

MISSOURI FOUNDATION FOR HEALTH

Healthy Schools Healthy Communities

LET'S BUILD A HEALTHIER FUTURE



Comprehensive Status Report

August 1, 2015 – July 31, 2016

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Executive Summary

Health problems, like childhood obesity, are influenced by societal policies and environments that in some way either sustain behaviors or fail to foster healthier choices. Programs, policies, practices, and environmental changes designed to achieve place-based improvements, such as neighborhood conditions, can create positive and sustainable health effects. Communities across the U.S. and throughout Missouri are implementing such efforts, yet approaches vary widely. While these types of initiatives are based on collaborative, intersectoral action, there is substantial variation in process, structure, scope, and participation in the initiatives. These variations depend upon many factors, including the needs of a particular community, available resources, and relationships with key partners.

Missouri Foundation for Health (MFH) established Healthy Schools Healthy Communities (HSHC) to address childhood obesity through prevention. HSHC brings together schools, community organizations, businesses, parents, and residents to advance efforts for increasing access to healthy food and physical activity.

Evaluation of HSHC is critical in order to better understand and describe the variations taking place across the state, and the impact the effort is having on childhood obesity. Since 2013, JSI Research & Training Institute, Inc. has been contracted by MFH to assess and document capacity development and implementation as well as progress. The evaluation is based on the logic model, which illustrates how technical assistance and increased linkages within and across grantees, resources, and funding may be related to the short-term outcomes.

The short-term outcomes may then be related to intermediate outcomes such as increased capacity and improved youth perceptions and behaviors regarding physical activity and diets, and ultimately increased percentage of youth at a healthy weight, improved academic performance, higher attendance rates, and better conduct.

Multiple data collection activities are used to explore the long, complex, and multi-step processes that are taking place. The data also provide a basis for improvements, guide technical assistance, and garner support for healthier communities. Each method was vetted, and ultimately approved, by the MFH HSHC staff and coordinators.



Capacity Development

Addressing childhood obesity is ultimately about strengthening community capacity and mobilizing resources and involvement. HSHC's approach aims to build capacity at the local level to plan and implement activities that are evidence-based and sustainable.

- **3,183** hours of individual support were provided to HSHC grantees.
- **54%** of all the support provided to the HSHC grantees was in the form of training and technical assistance. The most commonly cited **source of information** across all counties was the technical assistance providers.

Moving HSHC Forward

Greater awareness about activities has the potential to maximize efforts, reach more youth and families, and encourage additional groups to implement healthy eating and physical activity opportunities. The most commonly used media outlets were newspaper articles, social media, and flyers or promotional items.

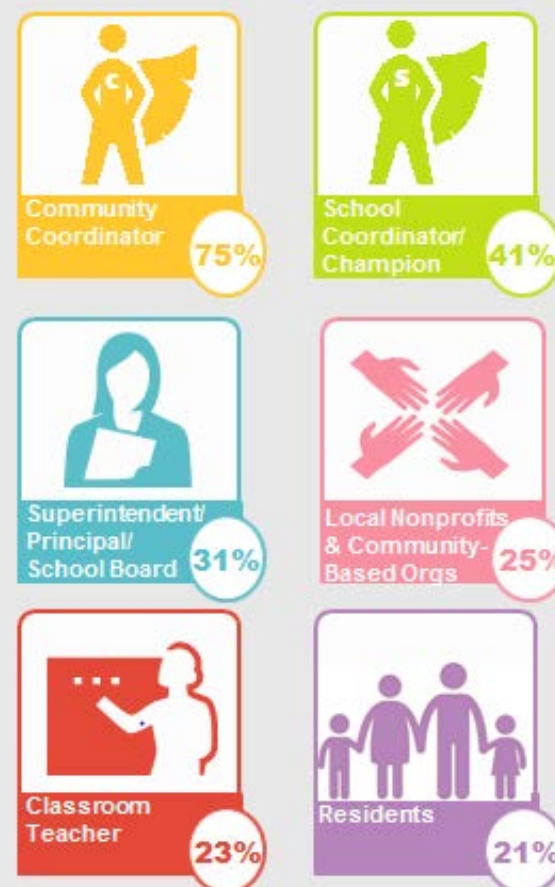
- **5,835,603** impressions were made/people were reached.
- **409** media and awareness activities were implemented.

Moving HSHC Forward

Coordination of efforts and communication across organizations can help to identify and affect change.

- **1,224** meetings were held.

The individuals most often reported as meeting attendees were:



This year, coordinators have continued to **leverage HSHC grant dollars** with the help of volunteers who donated their time and organizations that provided additional funds. In addition, grantees have been successful in receiving other grant dollars to improve healthy eating and increase physical activity.

- **7,422** volunteer hours helped to move HSHC efforts forward in 2015–2016. Almost the same number of hours as the first two years combined (8,002) for a total of 15,424 hours since the start of HSHC.
- **\$665,483** was leveraged across all counties beyond HSHC funding in 2015–2016.
- **\$6,355,620** has been leveraged across all counties since the start of HSHC.

As part of a comprehensive approach, HSHC coordinators and their partners organize programs and events that support the goal of the initiative. These one-day events and multi-week programs have the potential to reach many youth, families, and the entire community. In addition to supporting behavior change of attendees and participants, programs and events can motivate the community to support policy and environmental changes that benefit everyone. This year, **509** programs and events were implemented, reaching **104, 903** people—87 more programs and events than last grant year (422) and 362 more than the first grant year (147).

Over 10,000 more people (10,918) were reached this grant year compared to last year (93,985) and 70,429 compared to the first grant year (37,474).

Progress

In terms of sustainability, practice, policy, and environmental changes fall along a spectrum. Practice changes (an improvement in the way things are done within an organization) can support healthy behaviors but can become stronger when they are adopted and documented as policies or when they lead to environmental changes.

252 practice, policy, and environmental changes were implemented this year, reaching **293,848** people.

- **76** practice changes were made, including:
 - Allowing students to carry water bottles around school and in the classroom, a practice that was not previously allowed.
 - Implementing physical activity breaks or “brain breaks” in the classroom.
 - Rewarding students with non-food related and/or healthy food awards and celebrations.
 - Selling healthier foods in concession stands and restaurants.
 - Selling water at a cheaper price than soda.
- **47** policy changes were made, including:
 - Adopting community or joint-use agreements stating school grounds are open to the public outside school hours.
 - Updating school wellness policies and city/town plans (e.g., transportation plans).

- **129** environmental changes were made, including:
 - Building trails, tracks, and sidewalks.
 - Installing playground and physical education equipment, climbing walls and basketball hoops.
 - Installing water hydration stations/fountains.

- **40** childcare centers worked to:
 - Make environmental improvements to support physical activity. One site installed shade structures, while another renovated indoor spaces for use during inclement weather. Other sites worked to increase the availability of equipment for physical activity.
 - Educate children, families, and staff about nutrition and physical activity.
 - Make environmental changes to support healthy eating. These included the addition of a new oven, refrigerator, and a garden to grow fresh produce. Other sites worked to improve equipment and storage for healthy meals
 - Implement family-style meal service and serve more produce and whole grain foods.

A **survey** was administered to students in fall 2013 (Cohort 1), 2014 (Cohort 2), or 2015 (Cohort 3) depending on when the school district was enrolled in HSHC. The purpose of the survey was to assess 5th-8th graders' perceptions and behaviors associated with physical activity and healthy eating. Follow-up surveys were administered each spring thereafter.

Over 25,000 surveys have been administered since the start of the grant.

Survey Characteristics

| | Cohort 1 | Cohort 2 | Cohort 3 |
|--|-------------|-------------|-------------|
| Number of surveys administered | 4 | 3 | 2 |
| Total number of completed surveys | 14,900 | 5,611 | 4,576 |
| Average number of students who completed the survey at each measurement period | 3,759 | 1,881 | 2,301 |
| Average age (yrs) | 12.3 | 12.3 | 11.9 |
| Percent male (%) | 50 | 48 | 47 |
| Percent female (%) | 50 | 52 | 53 |

Across all three cohorts, there have been some significant improvements in physical activity perceptions and behaviors. Specifically, all three cohorts have seen a significant increase in the percentage of students who reported being physically active for at least 60 minutes per day and enjoying their PE class ($p \leq 0.05$). Yet, only one-third of students meet recommended levels of physical activity. While there is work to be done, results are promising in that Cohort 1, the group of students who have been a part of HSHC the longest, has had improvements in all key variables listed below.

| | | Cohort 1 | Cohort 2 | Cohort 3 |
|---|-----|----------|----------|----------|
| % (% change since baseline) | | | | |
| Enjoying their PE class | 76% | ↑2%* | ↑6%* | ↑15%* |
| Options to be active after school | 61% | ↑4%* | ↑6% | ↓5% |
| Always being active in PE class | 54% | ↑8%* | -- | ↑20%* |
| Being physically active for at least 60 minutes every day | 32% | ↑59%* | ↑22%* | ↑15%* |
| Engaging in 3 or more hours of sedentary time during the week | 49% | ↓1% | ↑10%* | -- |

While there has been an increase in the percentage of students who reported consuming 5 or more servings of fruits and vegetables per day, the numbers are low. Less than one-third of students from all three cohorts eat this recommended amount each day. Again, Cohort 1 has seen the most promising results since baseline.

| | | Cohort 1 | Cohort 2 | Cohort 3 |
|--|-----|----------|----------|----------|
| % (% change since baseline) | | | | |
| Healthy school breakfasts | 22% | ↑12% | ↓8% | ↓5% |
| Healthy food sold outside of school | 14% | ↓15% | ↓8% | ↓17% |
| Eating breakfast daily | 48% | -- | -- | ↓20% |
| Drinking one or more sugar-sweetened beverages per day | 66% | ↓5%* | ↑5% | -- |
| Eating five or more servings of fruits and/or vegetables daily | 23% | ↑7%* | ↑11% | ↑8% |

*Significant according to Chi-square test, $p \leq 0.05$.

Pedometers

Cohort 1 5th graders averaged **1 hour and 46 minutes** of physical activity per day across three assessment periods. Cohort 2 5th graders averaged **1 hour and 42 minutes** of physical activity per day across three assessment periods. Cohort 3 5th graders averaged **1 hour and 44 minutes** of physical activity per day across two assessment periods.

At baseline (Cohort 1: fall 2014, Cohort 2: spring 2015, and Cohort 3: fall 2015) the average amount of time 5th grade students across all three cohorts were physically active was 1 hour and 38 minutes per day. During the last assessment period (spring 2016), students averaged **1 hour and 51 minutes** per day—13 minutes more compared to baseline.

Overall Weight Status

- The overall percentage of Cohort 1 students who were obese was generally the same between winter 2013 and spring 2016 at 23.4% and 23.3%.
- The overall percentage of Cohort 2 students who were obese was generally the same between winter 2014 and spring 2016 at 23.0% and 23.1%.
- The overall percentage of Cohort 2 students who were obese increased between winter 2015 and spring 2016 from 22.9% to 23.3%.

Weight Status by Grade

Similar to national trends, fewer 1st grade students from all three cohorts were obese compared to their older counterparts (3rd–7th grade students). There was a significantly lower number of 1st grade students who were obese compared to 3rd grade (<0.001) and a significantly lower number of 3rd grade students who were obese compared to 5th grade (<0.001). The differences between 5th and 7th grades, if any, were not significant.

Weight Status by Sex

- The percentage of Cohort 1 boys who were obese increased by 1.6% between fall 2013 and spring 2016. The percentage of Cohort 1 girls who were obese decreased by 3.5% during this same time.
- The percentage of Cohort 2 boys who were obese was almost six percentage points higher than girls (25.8% vs. 20.2%, respectively) and increased by 22.2% between fall 2014 and spring 2016. The percentage of Cohort 2 girls who were obese decreased by 18.9% during this same time.
- The percentage of Cohort 3 boys who were obese stayed the same since baseline but increased by 2.7% for girls.

Misconduct

When students eat healthy and engage in physical activity, evidence suggests their behavior improves. While the evaluation cannot directly relate HSHC to changes in behavior, JSI is working with the schools to identify trends.

- The total number of misconduct episodes across Cohort 1 schools **decreased** since the 2012–2013 school year (baseline).
- The total number of misconduct episodes across Cohort 2 schools **increased** since the 2013–2014 school year (baseline).
- There were **5,233** misconduct episodes for all Cohort 3 schools.

Attendance

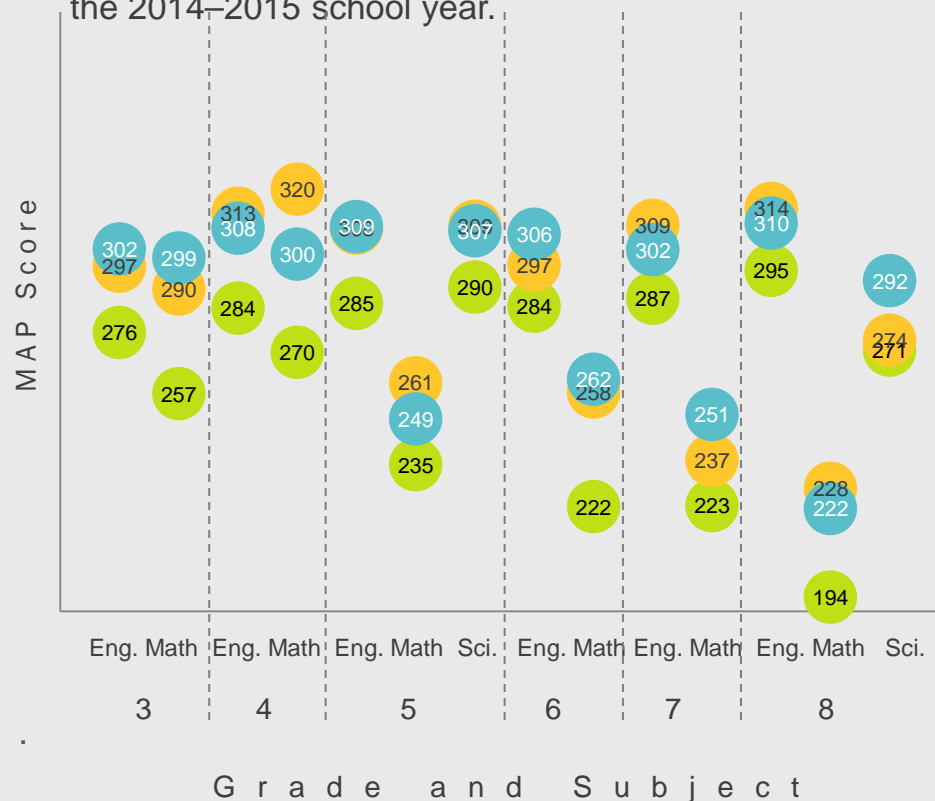
Research suggests that students who consume healthy meals at school and get more physical education and physical activity have reduced rates of absenteeism and tardiness.

- Cohort 1 student attendance rate has decreased by **0.6%** over the past three years and was one percentage point lower than the state for the 2014–2015 school year.
- Cohort 2 student attendance rate has remained the same over the past two years and was lower than the state by **0.3** percentage point for the 2014–2015 school year.

Academic Performance

Students who are physically active and consume healthy diets tend to have better grades and improved cognitive performance. Benefits on academic performance can be both immediate and long-term. Shortly after engaging in physical activity, children are better able to concentrate on classroom tasks, which can enhance learning. Over time, this can impact academic performance.

- **Cohort 1** and **Cohort 2** MAP scores were higher than **Cohort 3** for all grades and subjects during the 2014–2015 school year.



Takeaways

HSHC's approach builds on the reality that communities have numerous resources and assets that, if mobilized strategically, can create an environment supportive of healthy behaviors. It is highly likely that HSHC's effect on the preferred outcome (reduced childhood obesity) will take longer than the project's funded duration. As such, progress may best be shown via interim indicators such as capacity to use resources and assets, awareness, and changes in the environment to ensure youth have access to healthy, affordable foods and opportunities to be physically active.

Although it is not possible to determine if the documented efforts would have happened regardless of HSHC, findings from this evaluation suggest HSHC helped to create environments supportive of healthy eating and physical activity. Thousands of hours of technical assistance helped to build capacity at the local level. HSHC also offered an opportunity for partner organizations within the targeted county—as well as across counties and the state—to network and share information with one another. In addition to in-person meetings and conference calls, Health-e-link, an online knowledge exchange portal, was implemented to enhance networking and information sharing across the grantees, technical assistance providers, MFH, and JSI. Health-e-link provided opportunities to post questions and share information

on a forum and to upload relevant documents and resources. Grantees and technical assistance providers both expressed how helpful it was to be able to share information in real time and to have the opportunity to share and ask questions.

Greater awareness about activities can maximize efforts, reach more youth and families, and encourage additional groups to support and/or implement healthy eating and physical activity opportunities. This broad stakeholder engagement and support is critical to the success of complex initiatives such as HSHC.

Media and awareness activities can help to establish a common message, facilitate community engagement, and unite stakeholders. Grantees, especially from Cohort 1 who have been involved in HSHC the longest, have stated that they are seeing a shift in people's mindsets regarding HSHC. People are increasingly more supportive of HSHC-related work and broad stakeholder engagement has been documented through meeting attendance, resources leveraged, and volunteer time. Since the start of the grant, over \$6 million dollars have been invested in the HSHC communities outside HSHC funding and over 15,000 hours of volunteer time have been donated.

Other indications of progress are the number of programs that have been sustained and the practice, policy, and environmental changes that were implemented. Across the communities, there were two

times as many practice, policy, and environmental changes as compared to last year and ten times as many as the first year. Not only were there more, the practice, policy, and environmental changes built on what had previously been implemented, resulting in a more comprehensive effort in many schools and communities. For example, the majority of counties have increased access to free drinking water either in schools and/or the community; 91% of schools reported having easy access to water. In a number of school districts, awards and celebrations are no longer food-related but rather now involve physical activity opportunities. Vending machines and concession stands are now stocked with healthier foods. Local grocery stores now offer fresh fruit instead of cookies to children shopping with their parents, and physical activity opportunities are being provided before, during, and after school. Sidewalks, trails, and tracks have been built and playground equipment has been installed. Memoranda of Understanding and community-use agreements ensure these new infrastructures will be maintained and open for public use. Taxes now also support park and pedestrian infrastructure improvements, which speaks volume to the mindset change in the communities. In childcare sites, shade structures have been installed to protect kids while playing outside; indoor spaces have been renovated for use during inclement weather, and the availability of physical activity equipment has been increased. Other sites have installed refrigerators, ovens, and gardens to ensure children are offered healthy foods.

The Dent County farmers market, which expanded under HSHC, has thrived. As many as 20 vendors participated during peak season. For the first time, the market offered matching funds for shoppers using SNAP/EBT, which extended their ability to purchase fresh produce and increased revenue for farmers. Also, a newly renovated community kitchen in Texas County provides a place for people to gather and offers a space for cooking classes.

In addition, a number of the programs became self-sustaining. For example, Monett's Walk-to-School events were so successful that parents adopted a Walking School Bus where they now walk kids to school.

Although this evaluation cannot infer causal relationships in terms of HSHC efforts being directly related to changes in perceptions, behaviors, and outcomes, the documented practice, policy, and environmental efforts indicate progress in that there is increased access to healthy foods and physical activity opportunities. Findings from the student survey also show improvements in individual-level perceptions and behaviors.

Physical activity has been a focus. Notably, an average of 76% of youth across cohorts reported enjoying their physical education class. This was an increase from baseline for all cohorts. Over 60%

reported having options to be physically active after school, an increase for Cohorts 1 and 2 since baseline. Half of students, on average, reported always being active in physical education class, an increase for Cohorts 1 and 3. Although Cohort 1 saw the biggest increase in the percentage of youth who reported engaging in at least 60 minutes of physical activity per week (59% increase), there has been a significant increase across all three cohorts.

Improvements in healthy eating perceptions and behaviors have not been as successful. There were decreases in the percentage of students who perceived breakfast, lunch, and food sold outside of school as healthy, particularly among Cohorts 2 and 3. While all three cohorts saw increases in students reporting eating 5 or more servings of fruits and vegetables per day, the percentage is very low. Moreover, the percentage of students who report drinking at least one sugar-sweetened beverage per day is high across all three cohorts.

Considerations

Although there are signs of progress in the funded communities, there is much work to be done. Building on the three-year evaluation findings, JSI prepared a list of considerations to inform planning and implementation of future strategies.

1. Address the high consumption of sugar-sweetened beverages. Research suggests that reducing sugary drinks is among the best strategies for addressing childhood obesity. Between 64% and 71% of students reported consuming at least one sugar-sweetened beverage per day (compared to their respective cohort). A number of strategies to address the high consumption of sugar-sweetened beverages have been recommended including: Cohort 1 has seen a decrease in the percentage of students who report drinking at least one sugar-sweetened beverage. Yet, the rates are still very high across all cohorts.

2. Ensure all children have an opportunity to eat a healthy breakfast daily. Ensuring students eat breakfast helps address food insecurity-related issues. Studies have found that food insecurity leads to hunger and is a key factor that influences overweight and obesity.^{16, 17} Whether a result of food insecurity or other reasons, skipping breakfast is associated with higher risks of obesity. Providing students with an opportunity to eat breakfast at school also helps to ensure that it is healthy. The percentages of students who report eating breakfast daily continued to remain low across time and cohorts. Efforts should be made to increase the percentage of students who consume breakfast daily.

3. Provide more equipment, supervision, and playtime activities to girls, so they can take part in more active play. Research suggests that girls are significantly less active than boys.¹⁸ Similar to national data, HSHC boys were more likely to report engaging in 60 minutes or more of physical activity per day compared to girls across all three cohorts.* Strategies to increase girls' physical activity may include adding equipment or markings on the playground (e.g., hopscotch, four square), ensuring supervision, and structuring play/encouraging girls to move more.

4. Target 5th–8th graders for more physical activity.

The middle school years are associated with many changes in the life of a “tween.” Not only are they heavily influenced by their peers and the media, but also they are maturing physically. As such, physical activity decreases rapidly during childhood and adolescence.²⁰ Across all cohorts, there were significantly more 5th graders who reported engaging in 60 minutes of daily physical activity compared to 6th, 7th, and 8th grade students ($p < 0.05$). Fewer 6th grade students, across all survey periods, reported engaging in 60 minutes of daily physical activity compared to 5th, 7th, and 8th grade students. Regardless of any increases, only about one-third of all students engaged in the amount of physical activity recommended for youth (60 minutes per day). This warrants further attention across all HSHC schools. Efforts to engage tweens in developing and implementing strategies

has strengthened reach and program effectiveness elsewhere among this more difficult population.

5. Increase efforts that focus on healthy eating.

Healthy weight is rooted in both physical activity and healthy eating. Yet, there have been more efforts implementing physical activity practice, policy, and environmental changes than healthy eating ones. While there has been an increase in the percentage of students who reported consuming 5 or more servings of fruits and vegetables per day, the numbers are low. Less than one-third of students from all three cohorts eat this recommended amount each day. Although it may be more challenging and take additional time, HSHC grantees should focus on healthy eating practice, policy, and environmental changes.

6. Be strategic when developing programs and events. Obesity is a complex issue that requires a comprehensive approach with programs and events as well as practice, policy, and environmental changes. HSHC grantees have made great strides across the state. Programs and events have the potential to support behavior change and motivate the community, but they can take a lot of time and resources and detract from efforts to change practices, policies, and environments. Strategically-implemented programs and events become part of a more comprehensive approach and are likely to contribute to better results.

*data not presented in this report

7. Increase efforts during K–3rd grade. Research suggests that the early school years, particularly before 3rd grade, are a critical time for excess BMI gains. Obesity is also thought to cause earlier puberty in girls, resulting in changes in body fat and fat distribution.^{22, 23} For these reasons, girls may experience faster increases in BMI during their early elementary school years but smaller-than-expected BMI gains in middle school. Overall, the biggest increases in the percentage of children who are obese was between 1st and 5th grades. Regardless of gender or weight status, prevention efforts targeting all youth should begin early in childhood to change this trend in higher BMIs.

Conclusion

There are limitations to the evaluation: 1) it was not designed to evaluate the effectiveness of any one particular program or policy in a given community, 2) the practice, policy, and environmental efforts are constantly developing and evolving and all changes may not be captured, 3) due to cost constraints, numerous people collect and report data, and therefore data collection may vary data from individual to individual and site to site, 4) student behaviors and perceptions are self-reported and pedometer step counts are known to the child, and 5) the evaluation analyses cannot determine whether a causal relationship exists between the practice, policy, and environmental changes and changes observed in children's BMI or dietary and physical activity behaviors.

Of note, HSHC is a population-based approach in which naturally occurring circumstances happen (or not) and different populations are exposed (or not) to a potentially causal factor or factors (e.g., a salad bar, new policy). Unlike a controlled setting where all possible confounders can be eliminated, this type of intervention is unpredictable in timing and scope. Moreover, many strategies are being implemented at any given time and change each year. Tracking the exact “dosage” of the intervention at the individual-level would be impossible across 30+ school districts. The evaluation reflects this reality, while maximizing opportunities for rigor (e.g., cohort-level data) to help capture and understand HSHC. It recognizes that the goal is not only to see a decrease in the percentage of current youth who are overweight but also to ensure that the policy and environmental changes that occur are sustainable. It acknowledges the importance of school- and community-level changes given the comprehensive nature of the interventions.

The HSHC evaluation's foundation in the “real world” helps to increase the meaningfulness of the findings, and their applicability for others. Additional analyses will explore associations between the intensity of practice, policy, and environmental changes and childhood obesity, physical activity, and diet. In this sense, the HSHC evaluation will contribute to both the ongoing progress of community transformation efforts in Missouri, as well as broader efforts to address childhood obesity nationwide.

Initiative Background

Missouri Foundation for Health (MFH) established **Healthy Schools Healthy Communities (HSHC)** to address childhood obesity through prevention. HSHC brings together schools, community organizations, businesses, parents, and residents to advance efforts for increasing access to healthy food and physical activity where children live, learn, and play.

HSHC works with **school districts** and affiliated K–8 schools in targeted communities across Missouri. Coordinators conduct wellness assessments and create action plans to reach intermediate outcomes and work toward the long-term goal of reducing childhood obesity in their districts. School action plans address school food, physical education/activity, health education, school policy, and family engagement. MFH provides a resource guide for identifying concrete action steps that may be funded. A school district wellness coordinator, funded by MFH, offers technical assistance and support to committees.

In the 2015–2016 school year, **33 school districts**, with nearly **30,000 total students**, participated in HSHC.

With input from the school districts, HSHC engages **community organizations** to form partnerships and develop community action plans that address barriers to healthy eating and active living for children in targeted communities.

Community coordinators and other representatives work closely with school district wellness coordinators and staff to align efforts, steady progress, and help with ongoing communication.

Early **childcare centers** are critical partners in all the communities. Working with the Department of Health and Senior Services, **31 childcare centers** in HSHC communities participate in the Eat Smart and MOve Smart program with the goal of improving physical activity and nutrition standards.

These community-wide efforts have a local and/or organizational policy focus. They engage school administrators and local and state legislators to implement policies and regulations that are likely to facilitate and sustain improved physical activity and healthy eating environments.

On a **state level**, MFH supports the work of the Subcommittee on Childhood Obesity, which was formed to advise the Missouri Children’s Services Commission. Recommendations have been made that could impact schools, childcare centers, and treatment options for children who are overweight and obese.

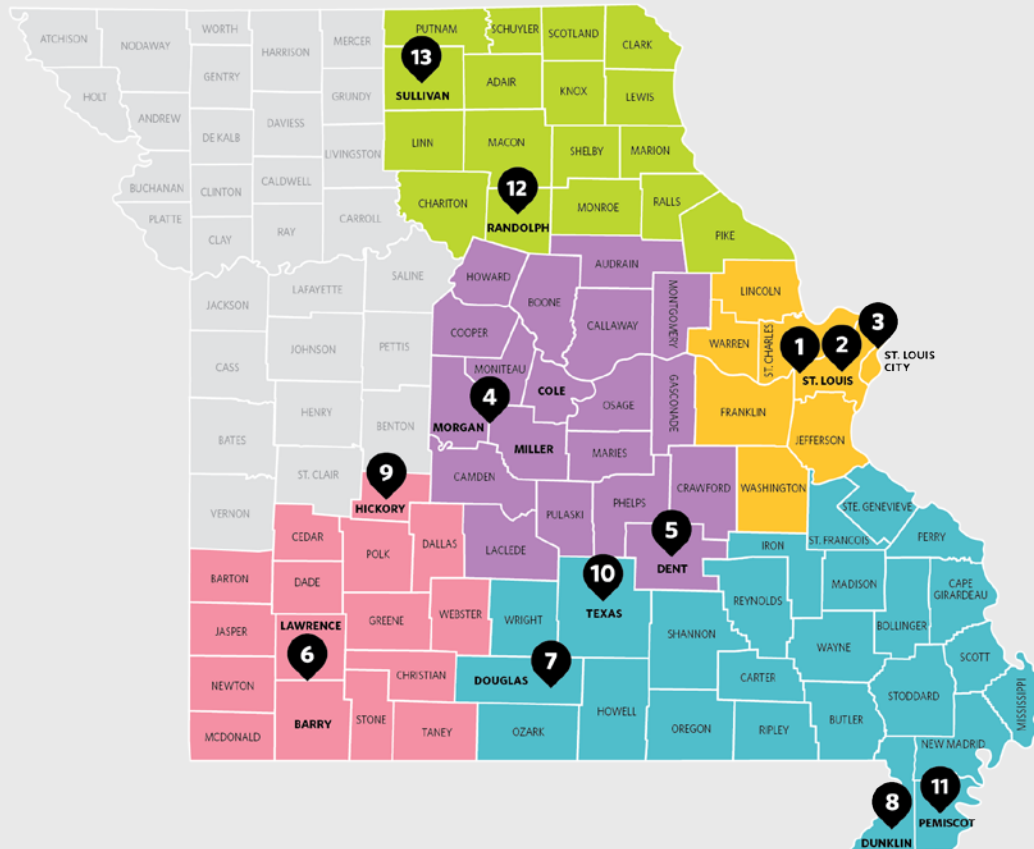
HSHC Map of Participating Sites

MISSOURI FOUNDATION FOR HEALTH

Healthy Schools Healthy Communities

School Districts & Community Partners

- Healthy Communities Lead Collaborative Organization
- Cohort 1 (2013) ● Cohort 2 (2014) ● Cohort 3 (2015)



ST. LOUIS COUNTY

- 1 BeyondHousing
Normandy
- 2 Gateway Region YMCA
Ferguson-Florissant
Riverview Gardens

DUNKLIN

- 8 Dunklin County
Caring Council
Kennett #39
Campbell R-2
Clarkton C-4
Malden R-I

ST. LOUIS CITY

- 3 BJC Healthcare
St. Louis City - Cohort 2
St. Louis City - Cohort 3

HICKORY

- 9 Hickory County
Health Department
Hermitage R-IV
Weaubleau R-III
Wheatland R-II
Hickory R-I

COLE + MILLER + MORGAN

- 4 Capital Region
Medical Center
Eldon
Jefferson City
Morgan County R-II

HOWELL + TEXAS

- 10 Texas County Health
Department
Cabool R-IV
Houston R-I
Willow Springs R-IV

DENT

- 5 Council For A Healthy
Dent County
Salem R-80
Green Forest R-II
North Wood R-IV
Oak Hill R-I

PEMISCOT

- 11 Pemiscot County
Initiative Network
Cooter R-IV
Hayti R-II
Caruthersville 18

BARRY + LAWRENCE

- 6 CoxHealth
Monett R-I
Pierce City R-VI

RANDOLPH

- 12 Randolph County Caring
Community Partnership
Moberly
Westran R-I

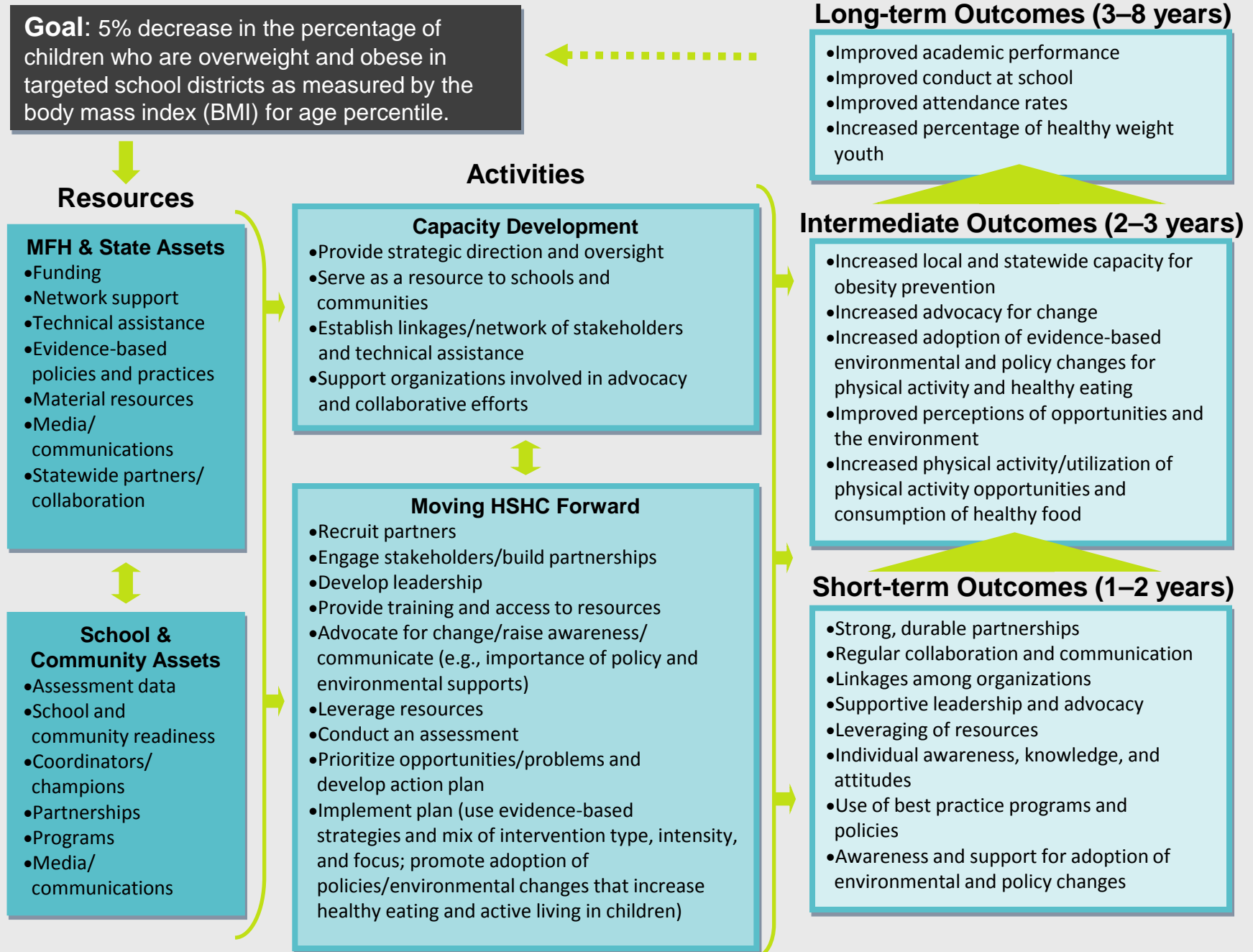
DOUGLAS

- 7 Douglas County
Health Department
Skyline R-II
Ava R-I
Plainview R-VIII

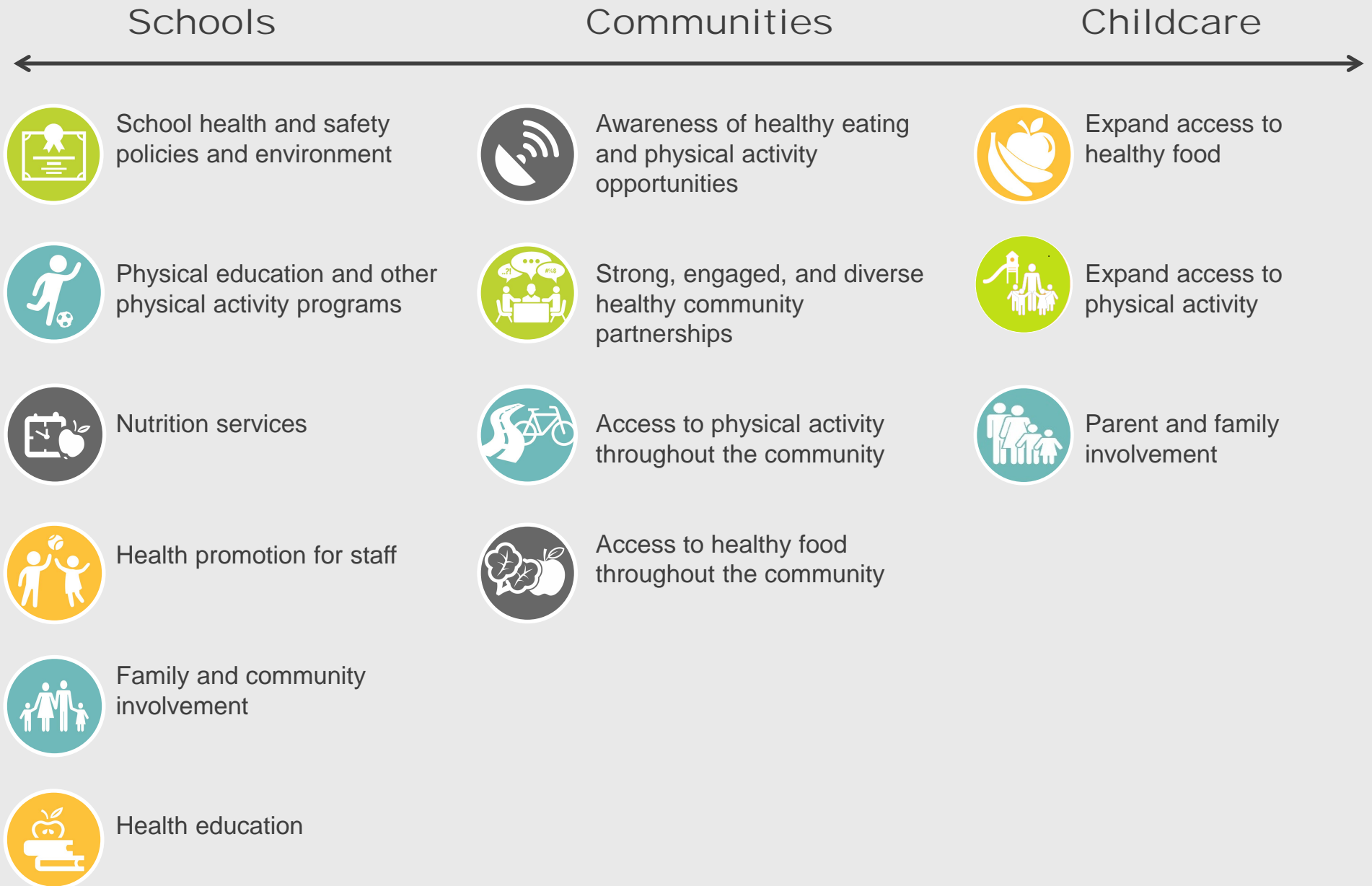
SULLIVAN

- 13 Sullivan County
Health Department
Milan C-2

Logic Model



Overarching Strategies



Evaluation Background

The goals of the HSHC evaluation are to assess and understand: 1) the reach, organizational adoption, and implementation of HSHC, and 2) student perceptions, behaviors, misconduct, academic performance, attendance, and body weight. From the beginning, the HSHC evaluation has been a participatory one with multiple data collection efforts that inform three phases (Figure 1):

- **Capacity Development** describes the types of guidance, areas of focus, and networking and information-sharing activities that have helped to develop capacity among grantees and their partners.
- **Moving HSHC Forward** describes the work to date as well as progress on the short-term outcomes.
- **Progress** describes the impact of HSHC on the intermediate and long-term outcomes.

Stakeholders, including contractors and grantees, collect and submit data to JSI Research & Training Institute, Inc. (JSI), the external evaluator. Data include technical assistance hours; networking and information-sharing activities; media activities; meetings and stakeholders; resources leveraged; events and programs; practice, policy, and environmental changes; physical activity levels (measured through pedometers); physical activity and eating perceptions and behaviors; height and weight measurements; and grade-level attendance, misconduct, and standardized testing scores.

JSI provides the coordinators guidance on data collection. Upon receipt, JSI compiles and analyzes the data and helps to ensure data are shared with the coordinators, their partners, MFH, and the technical assistance providers. This type of practice-based evaluation helps to explain the long, complex, and multi-step processes that are taking place. It further provides a basis for improvements, guides technical assistance, and can help garner support for additional changes to support healthier communities.

Figure 1. HSHC Evaluation Phases, Methods, and Data



Methods

The evaluation is based on the logic model that suggests there were existing assets but that the funding of HSHC helped to stimulate the implementation of new and/or advanced strategies. The logic model further illustrates how technical assistance and increased linkages within and across grantees, resources, and funding may be related to the short-term outcomes (e.g., the establishment of strong, durable partnerships, regular collaboration and communication, and leveraged resources). The short-term outcomes may then be related to intermediate outcomes such as increased capacity and improved youth perceptions and behaviors regarding physical activity and diets, and ultimately increased percentage of youth at a healthy weight, improved academic performance, higher attendance rates, and better conduct. The HSHC evaluation incorporates a number of methods to capture both quantitative and qualitative data. Each method was vetted, and ultimately approved, by the MFH HSHC staff and coordinators.

Monitoring system. JSI developed the online data monitoring system Health-e-Link that can be accessed by both school and community coordinators, as well as MFH, TA Providers, DHSS coaches, and the JSI evaluation team. Coordinators use Health-e-Link to report on measures in real-time according to their individual action plans. Measures are common across all grantees and include the number of meetings and type of partners in attendance; resources or tools

used to advance the action plan; resources leveraged in terms of in-kind time and external grant dollars; number of events and programs and the people reached; number and type of media activity and the people reached; and number and type of policy and environmental changes made. Coordinators also document challenges and successes. This information is used to document the process and outcomes related to HSHC implementation. JSI incorporated a number of strategies to ensure high-quality and consistent data. For one, JSI provided protocols and “cheat sheets” to all coordinators followed by an on-line training. Additionally, JSI reviews the entries monthly and follows up with coordinators for clarification and/or missing information.

Interviews. To glean additional information related to the implementation of HSHC, JSI conducted bi-annual interviews with school and community coordinators. During the interviews JSI reviewed the action plans and Health-e-Link reports with coordinators. In addition, the coordinators answered questions about their successes and challenges and shared contextual information. Findings were used to better tell the HSHC story (e.g., success stories) and were shared with MFH for quality improvement. JSI also conducted yearly interviews with childcare providers and coaches participating in Eat Smart MOve Smart.

Student surveys. To track progress toward the goal of reducing childhood obesity, it is assumed that there will be improved perceptions of the environment, increased awareness of opportunities, and improved behaviors. Schools were asked to administer a survey to all students in 5th-8th grade at baseline (in the fall) and then once per year thereafter (in the spring). Standard questions on eating and physical activity behaviors and perceptions were incorporated. The survey was the same across all grades to allow for comparisons. The survey was piloted with 5th-8th grade students prior to its implementation and changes and/or clarifications were made to questions to ensure high quality data.

Pedometers. To track and understand progress toward reaching the ultimate goal of reducing childhood obesity, it is valuable to assess physical activity levels (one part of the obesity equation). Beginning in year 2, schools were asked to conduct a pedometer assessment (using the FITstep Pro pedometer) to measure physical activity levels objectively. This upgraded pedometer measures steps as well as physical activity minutes. The data collected through the pedometers supplemented and allowed for comparisons (and data checks) with the subjective data collected through the survey. JSI consulted with coordinators to discuss the feasibility of conducting a pedometer assessment and with national experts to

identify best practice methodology. Fifth graders were chosen because they have proven to be responsible and cooperative with pedometer assessments and a number of the HSHC strategies target 5th graders. JSI provided protocols, training, and assessment materials (e.g., wall charts, log sheets) for the coordinators and classroom teachers. Beginning in fall 2014, 5th graders wore a pedometer for four consecutive days and logged their minutes and steps twice daily to assess in school and out-of-school activity levels. Assessments were conducted in the fall and spring.

It is important to note that while many people are aware of the 10,000 step recommendation, this recommendation is for adults and not children. There are no official step recommendations for youth, though studies suggest youth need many more than 10,000 steps per day (and varies by sex).

In the absence of a step count recommendation for youth, and to minimize confusion regarding physical activity levels, minutes of physical activity per day are reported.

Height and weight measurements. To monitor trends in the percentage of HSHC students who are defined as obese, school coordinators (or staff) measured the height and weight of all 1st, 3rd, 5th, and 7th grade students. The measurements were taken twice per school year—each winter and spring—and sent to JSI for body mass index (BMI) calculations and analysis. BMI is calculated the same way for adults and children, but the results are interpreted differently. Because the amount of body fat changes with age and varies by sex for children and adolescents between 2 and 20 years old, BMI is interpreted relative to a child's age and sex.

At the onset of HSHC, there was concern from school administrators regarding the collection of individual-level data. Unlike a controlled setting where all possible confounders can be eliminated, HSHC is unpredictable in its timing and scope. Moreover, the exposure/dosage of HSHC at the individual-level (e.g., the exact exposure of an environmental change on individual children) was not feasible with the available resources. Therefore, it was agreed upon by JSI and MFH staff that individual-level data collection was not necessary. BMI is collected and analyzed by grade and gender.

Document review. JSI reviewed a range of documents, including the following secondary data sources. Contextual information from the interviews is used to better understand changes in outcomes.

- **Misconduct:** Evidence shows that students demonstrate improvements in behavior when given increased opportunities for physical activity and healthy eating. To track progress and the ultimate impact of HSHC on student conduct, schools are asked to submit misconduct reports for grades K-8 at the end of each school year. During this third grant year, Cohort 1 and 2 schools submitted data for the 2015-2016 school year and Cohort 3 schools submitted data for the 2014-2015 (baseline) and 2015-2016 school year. Based on a literature review of best practices of categorizing misconduct, JSI created a methodology for reviewing and categorizing the misconduct incidents. The categories align with the Missouri Department of Elementary and Secondary Education to the extent possible: alcohol/drugs/tobacco; individual-level misconduct (i.e., individual-level behaviors where the consequences are confined to the offender, such as incomplete/unprepared classwork or skipped class); defiance/disrespect/disruption (i.e., individual-level behavior where the consequences impact others, such as teachers and other students); vandalism/stealing; bullying/violent behavior; and other (no description given).

- **Academic Performance:** Healthy students are better learners. Students who are more physically active and consume adequate amounts of key nutrients tend to have better grades and improved cognitive performance. To track progress and the ultimate impact of HSHC on academic achievement, JSI compiles Missouri Assessment Program (MAP) Performance Index (MPI) scores for students in grades 3-8 for English, mathematics, and science (grades 5 and 8). MPI scores were calculated for the 2014-2015 school year (data were unavailable for the 2015-2016 school year). JSI compared MPI scores across all districts within each cohort, as well as for each district, with the state average.
- **Attendance:** To track progress and the ultimate impact of HSHC on school attendance, JSI collects attendance data from each school. JSI has requested that each school provide information on the proportion of school minutes attended compared to the total number of possible school minutes for each grade. Attendance scores will be obtained for the 2015-2016 school year for cohort 1, 2, and 3, and has been requested for the 2014-2015 school year for baseline for cohort 3.

Report Purpose

The purpose of this report is to describe: 1) how capacity was developed across sites, 2) the work completed between August 1, 2015 and July 31, 2016, 3) the progress toward the intermediate and long-term goals, and 4) present “hot off the press” successes.

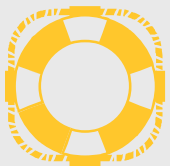
Information in this report should be used to:



Inform action plans and equip stakeholders with information on strengths and weaknesses.



Guide training and technical assistance activities.



Garner support from additional school and community stakeholders and/or funders.



Celebrate successes.





From healthier food and more physical activity opportunities in schools, to improved parks and sidewalks, to new bike trails—**communities are making changes** that will have lasting impact.

HSHC provides **knowledge, tools, and support** to help make it possible.

Capacity Development

Public health efforts to address childhood obesity increasingly focus on practice, policy, and environmental approaches. HSHC coordinators and partners are well positioned to advance this work. Building community support and encouraging the public to voice concerns about lack of access to healthy food and opportunities for physical activity are critical to ensuring success.¹ HSHC coordinators work to increase awareness, support, and political will to implement practice, policy, and environmental changes.

MFH, in partnership with Alliance for a Healthier Generation, GMMB, Missouri Department of Health and Senior Services, Ozarks Regional YMCA, PedNet, and Trailnet,* provides training, technical assistance, and funding to HSHC grantees and their partners. This support builds capacity at the local level to plan and implement activities that are evidence-based and sustainable.

This section of the report presents the types of guidance, areas of focus, networking and information-sharing activities, and resources that have been provided from August 1, 2015 through July 31, 2016.



Pemiscot County

*Trailnet was a technical assistance provider until 1/31/16.



- **Guidance and support**
- Networking and information sharing

Guidance and Support

Addressing childhood obesity is ultimately about strengthening community capacity and mobilizing resources and involvement. HSHC's approach builds on the reality that communities have numerous resources and assets that, if mobilized strategically, can directly affect the health and well-being of youth.² The Alliance for a Healthier Generation, GMMB, Missouri Department of Health and Senior Services, Ozarks Regional YMCA, PedNet, and Trailnet help to develop grantees' capacity to mobilize. Guidance is delivered via tailored technical assistance and training, help with planning, and support with implementation of grantee action plans.

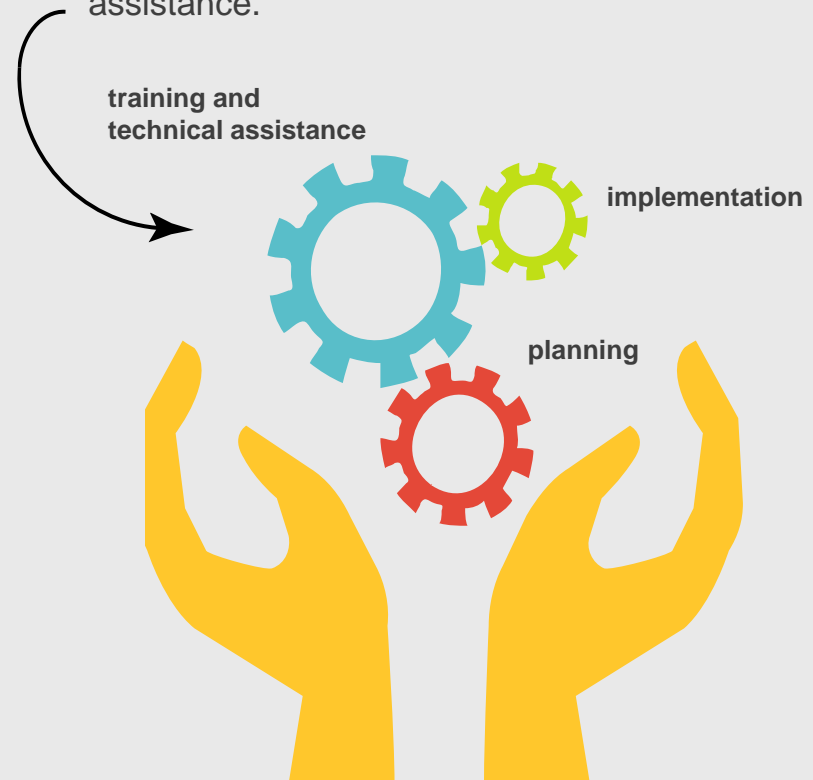
Since the start of the grant, **7,580** hours of technical assistance have been provided to the grantees. **1,055** hours of technical assistance were provided during the first grant year* and **3,342** hours were provided during the second grant year.

This grant year:

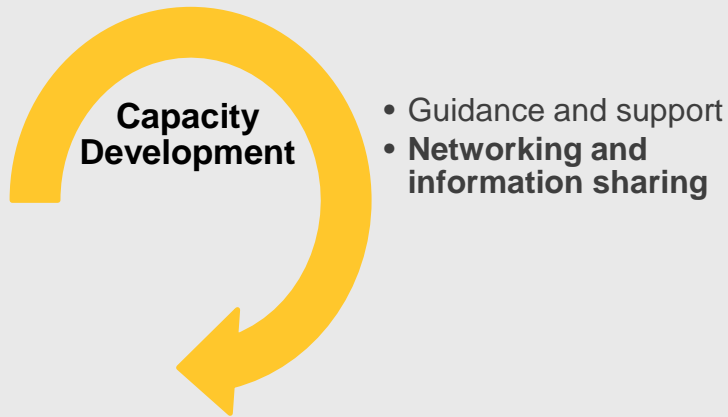


3,183 hours of individual guidance and support were provided to HSHC grantees.

54% of all the support provided to the HSHC grantees was in the form of training and technical assistance.

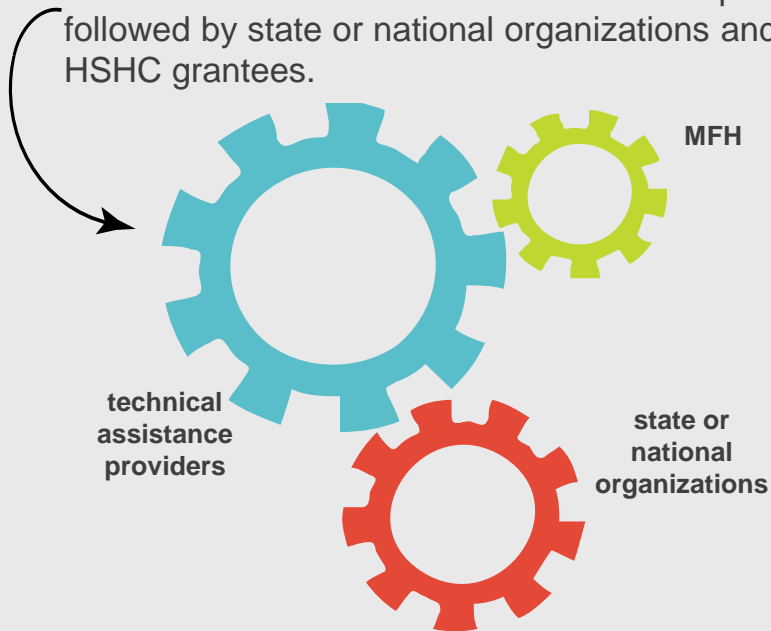


* Hours only included those provided by Alliance for a Healthier Generation, PedNet, and Trailnet.



Networking and Information Sharing

Through HSHC, grantees are connected to a breadth of resources, including technical assistance providers, MFH, and state and national organizations. The most commonly cited **source of information** across all counties involved the technical assistance providers, followed by state or national organizations and other HSHC grantees.



During grantee interviews, school and community coordinators expressed how valuable it is to have individuals they can contact for information. They also expressed how helpful it is to know others are working on similar strategies and to be able to share and ask questions.

HSHC offers an opportunity for partner organizations within the targeted county—as well as across counties and the state—to network and share information with one another. This year, Health-e-link, an online knowledge exchange portal, was implemented to enhance networking and information sharing across the grantees, technical assistance providers, MFH, and the evaluator. Health-e-link provides opportunities to post questions and share information on a forum and to upload relevant documents and resources.



19 forum posts with **342** views and **28** replies.



1,041 documents/resources shared across all grantees, technical assistance providers, MFH, and the evaluator.



Pemiscot County



St. Louis City



Miller County

“

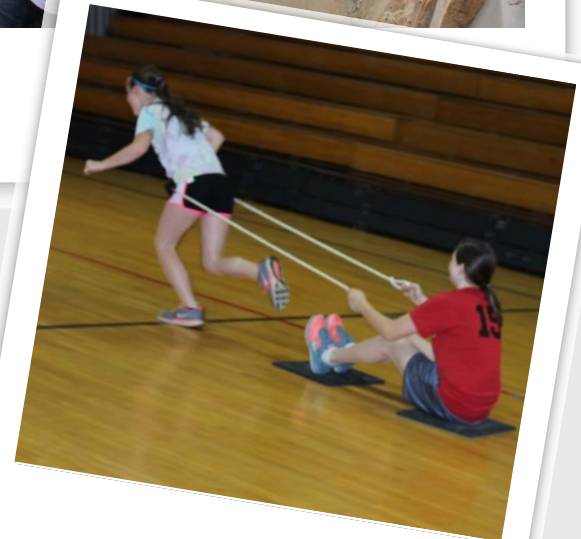
I would say some pros [to participating in HSHC] would be the support and the amount of people that you are able to contact, the amount of people you are able to get information from.”

~HSHC School Coordinator

Moving HSHC Forward

Creating an environment that is supportive of healthy behaviors is a long, complex, multi-step process that requires leadership support and multisector involvement. The process by which the community and leaders from different organizations, sectors, and levels of influence come together to address childhood obesity is incredibly important. These efforts require dedicated engagement, patience, deliberation, debate, and (occasionally) conflict.

This section of the report presents information on media activities, collaboration and leadership, resources leveraged, and programs and events. Taken together, these efforts build community support and encourage participation from local officials, individuals, community groups, businesses, and public and private entities.





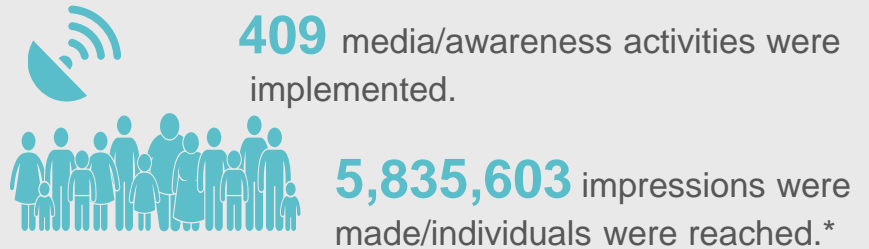
- **Media and awareness**
- Collaboration and leadership
- Resources leveraged
- Programs and events

Media and Awareness

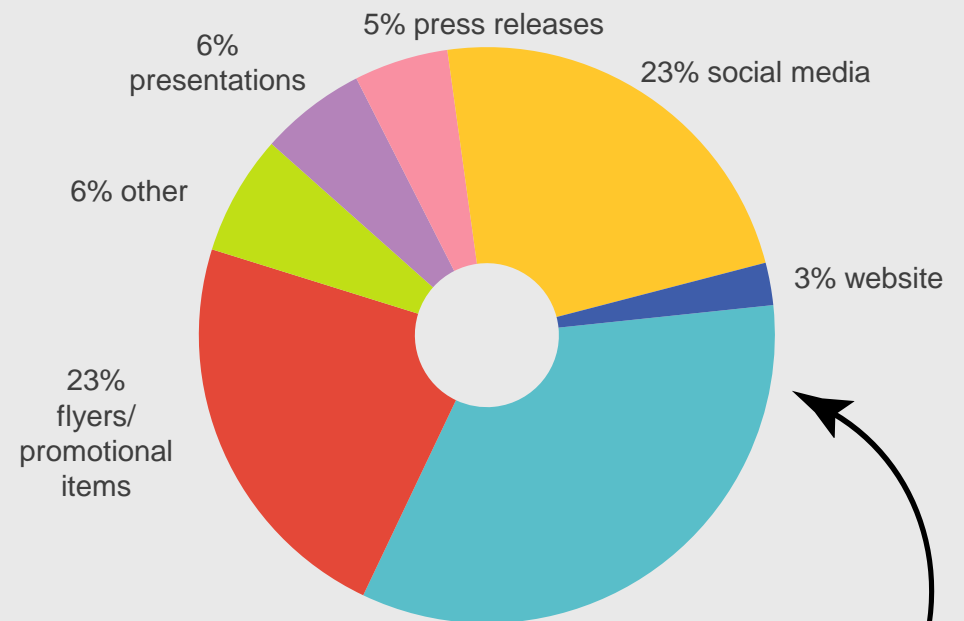
An important step in addressing childhood obesity is increasing awareness of the problem and solutions. HSHC media and awareness activities have several purposes: 1) increase familiarity of HSHC and available opportunities in the schools and communities, 2) strengthen residents' understanding of the importance of regular physical activity and healthy eating, and 3) garner the support of diverse stakeholders (including residents and decision makers) to ensure policy and environmental changes are made to support healthy behaviors.

Since the start of the grant, **743** media/awareness activities have been implemented and **9,110,251** impressions were made/individuals were reached. During the first year **88** activities were implemented and **391,610** impressions were made/individuals were reached. The second year, **246** activities were implemented and **2,883,038** impressions were made/individuals were reached.

This grant year:



The most commonly used media outlets were newspaper articles, social media, and flyers or promotional items.



34% of all media activities were in the form of newspaper articles.

*may not be unique individuals




- Media and awareness
- **Collaboration and leadership**
- Resources leveraged
- Programs and events

Collaboration and Leadership

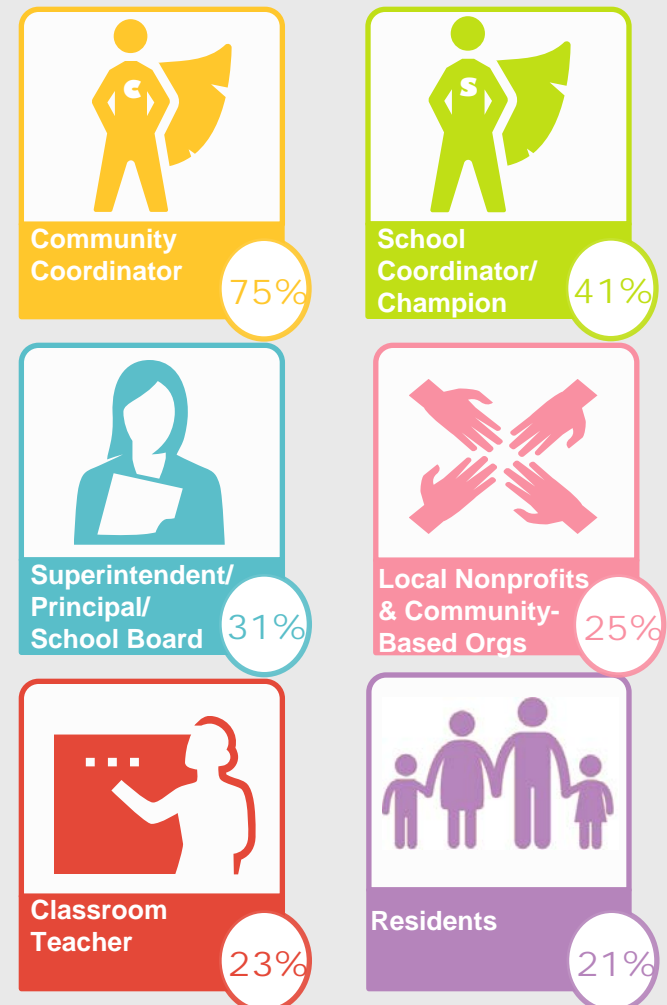
Many factors in the community impact whether children eat healthy, engage in physical activity, and are at a healthy weight. Yet individuals and organizations may be working independently on projects and initiatives. Coordination of efforts and communication across organizations can help to identify and affect change. In addition to collaborating, community leaders can inspire local residents, businesses, schools, and organizations to focus on healthy eating and physical activity. HSHC coordinators and their partners participated in many meetings to organize efforts and increase awareness. Across all counties, there has been broad community engagement.

Since the start of the grant, **2,694** meetings (with an average of **11** attendees) have focused on HSHC activities. **530** meetings were held (with an average of **10** attendees) in year 1 and **940** meetings were held (with an average of **9** attendees) in year 2.

This grant year:

 **1,224** HSHC-related meetings were held.
14 stakeholders (on average) attended each meeting.

The **individuals most often reported as meeting attendees** were:





Pemiscot County



St. Louis City



Miller County

“

We've established great relationships with different community partners to allow programs to happen where I didn't think they would happen.”

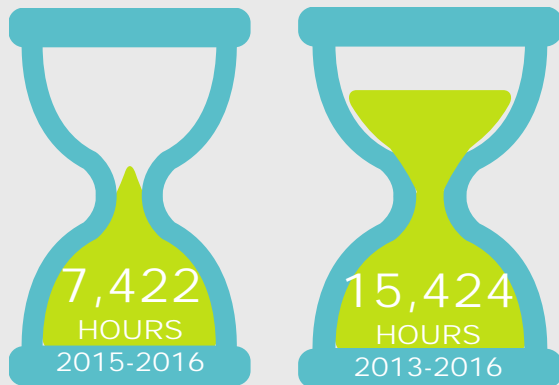
~HSHC School Coordinator



- Media and awareness
- Collaboration and leadership
- **Resources leveraged**
- Programs and events

Resources Leveraged

This year, coordinators have continued to leverage HSHC grant dollars with the help of volunteers who donated their time and organizations that provided additional funds. In addition, grantees have been successful in receiving other grant dollars to improve healthy eating and increase physical activity.



7,422 volunteer hours helped to move HSHC efforts forward in 2015–2016, **almost the same amount of hours as the first two years combined** (3,857 in year 1 and 6,156 in year 2), for a total of **15,424** hours since the start of HSHC.

\$665,803 was leveraged across all counties beyond HSHC funding in 2015–2016.



\$443,084 was physical activity-related.



\$222,719 was healthy eating-related.



\$6,330,144 has been leveraged across all counties since the start of HSHC. **\$3,235,654** was leveraged in grant year 1 and **\$2,428,687** in grant year 2.





- Media and awareness
- Collaboration and leadership
- Resources leveraged
- **Programs and events**

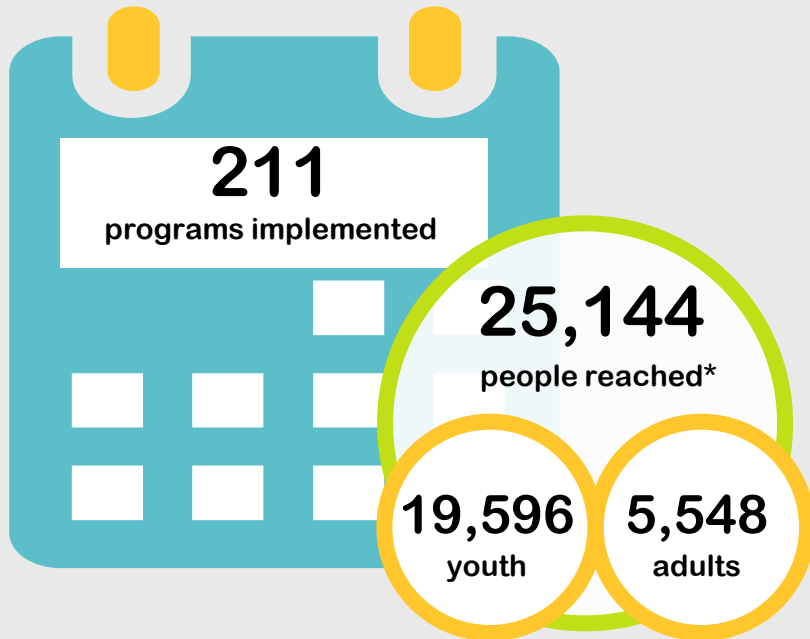
Programs and Events

As part of a comprehensive approach, HSHC coordinators and their partners organize programs and events that support the goal of the initiative. These one-day events and multi-week programs aim to provide education, enhance skills, and support behavior change. In addition, programs and events can motivate the community to support policy and environmental changes that benefit everyone.

This grant year, **509** programs and events were implemented or held, reaching **104,903** people. This was 87 more programs and events than last grant year (**422**) and 362 more than the first grant year (**147**). Over 10,000 more people (**104,903**) were reached this grant year compared to last year (**93,985**) and 70,429 more compared to the first grant year (**37,474**).

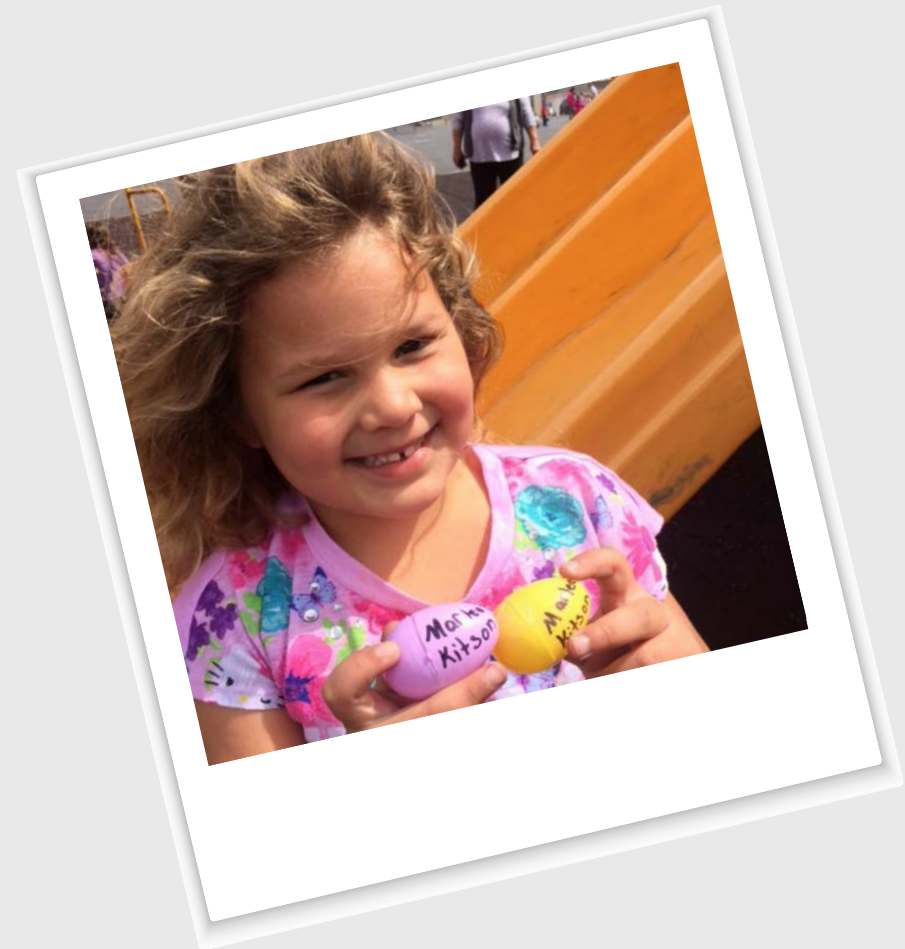


*may not be unique individuals



This grant year 211 programs were implemented across the HSHC counties reaching 25,205 people. Programs were organized by many different stakeholders and included opportunities for youth and adults to learn more about, and participate in, physical activity and healthy eating. They were either stand-alone programs or a part of a bigger initiative.

Common programs included walking clubs and nutrition education. *Appendix A* provides more detail on specific programs that were implemented.





St. Louis County



Barry and Lawrence Counties

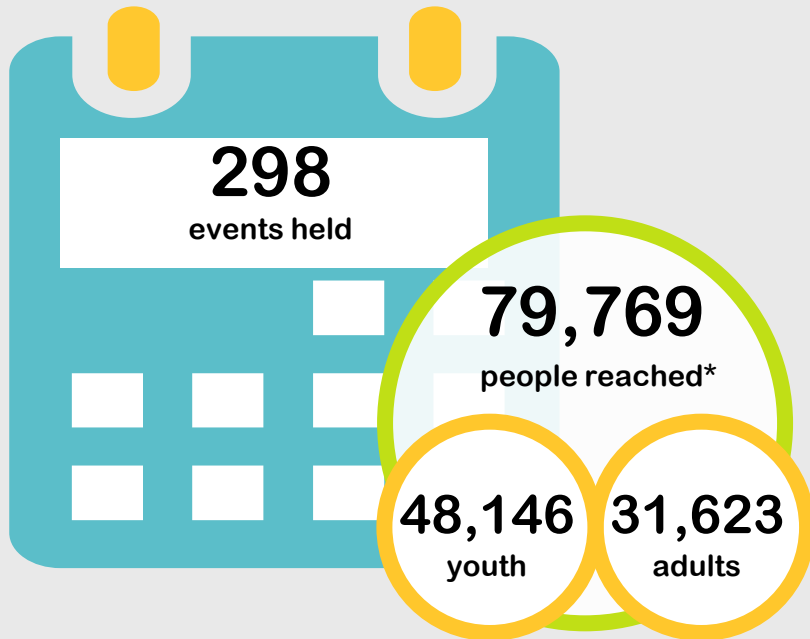


Hickory County

“

A lot of programs that we've started we want to expand, like our Walk-to-School Days into a Walking School Bus. I really see that going well as we start pushing forward.”

~ HSHC School Coordinator



This grant year 298 events were held across the HSHC counties reaching 79,769 people. Events were organized by many different stakeholders and included opportunities for youth and adults to learn more about, and participate in, physical activity and healthy eating. They were either stand-alone events or a part of a bigger initiative.

Common events included walk-to-school days, walks/runs, farmers markets, and health and wellness fairs. Many of the events provided an opportunity for youth and families to participate together. *Appendix B* provides more detail on specific events that were implemented.



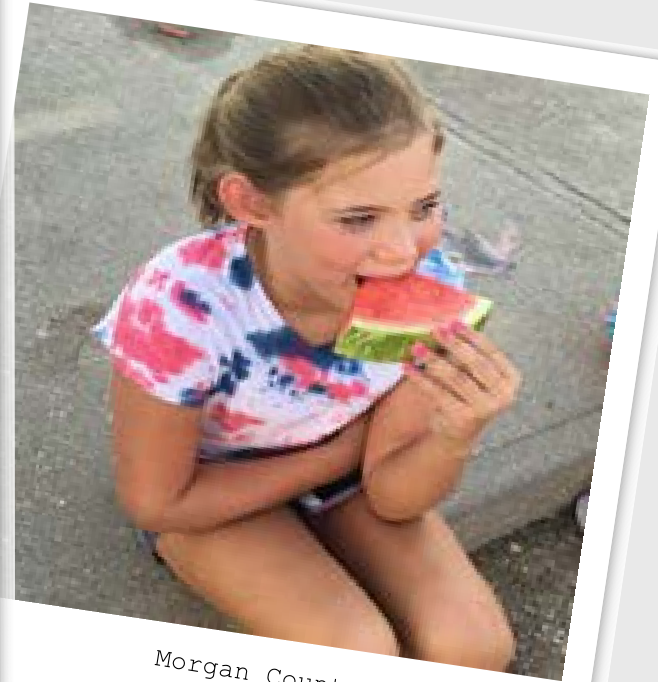
St. Louis County



St. Louis City



Dent County



Morgan County

“

There has always been resistance [to breakfast and lunchroom initiatives] but now with the grant, people are more open to ideas like these.”

~ HSHC School Coordinator

Progress

This section of the report presents the progress on intermediate and long-term outcomes:

- Practice, policy, and environmental changes
- Reported perceptions and behaviors
- Physical activity
- Weight status
- Misconduct at school
- Student attendance
- Academic performance



Dent County



- **Practice, policy, and environmental changes**
- Reported perceptions and behaviors
- Physical activity
- Weight status
- Misconduct
- Attendance
- Academic performance

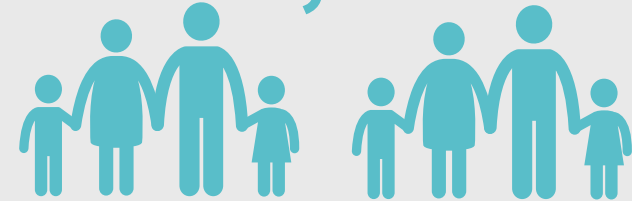
Practice, Policy, and Environmental Changes

Increasingly, the environments in which people live, work, learn, and play are known to have tremendous impact on individual health. Practice, policy, and environmental changes can help provide access to healthy food and opportunities for physical activity. These strategies can take longer to fully implement as compared to programs or events but have the potential to reach many people.

In terms of sustainability, practice, policy, and environmental changes fall along a spectrum. Practice changes (an improvement in the way things are done within an organization) can support healthy behaviors but can become stronger when they are adopted and documented as policies or when they lead to environmental changes. *Appendix C* provides more detail on practice, policy and environmental changes that were implemented.

This grant year...

293,848



people were reached
through

252

practice, policy, and
environmental changes.

2x the number from last
grant year (126)

and
10x the number from the
first grant year (26).

76

practice changes were made

Practice changes support healthy eating and physical activity. They are similar to policy changes in that they reach many people and help create an environment supportive of health. Although they require the support of many different individuals, practice changes are different from policies because they have yet to be officially documented as an organizational standard.

This grant year 76 practice changes were made across the HSHC counties. Although they may have been brought about differently and involved varying stakeholders, there have been a number of common practice changes. For example, many schools allowed students to carry water bottles around school and in the classroom, a practice that was not previously allowed. A number of teachers began to implement physical activity breaks or “brain breaks” in the classroom and reward students with non-food related and/or healthy food awards and celebrations. Gardens and trails were used to provide hands-on learning. Healthier foods were made available in concession stands and restaurants, EBT was officially accepted at farmers markets to increase access to healthier foods, and water was sold at a cheaper price than soda.



Randolph County

47

policy changes were made

Policy changes that support healthy eating and physical activity are likely to have a big impact. They are similar to practice changes in that they reach many people and help create an environment supportive of health. They require the support of many different individuals and may start as a practice change. Policy changes are sustainable or less likely to be reversed because an organization officially documents it as a standard practice.

This grant year 47 policy changes were made across the HSHC counties. Although they may have been brought about differently and involved varying stakeholders, there have been many similar policy changes, including community or joint-use agreements stating school grounds are open to the public outside school hours. A number of Memorandum of Understandings have been signed indicating that the city/town will maintain equipment purchased by the HSHC grant. Other efforts included updated school wellness policies and city/town plans (e.g., transportation plans) as well as restaurants being certified as healthy dining establishments.



Hickory County

129

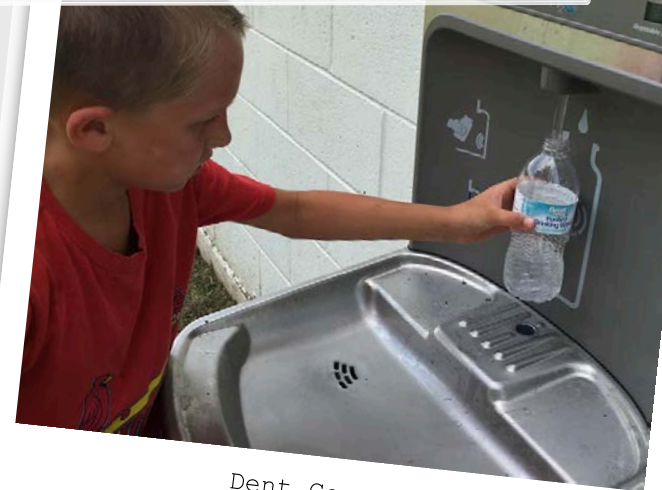
environmental changes were made

Environmental changes that support healthy eating and physical activity are likely to have a big impact because they reach many people. They include the physical, social, and economic environments.

This grant year 129 environmental changes were made across the HSHC counties. Although they may have been brought about differently and involved varying stakeholders, there have been a number of similar environmental changes, including the addition of trails, tracks, and sidewalks; playground and physical education equipment; climbing walls and basketball hoops; water hydration stations/fountains; and gardens.



Barry and Lawrence Counties

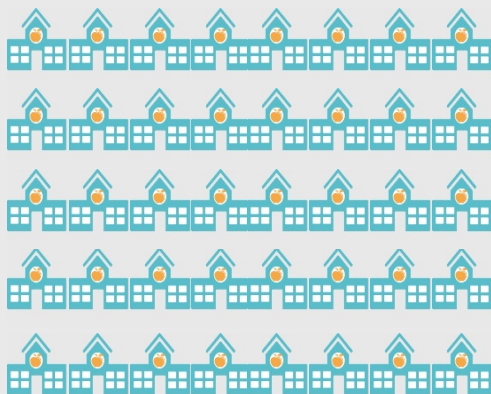


Dent County

Childcare

Many children spend several hours per day in the care of someone other than a parent. Children in full daycare may spend about 33 hours per week in a childcare center and many receive the majority of their meals there.^{3,4} The childcare setting can also provide an opportunity for children to participate in physical activity through active play.

Part of HSHC includes working with childcare centers to implement practice policy, and environmental changes that provide healthy nutrition and age-appropriate physical activity for children, including limiting screen time. In Missouri, these practices are informed by the Missouri Department of Health and Senior Service (DHSS) Eat Smart & MOve Smart guidelines. Coaches from DHSS provide one-on-one guidance to help participating childcare facilities implement changes, thus increasing physical activity and healthy eating opportunities at their facilities.



40 childcare centers/sites participated.



children on average were reached.

Participating centers worked to:

- Make environmental improvements to support physical activity. One site installed shade structures, while another renovated indoor spaces for use during inclement weather. Other sites worked to increase the availability of equipment for physical activity.
- Educate children, families, and staff about nutrition and physical activity.
- Make environmental changes to support healthy eating. These included the addition of a new oven, refrigerator, and a garden to grow fresh produce. Other sites worked to improve equipment and storage for healthy meals.
- Implement family-style meal service and serve more produce and whole grain foods.



The director values physical activity and nutrition for children in her care and is motivated to make changes to improve her childcare facility.”

~DHSS Coach



Texas and Howell Counties



Randolph County



Morgan County

“

We received a grant for a salad bar. We have a pretty huge percentage of kids choosing the salad bar over the regular tray, so they are starting to make healthier decisions.”

~HSHC School Coordinator



- Practice, policy, and environmental changes
- **Reported perceptions and behaviors**
- Physical activity
- Weight status
- Misconduct
- Attendance
- Academic performance

Reported Perceptions and Behaviors

Surveys are used to assess 5th–8th grade students':
1) beliefs and perceptions of their physical activity and healthy eating opportunities and environments, and
2) food consumption and physical activity behaviors.

A survey was administered to students in fall 2013 (**Cohort 1**), 2014 (**Cohort 2**), or 2015 (**Cohort 3**) depending on when the school district was enrolled in HSHC. Follow-up surveys were administered each spring thereafter. A total of 25,087 surveys have been completed over the past three years.

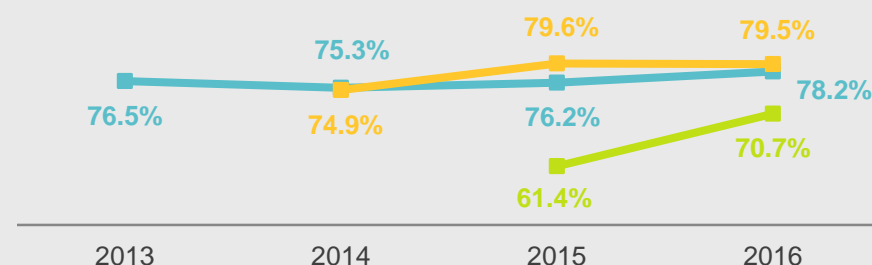
The data are presented three ways—beginning with cohort, followed by race, and then gender. Because students have been “enrolled” in the HSHC initiative for varying amounts of time (Cohort 1 for three years, Cohort 2 for two years, and Cohort 3 for one year), the first set of graphs show differences by cohort. Research suggests racial and ethnic disparities exist, even when universal gains are made. As such, the second set of graphs present racial and ethnic differences in behaviors across cohorts.

Survey Characteristics

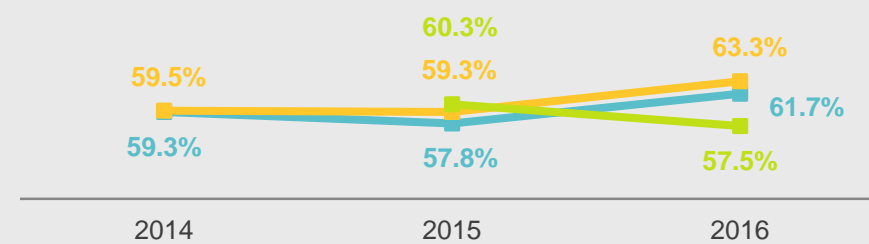
| | Cohort 1 | Cohort 2 | Cohort 3 |
|--|-------------|-------------|-------------|
| Number of surveys administered | 4 | 3 | 2 |
| Total number of completed surveys | 14,900 | 5,611 | 4,576 |
| Average number of students who completed the survey at each measurement period | 3,759 | 1,881 | 2,301 |
| Average age (yrs) | 12.3 | 12.3 | 11.9 |
| Percent male (%) | 50 | 48 | 47 |
| Percent female (%) | 50 | 52 | 53 |

In spring 2016, the percentage of students who reported...

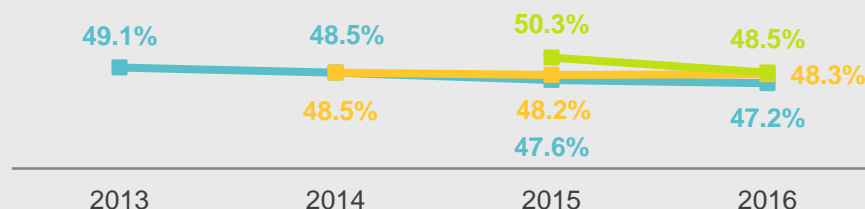
Enjoying their physical education class increased since baseline for all three cohorts.*



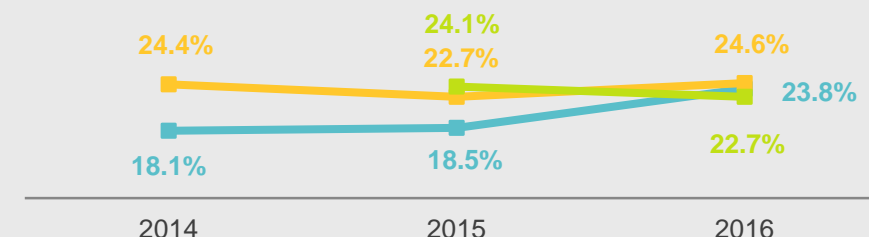
Options to be physically active after school increased since baseline for Cohorts 1^{||} and 2 but decreased for Cohort 3.[†]



Places in their neighborhood to be physically active decreased since baseline for Cohorts 1 and 3 but remained the same for Cohort 2.*



Options to be physically active before school increased since baseline for Cohort 1, remained the same for Cohort 2, and decreased for Cohort 3.[†]



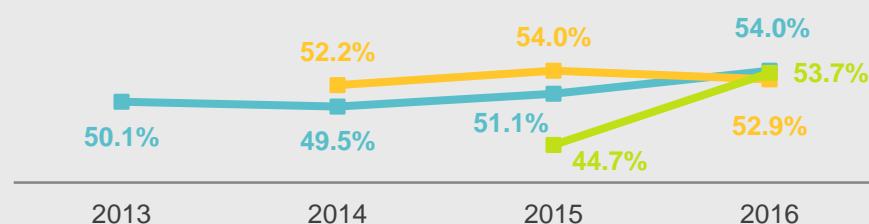
* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

† In 2015, surveys were administered in the spring for Cohorts 1 and 2 and the fall for Cohort 3 (baseline).

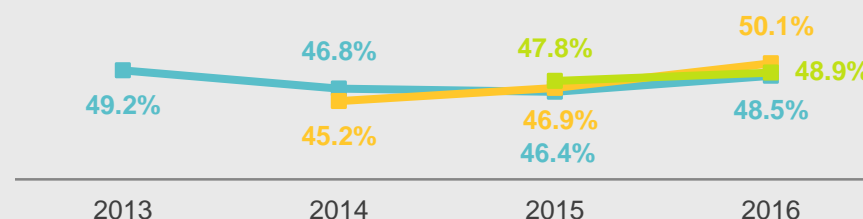
^{||} Significant according to Chi Square test, $p < .0001$

In spring 2016, the percentage of students who reported...

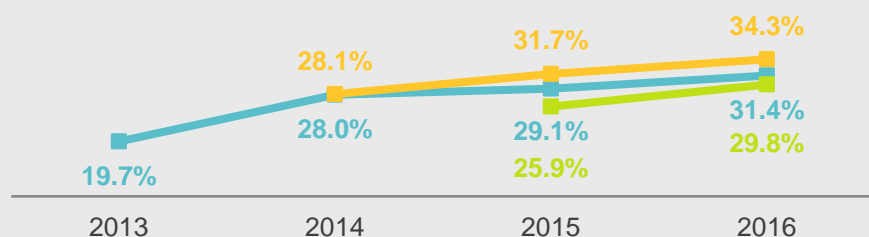
Always being active in their physical education class increased since baseline for Cohorts 1 and 3 and remained the same for Cohort 2.*



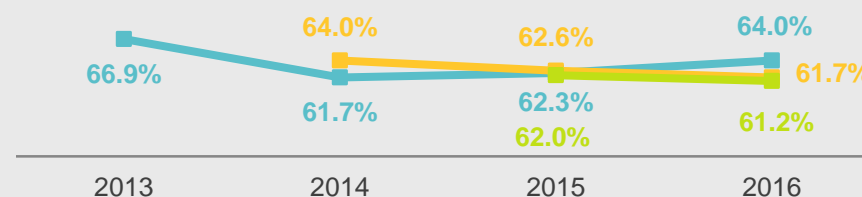
Engaging in 3 or more hours of sedentary time during the week decreased since baseline for Cohort 1 but increased for Cohorts 2^{||} and 3.*



Being physically active for at least 60 minutes every day increased since baseline for all three cohorts.* Although Cohort 1 saw the biggest increase at 59%, the increases were statistically significant across all Cohorts.[±]



Engaging in 3 or more hours of sedentary time on the weekend decreased since baseline for Cohorts 1[^] and 2 but remained the same for Cohort 3.*



- Cohort 1
- Cohort 2
- Cohort 3

* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

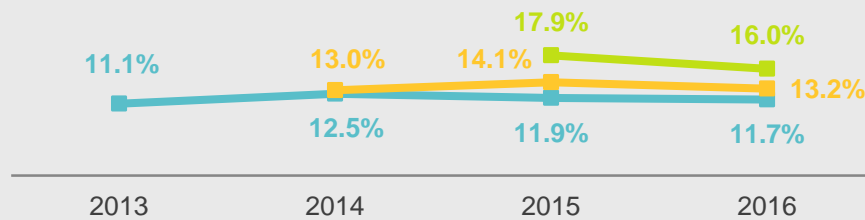
^{||} Significant according to Chi Square test, $p=.004$

[±] Significant according to Chi Square test, $p<.0001$ (Cohort 1 and Cohort 2) and $p=.0010$ (Cohort 3).

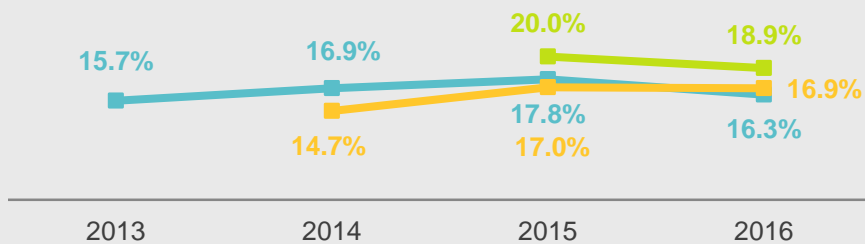
[^] Significant according to Chi Square test, $p=.0049$.

In spring 2016, the percentage of students who reported...

Walking or biking to school everyday remained the same since baseline for Cohort 1 and 2 but decreased for Cohort 3.*



Walking or biking from school everyday remained the same since baseline for Cohort 1, increased for Cohort 2, and decreased for Cohort 3.*



- Cohort 1
- Cohort 2
- Cohort 3

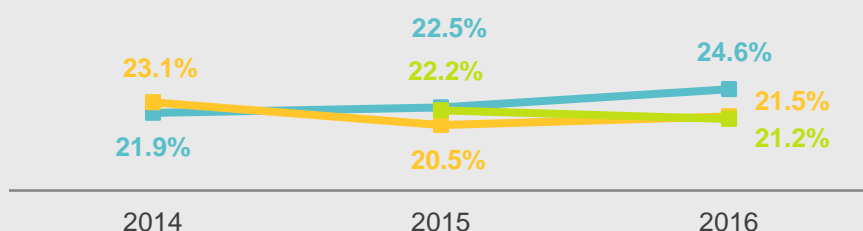


St. Louis County

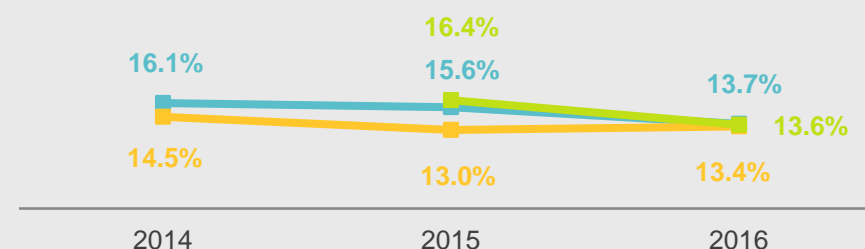
* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

In spring 2016, the percentage of students who reported...

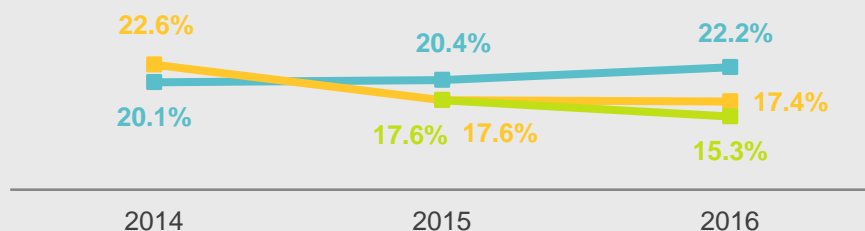
Healthy school breakfasts increased since baseline for Cohort 1 and decreased for Cohorts 2 and 3.[†]



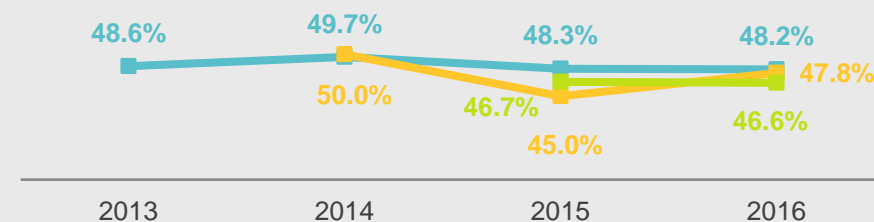
Healthy food sold outside of school decreased since baseline for all three cohorts.[†]



Healthy school lunches increased since baseline for Cohort 1 and decreased for Cohorts 2 and 3.[†]



Eating breakfast daily stayed the same since baseline for Cohorts 1 and 2 and decreased for Cohort 3.^{*}



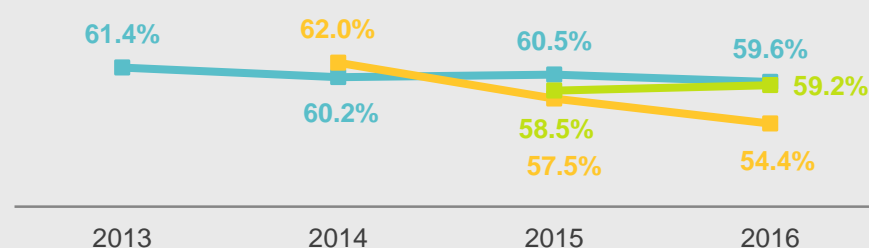
- Cohort 1
- Cohort 2
- Cohort 3

^{*} In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

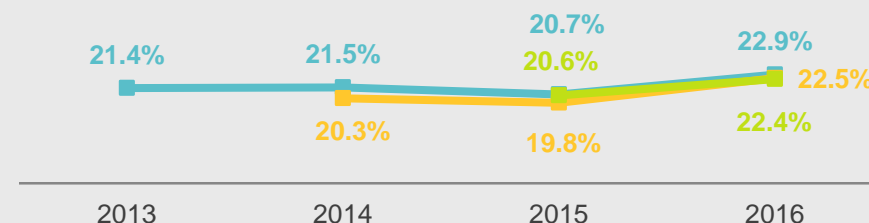
[†] In 2015, surveys were administered in the spring for Cohorts 1 and 2 and the fall for Cohort 3 (baseline).

In spring 2016, the percentage of students who reported...

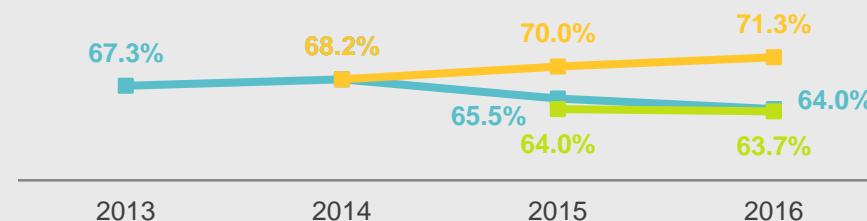
Eating school lunches daily remained the same since baseline for Cohorts 1 and 3 but decreased for Cohort 2.*



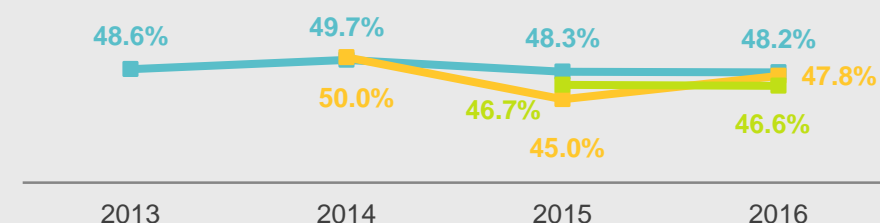
Eating five or more servings of fruits and/or vegetables daily increased for all three cohorts.^{†‡}



Drinking one or more sugar-sweetened beverage per day decreased for Cohort 1,[§] increased for Cohort 2[^] and remained the same for Cohort 3.*



Eating breakfast daily stayed the same since baseline for Cohorts 1 and 2 and decreased for Cohort 3.*



* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

† In 2015, surveys were administered in the spring for Cohorts 1 and 2 and the fall for Cohort 3 (baseline).

‡ Significant according to Chi Square test for Cohort 1 only, $p=.03$.

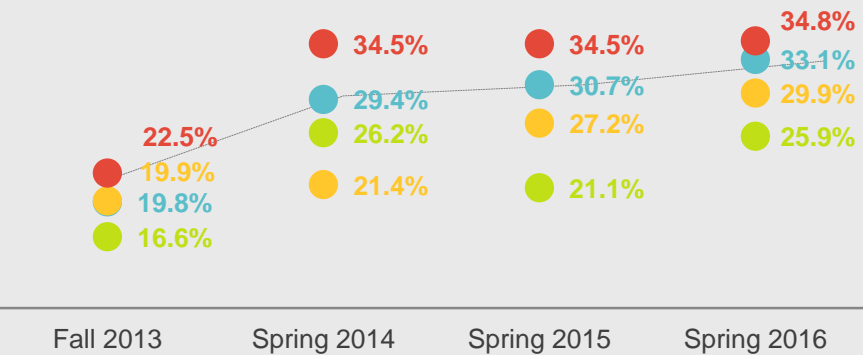
§ Significant according to Chi Square test, $p=.003$.

^ Significant according to Chi Square test, $p=.05$.

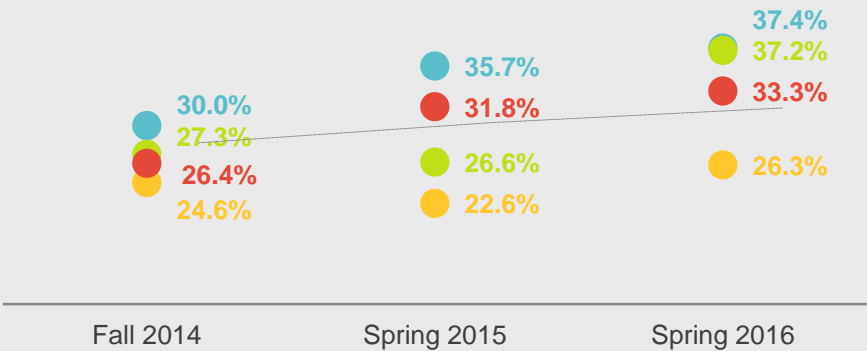
Race and Ethnicity

≥ 60 minutes of physical activity every day

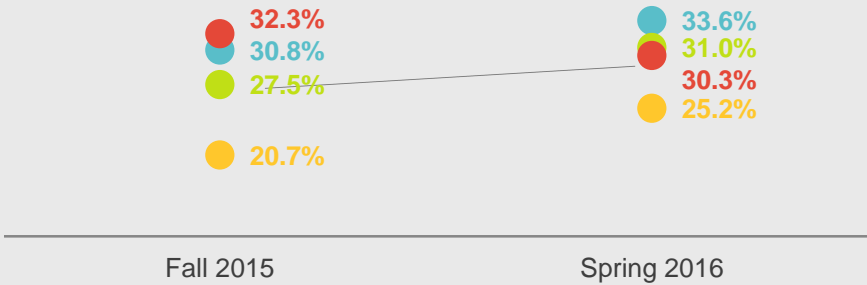
Cohort 1. The percentage of Hispanic students who reported being physically active for at least 60 minutes every day was significantly lower compared to all other students during the past two years.*±



Cohort 2. The percentage of Black, non-Hispanic students who reported being physically active for at least 60 minutes every day was significantly lower compared to all other students each year.*±



Cohort 3. The percentage of Black, non-Hispanic students who reported being physically active for at least 60 minutes every day was significantly lower compared to all other students during the past school year.*±



- White, non-Hispanic
- Black, non-Hispanic
- Hispanic
- Other

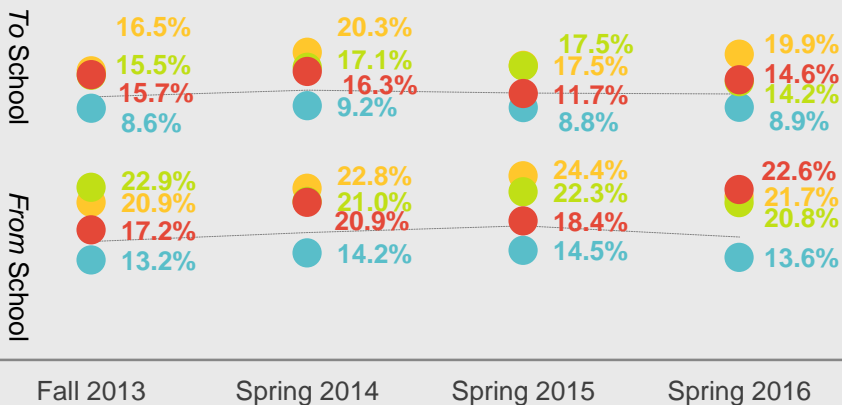
* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

± Significant according to Chi Square test, $p < 0.05$.

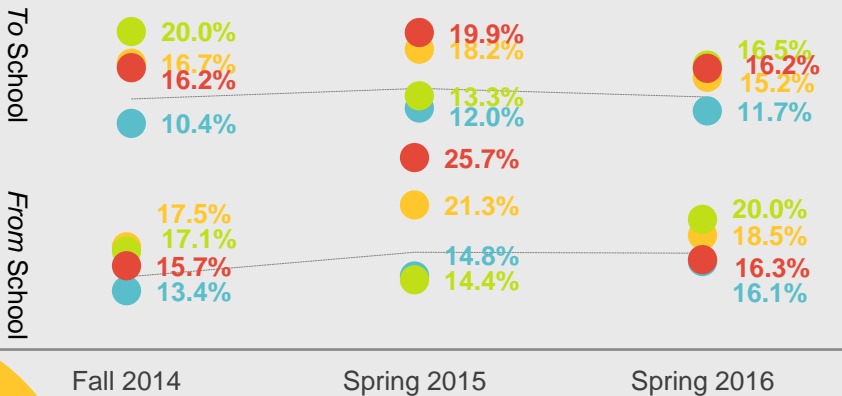
Race and Ethnicity

Walking to and from school

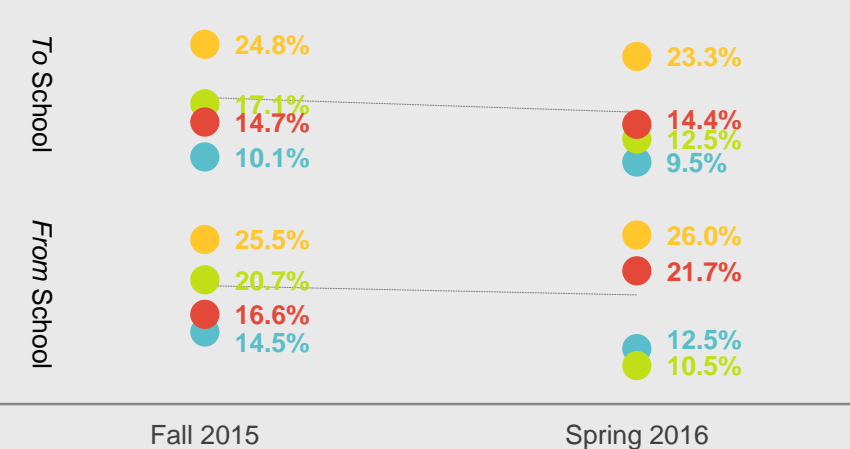
Cohort 1. The percentage of White, non-Hispanic students who reported walking or biking to and from school everyday was significantly lower compared to all other students each year.* ±



Cohort 2. The percentage of White, non-Hispanic students who reported walking or biking to and from school everyday was significantly lower compared to all other students each year (with the exception of from school in spring 2016).* ±



Cohort 3. The percentage of White, non-Hispanic students who reported walking or biking to and from school everyday was significantly lower compared to all other students during the past school year.* ±



- White, non-Hispanic
- Black, non-Hispanic
- Hispanic
- Other

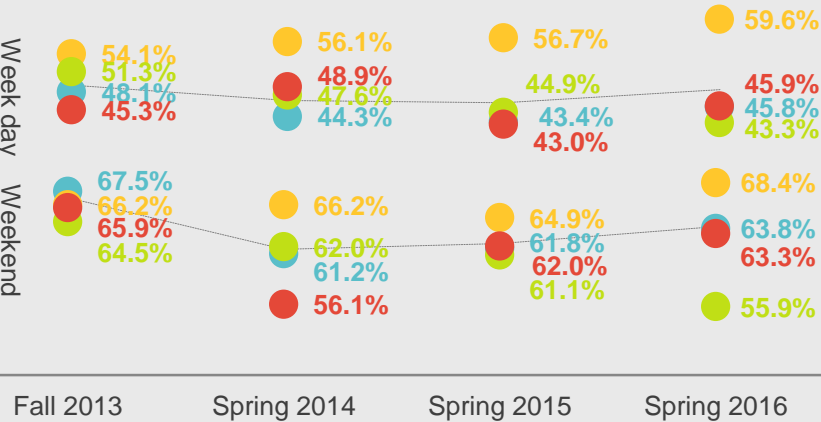
* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

± Significant according to Chi Square test, $p < 0.05$.

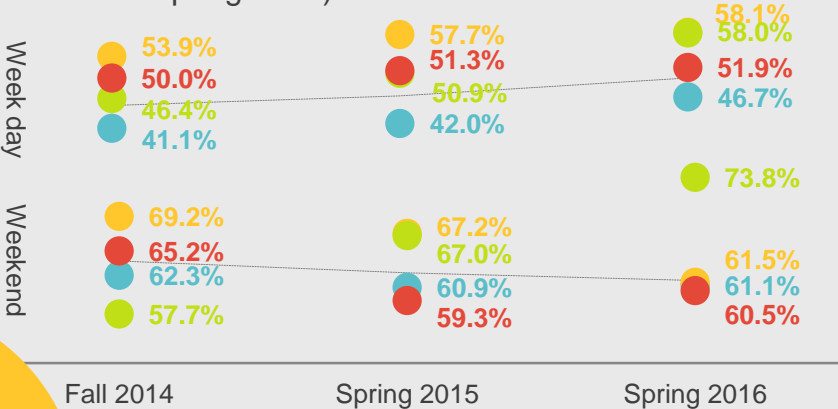
Race and Ethnicity

Sedentary time

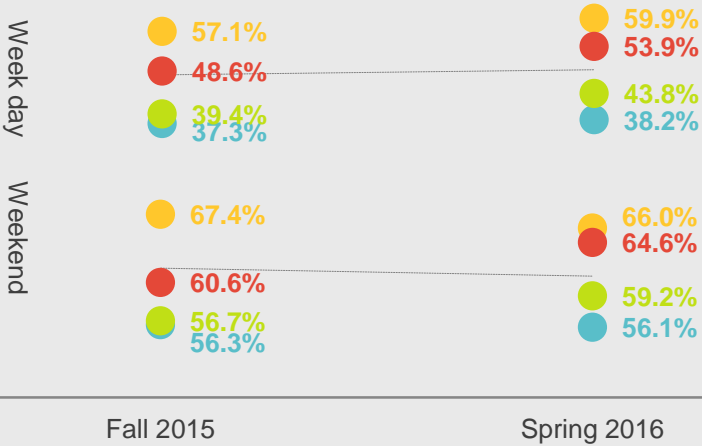
Cohort 1. The percentage of Black, non-Hispanic students who reported engaging in an average of 3 or more hours of sedentary time on both a week and weekend day was significantly higher compared to all other students every year and on a weekend day spring 2014 and 2016.* ±



Cohort 2. The percentage of Black, non-Hispanic students who reported engaging in an average of 3 or more hours of sedentary time on both a week day and weekend day was higher compared to all other students every year (except weekend spring 2016).* ±



Cohort 3. The percentage of Black, non-Hispanic students who reported engaging in an average of 3 or more hours of sedentary time on both a week day and weekend day was higher compared to all other students over the past year.* ±



- White, non-Hispanic
- Black, non-Hispanic
- Hispanic
- Other

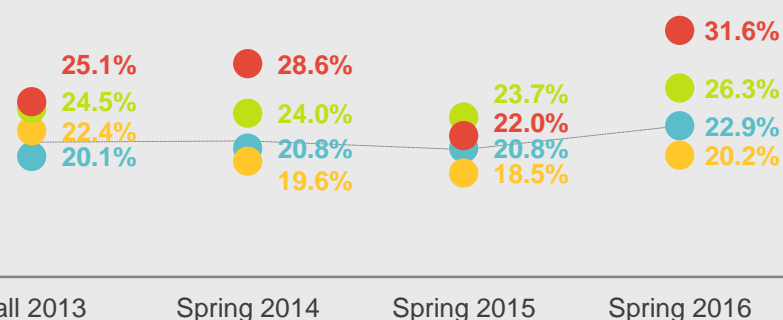
* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

± Significant according to Chi Square test, $p < 0.05$.

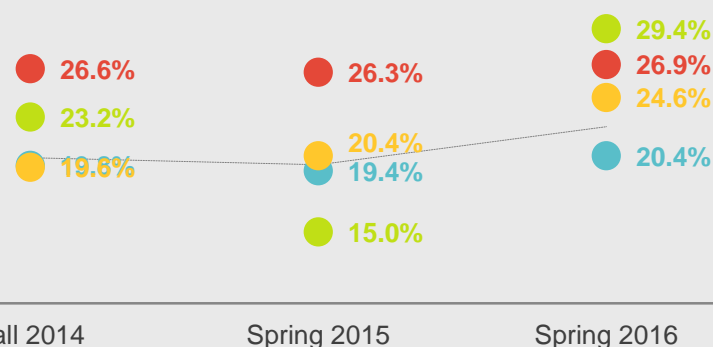
Race and Ethnicity

Fruit and vegetable consumption

Cohort 1. The percentage of Black, non-Hispanic students who reported consuming 5 or more servings of fruits and vegetables per day was significantly lower compared to all other students in spring 2016.* ±



Cohort 2. The percentage of White, non-Hispanic students who reported consuming 5 or more servings of fruits and vegetables per day was significantly lower compared to all other students in spring 2016.* ±



Cohort 3. The percentage of Hispanic students who reported consuming 5 or more servings of fruits and vegetables per day was significantly higher compared to all other students in spring 2016.* ±



● White, non-Hispanic
 ● Hispanic
 ● Black, non-Hispanic
 ● Other

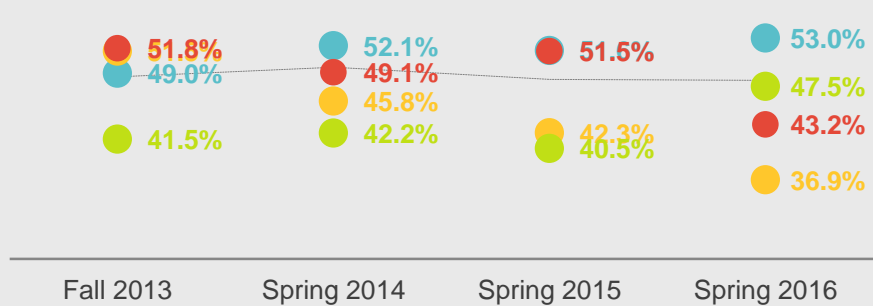
* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

± Significant according to Chi Square test, $p < 0.05$.

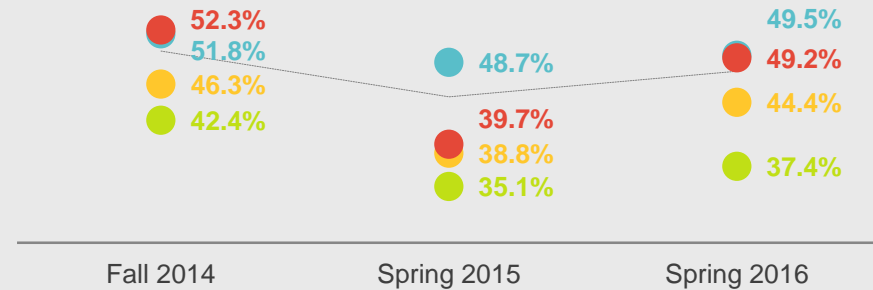
Race and Ethnicity

Daily Breakfast

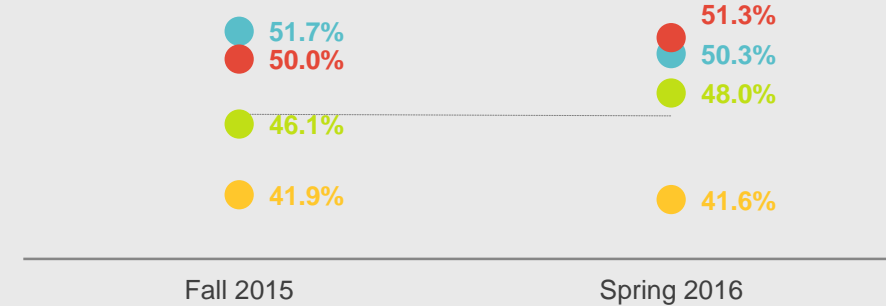
Cohort 1. The percentage of White, non-Hispanic students who reported eating breakfast daily was significantly higher compared to all other students in spring 2014, 2015, and 2016.* ±



Cohort 2. The percentage of White, non-Hispanic students who reported eating breakfast daily was significantly higher compared to all other students in fall 2014 and spring 2015.* ±



Cohort 3. The percentage of White, non-Hispanic students who reported eating breakfast daily was significantly higher compared to all other students over the past year.* ±



- White, non-Hispanic
- Black, non-Hispanic
- Hispanic
- Other

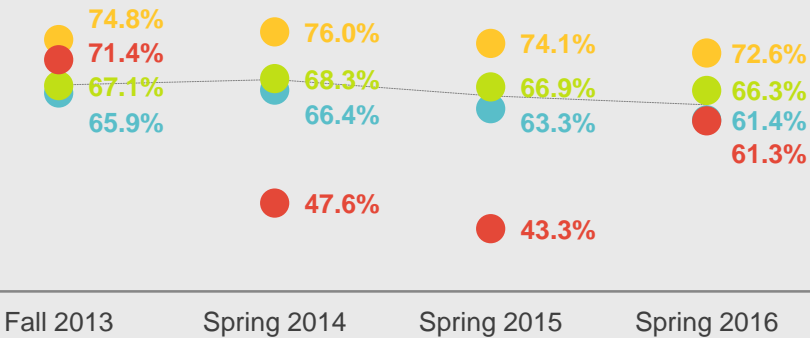
* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

± Significant according to Chi Square test, $p < 0.05$.

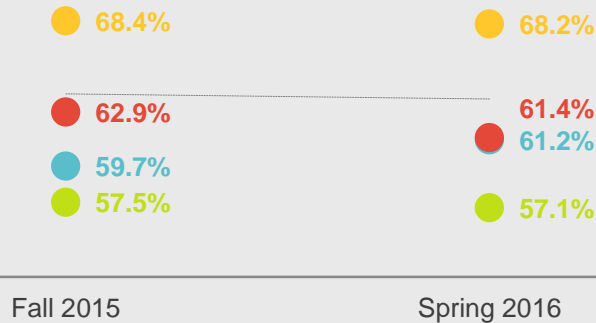
Race and Ethnicity

Sugar-sweetened beverage consumption

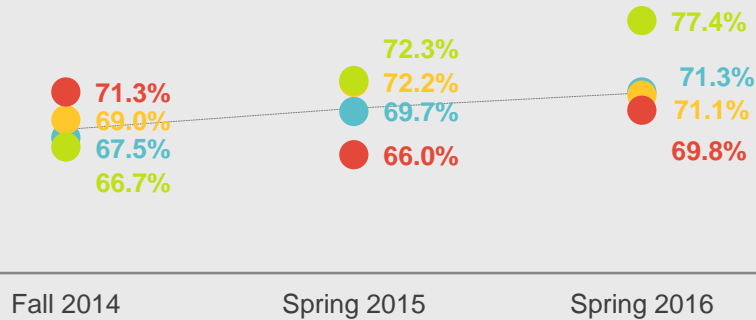
Cohort 1. The percentage of Black, non-Hispanic students who reported consuming one or more sugar-sweetened beverage per day was significantly higher compared to all other students each year.* ±



Cohort 3. The percentage of Black, non-Hispanic students who reported consuming one or more sugar-sweetened beverage per day was significantly higher compared to all other students over the past year.* ±



Cohort 2. There are no significant differences in the percentage of students who reported consuming one or more sugar-sweetened beverage per day.*



- White, non-Hispanic
- Black, non-Hispanic
- Hispanic
- Other

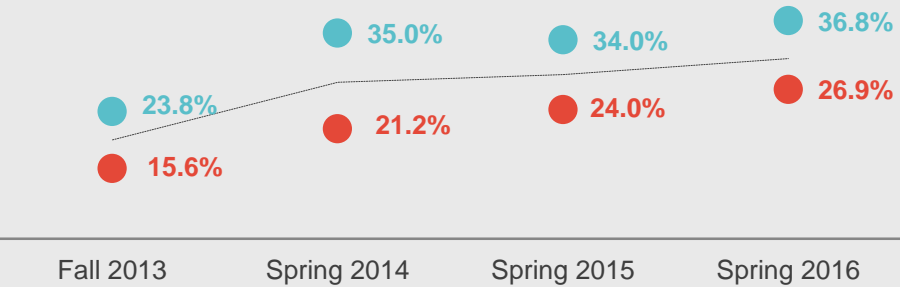
* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

± Significant according to Chi Square test, $p < 0.05$.

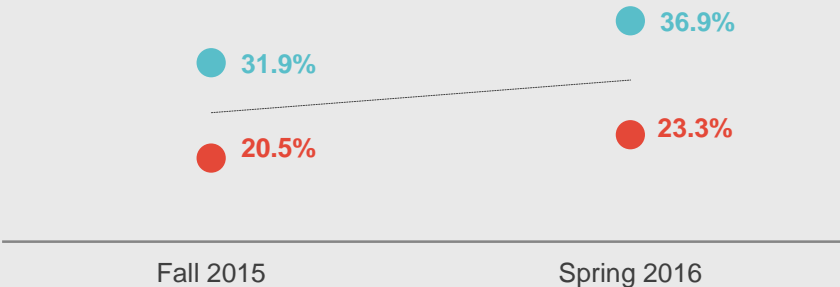
Gender

≥ 60 minutes of physical activity every day

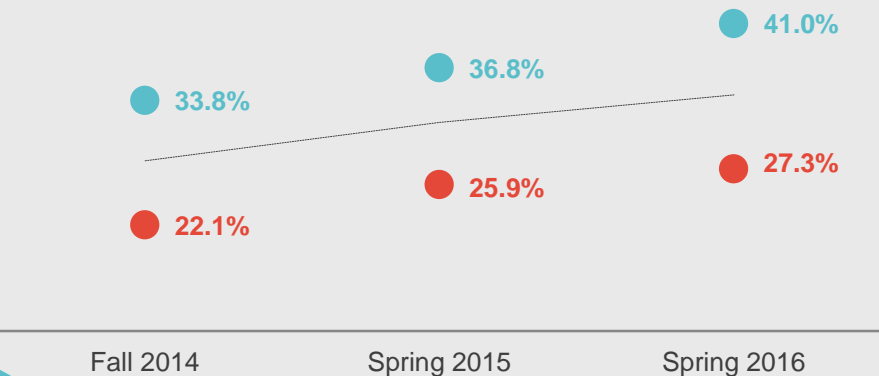
Cohort 1. The percentage of boys who reported being physically active for at least 60 minutes every day was significantly higher compared to girls each year.*±



Cohort 3. The percentage of boys who reported being physically active for at least 60 minutes every day was significantly higher compared to girls during the past year.*±



Cohort 2. The percentage of boys who reported being physically active for at least 60 minutes every day was significantly higher compared to girls each year.*±



● Boys
● Girls

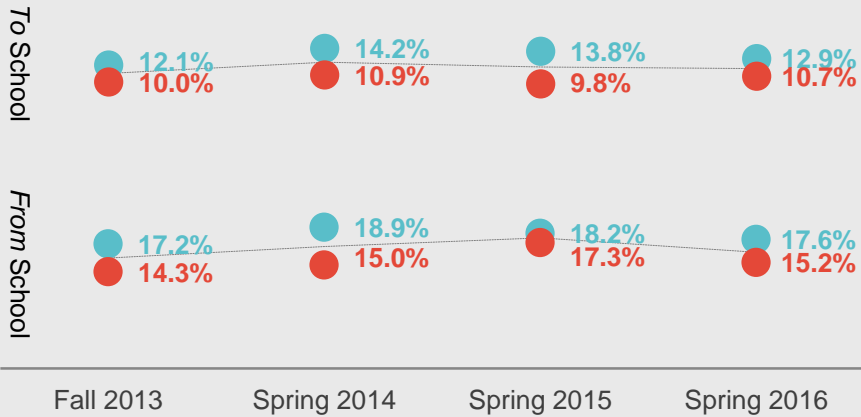
* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

± Significant according to Chi Square test, $p < 0.05$.

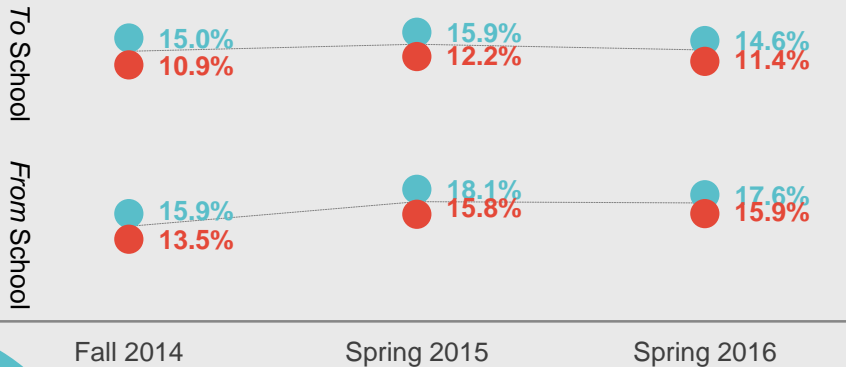
Gender

Walking or biking *to* or *from* school

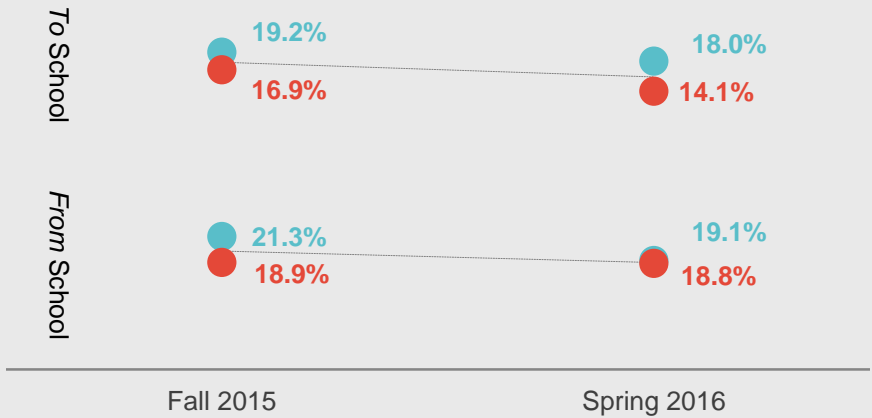
Cohort 1. The percentage of boys who reported walking or biking *to* school was significantly higher compared to girls each year and higher *from* school fall 2013. and spring 2014 .*±



Cohort 2. The percentage of boys who reported walking or biking *to* school was significantly higher compared to girls fall 2014 and spring 2015. ± There were no significant differences in the percentage of boys and girls who reported walking *from* school.*



Cohort 3. The percentage of boys who reported walking or biking *to* school was significantly higher compared to girls spring 2016.± There were no differences in the percentage of boys and girls who reported walking *from* school fall 2013.*



● Boys
● Girls

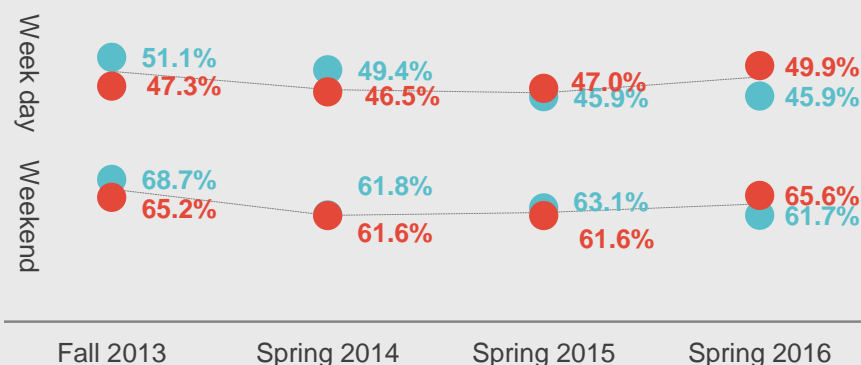
* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

± Significant according to Chi Square test, $p < 0.05$.

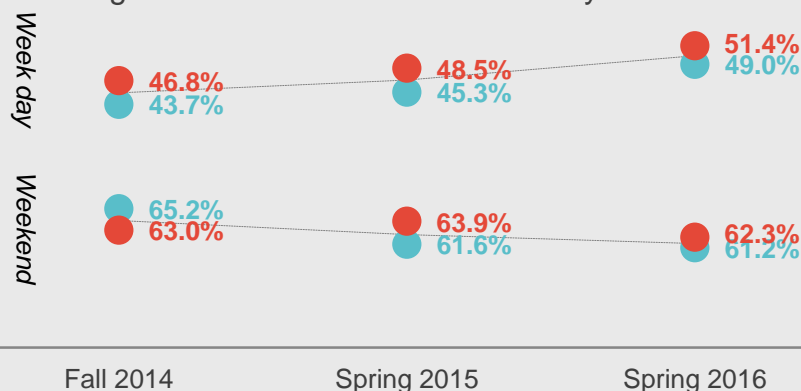
Gender

Sedentary time

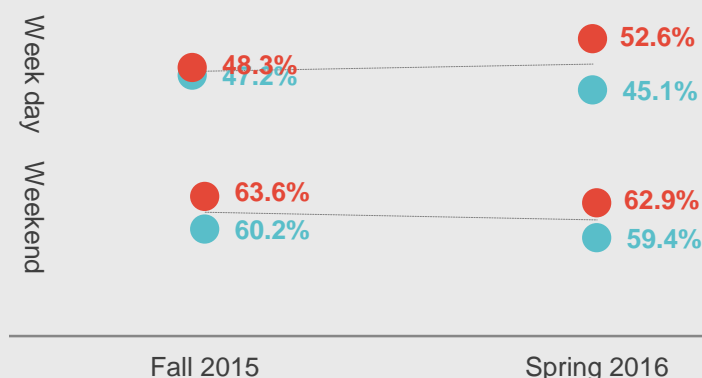
Cohort 1. The percentage of boys who reported engaging in an average of 3 or more hours of sedentary time on both a week and weekend day was significantly higher compared to girls in fall 2013 but the percentage of girls was significantly higher than boys in spring 2016.*[±]



Cohort 2. There were no significant differences in the percentage of boys and girls who reporting engaging in an average of 3 or more hours of sedentary time.*



Cohort 3. There were no significant gender differences seen in the percentage of boys and girls who engaged in an average of 3 or more hours of sedentary time on a week day. There was a significantly higher percentage of girls who engaged in an average of 3 or more hours of sedentary time on the weekend in spring 2016.*[±]



Boys

Girls

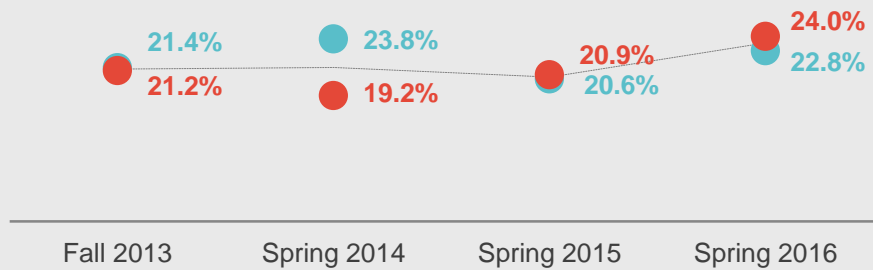
* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

[±] Significant according to Chi Square test, $p < 0.05$.

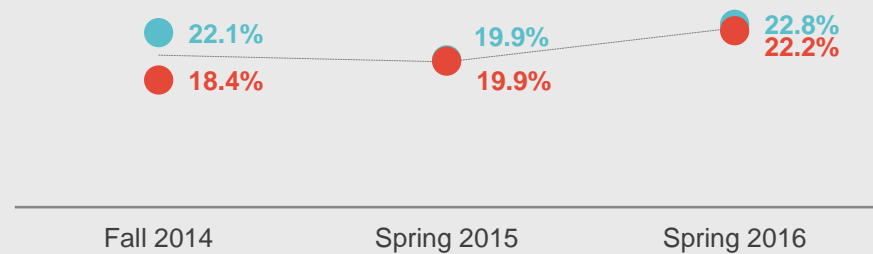
Gender

Fruit and vegetable consumption

Cohort 1. The percentage of boys who reported consuming 5 or more servings of fruits and/or vegetables per day was not significantly different compared to girls except for spring 2014; a significantly higher percentage of boys reported consuming 5 or more servings of fruits and vegetables per day compared to girls.* ±



Cohort 2. There were no significant differences in the percentage of boys and girls who reported consuming 5 or more servings of fruits and/or vegetables per day.*



Cohort 3. There were no significant differences in the percentage of boys and girls who reported consuming 5 or more servings of fruits and/or vegetables per day.*



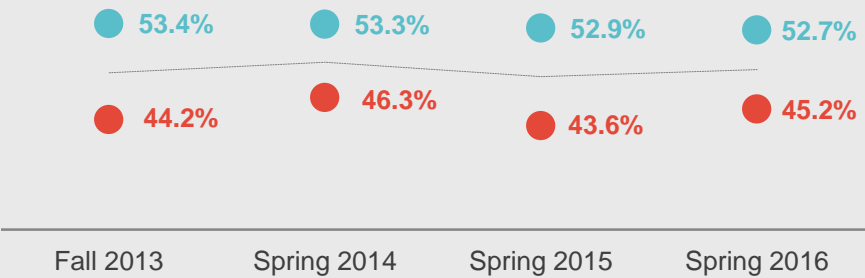
- Boys
- Girls

* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).
± Significant according to Chi Square test, $p < 0.05$.

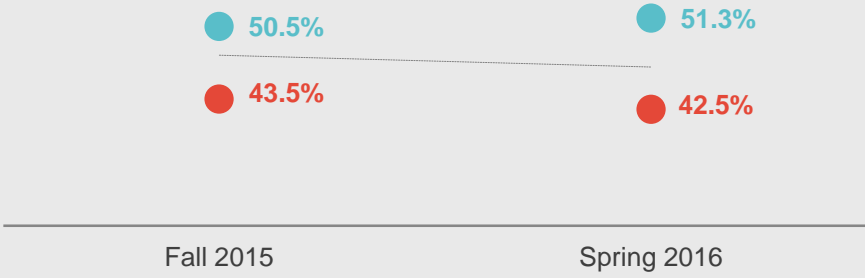
Gender

Daily breakfast

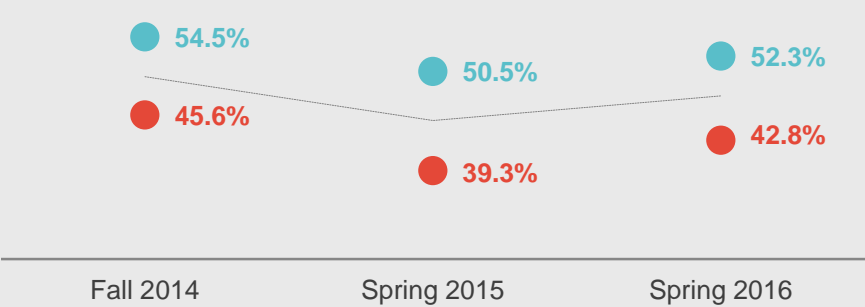
Cohort 1. The percentage of boys who reported eating breakfast daily was significantly higher compared to girls each year.* ±



Cohort 3. The percentage of boys who reported eating breakfast daily was significantly higher compared to girls over the past year.* ±



Cohort 2. The percentage of boys who reported eating breakfast daily was significantly higher compared to girls each year.* ±



- Boys
- Girls

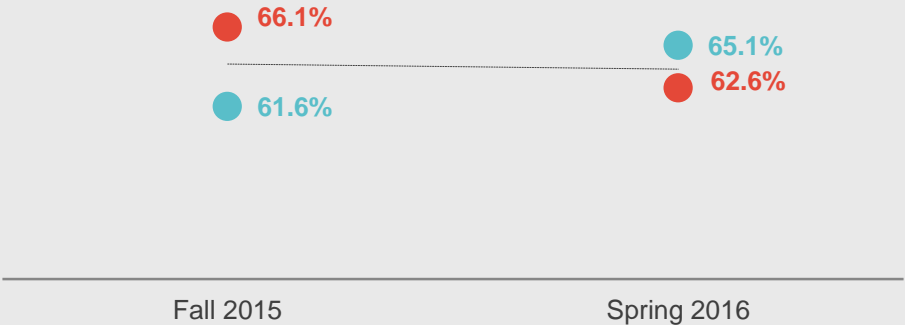
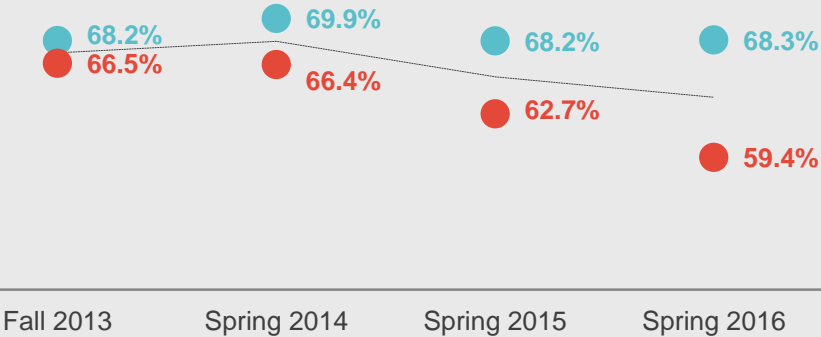
* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).
± Significant according to Chi Square test, $p < 0.05$.

Gender

Sugar-sweetened beverage consumption

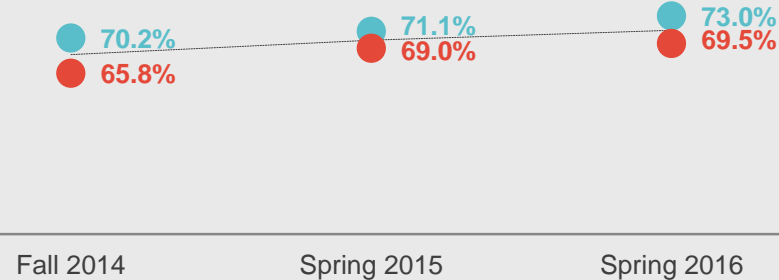
Cohort 1. The percentage of boys who reported consuming one or more sugar-sweetened beverage was significantly higher compared to girls each year (except fall 2013).* ±

Cohort 3. The percentage of boys who reported consuming one or more sugar-sweetened beverage was significantly lower compared to girls in fall 2015.* ±



Cohort 2. The percentage of boys who reported consuming one or more sugar-sweetened beverage was significantly higher compared to girls in fall 2014.* ±

● Boys
● Girls



* In 2014, surveys were administered in the spring for Cohort 1 and fall for Cohort 2 (baseline). In 2015, surveys were administered in the spring for Cohorts 1 and 2 and fall for Cohort 3 (baseline).

± Significant according to Chi Square test, $p < 0.05$.



- Practice, policy, and environmental changes
- Reported perceptions and behaviors
- **Physical activity**
 - Weight status
 - Misconduct
 - Attendance
 - Academic performance

Physical Activity

Physical activity plays an important role in maintaining a healthy weight. Children and adolescents should get at least 60 minutes or more of physical activity daily. Most of this time should be spent doing either moderate- or vigorous-intensity physical activities (MVPA). Pedometers provide an accurate measurement of physical activity via minutes and steps per day. Sixty minutes of MVPA in children appears to be achieved, on average, upon them taking between 11,000 and 15,000 steps per day (with boys taking more steps than girls).⁵

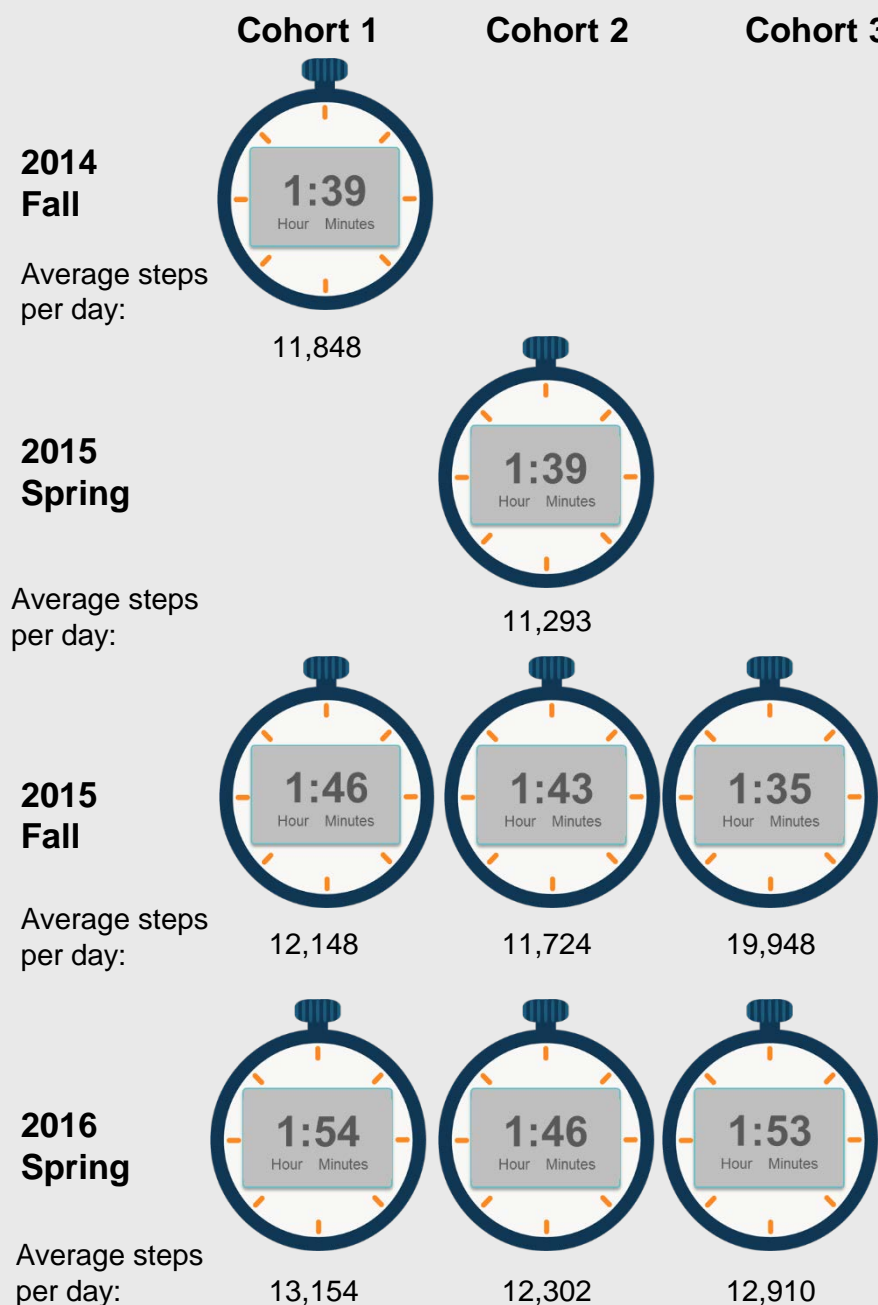
Beginning in fall 2014, 5th graders wore a pedometer for four consecutive days (day and night). To calculate daily physical activity, students logged their minutes and steps upon arriving at school and before leaving for the day. Pedometer assessments were conducted in the fall and spring of each school year.*

| | Cohort 1 | | Cohort 2 | | Cohort 3 | |
|----------------------|-------------|------|-------------|-------|-------------|------|
| | n | % | n | % | n | % |
| Fall 2014 | | | | | | |
| Total | 895 | | | | | |
| Boy | 400 | 44.7 | | | | |
| Girl | 377 | 42.1 | | | | |
| Unknown | 118 | 13.2 | | | | |
| Spring 2015 | | | | | | |
| Total | | | 516 | | | |
| Boy | | | 231 | 44.8 | | |
| Girl | | | 244 | 47.3 | | |
| Unknown | | | 41 | 7.9 | | |
| Fall 2015 | | | | | | |
| Total | 909 | | 496 | | 881 | |
| Boy | 437 | 48.1 | 211 | 42.5 | 355 | 40.3 |
| Girl | 425 | 46.8 | 217 | 43.8 | 352 | 40.0 |
| Unknown | 47 | 5.2 | 68 | 13.7 | 174 | 19.8 |
| Spring 2016 | | | | | | |
| Total | 1061 | | 472 | | 278 | |
| Boy | 451 | 42.5 | 186 | 39.4 | 120 | 43.2 |
| Girl | 457 | 43.1 | 203 | 43.0 | 132 | 47.5 |
| Unknown | 153 | 14.4 | 83 | 17.6 | 26 | 9.4 |
| Overall Total | | | | | | |
| | 2865 | | 1484 | | 1159 | |
| Boy | 1288 | 45.0 | 628 | 42.32 | 475 | 41.0 |
| Girl | 1259 | 43.9 | 664 | 44.74 | 484 | 41.8 |
| Unknown | 318 | 11.1 | 192 | 12.94 | 200 | 17.3 |

*For each cohort, average physical activity time and step count are weighted by the number of participating students.

Cohort 1 5th graders averaged **1 hour and 46 minutes of physical activity per day** across three assessment periods. Cohort 2 5th graders averaged **1 hour and 42 minutes of physical activity per day** across three assessment periods. Cohort 3 averaged **1 hour and 44 minutes of physical activity per day** across two assessment periods.

At baseline (Cohort 1: fall 2014, Cohort 2: spring 2015, and Cohort 3: fall 2015) the average amount of time 5th grade students across all three Cohorts were physically active was **1 hour and 38 minutes per day**. During the last assessment period (spring 2016), students averaged **1 hour and 51 minutes per day**—13 minutes more compared to baseline.





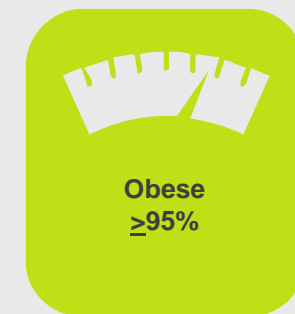
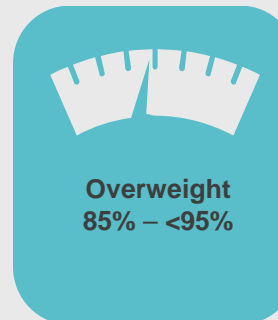
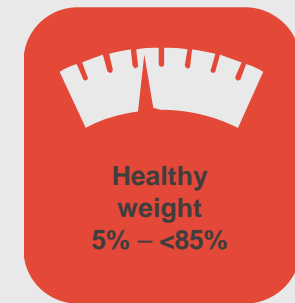
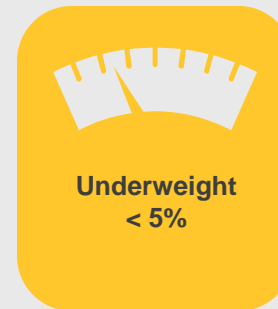
- Practice, policy, and environmental changes
- Reported perceptions and behaviors
- Physical activity
- **Weight status**
- Misconduct
- Attendance
- Academic performance

Weight Status

After decades of steadily increasing, childhood obesity rates across the U.S. have leveled off at 17 percent. Some places implementing a range of strategies to make healthy food and physical activity available in schools and communities have even seen slight declines. Yet, disparities exist. Higher obesity rates continue to be seen in lower-income communities.

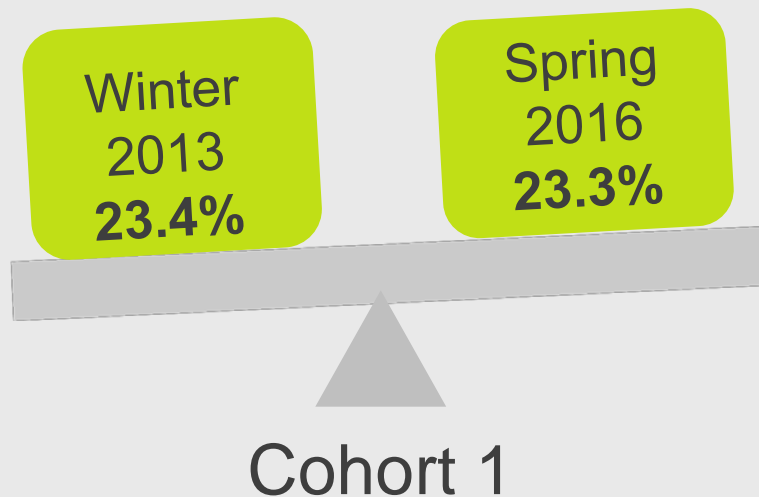
To monitor trends in the percentage of HSHC students who are defined as obese, school coordinators (or staff) measure height and weight of all 1st, 3rd, 5th, and 7th grade students. Measurements are taken twice per school year—each winter and spring—and sent to JSI for analysis. The percentage of students defined as obese is presented at baseline (beginning of HSHC participation) and at spring 2016.

Body mass index (BMI) is the most routinely used indicator of weight status. BMI levels are linked with body fat and future health risks. For children, BMI is expressed as a percentile relative to age and gender.

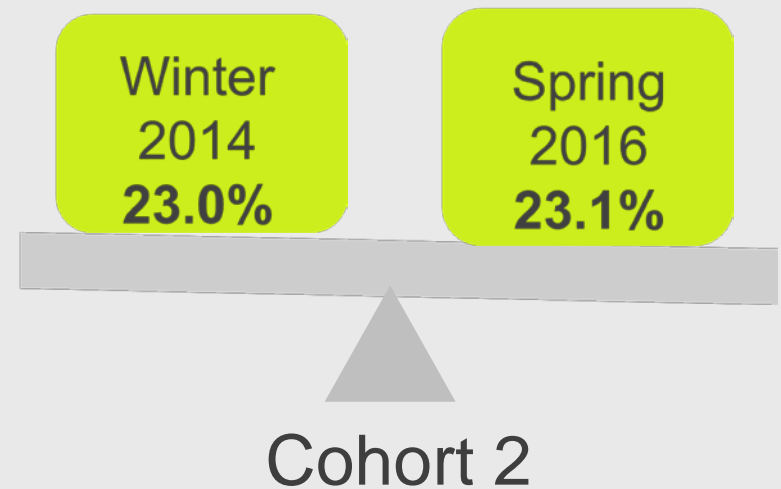


The overall percentage of...

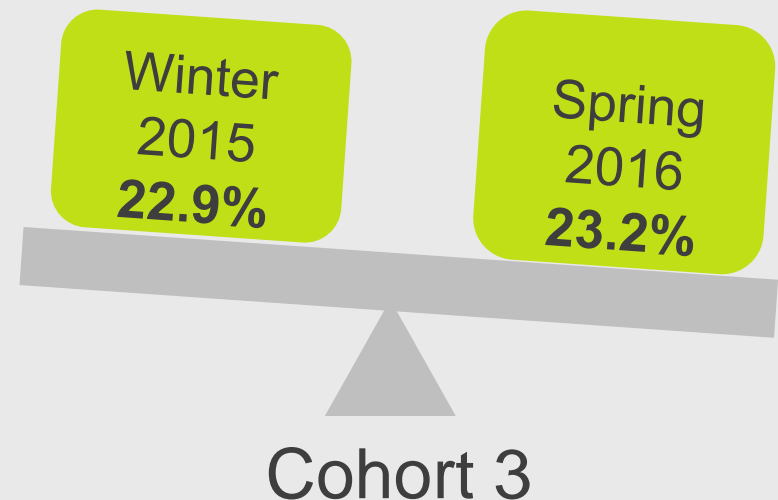
Cohort 1 students who were **obese** was generally the same between winter 2013 and spring 2016 at 23.4% and 23.3%.



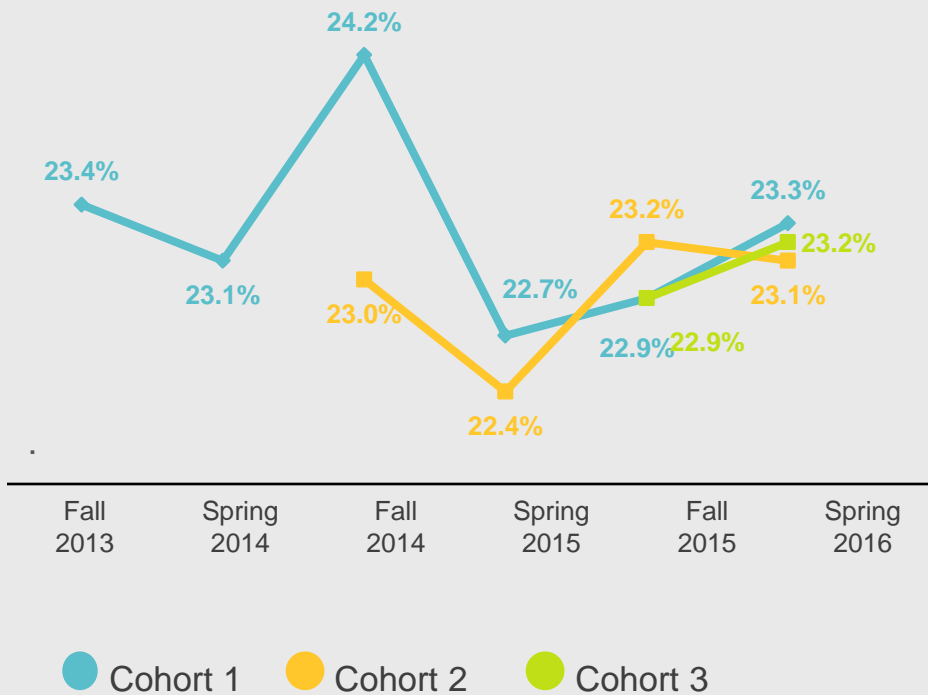
Cohort 2 students who were **obese** was generally the same between winter 2014 and spring 2016 at 23.0% and 23.1%.



Cohort 3 students who were **obese** increased between winter 2015 and spring 2016 from 22.9% to 23.3%.



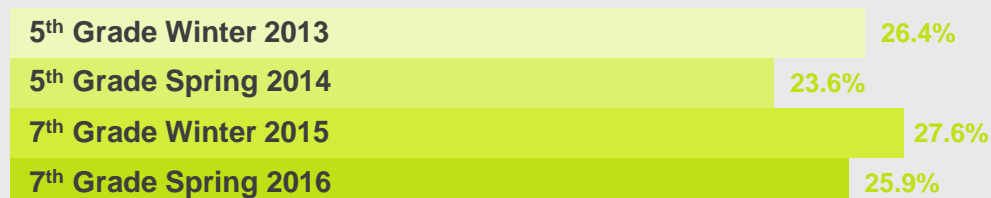
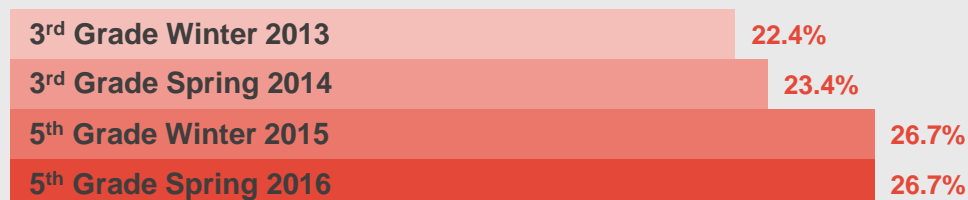
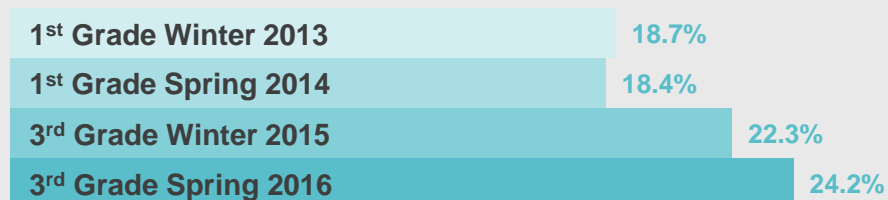
The percentage of students who were obese was generally the same across all three cohorts at baseline (Cohort 1: 23.4%, Cohort 2: 23.0%, and Cohort 3: 22.9%). Although there were fluctuations across the measurement periods, the percentage of students who were obese across the three cohorts in spring 2016 was also the same.



Students in the 1st, 3rd, and 5th grades were measured during the 2013–2014 school year (for Cohort 1). These students were weighed again two years later. In this way, each class of students was tracked over time.

Data are calculated at the combined level for each class. Although no individual-level comparisons are made, Cohort 1 districts have a low mean mobility rate* (30.1%), one comparable to the state rate (24.0%). It is likely that the same students were attending the schools at each time point.

Cohort 1 saw the biggest increase in the percentage of children who were obese from 1st to 3rd grade and an equal amount between 3rd and 5th grade (5 percentage point difference). The percentage of students who were obese remained the same between 5th and 7th grade. These comparisons cannot be made for Cohort 2 and Cohort 3 because three years of data are not available.

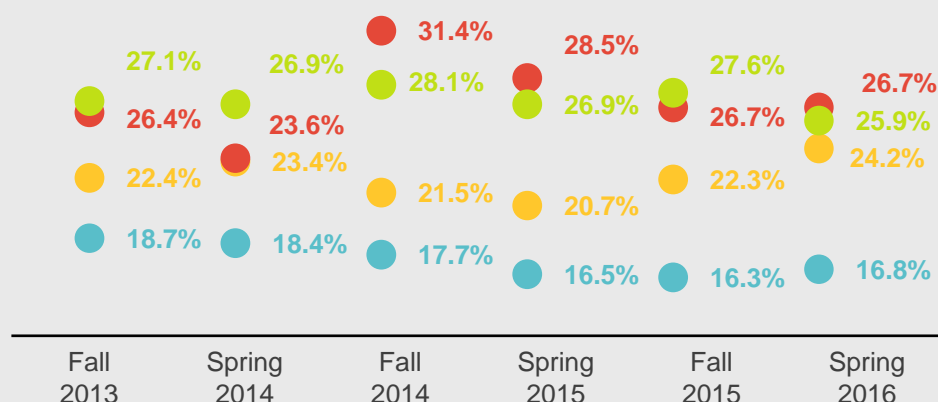


*The mobility rate is the percentage of students in the current year who were in the building less than a full academic year. Low mobility refers to anything within two standard deviations of the state mean.

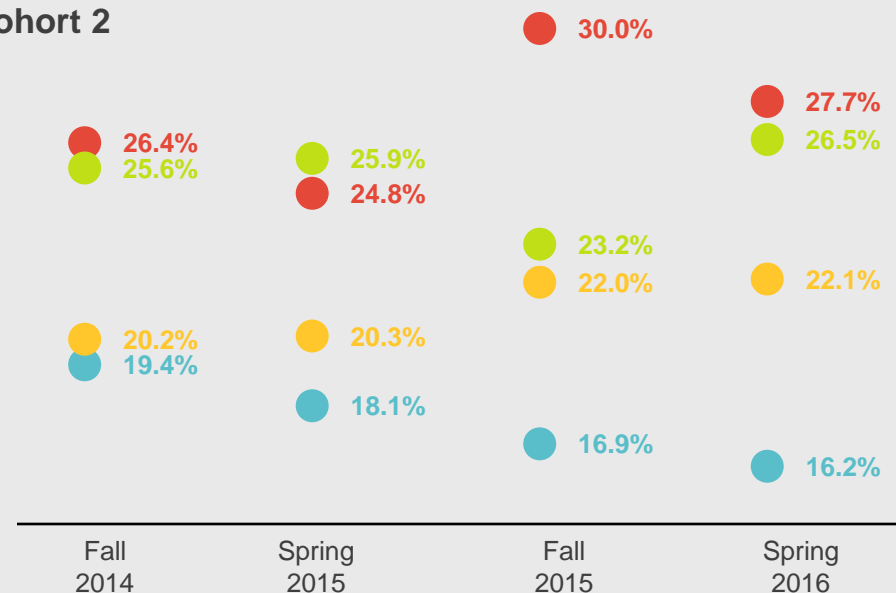
Data suggest excess weight gain (relative to growth charts) occurs before adolescence. The time before 3rd grade seems to be the most critical for BMI gains not only among children who are already overweight or obese, but also among normal-weight boys and girls.⁷

Similar to this national trend, fewer 1st grade students from all three cohorts were obese compared to their older counterparts (3rd–7th grade students). There was a significantly lower number of 1st grade students who were obese compared to 3rd grade (<0.001) and a significantly lower number of 3rd grade students who were obese compared to 5th grade (<0.001). The differences between 5th and 7th grades, if any, were not significant.

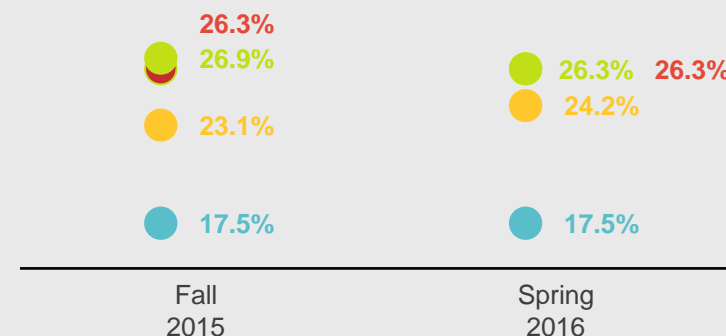
Cohort 1



Cohort 2



Cohort 3

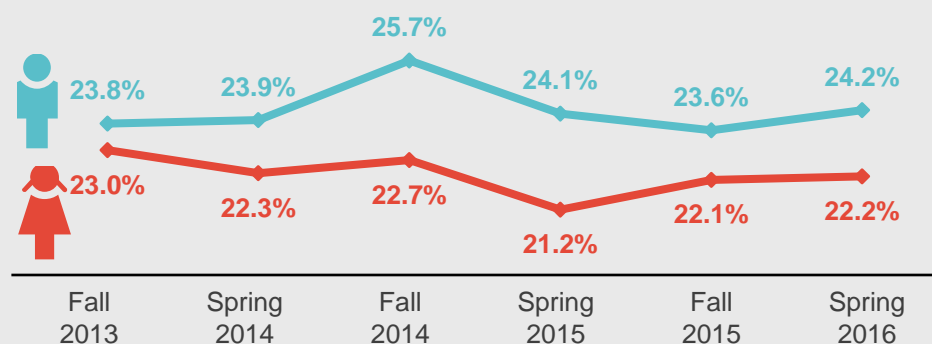


1st grade 3rd grade 5th grade 7th grade

In addition to age being a critical factor in weight status, national data also suggest obesity is more common in boys than girls. Over the past several years, the percentage of boys who are obese has increased, while the percentage of girls who are obese has remained stable.⁶ Similar to national data, there was a higher percentage of boys who were obese compared to girls across all three cohorts.

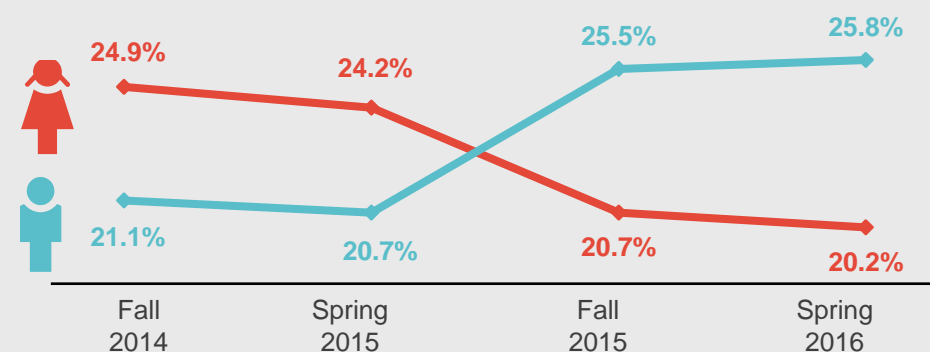
Although two percentage points higher than girls, the percentage of Cohort 1 boys who were obese has increased by 1.6% between fall 2013 and spring 2016. The percentage of Cohort 1 girls who were obese decreased by 3.5% during this same time.

Cohort 1



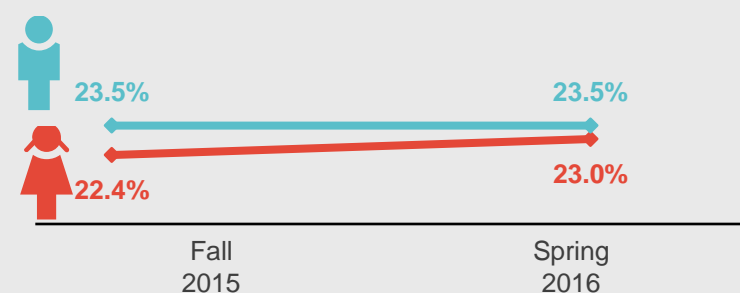
The percentage of Cohort 2 boys who were obese was almost six percentage points higher than girls (25.8% vs. 20.2%, respectively) and increased by 22.2% between fall 2014 and spring 2016. The percentage of Cohort 2 girls who were obese decreased by 18.9% during this same time.

Cohort 2



The percentage of Cohort 3 boys who were obese stayed the same since baseline but increased by 2.7% for girls.

Cohort 3





- Practice, policy, and environmental changes
- Reported perceptions and behaviors
- Physical activity
- Weight status
- **Misconduct**
- Attendance
- Academic performance

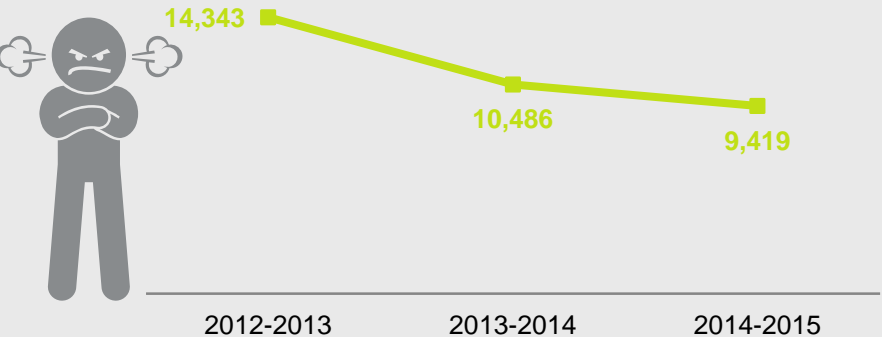
Misconduct

When students eat healthy and engage in physical activity, evidence suggests their behavior improves.⁸

While the evaluation cannot directly relate HSHC to changes in behavior, JSI is working with the schools to identify trends. Each year, schools submit their K–8 misconduct data.* The following figures show changes in each cohort’s total episodes of misconduct.

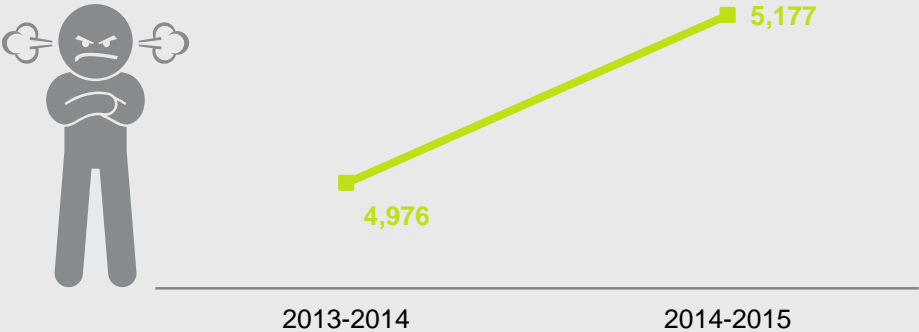
Cohort 1

The total number of misconduct episodes across Cohort 1 schools decreased since the 2012–2013 school year (baseline).

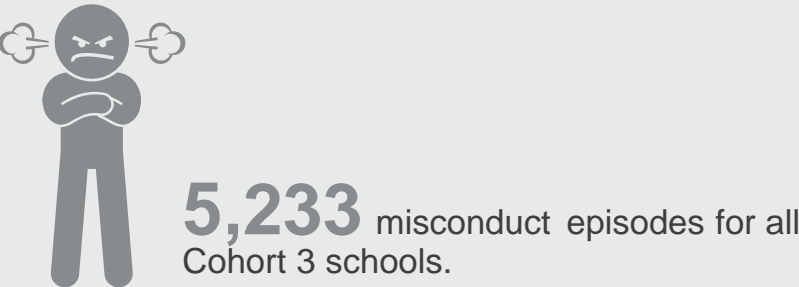


Cohort 2

The total number of misconduct episodes across Cohort 2 schools increased since the 2013–2014 school year (baseline).



Cohort 3



*The methodology of reporting misconduct varied by site and may have varied by year.

Cohort 1

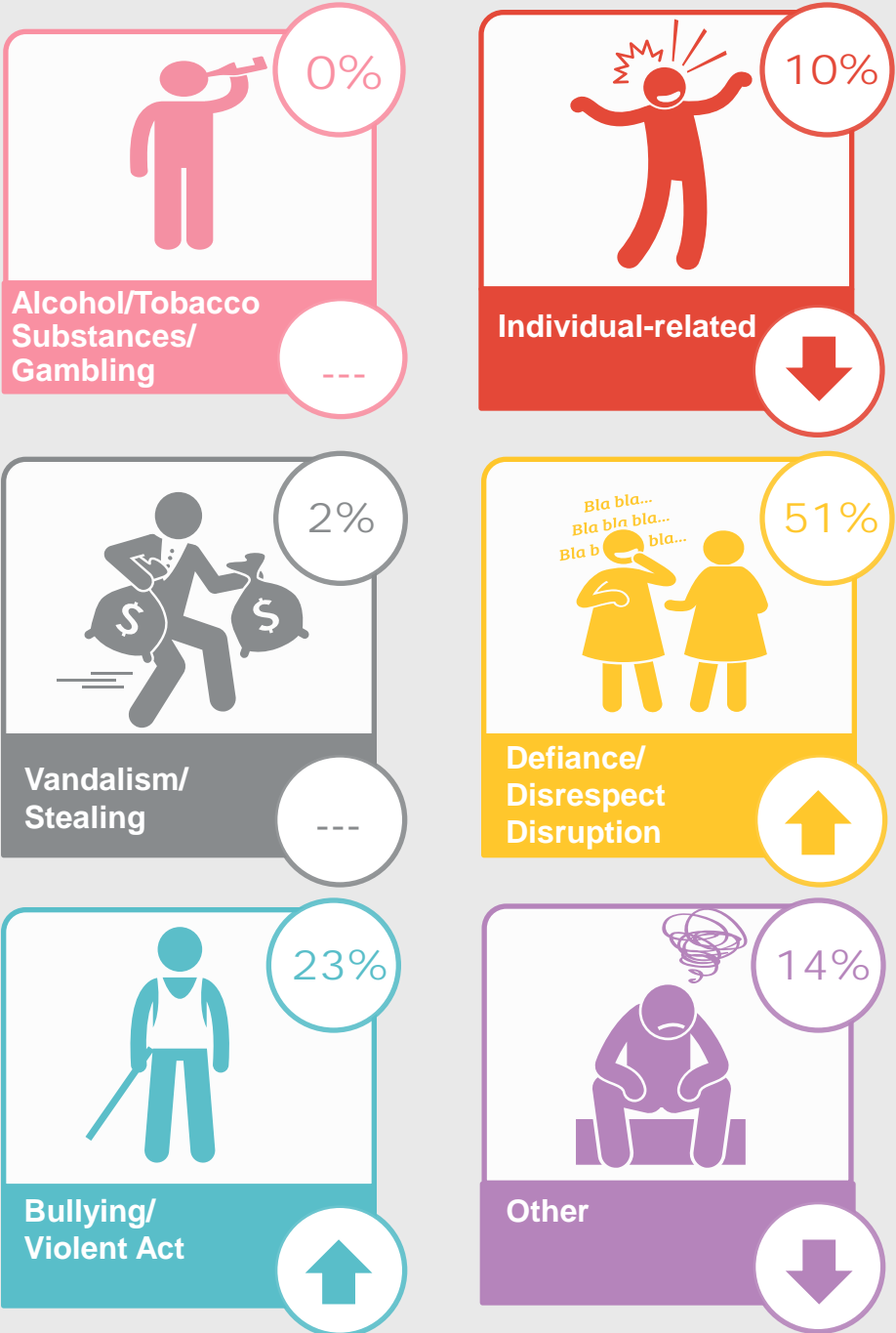
In order to assess the severity of the misconduct, each episode is categorized into one of six categories:

- 1) Alcohol, tobacco, substances, gambling
- 2) Individual-related misconduct (behavior such as tardiness or gum chewing whose consequences were confined to the offender)
- 3) Vandalism or stealing
- 4) Defiance, disrespect, or disruption (behavior such as arguing with the teacher or another student whose consequences impacted others)
- 5) Bullying or violent act (behaviors such as hitting or verbal abuse that threatened or harmed another individual's physical and/or mental well-being)
- 6) Other (not enough information provided to categorize in one of the above)

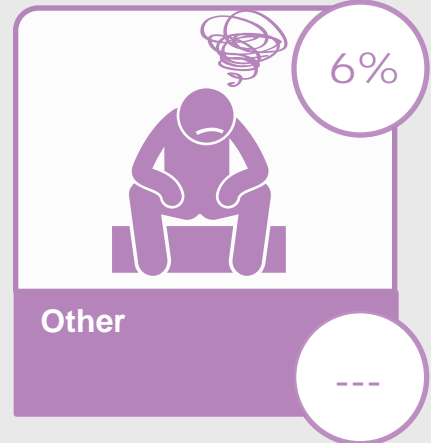
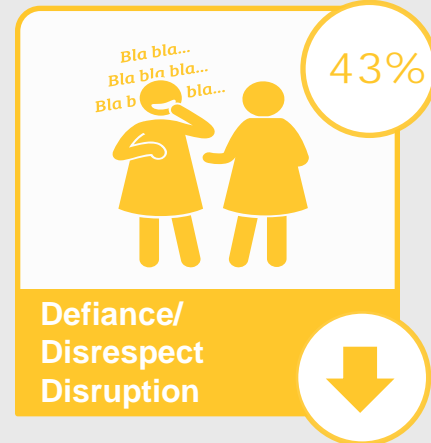
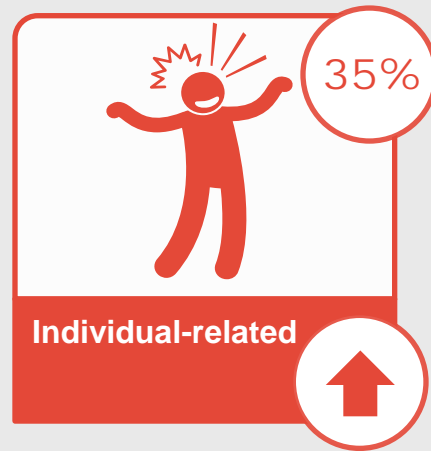
The figures to the right display misconduct categories during the participating districts' 2014–2015 school year. The number in the top right indicates the percent of episodes in that category relative to all misconduct episodes. The symbol at the bottom indicates how this percentage compares to the 2013–2014 school year (for Cohort 1 and Cohort 2 only).

Key to symbols:

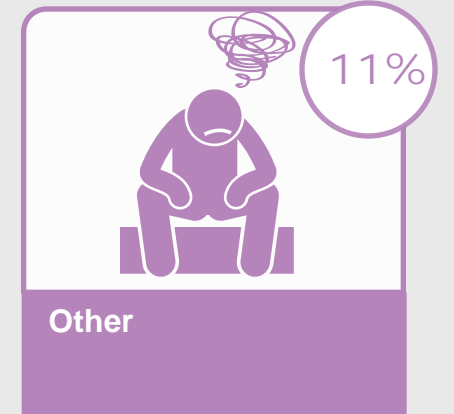
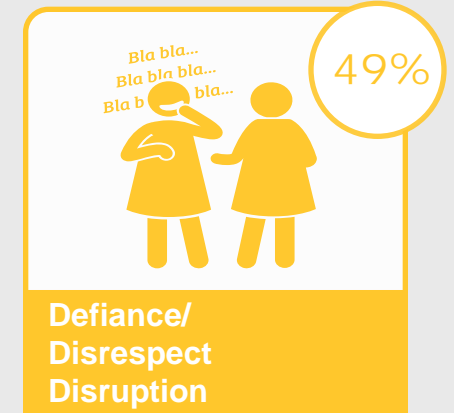
- No change from 2013–2014
- ↑ Increase from 2013–2014
- ↓ Decrease from 2013–2014



Cohort 2



Cohort 3





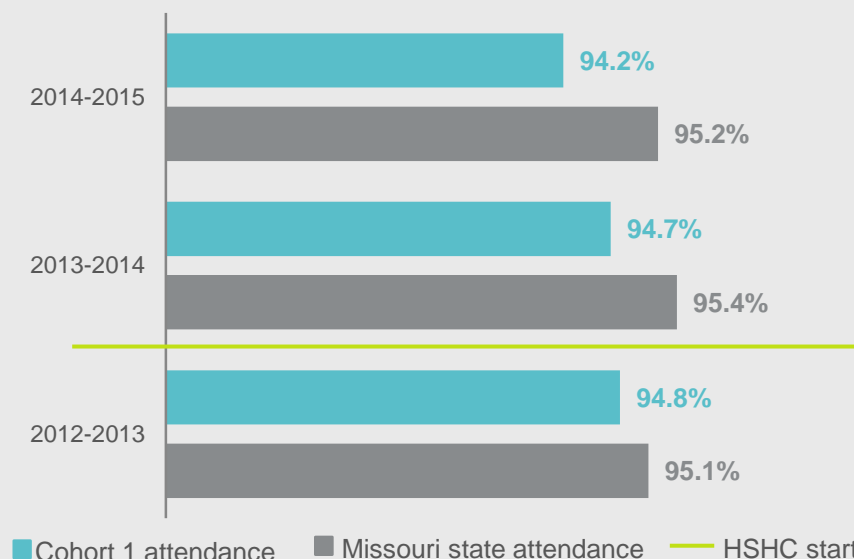
- Practice, policy, and environmental changes
- Reported perceptions and behaviors
- Physical activity
- Weight status
- Misconduct
- **Attendance**
- Academic performance

Attendance

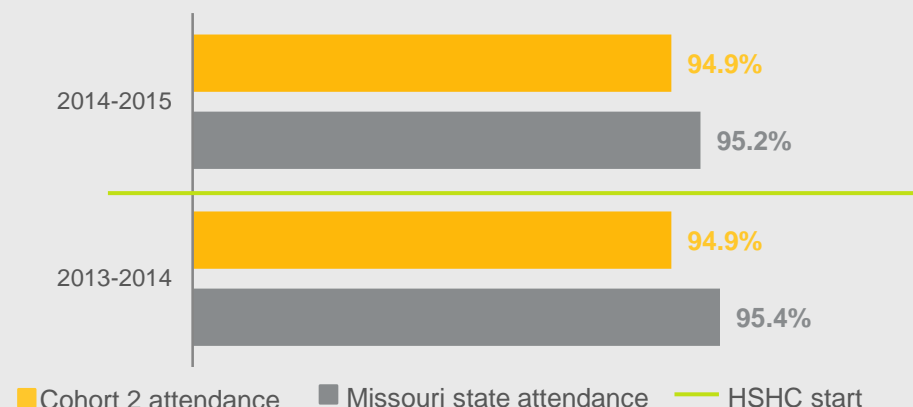
Research suggests that students who consume healthy meals at school and get more physical education and physical activity have reduced rates of absenteeism and tardiness.^{9, 10}

Attendance data are obtained from the Missouri Department of Elementary and Secondary Education.¹¹ Data are presented as percentage of hours attended out of the total number of school hours and are available for Cohort 1 and Cohort 2.

The **Cohort 1** student **attendance rate has decreased by 0.6%** over the past three years and was one percentage point lower than the **state** for the 2014–2015 school year.



The **Cohort 2** student **attendance rate has remained the same** over the past two years and was lower than the **state** by 0.3 percentage point for the 2014–2015 school year.





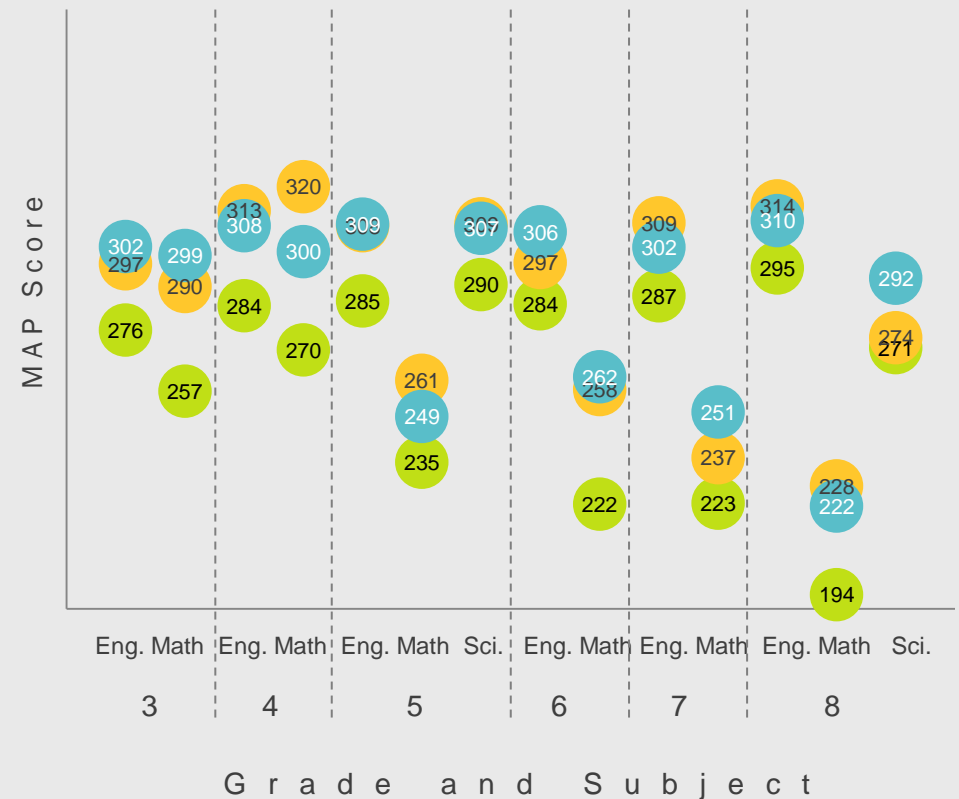
- Practice, policy, and environmental changes
- Reported perceptions and behaviors
- Physical activity
- Weight status
- Misconduct
- Attendance
- **Academic performance**

Academic Performance

Students who are physically active and consume healthy diets tend to have better grades and improved cognitive performance.¹² Benefits on academic performance can be both immediate and long-term. Shortly after engaging in physical activity, children are better able to concentrate on classroom tasks, which can enhance learning. Over time, this can impact academic performance.¹³

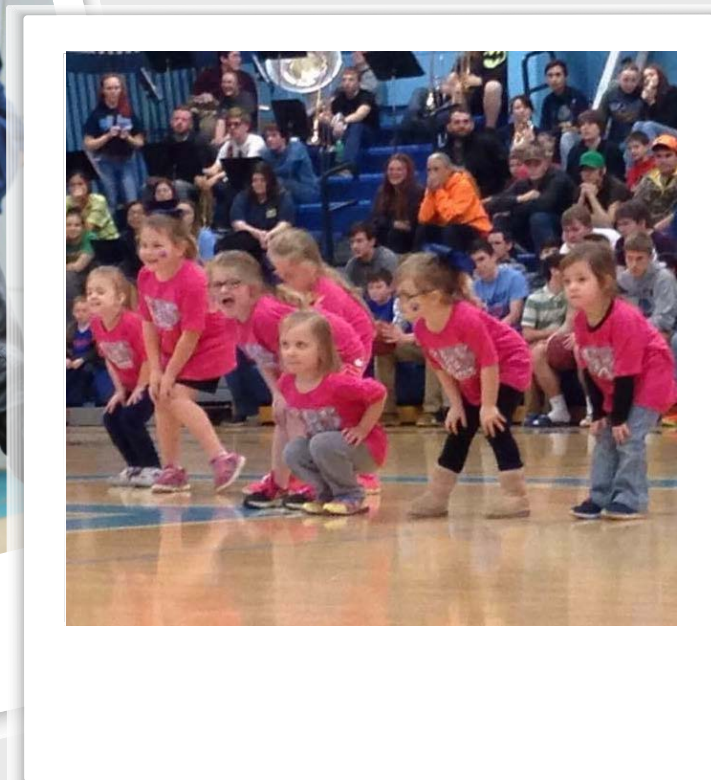
The Missouri Assessment Program (MAP) scores are composite numbers that represent the performance of students in grades 3–8. MAP scores are used as an indicator of academic achievement.¹⁴ Data for the 2014–2015 school year are presented in this section.

Cohort 1 and **Cohort 2** MAP scores were higher than **Cohort 3** for all grades and subjects during the 2014–2015 school year.



Graph key

- Cohort 1
- Cohort 2
- Cohort 3



“

With the new playground, the park is jam-packed all the time. It's brought a lot of new energy to the park and the community. Seeing families and kids get together and play and be active and imaginative, that's been a huge change in our community.”

~ HSHC Community Coordinator

Takeaways

Places across the U.S. where childhood obesity rates have reduced implemented a range of strategies to make healthy food and beverages and physical activity opportunities available in schools and throughout their community.

Addressing childhood obesity is ultimately about strengthening community capacity and mobilizing resources and involvement. HSHC’s approach builds on the reality that communities have numerous resources and assets that, if mobilized strategically, can make great things happen. This year, 3,183 hours of guidance were provided by The Alliance for a Healthier Generation, GMMB, Missouri Department of Health and Senior Services, Ozarks Regional YMCA, PedNet, and Trailnet help to develop grantees’ capacity to mobilize. This came in many shapes and sizes but helped to build capacity at the local level. In addition, grantees networked within their communities as well as across grantees. School and community coordinators expressed how valuable it was to have individuals they could contact for information.

HSHC offers an opportunity for partner organizations within the targeted county—as well as across counties and the state—to network and share information with one another. Grantees expressed how helpful it was to know others who are working on similar strategies and to have the opportunity to share and ask questions.

This year, Health-e-link, an online knowledge exchange portal, was implemented to enhance networking and information sharing across the grantees, technical assistance providers, MFH, and JSI. Health-e-link provided opportunities to post questions and share information on a forum and to upload relevant documents and resources.

HSHC-related media and awareness activities have reached/made impressions on 9,110,251 people since the start of the grant.* This is a critical piece of any “social movement.” Media and awareness activities can help to establish a common message, facilitate community engagement, and unite stakeholders. Greater awareness about activities can maximize efforts, reach more youth and families, and encourage additional groups to implement healthy eating and physical activity opportunities. Grantees, especially from Cohort 1, have stated that they are seeing a shift in people’s mindsets regarding HSHC, a start to any successful social movement. Moreover, broad stakeholder engagement was documented. An average of 14 individuals attended HSHC-related meetings. School and community coordinators, superintendents, principals, school board members, community-based organizations and nonprofits, classroom teachers, and residents, among others were instrumental in the implementation of HSHC.

*may not be unique individuals

In addition to media, grantees have leveraged resources, which is a critical component to any successful social movement. Since the start of the grant, over \$6 million dollars have been invested in the HSHC communities outside HSHC funding and over 15,000 hours of volunteer time have been donated. This demonstrates support for HSHC goals.

Other indications of support are the number of programs that have been sustained and the practice, policy, and environmental changes that were implemented. For example, Monett's Walk-to-School events were so successful that parents adopted a Walking School Bus where they now walk kids to school. The Dent County farmers market, which expanded under HSHC, has thrived; as many as 20 vendors participated during peak season. For the first time, the market offered matching funds for shoppers using SNAP/EBT, which extended their ability to purchase fresh produce and increased revenue for farmers. Also, a newly renovated community kitchen in Texas County provides a place for people to gather and offers a space for cooking classes.

Across the communities, this year brought two times as many practice, policy, and environmental changes as compared to last year and ten times as many as the first year.

There have also been many achievements. For example, the majority of counties have increased access to free drinking water in schools and/or the community; 91% of schools reported having easy access to water. In a number of school districts, awards and celebrations are no longer food-related but rather now involve physical activity opportunities. Vending machines and concession stands are now stocked with healthier foods. Local grocery stores now offer fresh fruit instead of cookies to children shopping with their parents, and physical activity opportunities are being provided before, during, and after school. Sidewalks, trails, and tracks have been built and playground equipment has been installed. Memoranda of Understanding and community-use agreements ensure these new infrastructures will be maintained and open for public use. Taxes now also support park and pedestrian infrastructure improvements, which speaks volume to the mindset change in the communities. In childcare sites, shade structures have been installed to protect kids while playing outside, indoor spaces have been renovated for use during inclement weather, and the availability of physical activity equipment has been increased. Other sites have installed refrigerators, ovens, and gardens to ensure children are offered healthy foods.

The HSHC media activities, stakeholder engagement activities, resources leveraged, and practice, policy, and environmental changes indicate progress. At the individual level, perceptions and behaviors of 5th–8th grade students have improved, especially for physical activity. Notably, an average of 76% of youth across cohorts reported enjoying their physical education class. This was an increase from baseline for all cohorts. Over 60% reported having options to be physically active after school, an increase for Cohorts 1 and 2 since baseline. Half of students, on average, reported always being active in physical education class, an increase for Cohorts 1 and 3. Although Cohort 1 saw the biggest increase in the percentage of youth who reported engaging in at least 60 minutes of physical activity per week (59% increase), there has been a significant increase across all three cohorts.

Improvements in healthy eating perceptions and behaviors have not been as successful. There were decreases in the percentage of students who perceived breakfast, lunch, and food sold outside of school as healthy, particularly among Cohorts 2 and 3. While all three cohorts saw increases in students reporting eating 5 or more servings of fruits and vegetables per day, the percentage is very low. Moreover, the percentage of students who report drinking at least one sugar-sweetened beverage per day is high across all three cohorts.

Moreover, disparities in physical activity and healthy eating behaviors suggest physical, social, cultural, and/or environmental differences exist even within the HSHC communities. Overall, significantly fewer Hispanic and Black youth (grades 5–8) engaged in at least 60 minutes of physical activity per day compared to all other students. A significantly higher percentage of Black youth reported engaging in 3 or more hours of sedentary time on both week and weekend days compared to all other students. White youth were significantly less likely to walk or bike to and from school compared to all other students.

In terms of healthy eating, fewer Black youth in Cohort 1 consumed the recommended amounts of fruits and vegetables compared to all other students. A significantly higher percentage of Hispanic youth in Cohort 3 reported eating at least 5 fruits and/or vegetables per day compared to all other students. Across all three cohorts, White youth were significantly more likely to report eating breakfast daily compared to all other students. Black youth in Cohorts 1 and 3 were significantly more likely to consume at least one or more sugar-sweetened beverage per day compared to all other students.

Considerations

The following may help to inform planning and implementation of future strategies.

1. Address the high consumption of sugar-sweetened beverages.

Research suggests that reducing sugary drinks is among the best strategies for addressing childhood obesity. Between 64% and 71% of students reported consuming at least one sugar-sweetened beverage per day (compared to their respective cohort). A number of strategies to address the high consumption of sugar-sweetened beverages have been recommended, including:¹⁵

- Ensure ready access to drinking water
- Promote access to and consumption of more healthful alternatives to sugar-sweetened beverages
- Limit access to and marketing of sugar-sweetened beverages
- Decrease the cost of more healthful beverage alternatives through differential pricing
- Expand the knowledge and skills of health care providers to conduct nutrition screening and counseling regarding sugar-sweetened beverage consumption

Cohort 1 has seen a decrease in the percentage of students who report drinking at least one sugar-sweetened beverage. Yet, the rates are still very high across all cohorts. Efforts should be expanded and built upon using the strategies above.

2. Ensure all children have an opportunity to eat a healthy breakfast daily.

Ensuring students eat breakfast helps address food insecurity-related issues. Studies have found that food insecurity leads to hunger and is a key factor that influences overweight and obesity.^{16, 17} Whether a result of food insecurity or other reasons, skipping breakfast is associated with higher risks of obesity. Providing students with an opportunity to eat breakfast at school also helps to ensure that it is healthy. The percentages of students who report eating breakfast daily continued to remain low across time and cohorts. Efforts should be made to increase the percentage of students who consume breakfast daily. Recommended strategies include:

- Implement a universal free breakfast for all kids regardless of income; this may help to reduce stigma (a common reason kids do not participate)
- Offer breakfast in the classroom to maximize time and integrate with instructional activities
- Provide a second chance breakfast where food is offered during a break before lunch

3. Provide more equipment, supervision, and playtime activities to girls, so they can take part in more active play.

Research suggests that girls are significantly less active than boys.¹⁸ A number of reasons help to explain this difference. First, boys are more likely than girls to play organized sports; this helps to increase their activity levels. Second, girls are more likely to stand around, engage in verbal games and conversation, and socialize within small groups during recess or at the park. Boys tend to play in larger groups that lend themselves to more physical activity.¹⁹

Similar to national data, HSHC boys were more likely to report engaging in 60 minutes or more of physical activity per day compared to girls across all three cohorts.* Strategies to increase girls' physical activity may include: adding equipment or markings on the playground (e.g., hopscotch, four square), ensuring supervision, and structuring play/encouraging girls to move more.

4. Target 5th–8th graders for more physical activity.

The middle school years are associated with many changes in the life of a “tween.” Not only are they heavily influenced by their peers and the media, but also they are maturing physically. As such, physical activity decreases rapidly during childhood and adolescence.²⁰

Across all cohorts, there were significantly more 5th graders who reported engaging in 60 minutes of daily physical activity compared to 6th, 7th, and 8th grade students ($p < 0.05$). Fewer 6th grade students, across all survey periods, reported engaging in 60 minutes of daily physical activity compared to 5th, 7th, and 8th grade students. Regardless of any increases, only about one-third of all students engaged in the amount of physical activity recommended for youth (60 minutes per day). This warrants further attention across all HSHC schools. Efforts to engage tweens in developing and implementing strategies have increased reach and strengthened program effectiveness elsewhere among this more difficult population.

*data not presented in this report

5. Increase efforts that focus on healthy eating.

Healthy weight is rooted in both physical activity and healthy eating. Yet, across the U.S., including in Missouri, there have been more efforts implementing physical activity practice, policy, and environmental changes than healthy eating ones. This is largely because implementing physical activity changes often includes “giving” rather than “taking away.” For example, building new parks and trails and increasing the number of minutes youth have recess or physical education give people opportunities they did not have before. These changes may also be more visible. It is easy to see a new park or a trail and the benefit it provides to the community.

When it comes to healthy eating, efforts include banning the sales of certain foods, restricting portion sizes, and taxing sugary beverages, and are often a result of government or regulatory action. To add to the challenge and difficulty of implementing these changes, the food industry and media emphasize individual choice over broad-based regulations that could help people choose healthier options.

While there has been an increase in the percentage of students who reported consuming 5 or more servings of fruits and vegetables per day, the numbers are low. Less than one-third of students from all three cohorts eat this recommended amount each day.

Although it may be more challenging and take additional time, HSHC grantees should focus on healthy eating practice, policy, and environmental changes.

The following strategies could lead to increased success:

- Emphasize the “giving” versus the “taking” when implementing strategies that may be perceived negatively (e.g., replacing food in vending machines). This will give options to people, who may not otherwise have healthy food available, the chance to eat healthy.
- Stress fairness and the need to address inequities. By introducing the necessity of environment and societal responsibility, individual contributions will become less of the focus.
- Highlight the fact that children are a vulnerable and sympathetic population that require greater protection from government policies and interventions. This explanation has led to greater public support for practices, policies, and environmental changes directed at children or those otherwise unable to make decisions for themselves.²¹

6. Be strategic when developing programs and events.

Obesity is a complex issue that requires a comprehensive approach with programs and events as well as practice, policy, and environmental changes. HSHC grantees have made great strides across the state. Programs and events have the potential to support behavior change and motivate the community, but they can take a lot of time and resources and detract from efforts to change practices, policies, and environments. Strategically-implemented programs and events become part of a more comprehensive approach and are likely to contribute to better results. A program or event is strategic if it:

- Reaches a lot of people
- Supports the work of partners (or potential partners)
- Introduces HSHC, physical activity, or healthy eating to a new organization and/or segment of the population
- Is likely to be adopted/ institutionalized by the organization with which it is being implemented (e.g., school includes classroom physical activity breaks in the curriculum)
- Helps to increase awareness of a policy or environmental change (e.g., walking event on the trail, food tastings at the salad bar)

7. Increase efforts during K–3rd grade.

Research suggests that the early school years, particularly before 3rd grade, are a critical time for excess BMI gains. As described under Consideration #4, there is reason to believe that decreases in children's physical activity levels before adolescence may contribute to gains during this time. Obesity is also thought to cause earlier puberty in girls, resulting in changes in body fat and fat distribution.^{22, 23} For these reasons, girls may experience faster increases in BMI during their early elementary school years but smaller-than-expected BMI gains in middle school. Some research suggests similar linkages between body fat and earlier puberty among boys.^{22, 24}

Overall, the biggest increases in the percentage of children who are obese was between 1st and 5th grades. Regardless of gender or weight status, prevention efforts targeting all youth should begin early in childhood to change this trend in higher BMIs.

Conclusion

There are limitations to the HSHC evaluation. First, HSHC was not designed to evaluate the effectiveness of any one particular program or policy in a given community. Second, the practice, policy, and environmental efforts are constantly developing and evolving. Although JSI works closely with the school and community coordinators, all changes may not be captured. Third, due to cost constraints, numerous people collect and report data, which therefore may vary data from individual to individual and site to site. Fourth, student behaviors and perceptions are self-reported and pedometer step counts are known to the child. Finally, the evaluation analyses cannot determine whether a causal relationship exists between the practice, policy, and environmental changes and changes observed in children's BMI or dietary and physical activity behaviors.

Of note, HSHC is a population-based approach in which naturally occurring circumstances happen (or not) and different populations are exposed (or not) to a potentially causal factor or factors (e.g., a salad bar, new policy). Unlike a controlled setting where all possible confounders can be eliminated, this type of intervention is unpredictable in timing and scope. Moreover, many strategies are being implemented at any given time and change each year. Tracking the exact "dosage" of the intervention at the individual-level would be impossible across 30+ school districts.

The HSHC evaluation reflects this reality, while maximizing opportunities for rigor (e.g., triangulation, cohort-level data) to help capture and understand HSHC. It recognizes that the goal is not only to see a decrease in the percentage of current youth who are overweight but also to ensure that the policy and environmental changes that occur are sustainable. It acknowledges the importance of school- and community-level changes given the comprehensive nature of the interventions.

The HSHC evaluation's foundation in the "real world" helps to increase the meaningfulness of the findings, and their applicability for others. Additional analyses (not reported here) will explore associations between the intensity of practice, policy, and environmental changes and childhood obesity, physical activity, and diet. In this sense, the HSHC evaluation will contribute to both the ongoing progress of community transformation efforts in Missouri, as well as broader efforts to address childhood obesity nationwide.

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St. Louis County



Texas and Howell Counties



Randolph County

“

We're really excited about the potential [HSHC has on our kids]. . . . We see there is change and impact being made, so it has reassured us that we are working for the right thing [to provide a healthier environment for our youth.]”

~HSHC School Coordinator



Appendix A. Programs



Programs

Barry and Lawrence Counties

Healthy Communities Cooking Classes

Barry County

Offered cooking classes hosted by MU Extension to promote healthy eating.

Screaming Eagles

Pierce City Central Elementary

Provided an opportunity for students to have a healthy snack and participate in physical activity on Wednesday evenings at the local church.

Cubs on the Move

Monett Elementary

Promoted physical activity after school with students participating in a different game each session.

IMAGEN Summer Camp

Monett

Offered physical activities, cooking classes, a healthy snack, and free membership to the Monett YMCA.

Cubs on the Run—Couch-to-5K Training

Monett Intermediate and Monett Middle School

Offered every fall semester to get kids ready for the local Thanksgiving 5K runs in Monett and Pierce City.



Barry and Lawrence Counties



Barry and Lawrence Counties

Programs

Cole County

Kids in the Kitchen Cooking Classes

Boys and Girls Club

Provided an opportunity for participating youth to learn to cook. The classes were hosted by the Boys and Girls Club and taught by MU Extension.

Children's Garden Education

Samaritan Garden – East Elementary

Provided children an opportunity to learn about nutrition while also planting seeds in the garden.

Children's Garden Education

Callaway Hills Garden

Encouraged participating students to get their hands dirty preparing the raised beds and planting tomatoes, arugula, lettuce and marigolds. The students took part in a taste testing and supplied Samaritan Center with 40 lbs. of donated produce.

Callaway Hills Fitness Club Program

Callaway Hills Fitness Club

Provided students in grades K–5 at Callaway Hills an opportunity to engage in physical activity and learn about the many aspects of physical fitness.

The Walking Classroom

South Elementary School

Provided students an opportunity to get active during the school day without sacrificing instructional time. Teachers taught 15–20 minute instructional lessons while kids walked.



Cole County

Programs

Dent County

Panther Elite Camp

North Wood Elementary

Created opportunities for physical activity in the summer with workouts, challenges, and healthy food.

Taste Test Tuesdays

Green Forest Elementary

Provided students with a new fruits or vegetables to sample. Students recorded their reactions to help remember their favorites!

Lunch and Learn

Dent County

Provided participants with a cooking lesson, shared meal, and discussion about the meal's nutritional benefits.

Running Club

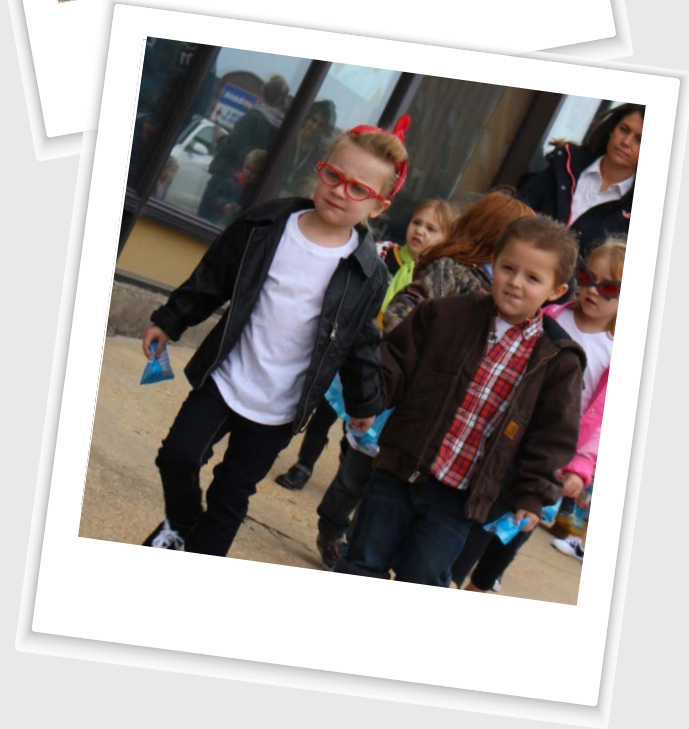
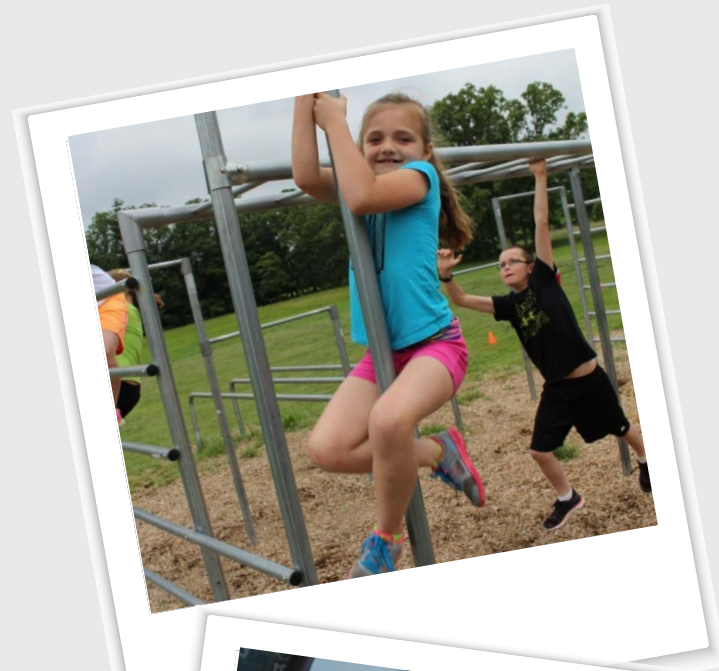
Salem Upper Elementary

Promoted physical activity by joining the boys and girls from the Eye of the Tiger and Tigress running clubs for six weeks.

Nutrition Lessons

William Lynch Elementary

Educated students about healthy nutrition choices using an age-appropriate curriculum.



Programs

Douglas County

Morning Walking Program

Ava Elementary and Middle Schools

Promoted extra physical activity before school with a walk led by the HSHC Coordinator.

Bear Buck Parties

Ava Elementary School

Promoted positive, healthy behavior by rewarding classes that collect 100 “Bear Bucks” with a healthy celebration, including Fun & Fitness time in the gym. Bear Bucks provided a healthier alternative to food-related rewards.

100 Miles Walking Program

Skyline Elementary School

Promoted physical activity by challenging students to complete 100 miles on the school’s walking trail by the end of the year.

Monthly Healthy Recipe & Sampling

Douglas County

Promoted healthy eating by providing healthy recipes and samples for community members at a local grocery store.

Breakfast in the Classroom

Skyline Elementary School

Promoted healthy eating and physical activity by providing breakfast in the classroom and engaging in physical activities during that time.

Summer School Run, Bike, and Swim Classes

Ava Elementary and Middle Schools

Promoted physical activity with a four-week summer school program during which kids ran, biked, and swam.



Douglas County

Programs

Dunklin County

Taste Buddies

Kennett South Elementary School

Promoted healthy eating with an after-school program that taught 4th and 5th grade students how to grow, cook, and enjoy healthy fruits and vegetables.

Wii Are Active

Malden Lower Elementary School

Promoted physical activity with an after-school enrichment program that provided 5th and 6th grade students the opportunity to participate in active games like Zumba and Wii Fit on a Wii gaming system.

100 Mile Club

Malden High School and Malden Lower Elementary School

Promoted physical activity by challenging staff to walk 100 miles during school time. Staff tracked their steps with pedometers provided by the school wellness coordinator.

Wii Are Active

Campbell Elementary School

Promoted healthy eating and physical activity with an after-school program held at Daisy Morris Nutrition Center. Students spent time playing active Wii games, cooking, and/or exercising.

Wellness Wednesdays and Fit Fridays

Kennett Middle, Masterson Elementary, and South Elementary Schools

Promoted wellness and physical activity in the schools by highlighting these topics every Wednesday and Friday. On these days, kids were encouraged to wear tennis shoes and exercise apparel, a wellness tip was given over the intercom to start the day, and teachers were encouraged to promote healthy habits.



Douglas County



Programs

Hickory County

Walking School Bus

Hermitage Elementary and Middle Schools

Provided an opportunity for kids, parents, and community members to be physically active together. For six weeks, participants met at Pickering Park in the morning and walked together to school.

Walking School Bus

Wheatland Elementary and Jr. High Schools

Provided an opportunity for youth to walk to school. Over 15 volunteer parents met at the ball fields off campus and walked students to school. Kids who took the bus were dropped at the fields to join the walk.

Hermitage Middle School Athletic Program

Hermitage Middle School

Provided both girls and boys with an additional two hours of physical activity during after-school hours. Sports included basketball, cheerleading, and cross country running.

University of Missouri Extension Nutrition Education Program

Weaubleau Schools

Promoted healthy eating among staff and students in grades K-8.

Summer Fun

Hermitage Schools

Provided youth an opportunity to be physically active and to enjoy healthy meals and snacks while out of school for the summer. Participating youth were provided a healthy breakfast and snacks. They had art and music once a week and physical education five days a week.

Taste Test Tuesdays


Wheatland Schools

Promoted fruit and vegetable consumption by providing various options for students to try every Tuesday.

Hermitage Middle School Track and Field Program

Hermitage Middle School

Promoted the sport of track and field while helping both girls and boys to be physically active. For five days a week, participants engaged in an additional 90 minutes of physical activity during after-school hours. Participants learned about track and field while practicing and competing in various events.



Programs

Miller County

Commit to Ten-Walk a Marathon

Eldon Upper Elementary School

Promoted extra walking in the mornings, at recess, and at home during out-of-school hours.

Mustang Walking Club

Eldon South Elementary School

Promoted walking and teamwork after school in an imagined journey to the North Pole.

Wellness Wednesdays

Eldon Upper Elementary School

Provided an opportunity for high school students to model healthy nutrition practices during scheduled visits with elementary students.

Mustang in Motion Intramurals

Eldon Elementary Schools

Provided both girls and boys with an additional two hours of physical activity during after-school hours. Sports included volleyball, wrestling, archery, and more.

Step It Up Walking Challenge

Eldon Elementary Schools

Promoted extra walking in the community by challenging youth and adults to “step it up.”



Miller County

Programs

Morgan County

Cooking Classes

Food for Morgan County Food Pantry

Provided cooking demos once a month during food giveaways. The food that was prepared demonstrated simple, healthy, and budget-friendly meals.

Children's Garden Education

Children's House

Provided children enrolled in the local daycare an opportunity to learn about nutrition while also planting seeds in the new gardens located on the playground.

Summer Reading Program— On Your Mark, Get Set, Read!

Morgan County Library

Encouraged participating students to eat healthier and be more active. This was a collaborative effort between HSHC and the Morgan County Library.

100 Mile Club

Versailles Elementary School

Provided both girls and boys with an opportunity before school to engage in an additional 60 minutes of physical activity per week. Students were encouraged to walk/jog along a designated trail.

Tiger Training Time

Versailles Middle School

Provided students an alternate to the weight room. Three days per week, students had an opportunity to engage in physical activity for 20 minutes before school.



Morgan County



Morgan County

Programs

Pemiscot County

Healthy Taste Testing

Caruthersville Elementary and Middle

Provided new food and healthy snacks for students to try, along with nutrition education.

Youth Sports League Track Club

Hayti

Promoted physical activity for boys and girls during an after-school track club, which culminated in three track meets in the spring.

Mathis Walking Club

Mathis Elementary

Offered teachers the opportunity to take students on active brain breaks during the school day, with three routes to accommodate longer or shorter walks.

Pemiscot County Summer Walking Challenge

Pemiscot County

Challenged community members to walk the length of a marathon during June and July.

Ready, Set, Read

Pemiscot County

Combined reading with healthy living. Students were read books about sports around the world, and then they participated in outdoor games and learned about healthy food.



Pemiscot County

Programs

Randolph County

Cooking Matters Classes

Randolph County

Offered a 6-week healthy cooking program that focused on nutrition education, cooking basics, and budgeting. Provided participants with groceries and a grocery store tour.

Summer Walk-to-School Program

Westran Elementary and Middle Schools

Provided an opportunity for K–8 students and staff to walk to school together. The program was every Wednesday morning during the three weeks of summer school.

Morning Exercise Program

North and South Park Elementary Schools

Provided an opportunity for students to engage in physical activity on the playground before school.

Morning Walk and Roll

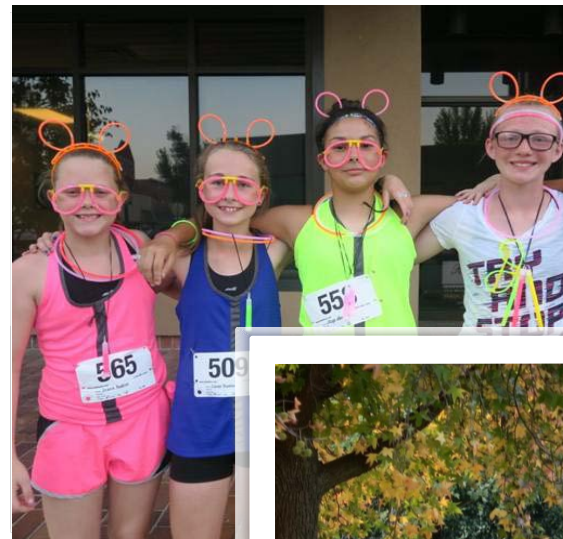
Moberly Middle School

Provided an opportunity for middle school students to participate in district-wide walk/bike-to-school activities.

Learn, Burn, and Earn Tennis Program

Westran Elementary

Promoted physical activity through an incentive-based program that focused on developing various skills.



Randolph County

Programs

St. Louis City

The Operation Food Search Cooking Matters for Families Classes

St. Louis City Schools

Promoted healthy eating by teaching parents and their children (ages 6–12 years) cooking tips, safe food handling practices, recipes, and nutrition. The program was held for two hours per week for six weeks.

Before-School Activity Club

Adams Elementary School

Promoted physical activity by providing students with the opportunity to engage in physical and mental activities before school.

Afterschool Program

Mullanphy ILC

Promoted physical activity with an after-school program in which 27 students on average participated.

Healthy Cooking Classes

Gateway Middle School

Promoted healthy eating by discussing the importance of breakfast. The education sessions were provided twice a day and ended with participants preparing a yogurt parfait.

Hickey Hornet Fitness Club

Hickey Elementary School

Promoted physical activity with an after-school fitness club. The club featured a variety of activities every Tuesday and Thursday in an effort to expose participating youth to something new.



St. Louis City

Programs

St. Louis County

Bel-Ridge Helmet Initiative

City of Bel-Ridge

Worked with the Bel-Ridge Police to disseminate approximately 50 bike helmets to youth to ensure bike safety.

Healthy Food Express

City of Pagedale

Provided 4–12 residents a monthly ride to the local grocery store, Pagedale Save-A-Lot.

Operation Backpack

Normandy School District

Distributed weekend meals to nearly 500 Normandy students at Early Childhood Center, Washington Elementary, Barack Obama Elementary, Lucas Crossing Elementary, and Jefferson Elementary.

Bicycle Works Earn-a-Bike Program

Freedom School

Increased access to physical activity by providing 16 youth a bike after completing a 6-week summer program.

24:1 Healthy Communities Video Project

Normandy School District

Encouraged youth to plan and complete video projects showcasing healthy activities in their community.

Central Bonanza After School Program

Central Elementary School

Promoted physical activity and healthy eating at an after-school program, proving fun and health go hand in hand.

After-School Physical Activity for School Staff

Riverview Gardens School District

Gathered together approximately 25 teachers/school staff members twice per week for physical activity classes, once per week for an interval class taught by the Wellness Director, and once for Zumba taught by a volunteer teacher.

Yoga During Physical Education Class

Bermuda Elementary School

Promoted physical health, as well as mental, emotional, and psychological well-being, by integrating yoga into PE class time.

Fresh Fruit and Vegetables Program

Ferguson-Florissant School District

Introduced students to new produce through taste tests, which they might otherwise not have had the opportunity to taste.

Programs

Sullivan County

Healthy Snack Program

Milan Elementary and Middle Schools

Promoted healthy eating by featuring a healthy snack each month that students could purchase for the chance to win a prize.



Sullivan County



Programs

Texas and Howell Counties

Morning Mileage Walking School Bus

Willow Springs Elementary and Middle School

Encouraged physical activity by having students meet three days a week to walk the track, do several laps, and then walk down to school together.

Commit2Ten

Cabool Middle School

Promoted physical activity by having students and teachers commit to performing ten minutes of physical activity per day.

Foster Outback Dance

Texas and Howell County

Taught kids to be physically active through dance. Instructors demonstrated and provided opportunities to practice all kinds of dances from the Waltz to the Cha Cha to line dancing.

2 Person Team Point Challenge

Willow Springs Elementary and Middle Schools

Encouraged district employees to role model healthy behaviors. During this month-long challenge, teams of two earned daily points by completing different criterion in lifestyle categories. Prizes were awarded to the top three teams.

Wednesday Walk With...

Cabool Elementary School

Educated students about healthy living and promoted activity by having guest speakers talk to students about how they lead active lifestyles while walking the track.

Classroom Physical Activity Breaks


Cabool Elementary and Middle Schools

Provided physical activity breaks in the classroom. Approximately 26 teachers used the GoNoodle program to get 300 kids up and moving throughout the school day.

Morning Miles

Cabool Elementary and Middle Schools

Encouraged physical activity by inviting students and community members to walk the track before school twice a week.





Appendix B. Events



Events

Barry and Lawrence Counties

Latino Engagement Focus Group

Barry County

Provided an opportunity to engage with leaders of the Monett IMAGEN Latino group and identify opportunities for further resident participation in HSHC efforts.

Walk-to-School Week

Monett Schools

Promoted walking before school for students at all four campuses with two weekly events during the school year.

Monett Garden Party

Monett

Provided an opportunity for community members to plant vegetables, sample fresh produce, and learn about gardening from MU Extension and other volunteers.

MES Big Event Color Run

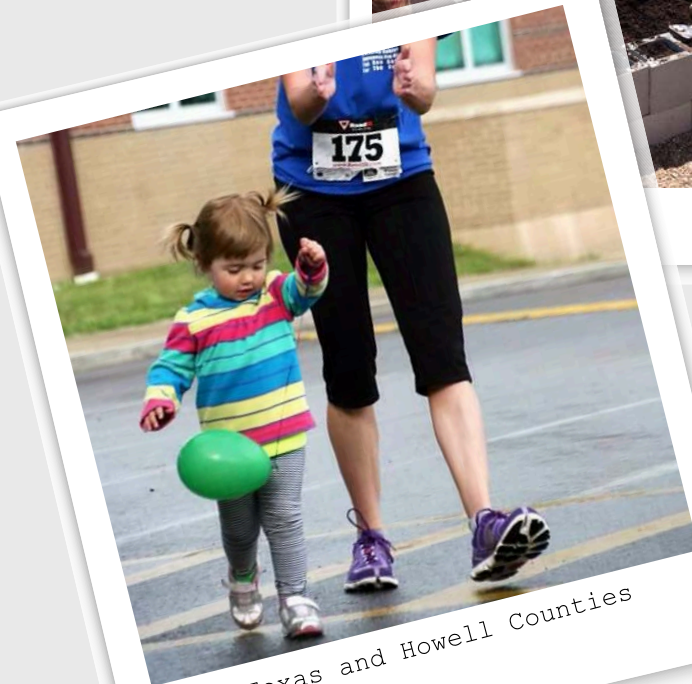
Monett Elementary

Provided a reward for students with good behavior and helped to kick off the year's wellness efforts.

Hoops for Heart

Pierce City Central Elementary

Promoted physical activity and supported a good cause with students jumping rope to raise money for heart disease.



Texas and Howell Counties

Events

Cole County

May Farmers Market

Farmers Market on High Street

Held a farmers market every weekend in May to target kids. Partnered with various organizations to do healthy food demos, Tai Chi, and other activities.

Samaritan Center Community Garden Build

Samaritan Garden and East Elementary School

Provided an opportunity for students to be involved in the building of the Samaritan Center community garden.

Color Vibe 5K

Central Missouri We Can Coalition

Promoted walking and running with fun and color at this 5K.

Parks and Recreation Camp Tour

Parks and Recreation

Taught campers about planting watermelons, cantaloupes, sunflowers, and pumpkins. Kids toured the greenhouses and master gardens and went home with a pot of plants.



Cole County

Events

Dunklin County

Halloween 50's Day and Parade

William Lynch Elementary

Provided an active alternative to traditional Halloween parties. Students displayed their costumes in a lively parade through downtown Salem, followed by a 1950's dance session.

Taste Testing Amazin' Raisins

Salem Middle

Promoted healthy eating options. Students did a taste test and voted on items for the school's new healthy vending machine.

Staff v. Student Competitions

North Wood Elementary

Promoted physical activity for students and staff alike. Staff and 8th graders squared off in basketball and volleyball games, cheered on by students of all ages.

Reading Counts Rewards

Green Forest Elementary

Promoted physical activity through rewards. Students who reached their reading points goal earned trips to the park, the Zone, and other rewards.

Across the Board Field Trip

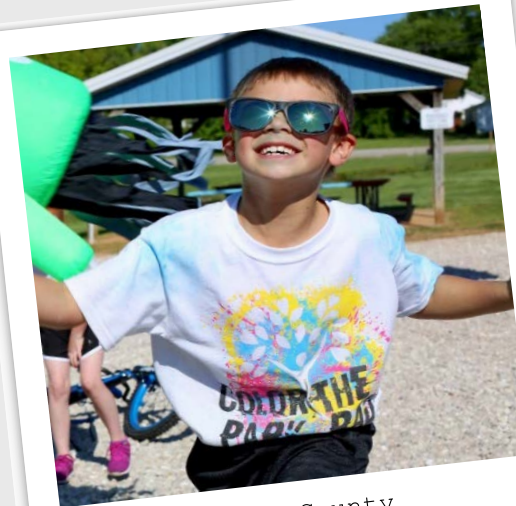
Salem Upper Elementary

Provided participants in Across the Board, an after-school physical activity program, with a special visit to the Universal Challenge Center for team-building activities.

Seed Starter Class

Salem Upper Elementary

Held a seed-starting class at the community garden with donated tomato plants and a partnership with Extension and AmeriCorps volunteers.



Dent County



Dent County

Events

Douglas County

Kiwanis Kids Day

Douglas County

Provided healthy snacks and opportunities for physical activity to all attending youth while parents were educated about the HSHC initiative. This event was held at the City Park.

Plainview School Open House

Plainview Elementary School

Promoted physical activity by distributing 4-square balls and Douglas County physical activity maps to families attending the Open House.

School to Farm Field Trip

Skyline Elementary School

Promoted healthy eating with a visit to a local farm where students were taught about growing fresh produce and its benefits.

National Walk to School Day

Ava Elementary and Middle Schools

Encouraged elementary and middle school students to take safe routes to school. Walks were led by high school students and adult volunteers. This was an opportunity to role model a safe and healthy alternative to driving.

Food Power

Ava, Plainview, and Skyline Schools

Provided students with an opportunity to learn about food and digestion by walking through the human “body.” Non-HSHC schools also participated in this event.

Back to School Party

Skyline Elementary School

Held a pool party at the Ava City Pool. The event included a healthy dinner and drinks for the families of Skyline school.

Elementary Field Day

Ava Elementary School

Hosted a field day for K–4th grade students filled with fun physical activities and healthy snacks.

Kids in the Kitchen at Douglas, Ozark, Wright Camp

Douglas County

Promoted healthy eating for youth ages 8–12 participating in the camp. University of Missouri Extension hosted the event.



Events

Dunklin County

Masterson Elementary School Health Fair

Masterson Elementary School

Promoted health among 1st and 2nd grade students with a health fair offering physical fitness, vision, dental hearing, dental nutrition, anatomy, and seatbelt safety stations. The school nurse organized the fair.

Walk to School Day

Clarkton Elementary School

Encouraged elementary school students to walk to school. Walks were led by teachers and school staff. Students were provided water bottles for showing positive, healthy behavior.

Campbell Basketball Camp

Campbell Elementary School

Hosted a one day basketball camp for 3rd, 4th, and 5th grade students. Taught students basketball basics as well as provided them with the opportunity to play a scrimmage game.

South Elementary Health Fair

South Elementary School

Promoted health among 3rd and 5th grade students with a health fair offering physical fitness, nutrition, internet safety, dental screening, vision screening, and hearing stations. The school nurse organized the fair.

Clarkton Park Audit

Clarkton

Promoted access to green spaces by conducting a Park Audit of the Clarkton City Park. The audit was hosted by Dunklin County Healthy Communities and the Clarkton Parks Department. The goal of the audit was to determine how to make Clarkton City Park a healthier, safer, more usable place for Clarkton children and families.

Kennett Middle School Health Fair


Kennett Middle School

Promoted health among 6th grade students with a health fair offering physical fitness, vision screening, dental screening, and hearing stations. The school nurse organized the fair.

District Wellness Fair

Malden Lower Elementary School

Promoted healthy lifestyles with a wellness fair that connected people in the community with resources like pharmacies, hospitals, the health department, and more. The fair also offered fruit and vegetable taste testing stations as well as physical activity areas.



Events

Hickory County

Color Fun Run

Wheatland Elementary School

Encouraged physical activity by providing students with an outdoor field day on the last day of school, including frozen smoothies and healthy snacks.

Weaubleau School Health Fair

Weaubleau Schools

Provided students in grades K–12 with height and weight measurements, as well as vision and hearing testing.

Healthy Valentine's Day

Wheatland Elementary School

Provided students with healthy snacks for their holiday parties.

Hermitage Invite

Hermitage Schools

Hosted over 2,300 people at the annual cross country invitational. Over 800 athletes from 40 schools participated. To encourage younger youth to be physically active, a new open event was implemented where elementary students competed for the same types of medals won by the middle and high school students.

Elementary Walk The Track

Skyline Elementary School

Encouraged students in grades K–4 an opportunity to walk before school.

Healthy Rewards Day

Wheatland Elementary School

Celebrated the end of school with a day of physical activity and healthy rewards.



Hickory County



Events

Miller County

Art in the Park

Eldon Rock Island Park

Encouraged youth to move through the park while participating in or observing different exhibits themed “Forever Ever Land of Physical Activity.” Staff led youth in various activities that included jump ropes, disc golf, and hula hoops.

Parent/Teacher Conference Activities

Eldon Upper Elementary Schools

Provided a “Brain Break” station for parents and students to take a physical activity break in between meetings. Also provided parents a chance to see how these breaks are being incorporated in the classroom.

Wellness Week

Eldon South Elementary School

Hosted a guest speaker every day to provide information to students about healthy habits. Topics included: “More Water Monday” to highlight the importance of drinking water, “Taste Test Tuesday” to provide tastings of healthy breakfast items, “Wellness Wednesday” to talk about how healthy diets contribute to healthy teeth, “Try It Thursday” to provide samples from the salad bar, and “Feel Good Friday” to explain how eating right and engaging in physical activity helps individuals feel healthy.

Walk-to-School Day

Eldon Middle School


Promoted walking with a half-mile walk to school and a healthy breakfast prepared by the kitchen staff once students arrived.

Eldon/Missouri University Extension

Photo Voice Project

Eldon Farmers Market

Highlighted photos of HSHC’s success on the first night of the Eldon Farmers Market. The Mayor spoke about the positive healthy choices happening across the community.



Events

Morgan County

100th Day of School Physical Activities

South Elementary and Versailles Elementary Schools

Celebrated the 100th day of school through a teacher-led physical activity break at the 100th minute of the day. Students were encouraged to participate in 10 different activities 10 times each for a total of 100.

National Walking Day

South Elementary and Versailles Elementary and Middle Schools

Promoted walking to school with a 30-minute walk around the hallways (due to rain) before school.

Light the Laps 5K

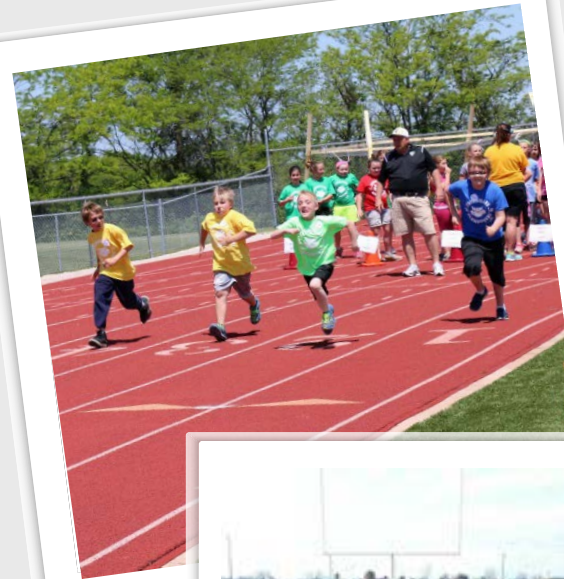
South Elementary and Versailles Elementary Schools

Promoted walking and running to raise funds for playground improvements. Students received a glow bracelet for every lap they made.

Elementary Tiger Track Meet

Versailles Elementary School

Promoted physical activity for students in grades 3–5. Students signed up to participate in 4 events, including a softball or football throw, long jump, or 50-, 100-, or 400-meter dash.



Morgan County

Events

Pemiscot County

Grilling from the Garden

Cooter Elementary

Encouraged healthy eating. Families attending Parent Teacher Conference Night enjoyed samples of grilled squash, peppers, and onions. The vegetables were freshly picked from the school's garden. Informational brochures and healthy recipes were also provided.

Wallace Family Night

Wallace Middle

Provided students and their families with an array of facilitated "stations" designed to promote physical activity. The stations included timed jumping jacks, balance games, and Exercise Jenga, in which each colored block represented a different exercise to try.

Family Fun Walk

Mathis Elementary, Wallace Middle, and Hayti High

Encouraged families attending parent-teacher conferences to try walking on the new Indian Territory Trail. Classrooms with the most walkers were rewarded with books and free time for physical activity.

Jump Rope for Heart Health

Cooter Elementary, Mathis Elementary, Wallace Middle

Provided the opportunity for students in PE class to jump rope to improve health and raise money for the American Heart Association.

Walk- or Roll-to-School Day

Cooter Elementary School and Cooter Junior/Senior High

Encouraged students to walk or roll to school. Participants received bike safety material, t-shirts, and free bike helmets.

JAM: Just a Minute of Exercise

Cooter Elementary, Mathis Elementary, Wallace Middle

Invited students and local businesses to exercise for one minute. Wallace students JAMmed in their classrooms and Mathis students JAMmed on the Indian Territory Trail and drank smoothies afterwards. Over 120 Cooter students participated.



Events

Randolph

Jump with Jill Rock & Roll Nutrition Show

Moberly and Westran Schools

Used music and dance to teach kids about healthy eating and physical activity.

Field Days

Gratz Brown and North Park Elementary, Moberly Middle School

Organized daylong outdoor events at Moberly schools where students rotated through a variety of physical activity stations.

Smart Start

Moberly Municipal Auditorium

Provided school-age children school supplies and recipes for inexpensive but healthy snacks. The event was hosted by Family Life Fellowship and other non-profits and faith organizations. Over 15 vendors were in attendance.

Fun Fit Nights

Westran Middle School

Hosted a series of events featuring various physical activities including volleyball, dodgeball and basketball.

Trick-or-Treat Trail—Downtown Halloween

Randolph County

Partnered with eight businesses to provide non-candy items and healthy snacks to kids while they were trick-or-treating.

Spartan Wellness Warriors Kick-Off Assembly

South Park Elementary

Hosted an assembly to kick off the New Year and let everyone know about the HSHC initiative.

Walk-to-School Days

Gratz Brown, North Park, South Park Elementary Schools

Encouraged walking and biking to school through two organized events. Parents, kids, and school staff met at a designated location and walked to school together.



Randolph County

Events

St. Louis City

Greater Ville Walk Audit

ST. Louis City Schools

Promoted walking and biking by conducting a Walk Audit of a portion of the Greater Ville community to survey its walkability and bikeability along designated streets and sidewalks.

Double Dutch Showcase

St. Louis City Schools and Community

Promoted physical activity by holding a Double Dutch Showcase for everyone who lives and works in St. Louis.

YWCA Series: Healthy Lifestyle in The Work Environment

St. Louis City Schools

Promoted healthy living, physical activity, self-worth, leadership, and conflict resolution through a variety of resource fairs.

Carr Lane Garden Bed Assembly

Carr Lane VPA

Promoted healthy eating with the installation of four raised garden beds in front of the school. Students, staff, and community members all worked together to make this happen.

Let's Move! Move Your Body Flash Mob

St. Louis City Schools

Promoted physical activity and community cohesion with a flash mob where students gathered at the Busch Stadium Ballpark Village to do an organized dance. For the second year in a row, HSHC students, as well as students from the additional St. Louis Public Schools (SLPS) elementary schools, worked together to hold the flash mob. Not only did everyone stop and get active on May 6th, but also many hours were spent learning the dance prior to the event!

Cooking with the Family

Mullanphy ILC

Promoted healthy eating with cooking classes for students and their parents.

Woodward Wildcat 5K Run/Walk

Woodward Elementary School

Promoted physical activity with a 5K run/walk that was open to all SLPS schools, students, staff, and their families.



Events

St. Louis County

24:1 Produce Stand

Beyond Housing

Disseminated 500 bags of free produce to Normandy Schools Collaborative for a back-to-school event. In addition, several cooking demonstrations were provided to show residents how to use the produce in their own homes.

Bel-Ridge Bike Rodeo

City of Bel-Ridge

Hosted a free event for children and families to learn about bike safety. Children were taught safe riding practices on an obstacle course supervised by local enforcement officers.

Cooking Matters at the Store Event Day

North Oaks Plaza Save A Lot

Provided information to shoppers on how to choose healthy options and save money at each key section of the store.

Volunteer Day at the Community Garden

Beverly Hills Community Garden

Taught Normandy students in the 7th and 8th grades about community gardening including weeding, building new beds, and planting seeds.

Youth Film Screening

Pagedale Cinema

Screened the films made by youth about healthy living in their communities and hosted a reception to celebrate the youth's accomplishments after the screening.

Healthy Potluck for School Staff

Voght Elementary School

Organized a healthy potluck for staff, in an effort to raise awareness about the school wellness committee and build support for healthy changes.

Walk-to-School Day

Bermuda Elementary School

Encouraged students to walk to schools with their parents.

Smoothie Day


Cool Valley Elementary School

Generated enthusiasm and excitement among students for healthy snacks, while also providing nourishment prior to state testing.

Healthy Kids Day Event

Ferguson-Florissant Riverview Gardens

Brought together community members to support healthy child development, strengthening families, helping communities become healthier and safer, and encouraging all people to lead healthier lives..



Events

Sullivan County

Walk/Bike-to-School Event

Milan Elementary and Middle Schools

Promoted physical activity with students meeting to walk or ride their bikes together to school.

Back-to-School Pool Party

Milan

Hosted an active back-to-school swim party with healthy food.

Mustache Dash 5k Run/Walk

Sullivan County

Partnered with the Milan Old Timers to promote physical activity for the community.



Sullivan County

Events

Texas and Howell Counties

Jump Rope for Heart

Willow Springs Elementary School

Encouraged physical activity through the American Heart Association providing children with 10 activity stations and fundraising over \$3,700.

Field Day

Houston Elementary School

Provided K–8 students with fun outdoor games promoting physical activity, and gave high schoolers the opportunity to volunteer during events.

Employee Health Risk Assessment

Cabool Elementary and Middle Schools

Provided district employees an opportunity to get a health screening. This was an effort to encourage staff to be a good role model and engage in healthy behaviors.

Cabool Old Tymes Day Jump Rope Booth

Cabool Elementary and Middle Schools

Provided an opportunity for adults and youth to get active at Cabool Old Tymes Day. Jump ropes were available for adults and youth to have minute-long competitions. They were also encouraged to jump rope on their own for as long as they wanted.

Color Run 5k

Cabool Elementary and Middle Schools

Promoted physical activity with a color run, bounce house, music, and healthy snacks.

Walk-to-School Day 2015

Cabool Elementary and Middle Schools

Encouraged students to walk to school along a set route with their parents and community members.

Pi Day 5K and 1 mile Fun Run/Walk




Houston Elementary and Middle Schools

Provided students in grades K–8 with a fun run throughout the new fitness trail, with volunteers signing up to run the hydration stations.

Water Wonderful Lesson

Willow Springs Elementary

Provided an opportunity for adults and youth to get active at Cabool Old Tymes Day. Jump ropes were available for adults and youth to have minute-long competitions. They were also encouraged to jump rope on their own for as long as they wanted.



Appendix C. Practice, Policy, and Environmental Changes

Practice Changes

Barry and Lawrence Counties



Local restaurants provide healthy menu items as part of the **Missouri Live Well restaurant program**.



EBT accepted at the Monett farmers market.



Healthy food was provided by **Ozarks Food Harvest** for the Pierce City after-school program.

Cole County



Partnered with Root Cellar to offer a free trial of its **CSA box of fruits and vegetables to EBT card holders** for two weeks. After the trial period, EBT card holders could purchase the box at a reduced cost.

Dent County



Healthy **birthday celebrations replaced food-related parties** in some classrooms. Those implementing this change received a thank you card from HSHC.



Students were allowed to carry around **water bottles**.



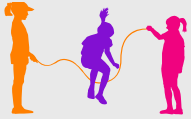
Physical activity breaks were added in classrooms.



Students that chose a **salad** on "Salad Day" were allowed to line up first for lunch.

Practice Changes

Douglas County



Students are offered **healthy rewards** in place of unhealthy options.



Teachers are keeping **classrooms active** by incorporating physical activity into the curriculum and offering “brain breaks” and yoga.



At Skyline Elementary, students carry around their own **water bottles** for use throughout the day. At Ava Schools, students are provided with **water bottles** that they use every day.



Restaurants have been **certified** by the Missouri Department of Health and Senior Services as **Live Well**. Meals are available to customers looking for healthier options.



Schools are **celebrating** students' successes with physical activity and healthy snacks.

Dunklin County



Campbell school staff and students are tracking their steps with **pedometers**.



Campbell schools' **physical education** classes are structured by an evidence-based curriculum—SPARK curriculum.

Practice Changes

Hickory County



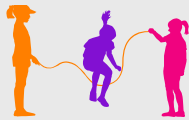
Weaubleau students can carry **water bottles** in school.



Schedules were adjusted to provide Hermitage students **more minutes of physical education**.



Fruit smoothies were provided as a healthy snack at Wheatland.



Weaubleau Elementary offered 20 minutes of **morning physical activity** to children who arrived early.



Weaubleau incorporated **farm-to-school** items purchased from a local producer into cafeteria food.



Healthy alternatives, instead of candy and soda, were offered to Wheatland and Skyline students as a reward.



Weaubleau **gardens** were used to provide **hands-on learning**.



Water was sold at a cheaper price than soda at ballgames.



Vending machine items at Hermitage were changed to meet federal nutrition guidelines. The soda machine at Weaubleau only includes **lower-sugar options**.



Walking club continues to be offered for the community.



Smoothies with only **100% fruit juice** are being offered at breakfast and lunches.

Practice Changes

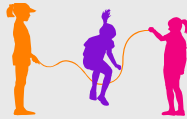
Morgan County



The **price of soda** was increased to \$1.25, twenty-five cents more than water, at Versailles City Park.



Healthy menu changes were made at the Versailles City Park and Pool.



Physical activity opportunities were offered as a reward in place of food.



Two local grocery stores are participating in Stock Healthy Shop Healthy and **offer fresh fruit** for children under 12 while their parents are shopping.



Fresh fruit was added to the backpacks that were sent home to kids in need of food during the summer.



Physical activity and health education is offered once a week as part of Tiny Tiger Wellness. **Health education** is offered in the classroom in Versailles Elementary.

Pemiscot County



Physical activity breaks were added during library periods.



Fruit smoothies were provided as a healthy snack at Cooter.



Teachers have the option to replace less healthy options with smoothies for **classroom celebrations**.



The **Indian Trail** is being used during PE class and after school in Hayti.



Concessions at Cooter have healthier options.

Practice Changes

St. Louis City and County



Cardondelet community will work with Woodward Elementary to use garden beds as a **community garden** and to maintain the space over the garden months.



Students are allowed to have **water bottles**.



Girls Inc. does a **daily workout routine** led by a student who gets to wear the Supergirl cape.



After school partners adopted new practices to increase physical activity and reduce screen time.



City Sprouts, Pink House, Brighter Day, and Pagedale Family Support Center increased **physical activity time**.



Corporate **discounts** are provided at local gyms.

Sullivan County



The Milan Recreation Association **sells healthier options** at the concession stand.



Healthy snacks are promoted on the scoreboard at Milan sporting events.

Texas and Howell Counties



Teachers have the option to replace less healthy options with smoothies for **classroom celebrations**.



Students were offered **healthy rewards** in place of unhealthy options.



Healthier options were sold at school events.



Teachers continued to incorporate **exercise “brain breaks”** in the classroom.



Birthday celebrations with food are held quarterly rather than monthly.

Policy Changes

Barry and Lawrence Counties



A **long-term transportation plan** was passed in Monett and includes a sales tax that will generate revenue to support pedestrian transportation and infrastructure.



The corporate office of Gerbes East Grocery implemented **Fresh Fruit for Kids baskets at both locations in Jefferson City**. They agreed to pay for all future associated costs.

Dent County



A new **school wellness policy** was passed.



A **community-use agreement** made school facilities more available to the public.



A **healthy vending policy** was implemented at Salem Community Center and Salem Fitness Center.

Douglas County



Memorandums of Understanding, stating outdoor fitness equipment and walking trails would be **available for use** by the **community during out-of-school hours**, were signed between the Douglas County Health Department and:

- Ava Schools R-I School District
- Skyline School R-II School District
- Plainview R-III School District

Dunklin County



Memorandums of Understanding were signed between the Dunklin County Caring Council and:

- the Clarkton Park Board – the Board will now **maintain equipment** purchased with HSHC funds
- Clarkton's Parks Department and Malden's Park Board – the parties' responsibilities associated with **park renovations** were outlined
- Malden's Park Board – the Board will now **maintain equipment and park improvements** made with HSHC funds

Policy Changes

Morgan County



Five **restaurants** have been **certified** by the Missouri Department of Health and Senior Services as **Live Well**. Meals are available to customers looking at healthier options.

Pemiscot County



A **joint-use agreement** will ensure upkeep of the new Cooter City Park.



A sign was placed by the new **basketball courts** to designate 3–5 p.m. for K–8 students only.

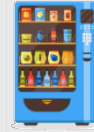


Healthy concessions will be offered at Hayti parks.



Hayti **school wellness policy** states that safe drinking water must be accessible in each building and on the track.

Randolph County



Removed all candy and soda from the Randolph County Health Department.



Students are allowed to bring **water bottles to class**.



Booster Club president committed to **serving healthier concession options** in Moberly.

Policy Changes

St. Louis County



A **joint-use agreement** is in place at Central Elementary School. Community members and organizations can now use school grounds for physical activity after school hours.



Youth are restricted from using **screens for anything but homework** at City Sprouts.



Sugar-sweetened beverages are no longer allowed at the Pink House.



Water is always available at Pagedale Family Support Center.



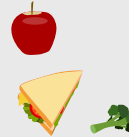
Outside food is no longer allowed at Brighter Day.



Dinners at Girls Inc., must meet **healthy food standards**.



Staff are able to **access the exercise equipment before and after school**.



Eat Smart in the Parks policy passed.

Sullivan County



The nature trail was completed and a **joint-use agreement** was signed by the school and city.

Texas and Howell Counties



City Council voted to officially make **healthy concessions** part of the offerings at the Willow Springs water park.



Employees can only share food at the Department of Public Health meetings if it is **healthy**.



Master Gardeners of Cabool Community Garden will **maintain all equipment** purchased as part of HSHC and **keep all outdoor facilities open to the public**.



Lone Star Annex agreed to sell **healthy food in vending machines** and to keep HSHC programming **free of charge**.

Environmental Changes

Barry and Lawrence Counties



An **extended sidewalk** was added at Monett Elementary to enable walkers and bikers to safely access the front entrance.



New equipment and public seating were installed at the Pierce City Baseball Park.

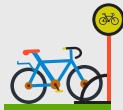


Bicycle and pedestrian signs were added in Monett.



Playground equipment, including leg lift, body curl, chin-up bar, and balance beam, was added to Central Elementary.

Cole County



A **bike rack** was installed at City Hall.



A **watering system** was developed and the number of **raised garden and tire beds** was expanded at Samaritan Center.



Fresh fruit baskets were added at Schnucks, Gerbes East, HyVee, and Save-A-Lot supermarkets for kids to enjoy while shopping.

Dent County



New **water bottle filling stations** were added at schools and the park.



An **outdoor obstacle course** was constructed.



Playground equipment was installed.



Water lines were changed at the community garden.



Classroom **stability balls** were placed at Salem Upper and William Lynch Elementary Schools.



Farmers Market with 15–20 vendors was available Tuesday–Saturday in a neighborhood with a limited access to fruits and vegetables. Market operated every week between May and October.



New menu signage was installed to promote **salad bar** items at Green Forest Elementary School.



A **healthy vending machine** was installed at the Salem Middle School. Foods must meet the USDA Smart Snack guidelines.

Environmental Changes

Douglas County



A **refrigerator** was added to Ava Elementary School's kindergarten classroom to keep healthy snacks cool.



A **walking trail** was added to Skyline Elementary School.



A **smoothie machine** was added to Skyline Elementary School.



New **physical education equipment** was purchased for Skyline Elementary School.



New **workout materials** were added to Skyline Elementary School's library.



A **fitness trail** was added to Ava Middle School's playground.

Dunklin County



A **salad bar** was added to the Campbell School District.



Treadmills and **ellipticals** were added to the Campbell Elementary and High Schools and Clarkton School District for student and staff use.



Two **basketball goals** were added to Clarkton Elementary School's playground area.



A **climbing wall** was installed in the Clarkton School's gym.



A **garden** was planted by the Taste Buddies class at Dunklin's community kitchen.



Playground equipment was installed, the **walking track** was resurfaced, and additional improvements were made to Clarkton's City Park.



A **community garden** was created in Clarkton.



A **changing table** was installed in one of Dunklin's community kitchen bathrooms to make it easier for mothers who participate in the programs.



Playground equipment, water fountains, barbecue grills, and sports equipment were installed in two of Malden's parks.



Wii U gaming systems were installed in Malden Lower Elementary and Campbell to increase physical activity during indoor recess and after-school programming.

Environmental Changes

Hickory County



A new **basketball court** was added to the Hermitage playground.



Equipment (including treadmills and an elliptical trainer) was added in Skyline for indoor physical education.



Weaubleau, Skyline, Hermitage, Wheatland, Hickory County R-I, and the Hickory County Farmers Market installed **water bottle filling stations**.



Weaubleau constructed a **walking/running track** for use by the community.



Hermitage moved the **playground** to a safer place and installed new equipment, including proper ground cover.



Skyline purchased **smoothie machines** to make healthy rewards for students in the elementary and middle school.



A **retaining wall** was built by the Weaubleau playground to increase safety.

Miller County



Adjustable **basketball goals** added to the Eldon Community Center.



A **park sign** was added to promote the new Rock Island Walking Trail.



A **BMX track** was constructed.



Two **chairs** were built by the local Future Farmers of America class and added to the Rock Island Park.

Morgan County



Physical activity equipment was added to Versailles City Park and the elementary and middle schools.



Water fountains/water bottle filling stations were added to three local parks in Versailles. None of the parks had accessible drinking water previously.

Environmental Changes

Pemiscot County



Classroom **stability balls** were placed at Caruthersville Elementary and Middle schools.



New **PE equipment** was added to the Caruthersville curriculum to keep kids active and interested.



Water fountains and bottle filling stations were installed at Cooter and Hayti school and community buildings.



A **playground awning** was added to Cooter Elementary.



Vending machine timers were added at Hayti.



A **convection oven** was added to the Cooter cafeteria.



Lights were added to the walking track.



Bleachers were added to the basketball courts in Hayti.



Basketball courts were added in Hayti.



A girls' **weight room** was added in an unused space of the Hayti gym.



A **community garden** was built on **land donated by a local farmer**.

Randolph County



Water bottle filling stations installed at Moberly schools.



School gardens were built in Moberly and Westran, and students planted seeds and harvested the produce to be eaten at lunch.



Depot Farmers Market was launched.



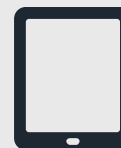
Mile markers were added at every quarter mile on the Rothwell Park Trail.



Playground and fitness equipment was added for students and staff in Moberly and Westran.



A **salad bar** was added at Westran Elementary.



Wii game systems, an iPad, Apple TV, and a projector were purchased to support opportunities for activity and for the updated nutrition and physical activity curriculum.

Environmental Changes

St. Louis City



A **water line** was installed at the Maffitt Community Garden.



A **culinary lab** was created at Carr Lane VPA.



The **Family & Consumer Science classroom** was renovated at Gateway Middle School.



A **rock wall** was installed at Gateway Middle School.



A storage space was cleaned out at Hickey Elementary to create a future **workout space** for the school's staff.



Pedal exercisers were assembled in Lyon Academy at Blow's classrooms.

St. Louis County



The YMCA's **community garden** was revitalized and **gardens** were started at St. Vincent Park, Lucas Crossing Elementary Complex, and Barack Obama Elementary School.



Yoga mats and videotapes were purchased, and yoga was integrated into school physical education.



A **climbing net** was moved to the wall to increase student safety during physical activity.



Playground/fitness equipment was installed at Lucas Crossing Elementary Complex , Normandy School District Elementary Schools, and Hobart Park.



Water bottle filling stations were added at Bel Nor, Jefferson, Washington, and Lucas Crossing Elementary schools.

Environmental Changes

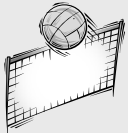
Sullivan County



Water fountains were installed at each school.



The **farmers market** is in its second year.



The **sand volleyball and basketball courts** at the pool park were redone.



The **nature trail** was completed.



A **4-piece obstacle course** with a balance beam, agility poles, pull-up bar, and monkey bars was added to the park.



A **basketball court** was added to the playground at Milan Elementary.

Texas and Howell Counties



Water coolers and filling stations were added across all school districts.



The **farmers market** in Texas County split into two separate locations and will accept EBT.



Playground equipment with rubber safety surfacing was installed in Willow Springs Middle school.



Cabool Elementary purchased a **smoothie machine** to make healthy rewards for students.



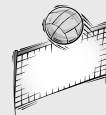
A **water cooler** was added to make water more accessible in the cafeteria.



Renovated a building in the Lone Star Plaza to serve as the **community kitchen** and great room.



Vending machine was removed from Texas County Health Department.



Tetherball pole and volleyball net were installed at the Willow Springs Middle School.



Fruit baskets were made available in the lounge to help staff role model good behaviors.



HSHC, City of Cabool, and the YMCA joined resources to build an **outdoor bathroom** at the Piney River Recreation Center.

Acknowledgments

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