Western Oklahoma CATCH Coordinated School Health Initiative

Evaluation Summary

"It's working! In just five months, the kids truly know what the word CATCH is and they know it's just part of the routine at school. It's wonderful to see all of those skills working together in the PE class. And most importantly, the kids are having fun, being active and learning alongside their classmates. The initial survey and feedback created an AH-HA moment that truly opened up a conversation with the food director so much so that we have – together – made specific changes for next school year’s cafeteria menu and involved the kids along the way. The Go, Slow and Whoa curriculum is a great tool to use when teaching kids about the foods they eat."

- Michelle Davis, PE/Health teacher and Head Women’s Soccer Coach at Guymon Junior High

Project Overview

The Western Oklahoma CATCH Coordinated School Health Initiative aimed to increase physical activity and healthy eating, reduce obesity, and create health-promoting environments for approximately 2,000 K-8th grade students in Guymon Public Schools and approximately 200 K-5th grade students in Carnegie Public Schools. These districts are located in small, rural communities that are primarily low-income with 74% of students in Guymon and 79% of students in Carnegie eligible for free or reduced-price lunch. Additionally, 70% of students in Guymon are Hispanic and 37% of students in Carnegie are Native American, which research has shown further increases their risk for obesity. Funded by a generous grant from Blue Cross and Blue Shield of Oklahoma, and in partnership with The University of Texas MD Anderson Cancer Center, this one year project began in January 2016 and implemented the CATCH Coordinated School Health Program in Guymon Public School’s six elementary and one middle school and Carnegie Public School’s single elementary school.

The CATCH Program consists of five main components: 1) Classroom lessons for each grade level on nutrition, physical activity, and screen time reduction; 2) Enhanced PE instruction and activities designed to maximize moderate-to-vigorous physical activity (MVPA); 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 framework for collaboration among administrators, teachers, nutrition staff, parents, and other important stakeholders; and 5) Implementation training, technical assistance, and evaluation support.
Project activities included:

- Establishing a CATCH Champion and wellness team on each campus to spearhead and coordinate program efforts.
- Providing CATCH Implementation & Coordination Kit Training workshops to the CATCH Champions and wellness teams and a separate CATCH PE Training for all PE teachers.
- Providing each school with CATCH materials including: K-5th grade classroom teacher manuals (includes parent/family materials), Eat Smart Guidebook for child nutrition staff, CATCH PE Guidebook and Activity Boxes, CATCH Coordination Kit, and PE equipment.
- Conducting school site visits and providing technical assistance as needed.
- Data collection and analysis including student surveys, SOFIT (System for Observing Fitness Instruction Time) observations, BMI FitnessGram® testing (Guymon only), teacher training surveys, and CATCH Champion surveys.

**Project Timeline**

January 2016: CATCH PE Training in Guymon; PE teachers begin implementing the CATCH PE module

March 2016: Pre-implementation data collection in Guymon including student surveys and BMI FitnessGram® testing (5th and 7th grades)

April 2016: Pre-Implementation SOFIT observations in Carnegie

July 2016: CATCH PE Training for Carnegie Elementary School’s PE teacher

August 2016: Student pre-surveys administered in Carnegie (4th and 5th grades)

- CATCH Implementation & Coordination Kit Training in Carnegie; Teacher training surveys administered pre & post training; Full CATCH implementation begins

September 2016: CATCH Implementation & Coordination Kit Training in Guymon; Teacher training surveys administered pre & post training; Full CATCH implementation begins

December 2016: CATCH Champion surveys administered in Guymon and Carnegie

- Site visits in Guymon and Carnegie

- Post-implementation data collection in Guymon including student surveys and BMI FitnessGram® testing with the same cohort of students (currently in 6th and 8th grades) and SOFIT observations

- Post-implementation data collection in Carnegie including student surveys (4th and 5th grades) and SOFIT observations
Evaluation Results

Teacher Training Survey

The teacher training survey was administered prior to the CATCH Implementation & Coordination Kit Trainings, conducted in August and September 2016, and repeated immediately post trainings to assess changes in CATCH knowledge and implementation confidence. Forty teachers completed both the pre and post training surveys. Primarily, survey questions were divided into two scales:

Implementation Confidence Scale. Questions on this scale asked the teacher to rate his or her confidence level (1 = Not at all Confident to 5 = Very Confident) for changing the school health environment, implementing CATCH components, demonstrating activity breaks, convening the CATCH team every six weeks, leading CATCH team meetings, facilitating/teaching CATCH lessons, and using the Coordination Kit. (7 questions, possible scale score range: 7 – 35)

Beliefs Scale. Questions on this scale asked the teacher to rate his or her agreement (1 = Strongly Disagree to 5 = Strongly Agree) with statements such as: I understand my role on the CATCH team; Students will enjoy CATCH activities; CATCH can positively impact students’ health behavior; I can motivate students’ physical activity and healthy eating through my own behavior and encouragement; Activity breaks can be incorporated into class time. (5 questions, possible scale score range: 5 – 25)

As shown in the following charts, there was a statistically significant increase in teachers’ implementation confidence and positive beliefs about CATCH following implementation training. Additionally, the teachers were asked to rate their motivation for implementing CATCH with “1” being extremely unmotivated and “10” being extremely motivated. From pre to post training, teacher motivation increased from a mean score of 7.7 to 8.3 (p<.05).
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 beyond the initial grant period. Six CATCH Champions responded to a December 2016 survey regarding the implementation of CATCH best practices during the first 3-4 months of full program implementation. As noted in the following survey highlights, the application of recommended activities was numerous but variable across schools:

- A wide variety of positions were represented on the CATCH teams including PE teachers, classroom teachers, administrators, nutrition services staff, health services/nurses, counselors, community partners, parents, and students.
- A majority of CATCH teams (5 out of 6 responding) had met at least once every six weeks.
- Five of the six CATCH teams communicated “starred tasks” from the Coordination Kit to all school staff. These tasks, which are grouped into 6-week themes, promote school-wide coordination and consistency in the health messages delivered to students.
- Four of the six schools had included health messages in their school-wide announcements at least once a month.
- All schools had CATCH-related signage posted in their hallways and/or cafeteria. Half of the schools labeled foods on their cafeteria lines with “GO, SLOW, or WHOA”.
- All schools reported using the CATCH PE resources with four out of six using them most or all of the time.
- Five of the six schools had a formal plan for teaching the K-5th grade classroom (not PE) lessons. Three schools reported that their plan had been fully implemented.
- Five of the six schools had held or were planning to hold a Family Fun Night or other community event.

Owing to the unique strengths and challenges of each school community, campuses often progress to full program delivery at varying speeds. These survey results were used to target additional technical assistance to meet the needs of each CATCH Champion and team and to facilitate the development of sustainability plans for continued progress beyond the grant period.

System for Observing Fitness Instructional Time (SOFIT)

To evaluate the impact of CATCH on students’ MVPA engagement during physical education, pre and post SOFIT observations were conducted in a sample of PE classes at Carnegie Elementary School and post SOFIT observations were conducted in a sample of PE classes in one elementary school and the middle school in Guymon. The SOFIT tool assesses
physical education practices by enabling direct observation and data collection on student activity levels and other class attributes.

Prior to CATCH implementation, students in observed PE classes in Carnegie spent 27% of class time engaged in MVPA. Post-implementation, students in observed classes engaged in MVPA for 65% of class time, a statistically significant increase of 140%. Scheduling conflicts did not permit SOFIT data collection prior to implementation in Guymon. Post-implementation, however, students in observed classes engaged in MVPA for 68% of class time, well above expert recommendations that students be active for at least 50% of physical education.

* p < .01
Student Survey

Student pre-surveys were administered to all 5th and 7th grade students in Guymon in March 2016 and to all 4th and 5th grade students in Carnegie in August 2016. Post-surveys were administered to the same cohort of students in December 2016, approximately 3-4 months after both districts began to fully implement the CATCH Program. As noted in the results below, there were some positive trends in nutrition and physical activity outcomes but it appears that three months was not enough time to see substantial results. With most CATCH implementations, surveys are administered at the start of the school year in August and repeated at the end of the school year in May. This is the ideal time frame to begin seeing measureable results on self-reported physical activity and nutrition behaviors. The abbreviated time frame for this evaluation was necessitated by the January to December grant cycle and the preference of school administrators that full implementation coincide with the start of the school year.

<table>
<thead>
<tr>
<th>Sample (n)</th>
<th>Pre</th>
<th>Post</th>
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<tbody>
<tr>
<td></td>
<td>488</td>
<td>463</td>
</tr>
<tr>
<td><strong>Grade</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th grade</td>
<td>41  (8.4%)</td>
<td>33  (7.1%)</td>
</tr>
<tr>
<td>5th grade</td>
<td>236 (48.4%)</td>
<td>46  (9.9%)</td>
</tr>
<tr>
<td>6th grade</td>
<td>--</td>
<td>175 (37.8%)</td>
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<tr>
<td>7th grade</td>
<td>211 (43.2%)</td>
<td>--</td>
</tr>
<tr>
<td>8th grade</td>
<td>--</td>
<td>209 (45.1%)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>237 (48.8%)</td>
<td>222 (48.1%)</td>
</tr>
<tr>
<td>Female</td>
<td>249 (51.2%)</td>
<td>240 (51.9%)</td>
</tr>
<tr>
<td><strong>Race &amp; Ethnicity</strong></td>
<td></td>
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</tr>
<tr>
<td>White</td>
<td>103 (21.2%)</td>
<td>81  (17.5%)</td>
</tr>
<tr>
<td>Black</td>
<td>21  (4.3%)</td>
<td>18  (3.9%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>267 (54.9%)</td>
<td>264 (57.0%)</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
<td>22 (4.5%)</td>
<td>20 (4.3%)</td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>37 (7.6%)</td>
<td>37 (8.0%)</td>
</tr>
<tr>
<td>Other</td>
<td>36  (7.4%)</td>
<td>43  (9.3%)</td>
</tr>
</tbody>
</table>

* To follow the same students from pre to post in Guymon, we surveyed 5th and 7th grade students in March 2016 and 6th and 8th grade students in December 2016.

Nutrition Outcomes:

- There was a positive trend in healthy food consumption including baked, grilled, broiled or steamed fish or chicken; whole grains; nuts; beans; and fruits and vegetables. The mean composite score for these items increased from 4.8 to 5.3, although this was not statistically significant. There was also a small, non-significant increase in mean score for unhealthy food consumption from 4.8 to 5.1. Unhealthy
foods included red, processed, and fried meats; refined grains; French fries and chips; baked sweets (cookies, brownies, cakes, etc.); frozen desserts; and candy.

- There was a significant increase in the consumption of whole grain foods (brown rice or pasta; whole wheat breads and tortillas; etc.) from an average of .79 to .93 daily servings (p < .05). Vegetable consumption also increased from 1.8 to 2.0 servings but this was not statistically significant. There was no change in daily fruit consumption.

- There was a significant increase in water intake from an average of 1.8 servings per day to 2.0 servings (p < .05). There was no change in sugar sweetened beverage consumption including soft drinks, sports drinks, and other flavored drinks.

**Average number of times students ate whole grains, fruits, & vegetables the previous day**

![Bar chart showing average number of times students ate whole grains, fruits, & vegetables the previous day](chart)

* p < .05

**Physical Activity Outcomes:**

- Overall, there was no change in the number of days per week that students reported being physically active for at least 30 minutes, playing outdoors for at least 30 minutes, or participating in physical activities led by their classroom teacher. When assessing the schools individually, however, students at Carnegie Elementary School increased the number of days per week they were physically active for at least 30 minutes from 2.9 to 3.7 (p < .05).

- There was no change in the number of hours per day students watched TV or movies, used a computer for activities other than school work, or played video games.
BMI FitnessGram® Testing

As an additional student outcome measure, Guymon PE teachers conducted BMI FitnessGram® testing on the same cohort of students who participated in the student survey. The FitnessGram® uses Healthy Fitness Zones (HFZs) to evaluate fitness performance. The performance goal, or HFZ, for the BMI test is a range of BMI values that offers protection against disease and aligns with the CDC’s standards for a healthy weight. If a student’s BMI does not fall within the HFZ, it may otherwise be classified as Very Lean, Needs Improvement, or Needs Improvement-Health Risk.

As shown below, the percentage of students with a healthy BMI increased from 40% to 43% among males who were in 6th grade at post-test and from 52% to 61% among 8th grade females. The percentage of students with a healthy BMI decreased from 43% to 39% among 6th grade females and from 46% to 41% among 8th grade males. Also notable is a decrease from 50% to 41% of 8th grade males in the highest risk category for BMI as well as smaller decreases in this category for 8th grade females (24% to 18%) and 6th grade males (36% to 32%).
Publicity Highlights

To increase awareness of the Western Oklahoma CATCH Coordinated School Health Initiative in the Guymon and Carnegie communities and to acknowledge the generous support of Blue Cross and Blue Shield of Oklahoma, we have accomplished the following media outreach activities:

- We distributed a news release announcing our partnership with Blue Cross and Blue Shield of Oklahoma to implement CATCH in Guymon and Carnegie Public Schools. [http://catchinfo.org/thanks-to-bcbsok-catch-to-impact-2-rural-communities/](http://catchinfo.org/thanks-to-bcbsok-catch-to-impact-2-rural-communities/)


- We have provided frequent project updates on social media including Twitter, Facebook, and the CATCH newsletter and blog. To view these items, please go to: [http://catchinfo.org/catch-bcbs-ok-guymoncarnegie-promotions/](http://catchinfo.org/catch-bcbs-ok-guymoncarnegie-promotions/)