

GOOSE CREEK
CONSOLIDATED INDEPENDENT SCHOOL DISTRICT

Goose Creek CISD CATCH Program

Year 2 Evaluation Summary

Project Overview

Be Well™ Baytown is an initiative of The University of Texas MD Anderson Cancer Center that aims to promote wellness and prevent cancer before it starts. The initiative unites individuals, schools, workplaces, government agencies, and health care providers in Baytown, Texas to carry out community-led solutions that will make positive, long-lasting change in people’s health. A central component of this initiative is aligning programming with Goose Creek Consolidated Independent School District’s (GCCISD) implementation of the CDC’s Whole School, Whole Community, Whole Child (WSCC) model. During the 2017-2018 school year, programming included the implementation of the CATCH PE program in all GCCISD elementary and middle schools and implementation of the full CATCH Coordinated School Health program in four pilot elementary schools. During the 2018-2019 school year, the full CATCH program was expanded to all of the district’s elementary and middle schools. This report summarizes the evaluation results for the second year of CATCH implementation. Results from the previous year can be viewed at <https://catchinfo.org/spotlight/goose-creek-cisd/>.

The CATCH program consists of the following components: 1) Classroom lessons on nutrition and physical activity; 2) CATCH PE which includes strategies and activities to maximize the time spent in moderate-to-vigorous physical activity; 3) Guidance and resources for creating a school nutrition environment that promotes healthy foods and reinforces classroom learning; 4) The CATCH Coordination Kit which provides a step-by-step guide for engaging the school community and includes specific action items for increasing collaboration and creating healthier learning environments; and 5) Implementation training, technical assistance, and evaluation support.

Data Collection Timeline

- May 2017: Baseline SOFIT observations in a sample of PE classes
- September 2017: Baseline student survey in pilot schools (3rd and 4th grades)
- April - May 2018: Student survey in pilot schools (3rd and 4th grades), CATCH Champion survey in pilot schools, and SOFIT observations in PE class sample
- September 2018: Baseline student survey in expansion schools (3rd, 4th, and 6th grades)

- November 2018: CATCH Champion survey in all schools (process measure)
- April 2019: Follow-up SOFIT observations in PE class sample
- May 2019: Student survey in expansion schools (3rd, 4th, and 6th grades), Follow-up student survey in pilot schools (5th grade), and CATCH Champion survey in all schools

Evaluation Results

CATCH Champion Survey

Using the CATCH Coordination Kit as a guide, CATCH Champions and teams are responsible for building campus-wide support for CATCH, coordinating messages about healthy eating and physical activity throughout the school, assisting classroom and PE teachers with integrating CATCH into their lesson planning, and developing and implementing a sustainability plan to continue CATCH in future years.

As a process measure, CATCH Champions were surveyed in November 2018 regarding the implementation of CATCH best practices during the first half of the school year. CATCH Champions from 16 expansion schools (out of 17) and all 4 pilot schools completed the survey. At that time, each of the schools had designated their CATCH team members and had met in person an average of 2.5 times. The schools had also implemented a number of best practices including displaying GO, SLOW, WHOA and other health-related signage; sharing information about CATCH with staff and parents; providing health tips to parents; and using the CATCH PE Activity Boxes. Most schools also had a plan in place to teach the CATCH nutrition lessons and were working to implement this plan. All survey responses were shared with the district's Healthy Community School Coordinator who was able to target additional support to the CATCH Champions and teams based on their individual areas of need.

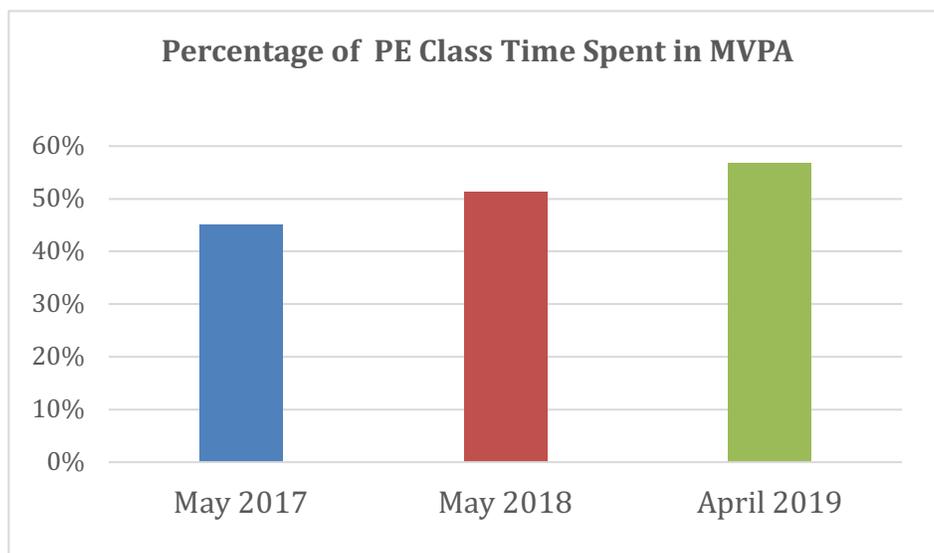
Upon repeating the survey in May with 20 schools responding, the following accomplishments were reported:

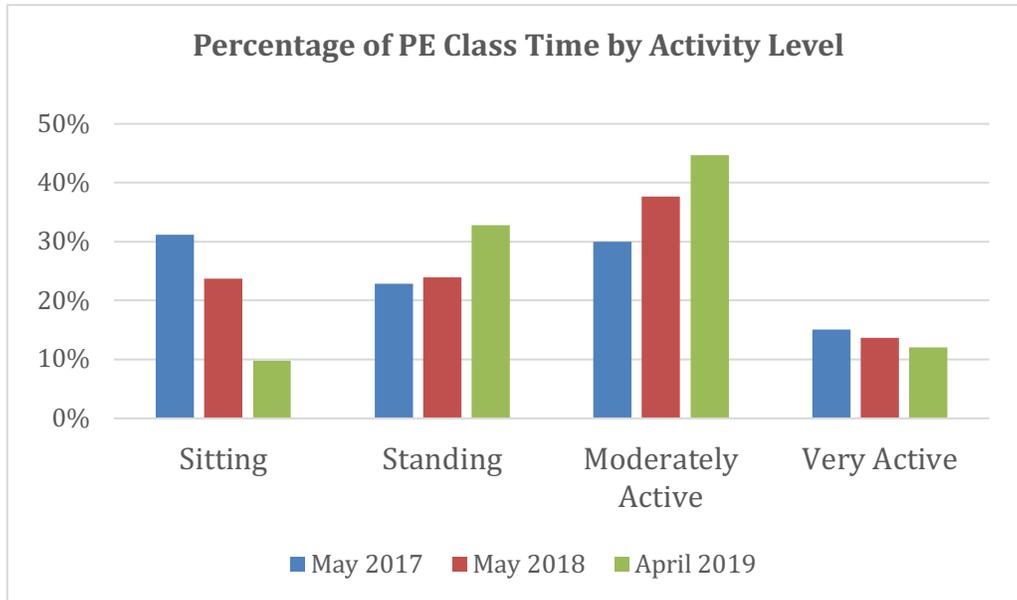
- All schools had an established CATCH Champion and team with a variety of positions represented (e.g., PE and classroom teachers, administrators, nutrition services staff, health services, parents).
- 70% of CATCH teams had presented to school faculty on the CATCH classroom curriculum; activity breaks; GO, SLOW, WHOA foods; and/or the CATCH Coordination Kit.
- All schools had displayed GO, SLOW, WHOA and other health-related signage in their common areas. Half of the schools had promoted health messages through displays of student work.
- 70% of schools had included health messages in their daily announcements.
- 90% of schools had provided health tips to parents through PTA meetings, school newsletters, family events, or other methods.

- 60% of schools had started a campus-wide staff health promotion activity, such as a wellness challenge, walking club, etc.
- All schools had used the CATCH PE resources (lessons and activity box) at least some of the time and 50% had used them most or all of the time.
- 75% of schools had a plan in place for teaching the classroom nutrition lessons. Two-thirds of those schools had implemented or mostly implement their plans. The remaining schools had implemented some aspects of their plans.
- 95% of schools had held a CATCH Family Event with an average attendance of 170 people. The remaining school was planning an event before the end of the school year.

System for Observing Fitness Instructional Time (SOFIT)

SOFIT observations were conducted in a sample of PE classes in two elementary schools and one middle school at baseline in May 2017 (7 classes), year 1 follow-up in May 2018 (7 classes), and year 2 follow-up in May 2019 (9 classes). The SOFIT tool assesses physical education practices by enabling direct observation and data collection on student activity levels and other class attributes. On average, the portion of PE class time that students spent in moderate-to-vigorous physical activity (MVPA) increased from 45% at baseline to 51% after one year of CATCH implementation and 57% after two years of implementation. A primary goal of CATCH PE is for at least 50% of PE class time to be spent in MVPA in alignment with national guidelines. Although the observed increase in MVPA did not reach statistical significance, CATCH was successful in helping teachers reach this 50% threshold. Furthermore, the portion of class time that students spent sitting decreased from 31% at baseline to 24% after one year and 10% after two years ($p < .05$). Of additional note, MVPA at baseline (45%) was higher than what is frequently observed in schools prior to CATCH implementation, likely due to some GCCISD PE teachers having had prior experience with CATCH.





Student Survey: 2018-19 Expansion Schools

Ten expansion elementary schools administered a modified version of the School Physical Activity and Nutrition (SPAN) survey in 4th and/or 5th grades and one middle school administered the survey in 6th grade, prior to CATCH implementation and again at the end of the school year.

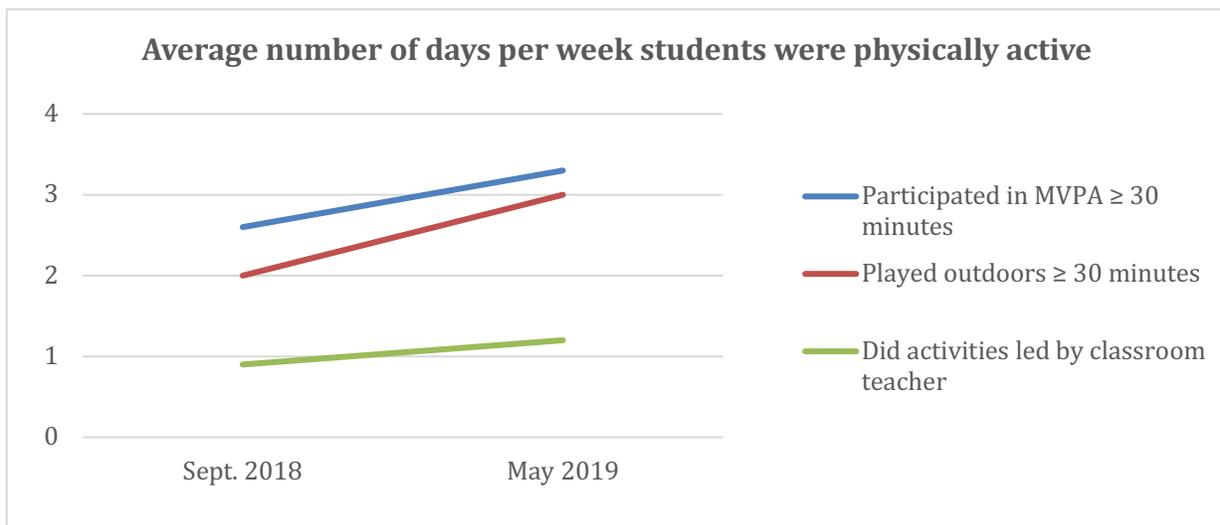
| | September 2018 | May 2019 |
|--|----------------|--------------|
| Sample (n) | 2,401 | 2,393 |
| Grade | | |
| 4 th grade | 1088 (45.3%) | 936 (39.1%) |
| 5 th grade | 1050 (43.7%) | 942 (39.4%) |
| 6 th grade | 263 (11.0%) | 515 (21.5%) |
| Gender | | |
| Male | 1193 (49.9%) | 1203 (50.4%) |
| Female | 1196 (50.1%) | 1182 (49.6%) |
| Race & Ethnicity | | |
| White | 395 (16.7%) | 415 (17.4%) |
| Black | 352 (14.9%) | 345 (14.4%) |
| Hispanic | 1037 (43.9%) | 1129 (47.3%) |
| Asian | 47 (2.0%) | 56 (2.3%) |
| Native Hawaiian or Other Pacific Islander | 9 (0.4%) | 8 (0.3%) |
| American Indian or Alaskan Native | 30 (1.3%) | 34 (1.4%) |
| Other | 492 (20.8%) | 402 (16.8%) |

Nutrition Outcomes:

- There was a significant increase in healthy food consumption with a change in mean scale score from 4.2 to 4.6 ($p < .01$). Healthy foods included: baked, grilled, broiled or steamed fish or chicken; nuts; whole grains; beans; vegetables; and fruit. There was not a significant change in mean scale score for unhealthy food consumption. Unhealthy foods included: hamburger meat, hot dogs, sausage, steak, bacon, or ribs; fried meats; French fries or chips; white breads or tortillas; sweet rolls, doughnuts, cookies, brownies, pies, or cake; candy; and frozen desserts.
- The average number of times students ate vegetables on the previous day increased from 1.5 to 1.8 ($p < .01$). There was also a small increase in the number of times students ate fruit on the previous day from 1.2 to 1.3 although this was not statistically significant.
- The average number of times students drank a glass or bottle of water on the previous day increased from 1.7 to 1.9 ($p < .001$). There was also an increase in regular soda (not diet) consumption from .5 to .6 times per day ($p < .001$). There was no change in the drinking of other sugar sweetened beverages or diet sodas.

Physical Activity Outcomes:

- There was a significant increase in the mean number of days per week that students engaged in MVPA for at least 30 minutes (2.6 to 3.3, $p < .0001$) and played outdoors for 30 minutes or more (2.0 to 3.0, $p < .0001$). The average number of days per week that students did physical activities led by their classroom teacher also increased from .9 to 1.2 ($p < .01$).
- There was no change in the number of hours per day that students spent watching TV or playing video games. The number of hours per day that students used a computer for anything other than school work increased from 2.4 to 2.6 ($p < .001$).



Health Beliefs and Self-Efficacy:

- The health beliefs scale included 3 statements:
 - If I eat healthy foods most of the time, I will have fewer health problems.
 - If I am physically active every day, I will have fewer health problems.
 - If I am overweight, I am more likely to have more health problems like cancer or heart disease.

A higher score on the scale (range: 3-9) indicates greater agreement with these statements. From pre to post-survey, there was a significant increase in mean score from 7.0 to 7.4 indicating greater agreement ($p < .0001$).

- Students also responded to two questions to indicate their self-efficacy for healthy eating and physical activity:
 - How sure are you that you can eat a piece of fruit instead of candy?
 - How sure are you that you can be physically active after school instead of watching TV?

Both questions were measured on a 1-3 scale (1=Not Sure, 2=A Little Sure, 3=Very Sure). The average self-efficacy score for eating fruit instead of candy increased from 2.5 to 2.6 ($p < .01$) and for being active after school increased from 2.2 to 2.3 ($p < .0001$).

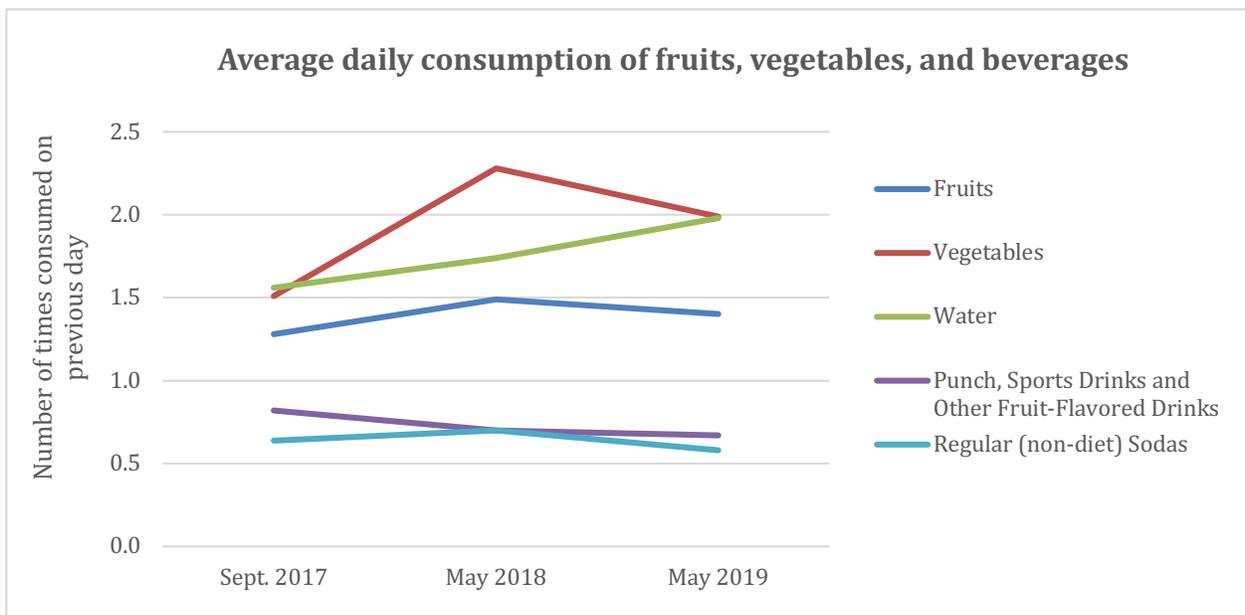
Student Survey: Pilot Schools Follow-up

The four pilot elementary schools, which began implementing CATCH in 2017, administered follow-up surveys to their fifth-grade students who also completed the survey at the start and end of their fourth-grade year.

| | September 2017 | May 2018 | May 2019 |
|---|----------------|-------------|-------------|
| Sample (n) | 391 | 383 | 361 |
| Grade: 4 th grade | 391 (100%) | 383 (100%) | 0 (0%) |
| 5 th grade | 0 (0%) | 0 (0%) | 361 (100%) |
| Gender: Male | 184 (47.3%) | 179 (47.0%) | 182 (50.4%) |
| Female | 205 (52.7%) | 202 (53.0%) | 179 (49.6%) |
| Race & Ethnicity: | | | |
| White | 35 (9.0%) | 37 (9.7%) | 28 (7.8%) |
| Black | 65 (16.8%) | 73 (19.2%) | 70 (19.4%) |
| Hispanic | 201 (51.9%) | 208 (54.6%) | 213 (59.2%) |
| Asian | 1 (0.3%) | 0 (0%) | 1 (0.3%) |
| Native Hawaiian or Other Pacific Islander | 3 (0.8%) | 1 (0.3%) | 0 (0%) |
| American Indian or Alaskan Native | 7 (1.8%) | 6 (1.6%) | 0 (0%) |
| Other | 75 (19.4%) | 56 (14.8%) | 48 (13.4%) |

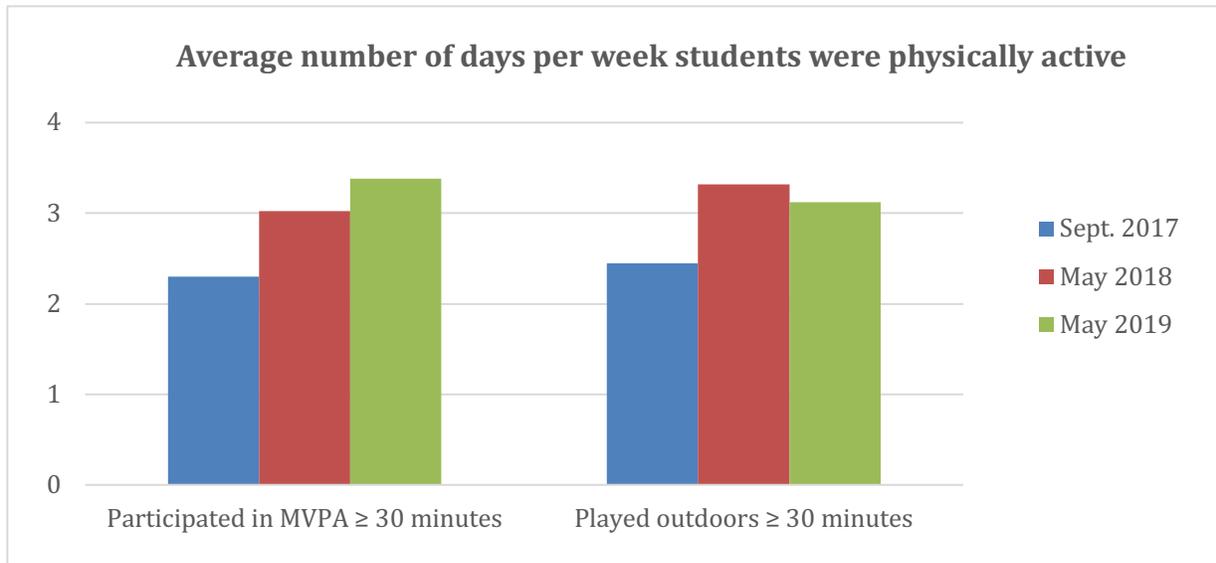
Nutrition Outcomes:

- From pre-survey to post-survey, there was a significant increase in healthy food consumption with a change in mean scale score from 4.5 to 5.4 ($p < .05$). This improvement was maintained at follow-up with a mean scale score of 5.1. Although unhealthy food consumption did not change significantly from pre-survey to post-survey, there was continued improvement in the second year leading to an overall decrease in mean scale score from 5.4 to 4.4 ($p < .01$).
- From pre-survey to post-survey, there was a significant increase in the number of times per day students ate vegetables from 1.5 to 2.3 ($p < .001$). This increase was maintained at follow-up with students consuming an average of 2.0 vegetable servings per day. Fruit consumption also increased significantly from pre-survey to post-survey (1.3 to 1.5 servings per day, $p < .01$) and was maintained at follow-up (1.4 servings per day).
- The number of times per day that students consumed a bottle or glass of water increased from 1.6 at pre-survey to 1.7 at post-survey ($p < .05$) and continued to improve at follow-up (2.0, $p < .01$).
- There was a non-significant decrease in Kool-Aid, sports drinks, and other fruit-flavored drinks (not including 100% fruit juice) from pre-survey to post-survey, however this continued to improve leading to an overall decrease in the number of times per day students drank these items (.82 to .67, $p < .05$). There was also a decrease in the number of times per day students drank regular soda (not diet) from .70 at post-survey to .58 at follow-up ($p < .05$).



Physical Activity Outcomes:

- From pre-survey to post-survey there were significant increases in the number of days per week that students participated in MVPA for at least 30 minutes (2.3 to 3.0, $p < .0001$) and played outdoors for at least 30 minutes (2.5 to 3.3, $p < .0001$). Time spent in MVPA continued to increase from post-survey to follow-up reaching 3.4 days per week ($p < .05$) and time spent playing outdoors was maintained at 3.1 days per week.



Health Beliefs and Self-Efficacy:

- From pre-survey to post-survey there was an increase in mean score on the health belief scale (range: 3-9) from 6.8 to 7.3 ($P < .001$), which was maintained at follow-up with a mean score of 7.4.
- From pre-survey to follow-up there was an increase in self-efficacy for healthy eating and physical activity. At pre-survey, 58% of students were very sure that they could eat fruit instead candy and 37% were very sure they could be physically active instead of watching TV. At post-survey, this increased to 62% and 43%, respectively, and at follow-up to 66% and 48%, respectively ($p < .05$).

FitnessGram® Testing

Goose Creek CISD performs annual FitnessGram testing for students in 3rd grade and above. To evaluate the impact of CATCH implementation on students' aerobic capacity and body composition, the percentage of students scoring in the healthy fitness zone (HFZ) for these items in 2016-2017 (baseline), 2017-2018, and 2018-2019 were compared.

Aerobic Capacity: Twelve elementary schools and three middle schools completed FitnessGram testing for aerobic capacity in both 2016-2017 and 2017-2018. From baseline

to year 1, there was not a significant change in aerobic capacity among students. Ten elementary schools and one middle school assessed aerobic capacity in both 2016-2017 and 2018-2019. From baseline to year 2, the percentage of students achieving HFZ for aerobic capacity decreased from 61.5% to 46.6% among boys ($p<.05$) and from 55.6% to 39.8% among girls ($p<.05$).

Body Composition: Twelve elementary schools and three middle schools completed FitnessGram testing for body composition in both 2016-2017 and 2017-2018. From baseline to year 1, there was not a significant change in the percentage of girls or boys achieving HFZ for body composition (girls: 54.9% to 53.5%; boys: 51.2% to 49.6%). Ten elementary schools and one middle school assessed body composition in both 2016-2017 and 2018-2019. From baseline to year 2, there was not a significant change in the percentage of students achieving HFZ for body composition (girls: 54.9% to 52.6%; boys: 50.2% to 47.8%).

Summary

Results from the CATCH Champion survey continue to reveal strong enthusiasm and support for CATCH in both the expansion and pilot schools. During the past year, most CATCH teams took an active role in engaging the school community and implementing strategies for creating a healthy school environment. Student outcomes for the expansion schools are similar to those observed during year 1 of the pilot implementation with increases in healthy eating and physical activity participation. Although improvements in unhealthy food and sugar-sweetened beverage consumption were not observed, this is also consistent with the year 1 pilot school results. During year 2, intake of unhealthy foods and sugar-sweetened beverages decreased significantly and, with continued CATCH implementation next year, the expansion schools are expected to follow a similar trajectory of maintained and improved student outcomes. The decrease in aerobic capacity observed in the FitnessGram data appears inconsistent with the student survey and SOFIT results indicating increases in daily physical activity and time spent in MVPA during PE classes. FitnessGram data is collected by PE teachers at each school and we therefore do not have information about the consistency of testing methods from year to year. Of note, the number of students who participated in FitnessGram decreased substantially from 2016-2017 to 2018-2019. On average, the number of students included by each school in 2018-2019 equaled just 65% of those included at baseline. While this may or may not have affected the results, it raises questions about reliability and other factors that could have impacted the data.