about 20 minutes to complete. The purpose of this survey is to identify the extent and nature of local organization’s efforts and partnerships for childhood obesity prevention. Information gathered in this survey will be used by Live Well Omaha Kids to strengthen efforts to connect and support local organizations. By participating in this survey, you will receive a copy of the results.

The Gretchen Swanson Center for Nutrition (GSCN) is conducting the survey and will receive your responses. All responses will be de-identified and only shared in aggregate form with Live Well Omaha Kids and the organizations currently participating in a childhood obesity coalition. You can skip questions that you do not wish to answer. If you are not the appropriate person in your organization to fill out the survey, please send on to the person who should complete the survey.

Please answer each of the following questions to the best of your ability. Be sure to use text boxes to elaborate or clarify if another option does not fit your organization.

1. What is the name of the organization you are representing? (for internal purposes only) (open ended)

2. Is the organization you are representing still pursuing programming or activities in childhood obesity prevention?
   a. Yes
   b. No

3. How would you categorize your organization’s efforts related to childhood obesity?
   a. Programming
   b. Policy and/or advocacy
   c. Research/evaluation
   d. Funding
   e. Clinical services
   f. Other_________ (fill in)
4. Are you using social marketing strategies to promote a childhood obesity prevention campaign or message?
   a. Yes
   b. No
      i. If Yes, please indicate the campaign or messaging you use (open text)

5. Does your work focus on the promotion of physical activity through built environment improvements?
   a. Yes
   b. No
      i. If Yes, please describe these activities (open text)

6. How long has your organization been working in the area of childhood obesity? (open ended)

7. Which of the following places are the primary locations for your organization’s childhood obesity prevention work? (Check all that apply)
   a. School(s)
   b. Community
   c. Home
   d. Clinical or healthcare settings
   e. Daycare, preschool or other early childhood settings
   f. Other_________

8. Which of the following geographic areas best captures the location of your organization’s target population related to your childhood obesity prevention work? (Check all that apply)
   a. Statewide; describe
   b. County; describe
   c. City; describe
   d. Neighborhood; describe
   e. Other; describe
9. Specific to childhood obesity prevention, please list up to 5 key local partnerships that make your organization’s work possible. Note: these organizations will NOT be contacted, but will be added to a network of local resources. (open ended)
   a. Organization 1; contact 1
   b. Organization 2; contact 2
   c. Organization 3; contact 3
   d. Organization 4; contact 4
   e. Organization 5; contact 5

10. What childhood obesity prevention strategies does your organization focus on most of the time? (check all that apply)
   a. Physical activity; describe
   b. Nutrition; describe
   c. Other; describe

11. Are you using any models, theories, or evidence–based resources to support the strategies you selected above?
   a. Yes
   b. No
   c. Please describe

12. What data sources are informing your organization’s work related to childhood obesity prevention?
   a. Evaluation results from our own programming
   b. Community health needs assessment findings (funded through local health care systems and county government)
   c. National secondary data (e.g., YRBS, NHANES)
   d. State-level secondary data
   e. Other data sources_______________________(fill in)

13. What major successes or wins have you encountered while doing this work? (open text box)
14. What major barriers have you encountered while doing this work?

15. What are your organization’s current needs in order to support or expand your work specific to childhood obesity prevention?

16. Would you like to receive more information about future meetings and initiatives by the childhood obesity coalition supported by Live Well Omaha Kids?
   a. Yes
   b. No

OPTIONAL

We would like to publicly recognize individuals and organizations that support this information gathering process. If you agree to be publicly acknowledged as a participant please fill in the following: (note: this will list your organization or name only; it will not be attached to any individual responses).

Individual: (add name), skip if rather just list organization

Organization (add name), skip/blank if rather not be listed.

The data may also be mapped. If you are willing please list the zip codes where your organization’s childhood obesity prevention work occurs. (open ended)
Appendix B – PA and Nutrition Strategies

Physical Activity
- Family goal setting
- Running club
- Gym/fitness center with various classes for girls K-18yrs
- Policy/system/environment changes within Go NAP SACC
- Classroom physical activity trainings and resource development
- Early childhood research on infant motor development and physical activity
- Outdoor play in early childhood
- Policy/system/environment changes within Go NAP SACC
- Direct education lessons
- Before and after school programs, physical activity in the classroom, recess, physical education
- HEROES group fitness

Nutrition
- Family goal setting
- Cooking classes (n=3)
- Policy/system/environment changes within Go NAP SACC
- Gardening classes
- Provide funding and technical resource for alternative school breakfast programs
- School wellness policies
- Nutrition education through SNAP Ed/EFNEP
- Healthy dining out
- Efforts to improve the national school lunch program and breakfast program
- Nutrition education and promotion in schools
- Healthy classroom rewards, snacks, and concessions stands
- HEROES nutrition

Both
- Administering Game On, a six-step program available to all schools at no-cost, which aids schools in assembling a school health team, assessing the school environment using the 'School Health Index' (adapted from the CDC), creating and implementing a customized action plan that incorporates "eat better, move more" strategies, engaging families and community support and receiving recognition through the USDA's HealthierUS School Challenge: Smarter Lunchrooms.
- Fuel Up to Play 60 supports changes to both the nutrition and physical activity environment in schools.
References


