

# Evaluation of School Wellness Policies in South San Luis Obispo County

Report of the HEAL-SLO/ TCE School Wellness Grant

September 27, 2010

Prepared by: STRIDE  
Cal Poly State University  
Kinesiology Department  
San Luis Obispo, CA 93407-0386  
Administrative office: 805-756-0673



Project Director Ann Yelmokas McDermott, Ph.D., M.S., L.D.N.  
Associate Professor and STRIDE Director  
amcdermo@calpoly.edu  
direct phone: 805-756-6447

This evaluation and report represents the collaborative contributions of ten Cal Poly faculty and staff members with assistance from twenty Cal Poly students.

Component: Project Leader:  
Key Informants David W. Hey, Ph.D., CHES  
Assistant Professor  
Laurie Pugh, B.S.  
Research Assistant

Walk/PA Rosanna Taylor, M.S.  
Advocate for Health, Nutrition and Physical Activity

Plate Waste Arlene Grant-Holcomb, Ed.D., R.D.  
Lecturer

Photo-documentary Stephanie F. Teaford, B.A.  
STRIDE Community Liaison

**CAL POLY**

This document is funded by a grant from *The California Endowment* administered by the San Luis Obispo County Public Health and the Healthy Eating Active Living San Luis Obispo (HEAL-SLO) collaborative.



**STRIDE**

SCIENCE THROUGH  
TRANSLATIONAL  
RESEARCH IN DIET  
AND **EXERCISE**

# **Thank you to our dedicated health and wellness partners:**

- **Arroyo Grande Community Hospital**
- **Bright Futures- Lucia Mar School District**
- **Boys & Girls Club of SLO County**
- **Food Bank Coalition**
- **HEAL-SLO**
- **Lisa Ray's Donation Group**
- **The United Way of SLO County**

# Table of Contents

<u>Executive Summary</u> .....	5
<u>Definitions</u> .....	11
<u>Full Assessment</u> .....	12
<u>Key Informant Interviews and Modified School Health Index Score Cards</u> .....	12
<u>Key Informant Interviews</u> .....	12
<u>Physical Activity Assessment</u> .....	21
<u>Plate Waste Study Results</u> .....	22
<u>Attachment A – School Wellness Policy (SWP) Rationale</u> .....	28
<u>Attachment B – Heal SLO/TCE Purpose and Goals</u> .....	29
<u>Attachment C – Additional Childhood Obesity Information, Studies and Links</u> .....	31
<u>Attachment D – Research Model and Approach</u> .....	33
<u>Attachment E – Key Informant Interview Scripts</u> .....	35
<u>References</u> .....	37

## **Executive Summary**

### **The California Endowment (TCE) Grant**

A two year grant (October 2008-2010) was awarded to the San Luis Obispo County Public Health Department (SLO-PHD) so that outside agencies could engage in school wellness policy (SWP) advocacy and community activities to aid in combating the growing epidemic of obesity among the county's high risk populations. Under SLO-PHD oversight, Healthy Eating Active Living (HEAL-SLO) proposed school district outcomes, objectives, and indicators. (Attachment A provides the SWP rationale while Attachment B contains the HEAL-SLO/TCE purpose and goals.)

In March 2009, a research team from the newly formed STRIDE at California Polytechnic State University was contracted to review and evaluate Oceano Elementary Schools' eating and physical activity environments with the intent to create baseline and outcome measures for school wellness improvement and sustainability. In September 2009, a mid-cycle report summarized STRIDE's studies, observations and recommendations.

This final report evaluates Oceano's accomplishments against mid-cycle recommendations previously made and presents results and take-home messages. It also delineates any significant obstacles to progress and makes recommendations for the school's path forward for improvement and sustainability. First, a brief overview of the childhood obesity issue and a discussion of prevention through school intervention might be helpful.

### **Background--childhood obesity:**

The September 2009 mid-cycle report stressed the seriousness of the childhood obesity issue—both nationwide and in San Luis Obispo County. (Weight classification charts and definitions are included on page 10 and additional information, studies and links regarding this epidemic can be reviewed in Attachment C.) *In short, childhood overweight is one of the most serious problems currently affecting individual and public health.*<sup>i</sup> It may be attributed to a variety of behavioral factors such as poor eating habits, poor food choices, and lack of daily exercise, as well as the basically obesogenic environment in which we all live. Some reasons for concern and prevention include:

- Being overweight or obese increases many health risks for children
- Childhood obesity increases the risk of obesity in adulthood
- Obesity is starting at earlier ages.

### **Prevention—the logic and challenges of school intervention:**

Providing resources for primary prevention in children is advantageous. The economic costs incurred by the problem and its treatments are steep and may be underestimated.<sup>ii</sup> Schools represent a logical site for prevention because children spend approximately 6 hours a day attending classes most of the year, where 1-2 meals are consumed and resources such as school nurses and physical education programs are already in place.<sup>iii</sup> Although STRIDE offered recommendations which were designed to be less cumbersome for teachers and administrators, STRIDE acknowledges that the continuing statewide school climate of severe budget cuts and resource limitations has put a strain on many schools, including Oceano. In 2010, the Lucia Mar School District experienced a \$5 million budget cut and a layoff of 226 teachers, with 52 teachers rehired in June due to teacher retirements.

## **Summary of Results and Take-Home Messages:**

Oceano's progress toward healthy eating and physical activity was measured against the eight overall recommendations found in the mid-cycle report; with special attention given to the areas targeted by the school's community members. By reviewing the results, it is obvious that Oceano Elementary School took STRIDE's prior recommendations and the overall goal of wellness to heart.

For Oceano, end-point data collection involved three activities: photo documentary; a key informant interview where school wellness was rated with standardized CDC School Health Index Modules; and a plate waste study. No specific interventions were targeted for PE/Recess physical activity, so follow-up observations were not conducted. It is noted that plenty of additional opportunities for extracurricular physical activity (Monday Mile Club, Bike-to-School Days and Bike Rodeo) have been initiated since mid-cycle of this grant. Full recommendations are included in the body of this report. The following is a summary of the results and take-home messages:

### **1. Establish "Buy-In" from All School Staff**

Leadership is a key to success in the health and wellness arena. Oceano has some excellent champions for change, including Kim Shrode, PE teacher and Monday Mile Club coordinator; Connie Kessler, Garden Club coordinator; Jim DeCecco, Bike-to-School and Walk-to-School program coordinator; and Judy Stephens, Lucia Mar Food Services director, just to name a few. Because of these role models, student involvement has continued to be a highlight.

Judy Stephens has provided excellent leadership and has taken critical steps toward healthy lunches for Oceano Elementary students. With budget cuts, Mrs. Stephens is no longer in this position, the immediate future of food service is uncertain, and many fear that progress may be difficult to sustain. Moreover, some staff expressed concern about the sustainability of healthy eating once the TCE grant ends October 31, 2010.

Key informants felt that the establishment of a school wellness policy (SWP) was a strong start toward addressing student and family's health and fitness needs, but thought that further detail for the SWP was required. It was noted that Oceano has a school wellness committee, but it has low visibility and there are no parent members. Parental support for the committee and other efforts is crucial for wellness program sustainability.

Oceano's wellness newsletters and "Harvest of the Month Educator" newsletters have definitely helped get the word out about wellness. In the future, it would help to focus on utilizing existing communication channels and networks, such as faculty meetings, daily announcements, bulletin board flyers, and informational discussions (invite reputable outside speakers) in the faculty lounge or lunchroom. This will keep the momentum going without becoming cost-prohibitive.

Key informants still believe that school staff could work on their own wellness—thereby establishing themselves as positive healthy eating/physically active role models. To increase their enthusiasm and support, staff could be provided with support and incentives for their own wellness.

### **2. Have Lunch Groups Pilot "Recess Before Lunch"**

The school wellness policy encourages schools to allow students at least 20 minutes for lunch and to provide recess *before* lunch for all students through sixth grade. It was previously reported that students are anxious to get outside and may be rushing through lunch--increasing plate waste and not consuming the nutritious school lunch items. Currently, key informants stated that students still do not seem to have adequate time to eat. However, no pilots of "Recess-Before-Lunch" were attempted during this last year of the grant period, since Oceano had previously explored and decided against that approach. This is an opportune time to revisit the concept of recess-before-

lunch and recognize that often new programs are unsuccessful the first time around and this may simply be due to the environmental climate of the day.

Lillian Larsen Elementary School, in San Miguel, experienced success when they piloted “Recess-Before-Lunch” with one class. Limited pilot data showed reduced plate waste (more food in children, less food thrown away), better student eating habits and popularity with students. Come this fall, they have decided the entire school will be having recess before lunch. STRIDE again strongly recommends that Oceano recruit at least one class to pilot “Recess-Before-Lunch” and collect quantitative and qualitative data related to plate waste, classroom and playground behavior, faculty, foodservice staff and administration perceptions. Laura Learned, 3<sup>rd</sup> grade teacher at Lillian Larsen, would be a good resource and contact person should Oceano decide to pilot this model.

### **3. Family Involvement: Establish Parent Network**

STRIDE recommended that the school wellness committee promote involvement by students’ families and other members of the community in order to address the diverse needs of the students and their families, maximize resources, and ensure that health-related messages are consistent across the school, home, peer groups and community. *Successful schools involve students’ families and other members of the community.* As mentioned under recommendation number one, parent representation on the school wellness committee is crucial for wellness policy sustainability. Committee commitments could be shared (co-committee members) or shortened such that parents would reconsider joining.

Promotoras are an invaluable and revered component of many communities. Promotoras are local, trained community members who are “... sought after to provide advice, support, and tangible help.” They offer servicio de corazón (heartfelt service) and culturally relevant health prevention education and information to both native-born and immigrant communities. Promotoras training (offered by HEAL SLO) could increase knowledge, value, and participation of Spanish speaking families for all kinds of school programs, including wellness committees while creating a sustainable source of invested partners.

It would be a good idea to offer parents opportunities to participate in health-related fairs or farmers markets or one of the Monday Mile Club or Bike-to-School or Walk-to-School days. Community-based agencies often provide additional health-related activities for students and their families (e.g., ropes courses, wilderness trips, butterfly viewing, sailing trips, theatrical performances, fun runs and walks etc.). In addition, other schools have utilized student wellness groups to act as healthy role models for their peers and reach families with wellness information. Building on positive student-teacher relationships and programs such as Bike-to-School and composting, perhaps “student council” members might be willing to become health promoters under appropriate leadership.

### **4. Taste Testing Fruits and Vegetables correct margins in paragraph below**

This recommendation was heartily adopted as evidenced by students’ pleased faces throughout the photo documentary. “Harvest of the Month” tastings have been very popular—with two items being tasted and voted against each other. STRIDE was impressed with students’ willingness to try and enjoy new foods. Using stickers for those who had tried items worked well. In this way, teachers and parents were able to follow-up and ask about a student’s experience. Unfortunately, the tastings will be discontinued unless a coordinator is identified to replace the Boys and Girls Club grant coordinator in the tasting effort. Perhaps a teacher or volunteer parent can adopt this role, or it may be best to recruit new outside help. Considering the budget restrictions, reductions in support staff, and a heavy burden on the current staff, it may be time to brainstorm ways to

recruit new volunteer staff may be the answer. The central coast is known for its strong community engagement. For example, the Tribune newspaper lists volunteer opportunities each week. Social clubs, such as retiree clubs, may be willing to support events that occur at a fixed frequency, such as once a month Fresh Farm Tastings.

The “Chili-con-Limon” seasoning offered as a condiment in the lunch room, helped expand the amount and types of fruits and vegetables students were willing to try. This seasoning is well-known to many in the Latino community. It will continue to be available.

Students also received expanded nutrition education through the Central Coast Agricultural Network’s (CCAN) “Farm to School” Program. Plans are in place to make the salad bar more attractive to students.

In the future, student-led clubs could construct posters, table tents or hold a classroom competition highlighting the “fruit or vegetable of the month” complete with the benefits and nutritional information and interesting factoids about food. Correct portion sizes could also be emphasized at nutrition stations and be accompanied with photos of food in the correct, age appropriate portion sizes. Although the caloric and nutritional needs of a 5 year old are very different from a 10 year old, children of all ages now receive the same portions. This practice encourages overeating in younger children.

## **5. Increase Physical Activity during PE and Recess, Enhance Academic Outcomes**

Schools that offer physical activity programs which meet daily standards report strong and positive effects on academic achievement, including concentration; improved mathematics, reading, and writing test scores; and reduced disruptive behavior, even when time for physical education reduces the time for academics.<sup>iv</sup>

End-point key informant interviews indicated that Oceano has improved or stayed the same in many areas of physical activity programs—such as students being active at least 50% of the class time and teachers avoiding practices that result in student inactivity. Key informants generally perceive that P.E. is enjoyable and that there is an adequate teacher/student ratio. They give recess high marks for physical activity as well. This is excellent news and Oceano should celebrate their accomplishments. However, caution should be exercised as some areas are trending down, and without active encouragement students may have a tendency to drift toward less-active behavior. STRIDE recommends that leadership conduct a follow-up evaluation of the physical activity programs (especially keeping moderate/vigorous activity for a minimum of 50% and hopefully 80%) sometime during the next year. Oceano’s one credentialed P.E. teacher, Kim Shrode, is enthusiastic and proficient and STRIDE expects Oceano will continue to excel in this area.

### **5a. Promote Extracurricular Physical Activity**

Oceano went well beyond physical education classes and recess activity to promote cardiovascular fitness through lifelong physical activity. The school did an excellent job of providing opportunities before, during, and after school hours for fitness activities, intramural programs, and interscholastic sports programs. The Monday Mile Club, Bike-to-School Days, and Walk-to-School Days were all extremely popular. Teacher Jim DeCecco enlisted the help of the Bike Coalition and RideShare partnership to provide mini grants for the Safe Routes to School Bike riding program. STRIDE applauds Oceano for jump-starting this variety of extracurricular activity programs. The students and teachers are really moving and having fun while doing it.

## **6. Continue to Promote School Garden**

Connie Kessler, first grade teacher and Garden Club coordinator, ran the club and maintained the school garden with the help of the club. She received \$2,000 for the Garden Club in May 2010 to



be spent for the shed, soil, tools and curriculum. This will go a long way toward garden sustainability. The afterschool Garden Club harvests fresh produce—some of which is utilized for tastings in the cafeteria. Mrs. Kessler uses every opportunity to show her students where their food comes from and how it grows. She also conducts cooking activities with her students.

Another success was the Central Coast Agricultural Network's (CCAN) "Farm to School" Program which made it possible to bring fresh produce from local farmers to the school cafeteria. CCAN coordinated and facilitated the relationship with food services for cafeteria tastings.

#### **7. Establish "User-Friendly" Identification System for Healthy Snacks and Correct Portions**

In order to emphasize healthy snacks and correct portion sizes, it was recommended that a flyer be developed and distributed in tier 1 and 2 snack nutrition information, in Food Bank back packs and in the parent newsletter. The "Go, Slow, Whoa Foods" classroom presentations have been a huge success and fill this need by instructing students regarding which foods are healthiest and can freely be eaten, which foods to be cautious of and limit consumption, and which foods should be avoided or used sparingly.

STRIDE was pleased to see that Oceano implemented the Harvest-of-the-Month suggestion made at mid-cycle. The school also produced the "Harvest of the Month Educator" –newsletters with taste testing results for the year. Periodic nutrition and cooking classes are offered during the summer by partnering with community agencies such as the UC Extension and the Boys and Girls Club and can build on the foundation developed in the academic year.

The cooking cart acquired by Oceano provides the school with a unique way to teach nutrition, and introduce new recipes, foods and a love of cooking to any class that utilizes it. Before the cart was acquired, 50% of the teachers expressed an interest it using it in their classrooms. Unfortunately, with no coordinator or sign-up system in place, the cart is being underutilized. STRIDE strongly urges the school to put their collective imagination together to select a coordinator and design a check-out system, and engage other school staff or community volunteers to support the cooking cart program's continuity.

#### **8. Limit Access to Competitive Foods**

The phrase "competitive foods" typically refers to foods and beverages which are offered at school outside of the school meal program or allowed to be brought from home. The usual culprits—chips, candy and cookies—are high in calories, fat, saturated fat, sugar, and sodium. Soda, flavored waters, energy and sports drinks provide plenty of calories with no nutritional value. *Research shows that access to competitive foods in school reduces the quality of student's diets*, yet it's easy to see that many students will pass up a bran muffin if there are donuts around for sale or for free. Pricing healthiest foods cheaper than less healthy foods, increasing of healthy foods to ensure more choices for students and eliminating all advertising of unhealthy foods are just a few ways to deal with this issue. Educating parents about the facts on foods, beverages and snacks brought from home will support them in making the best choices for their children. Many schools choose to develop school policies that apply junk food limits to all school foods, whether brought from home, offered by teachers, or offered at school events, such as family nights. Like parenting and teaching, delivering consistent messages and consistently upholding the rules are key factors to the successful adoption of behavior change.

Key informant data showed that Oceano could do a better job by prohibiting the use of food as a reward or punishment. Purchasing non-food incentives for the Monday Mile Club was a big step in the right direction. Also, the school could also make more of an effort to ensure fundraising efforts are supportive of healthy eating and that everybody 'walks the talk'. Although not many, there were still some unhealthy food fundraisers which caused some concern.

Oceano Elementary School needs to create an environment where the healthy choice is the easy choice day in and day out.

### Sustainability

Oceano Elementary has spent a considerable amount of time and effort in making school wellness changes—much to its credit. However, even with the best of intentions, changes are often difficult to sustain by any institution. Leaders move on to new positions or grant periods end. Yet, we want our students’ healthy eating and physically active habits to stay intact. So, what is the key to sustainability?

In a national study examining school wellness policies across the U.S., 68% of policies met the mandate to name an agency or a group responsible for monitoring the policy and evaluating its implementation. Nevertheless, 79% of the policies reviewed for this Oceano study did not include language to support the development of an implementation plan with measureable objectives, dates and responsibilities.<sup>v</sup>

For change to last there must be a *system* in place.  
Just as in education, ***the goals and objectives of the SWP need to be monitored, measurable, and a written plan should in place to make revisions.***  
***Lastly, a person (point of contact) needs to be assigned (documented) to lead each area on the SWP.***

Still, mere compliance with an SWP doesn’t ensure a powerful policy.<sup>vi</sup> The heart of the effort will still be with people-- not in a document. Schools and community partners must continue to work together to value the contributions of the school to childhood health and strengthen wellness policies and programs. For many children, school provides a stable and nurturing environment and the primary meal of the day.

### Conclusion

We hope these results and take-home messages have been helpful. An in-depth, full assessment follows. This past school year has been a challenging one due to budget constraints and layoffs. Regardless, the school has generally promoted healthy eating and increased physical activity with excitement and enthusiasm. While some changes still need to be pursued, we’re confident that Oceano Elementary School will continue to make great strides in its wellness program and achieve overall success.

*"...a small change builds on itself. . . . Whatever movement occurs is amplified, producing more movement in the same direction. A small action snowballs, with more and more and still more of the same, resembling compounding interest.*

Peter M. Senge  
Director, Systems Thinking and  
Organizational Learning  
MIT Sloan School of Management

*Ultimately, the reason these challenges must be addressed is for the health of the child.*

## Definitions

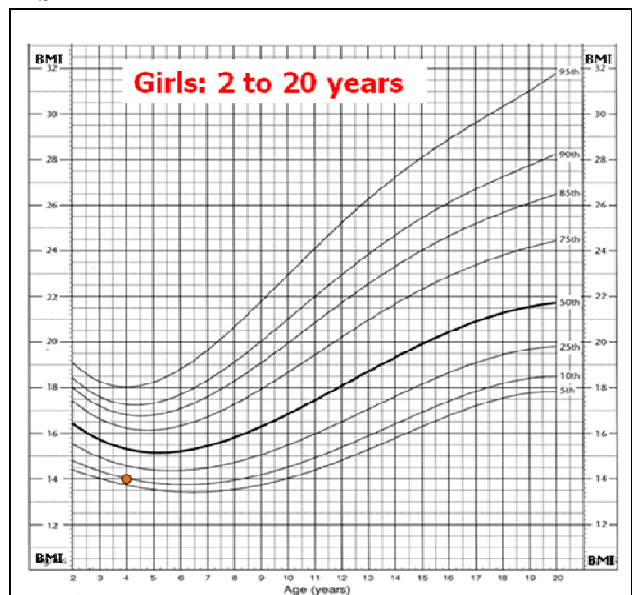
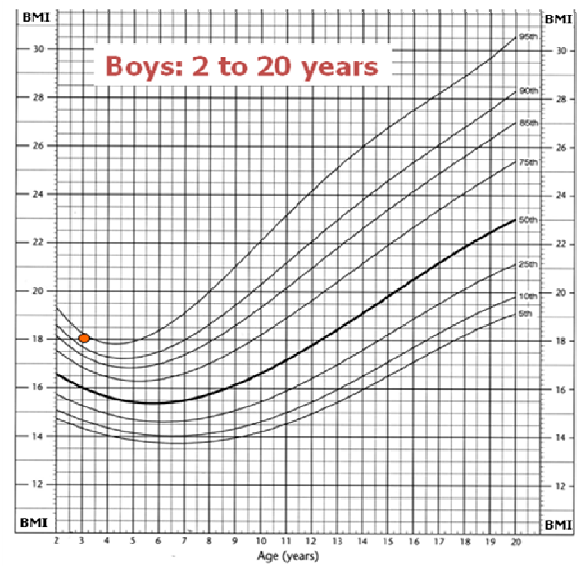
**Body Mass Index (BMI)** is a number calculated from a person's weight and height. BMI provides a reliable indicator of body fatness for most people and is used to screen for weight categories that may lead to health problems.

**Weight classifications** are defined in the chart below. Childhood weight is a strong predictor of teen, young adult and adult weight and health.

Weight Classifications using Body Mass Index (BMI)			
<a href="http://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html">http://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html</a>		<a href="http://www.cdc.gov/healthyweight/assessing/bmi/">http://www.cdc.gov/healthyweight/assessing/bmi/</a>	
Children		Adults	
Use age sex-specific growth charts		BMI number calculated from a person's weight	
Underweight:	≤ 5 <sup>th</sup> percentile	Underweight:	BMI ≤ 18
NORMAL Weight:	6-84 <sup>th</sup> percentile	NORMAL Weight:	BMI 18-24
OVERWEIGHT:	85-94 <sup>th</sup> percentile	OVERWEIGHT:	BMI 25-29
OBESE:	≥ 95 <sup>th</sup> percentile	OBESE (note there are 3 obesity classes):	BMI 30+

[www.cdc.gov/healthyweight/assessing/bmi/index.html](http://www.cdc.gov/healthyweight/assessing/bmi/index.html).

## CDC BMI-for-Age Charts for Boys and Girls



## **Full Assessment**

### ***Key Informant Interviews and Modified School Health Index Score Cards***

#### **Oceano Elementary (K-6), Oceano, California**

Oceano Elementary School Wellness Policy

Key Informant Interview Oceano Elementary, Oceano (n=5)

People Responsible: David Hey, PhD, CHES, and Laurie Pugh, Research Assistant

Cal Poly Kinesiology – STRIDE

Baseline Data Collection: April 2009 – May 2009

Outcome Data Collection: March 2010 – April 2010

Date of Report: June 24, 2010

#### **Key Informant Interviews**

In spring 2009, the STRIDE research team conducted 5 key informant interviews, with the purpose of getting a pulse on the effectiveness of school wellness policies for Oceano Elementary. Please see Attachment E for key informant interview scripts. Key informant interviews are qualitative (descriptive) in-depth interviews with people who know what is going on in a certain community; for instance at Oceano Elementary School. These “key leaders” or wellness “experts” (e.g., PTO moms, wellness committee members, health and PE teachers, food service managers, nurses and school district administrators) have first-hand knowledge, so we asked for their personal observations and unique expertise concerning the school’s wellness policy. As researchers, we are *very interested* in how the leaders’ view the effectiveness of their school wellness policies. These school experts provided *valuable insight* regarding the nature of problems and gave important recommendations for solutions.

#### **Results:**

##### **Key Informant Interview Ocean Elementary, Oceano (n=5)**

Interviewees:

- a. 1 school board member – (conducted in person)
- b. 1 food service staff member – (conducted by telephone)
- c. 1 school nurse – (conducted by telephone)
- d. 2 teachers - (2nd grade and 5th grade) – (1 conducted by telephone and 1 conducted in person)

## SUCCESS - Existing *Successes* based on Key Informant Perceptions:

For the purposes of this interview, an asterisk (\*) indicates that 3 or more of the 5 key informants felt that the associated area had met or exceeded the SWP.

### School Administration Policy/Community Enhancement and Engagement

1	* Fundraising efforts supportive of healthy foods and eating in place
2	* Restriction of unhealthy foods are in place (namely, restriction of soda)
3	With 90% of students eating school lunch, less concern about what is in box lunches from home
4	Communication of wellness policy to students, parents, staff and visitors in place –statements alluded to the fact that there could be a survey developed to see if parents want to teach a health related workshop specific to their interest area (i.e., cooking) afterschool – parent “buy in” critical for parents to be on same page with SWP
5	* Ongoing “Farmer’s Market” for fundraiser is an excellent example of a working SWP Selling gift wrapping instead of food is another excellent example of a working SWP!
6	* Creation of School Wellness Committee
7	Sixth grade students providing nutrition lessons to the student body at lunch time, coupled by administrators, teachers and staff encouraging healthy selections before lunch room dismissal (upper grades only)
8	* HOM established student voting system (Yes-good/no-not so good) so favorite foods are recognized and offered in future
9	* Parents have been supportive
10	School has done a good job supporting SWP considering budget constraints 2008 – 2010
11	* Boys and Girls Club involvement was aggressive and saturated the school campus including meeting attendance and was extremely helpful to the teachers
12	School confiscates competing foods (chips, candy, energy drinks) and the parents recognize and trust the school’s actions on this policy
13	* Family Movie Nights created atmosphere of trust between school and families

### Cafeteria

1	* School foods are meeting or exceeding state mandates for nutritional quality (SB 12/965 requirements)
---	---

2	* Meals include lower fat options
3	* Nearly unanimously, school experts cited that they commend food service manager (Judy Stephens) on implementing changes to the lunch room foods when the 2006 changes went into effect (she effectively communicated changes –thwarting possible dissention.)
4	* Low-fat milk is available
5	Clean /Pleasant atmosphere to eat
6	Mobile cooking cart so teachers can provide students fun and easy nutrition education lessons in the classroom – method championed
7	* Food Bank Program provides additional food for salad bar and HOM tastings
8	Food Service staff is committed to SWP and will continue changing the menus to better meet the needs of the students

### PE/Physical Area

1	* Quality PE program in place, although the number of days access is limited
2	* Quality PE instructor in place (highly touted)
3	* “Run-a-thon”/ “jog-a-thon” are excellent examples of a working SWP
4	Encouragement from teacher Jim Pacheco to ride bikes to school

### CHALLENGES - Existing *Challenges* or Key Informant Perceived Barriers

For the purposes of this interview, an asterisk (\*) indicates that 3 or more of the 5 key informants felt that the associated area had greater room for improvement.

### School Administration Policy/Community Enhancement and Engagement

1	School wellness committee temporarily not meeting due to budget constraints
2	* Student and family involvement in food offerings
3	* Offering food as reward during school hours
4	* Students bringing high calorie snacks from outside school

5	* All school staff acting as positive role models for food/soda
6	District Wide School Wellness Committee meets as larger more encompassing body rather than having each individual school form a “healthy team” for unique school environment collaboration
7	School wellness policy is solid working document (good start but requires further detail with benchmarks for success)
8	* Although not many, there still were some unhealthy food fundraisers which caused some concern
9	Not being able to get all SWP information to the parents
10	Not certain if SWP literature is reaching parents, but note students are excited about the SWP
11	* Parents are perceived to be “extremely busy”; more parental involvement is perceived to be key for the future
12	Student overweight and poor food choices
13	Nutrition education to parents when students are in pre-school – start earlier
14	Teacher buy-in and commitment for adherence to the SWP
15	Sixth grade programs rely heavily on the school nurse for implementation
16	* Teachers are stretched for time during the school day
17	* Nutrition education at every grade level, especially K-4 when they are still open to trying new foods
18	* District-wide School Wellness Council isn’t currently meeting due to budget constraints
19	* Once the district SWC meets again, recruit more parents for participation
20	Candy and cookies are still being utilized as reward and at school functions; use stickers, licorice and Dolphin Dollars instead
21	Family Movie Nights provided some non-nutritious foods; the SWP message needs to be consistent so the overall message is championed for buy-in and impact

### Cafeteria

1	Salad bar is being utilized (with continued future efforts of making the salad bar more attractive to students)
---	---

2	* Adequate time to eat
3	Mobile cooking cart utilization was perceived to be low
4	Utilize and coordinate the cafeteria and classrooms to conduct nutrition education, in a lab format
5	Continue changing the school menu, yet poll parents and students to see what offerings they would like to see on the school menu

### **Physical Education/Physical Activity**

1	Physical activity during recess (monitors could encourage more movement)
2	* Boys and Girls Club is driving force between making the connections (school to the SWP)
3	Monday Mile Club and HOM taste tests – concern about sustainability with staffing



## Modified School Wellness Score Cards

Modified School Wellness Score Cards developed by the CDC in (2005) as a means to evaluate school wellness policies, California Project LEAN modified the score cards to better match with the California State Wellness Policy (SWP) mandates. The four SWP modules we utilized check and score various components (e.g., physical activity, nutrition, communication, and food service) as stated in the respective school wellness policy.

By completing the score cards, each school can easily identify and prioritize changes that will improve policies and programs related to student health. Again, with score cards completed by “key leaders” schools can personally tailor their own programs to meet the needs of their schools. In order to offset test-retest reliability the “practice effect” researchers deemed it necessary to include new “key informants” in round two. This was considered important as respondents “learn” to answer the same questions from the first survey in a favorable fashion. Tables 4 through 9, included on the following pages, illustrate results of baseline ( $n=5$ ) and outcome measures ( $n=5$ ) from the sample of key informants.

The significant differences of mean wellness policy outcome measures (**viz., after school wellness initiatives were implemented**) are color coded (**in yellow**). **These areas are considered “problematic” where substantial disagreement between the key informant’s opinions occurred** (i.e., areas where school wellness policy improvement could occur).

## Oceano Elementary School

Elementary School Physical Activity and Nutrition

CDC School Health Inventory Score Cards

Module 1: School Health and Safety Policies and Environment

**Table 1.** Mean Baseline ( $n=5$ ) and Outcome ( $n=5$ ) Measures for School Health and Safety Policies and Environment

Policy	Fully in Place 3.0	Partially in Place 2.0	Under Development 1.0	Not in Place 0
1. Written school nutrition & physical activity policies	<b>3.0</b>	2.5		
2. Restrict access to foods & beverages of minimal nutritional value	2.8	<b>2.2</b>		
3. Restrict access to other foods that do not meet SB 12 requirements	2.9	<b>2.2</b>		
4. Communicate school policies to students, parents, staff and visitors		2.3/ <b>2.0</b>		
5. Representative school health committee	<b>2.6</b>		1.1	
6. Recess	<b>3.0</b>	2.4		
7. Access to physical activity facilities		2.1/ <b>2.4</b>		
8. Adequate physical activity facilities		2.2/ <b>2.2</b>		
9. Prohibit using food as reward or punishment		2.3	<b>1.0</b>	
10. Fundraising efforts supportive of healthy eating		2.2	<b>1.2</b>	

Group 1 ( $n=5$ ) March – May 2009 baseline measures (average): Standard font

Group 2 ( $n=5$ ) March – May 2010 outcome measures (average): **Bold font**

## Oceano Elementary School

Elementary School Physical Activity and Nutrition

CDC School Health Inventory Score Cards

Module 3: Physical Education and Other Physical Activity Programs

**Table 2.** Mean Baseline ( $n=5$ ) and Outcome ( $n=5$ ) for Physical Education and Other PA Programs

Policy	Fully in Place 3.0	Partially in Place 2.0	Under Development 1.0	Not in Place 0
1. 200 minutes of physical education every 10 days	<b>2.8</b>	2.5		
2. Sequential physical education curriculum consistent with standards		2.3/ <b>2.6</b>		
3. Students active at least 50 percent of class time	2.8/ <b>2.8</b>			
4. Adequate teacher/student ratio	2.6/ <b>2.8</b>			
5. Teachers avoid practices that result in student inactivity	2.7	<b>2.1</b>		
6. Physical education is enjoyable	2.8/ <b>3.0</b>			
7. Promote community physical activities	2.9	<b>2.4</b>		
8. Instruction for special health care needs	2.6	<b>2.3</b>		
9. Credentialed physical education teachers	3.0/ <b>3.0</b>			
10. Professional development for teachers	2.8	<b>2.5</b>		
11. Participation in extracurricular physical activity programs	2.7	<b>2.2</b>		
12. Community access to school facilities		2.2/ <b>2.5</b>		

Group 1 ( $n=5$ ) March – May 2009 baseline measures (average): Standard font

Group 2 ( $n=5$ ) March – May 2010 outcome measures (average): **Bold font**

## Oceano Elementary School

### Elementary School Physical Activity and Nutrition CDC School Health Inventory Score Cards

**Table 3.** Mean Baseline ( $n=5$ ) and Outcome Measures ( $n=5$ ) for Nutrition Services

Policy	Fully in Place 3.0	Partially in Place 2.0	Under Development 1.0	Not in Place 0
1. Snack/a la carte and beverage offerings inside and outside cafeteria offer appealing accessible, affordable foods that meet the requirements of: SB 12 and SB 965	2.8	<b>2.5</b>		
2. Promote healthy food and beverage choices	2.6/ <b>2.8</b>			
<b>3. Student and family involvement in the food offerings at school</b>		<b>2.0</b>		<b>0.8</b>
4. Breakfast and lunch programs	2.7/ <b>3.0</b>			
5. Low-fat and non-fat milk available	3.0/ <b>2.8</b>			
6. Meals include appealing, low-fat items	2.8/ <b>3.0</b>			
7. Food purchasing and preparation reduces fat	<b>2.8</b>	2.5		
8. Adequate time to eat school meals		2.5/ <b>2.2</b>		
9. Clean, safe, pleasant cafeteria	2.8	<b>2.4</b>		

Group 1 ( $n=5$ ) March – May 2009 baseline measures (average): Standard font

Group 2 ( $n=5$ ) March – May 2010 outcome measures (average): **Bold font**

## ***Physical Activity Assessment***

### **Mode of Transportation to School**

Classroom teachers took a transportation survey to determine how students got to school--rather than directly observing student transportation methods to and from school as was done last year. Jim DeCecco, Bike-to-School coordinator, compiled the survey numbers from April 23, 2010:

**Figure 1.** Results of Spring 2010 Transportation Survey Regarding Student Transportation Mode Enroute to Oceano Elementary School (N=442):

<b>Mode of Transportation</b>	<b>Number Surveyed (N=442)</b>	<b>Percent of Students</b>
Walk	214	48.4
Bike	13	2.9
School Bus	18	4.1
Car	197	44.6

### **Physical Activity at Recess and PE**

No specific interventions were targeted for PE/Recess physical activity, so follow-up observations were not conducted. However, end-point key informant interviews indicated that Oceano has improved or stayed the same in many areas of physical activity programs—such as students being active at least 50% of the class time and teachers avoiding practices that result in student inactivity. Key informants generally perceive that P.E. is enjoyable and that there is an adequate teacher/student ratio. They give recess high marks for physical activity as well.

This is excellent news and Oceano should celebrate their accomplishments. However, caution should be exercised as some areas are trending down, and students may have a tendency to drift toward less-active behavior. STRIDE recommends that leadership conduct a follow-up evaluation of the physical activity programs (especially keeping moderate/vigorous activity for a minimum of 50%, and hopefully 80%) sometime during the next year. Oceano's one credentialed P.E. teacher, Kim Shrode, is enthusiastic and proficient and STRIDE expects Oceano will continue to excel in this area.

### **Extracurricular Physical Activity**

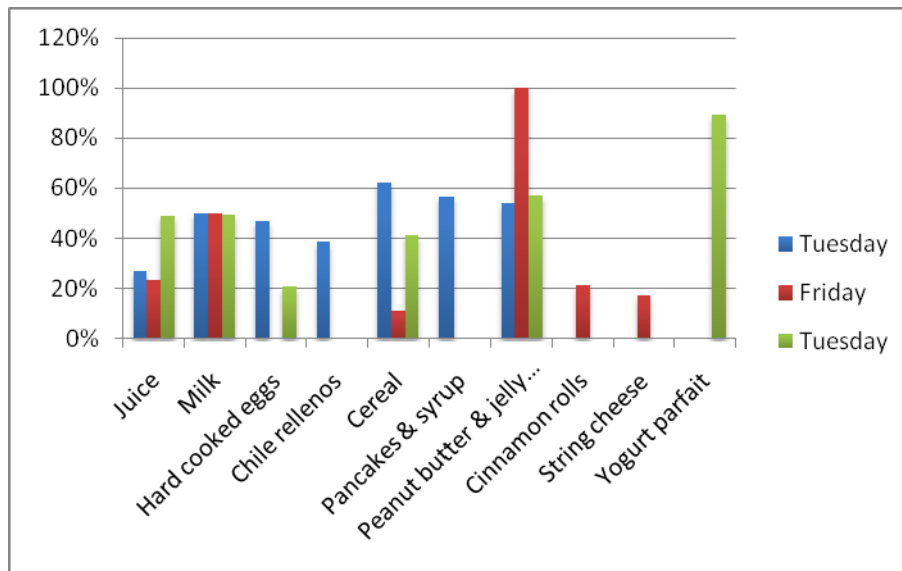
Plenty of additional opportunities for extracurricular physical activity (Monday Mile Club, Bike-to-School Days, Bike Rodeo) have been initiated since mid-cycle of this grant. Oceano went well beyond physical education classes and recess activity to promote cardiovascular fitness through lifelong physical activity.

The school did an excellent job of providing opportunities before, during, and after school hours for fitness activities, intramural programs, and interscholastic sports programs. The Monday Mile Club, Bike-to-School Days, and Walk-to-School Days were all extremely popular. Jim DeCecco enlisted the help of the Bike Coalition and RideShare partnership to provide mini grants for the Safe Routes to School Bike riding program. STRIDE applauds Oceano for jump-starting this variety of extracurricular activity programs. The students are really moving and having fun while doing it.

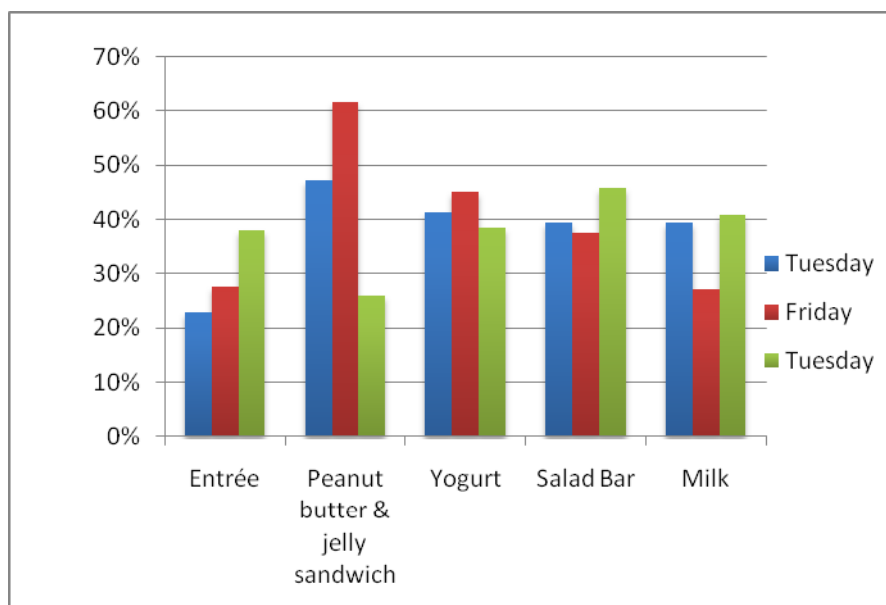
## Plate Waste Study Results

Plate waste data was collected using the same methodology reported in the 2009 *Evaluation of School Wellness Policies in South San Luis Obispo County*. Data was collected on 3 non-consecutive days between April 13, 2010 and May 11, 2010. Dates were selected based on the availability of the research assistants and convenience for the school administration and foodservice staff. Aggregate plate waste compares total weight of a served meal component with the weight of that component that is discarded by students at the end of the meal. Findings are listed immediately below.

**Figure 2.** Spring 2010. Percentage of breakfast foods served at Oceano Elementary School discarded in the trash by students on Tuesday April 13, Friday April 16 and Tuesday April 23, 2010.



**Figure 3.** Spring 2010. Percentage of lunch foods served at Oceano Elementary School discarded in the trash by students on Tuesday April 13, Friday April 16 and Tuesday April 23, 2010.



**Figure 3. Oceano Elementary School plate waste comparison – Baseline 2009 and follow up 2010**

Meal	Food or Beverage	Total Served Weight in lbs.	Plate Waste Weight in lbs.	2009 Plate Waste	Days Sampled	Total Served Weight in lbs.	Plate Waste Weight in lbs.	2010 Plate Waste	Days Sampled
<b>Breakfast</b>	Egg entree	15.6	6.4	41.2%	2	15.1	7.4	49.0%	2
	Entrée alternate – Peanut butter & jelly sandwich	2.4	1.4	58.3%	1	5.1	3.0	58.4%	3
	Breakfast bread	79.7	16.8	21.1%	2	46.0	10.0	21.7%	1
	Breakfast combination entrée	59.6	30.2	50.7%	1	34.7	13.6	39.2%	1
	Fruit	7.3	4.6	63.6%	3				0
	Juice	130.5	27.8	21.3%	3	112.0	35.6	31.8%	3
	Milk	128.0	48.4	37.8%	3	119.0	59.7	50.2%	3
	<b>Lunch</b>	Entrée of the day	271.1	60.6	22.4%	3	276.3	80.4	29.1%
	Entrée alternate	12.5	5.6	44.9%	3	26.6	10.0	37.6%	3
	Yogurt	32.5	19.6	60.3%	3	29.1	12.2	41.7%	3
<b>Totals</b>		1,013.0	221.4	21.9%		842.4	231.9	27.5%	

**Discussion**

Data on the 2009/2010 plate waste comparison charts does not indicate improvement in total plate waste at Oceano Elementary School. In fact, total plate waste as a percentage of food served, was greater in 2010 than it was in 2009. Worth noting is the reduction in yogurt waste-- attributed in part to a conscious change to a smaller portion yogurt container following last years report.

Qualitative findings reported by research assistants are similar to 2009:

- Whole fruit (except bananas) is frequently discarded with only one or two bites taken.
- Chocolate milk and 1% milk are selected by students much more often than non-fat milk.
- Milk cartons are frequently discarded unopened.
- When sandwiches are served crusts are seldom consumed.
- Few students take leafy greens or lettuce from the salad bar.
- Waste appears to be greater among students from lower grades.

The number one recommendation following the 2009 plate waste data reporting was to pilot a “recess-before-lunch” schedule. This pilot was not attempted at Oceano during the grant period. It is noted that before Oceano made the decision against piloting the recess-before-lunch schedule, they did get opinions from other schools who had tried the schedule.

*Nevertheless, STRIDE continues to recommend that Oceano Elementary at least pilot such a schedule, so that the staff can evaluate the risks and benefits within their environment and for themselves.*

One third grade teacher at Lillian Larsen Elementary school adopted this recommendation for a short term pilot in one class, that ran from the end of Spring break until the end of the school year (about 9 weeks). The plate waste team learned of this pilot late in the plate waste collection process so an additional 1-day sample of Mrs. Learned’s 3<sup>rd</sup> grade class was completed on May 28, 2010. The class followed a “recess-before-lunch” schedule once they returned from spring break (approximately 7 weeks). It was not feasible to separate and weigh all of the salad bar components for this 1-class sample so plate waste was measured only for the entrée, fresh fruit and milk and is summarized in the tables below:

<b>Mrs. Learned's 3rd grade class, Lillian Larson School (n=25)</b>			
<b>May 28, 2010 - Friday</b>	Total served Weight in lbs	Plate Waste Weight in lbs	Percent waste
Pepperoni or cheese round	7.3	0.5	6.2%
Fresh Apples	3.2	1.5	46.0%
Milk	10.5	1.5	14.3%
<b>Totals</b>	<b>20.9</b>	<b>3.4</b>	<b>16.3%</b>



Even this limited pilot data seems to provide evidence that supports at least pilot testing this “recess-before-lunch” schedule at Oceano. Please examine some lessons learned from Lillian Larsen’s experience in the transcripts provided below.

The following is the personal email communication with Laura Learned which took place just before plate waste data was collected and after the “recess-before-lunch” schedule had been in place about 6 weeks on May 25, 2010. Mrs. Learned’s responses are transcribed exactly as originally written.

**AGH: Why did you start this trial of recess before lunch?**

**LL:** Why we started it was because from the research and other school experiences that have been related to us by our Physical Education Specialist it was something worth looking into. The schools that have done it successfully had their food waste lessen and their students were more focused in the afternoon because they had had the chance to run and play and then eat and not just rush their eating to go out and play.

We were hoping that all the primary grades would be the pilot after spring break but there were just too many obstacles to overcome, i.e. yard duty people, change in the lunch schedule to name just a couple that I volunteered to do it with my class so that we would have some data to share with the school district prior to implementing it school wide next fall.

**AGH: How have the children accepted recess before lunch?**

**LL:** The kids love it before lunch and I think there are a couple of reasons for that. Right now we are the only class out there so all the space is "ours". Also we take out our own equipment so there is always something to "play" with. They also are eating much better. Just from my very non-scientific observations there is a lot less waste with my class than with the general population who are not having recess before lunch.

**AGH: Have there been any complaints of hunger during recess or other challenges?**

**LL:** The only real challenge I have found is being sure that they use the restroom before we come back otherwise we are constantly in the need of using the restroom all afternoon. No real hunger issues that I have been made aware of.

**AGH: Do foods and beverages appear to be consumed more completely?**

**LL:** Looking at your statistics [school-wide] I would say just in "general" that the waste is a lot less than the percentages listed. The item I see wasted the most is the milk. The kids just do not drink it.

**AGH: Any observations about behavior in the classroom after the lunch period compared to after recess?**

**LL:** With this particular class behavior in general is an issue. We have some students who feel it is either not important to do their work or to behave or both. I haven't seen a great improvement in behavior after lunch but I also haven't seen a deterioration of behavior after lunch. I just see things as far as behavior about the same whether we have recess before lunch or after.

**AGH: Do you recommend continuing recess before lunch in your class and/or extending to other**

classes?

**LL:** One reason that I am piloting this recess before lunch is so that we can create the schedules for aides, lunch etc. for next year over the summer so that we can go school wide in the fall.

**AGH:** What are the administrative or school policy issues related to a change to recess before lunch?

**LL:** We have the "blessing" from our current administrator to go forward with recess before lunch next year. What our main goal will be is to do the scheduling over the summer for aides so that we have the support on the playground and in the lunchroom when needed and the number of kids in the cafeteria is not more then they can handle at one time. It can be done we just need to start the year that way instead of trying to implement something after the year has already started.

\*\*\*\*\*

Laura Learned's initiative and interest in improving wellness among children at Lillian Larsen Elementary School are significant factors in the success of the "recess-before-lunch" pilot. Recess before lunch is not the norm. Only 10.4% of schools that include recess periods schedule recess before the lunch according to a 2006 study.<sup>vii</sup> However, more schools are moving in that direction, especially since the data demonstrate beneficial effects.

"Schools that have tried it report that when children play before lunch, there is less food waste and higher consumption of milk, fruit and vegetables. And some teachers say there are fewer behavior problems."

<http://www.nytimes.com/2010/01/26/health/26well.html>

Emphasis on recess before lunch and reducing plate waste in elementary schools is not inconsistent with concerns about childhood obesity and wellness. The focus is on improving consumption of foods that meet the U.S. Dietary Guidelines and National School Lunch Program goals of providing 1/3 of the USRDA for calories, protein, vitamins and minerals for the age group served. Waste from planned meals represents nutrients that children don't consume and costs of food, labor and supplies.

The importance of adequate nutrition and relationship to learning, attentiveness and classroom discipline is well documented among all children but is especially important among low income children who might not have a breakfast or lunch at all or at least not a meal that provides ¼ to 1/3 of the RDA for calories, protein, vitamins and minerals as prescribed by the National School Breakfast or Lunch Programs<sup>viii</sup>

### **Recommendations**

Based upon research and Lillian Larsen's successful experience, STRIDE recommends that Oceano Elementary recruit at least one class to pilot "recess-before-lunch" and collect quantitative and qualitative data related to plate waste, classroom and playground behavior, faculty, foodservice staff and

administration perceptions. That would allow the school to assess its own experiences before permanently dismissing the concept. Mrs. Learned would be an excellent contact person. The *NFSMI Best Practice Checklist for School Nutrition Professionals Implementing or Assessing Recess before Lunch in Elementary Schools* is also recommended as a resource. This guide was developed by "...an expert panel of school nutrition directors, principals, and state agency personnel representing four USDA regions."<sup>ix</sup>

Scheduling recess before lunch is important but not the only method for improving intake of healthy, nutrient dense meals for elementary school children. Continued work to improve menu plans that include a variety of foods that meet the US Dietary Guidelines and also appeal to children is essential. This process can be enhanced through campus and external programs to expose children to fruits, vegetables, whole grains and low fat dairy products in ways that are engaging and fun.

Acceptance of whole fruit such as apples, oranges and pears was low. Cutting fruit into wedges or sections presents quality challenges related to discoloration and is time consuming to do onsite or expensive to purchase already prepared, but investigation of how to best serve fresh fruit for acceptance by students seems to be worthwhile.

Inclusion of adults who eat with children and model healthy eating and meal-time conversation might also be beneficial.

Portion-size requirements of the National School Lunch Program (NSLP) are smaller for Kindergarten through third grade students than for fourth through twelfth grade students. However in the elementary environment that may include kindergarten through sixth or eighth grade it is not uncommon for program directors to serve the larger portions to all students to simplify portioning and allow for the use of pre-portioned or ready-to-serve items. This can contribute to overconsumption or increased waste in the lower grades. Exploration of NSLP best practices used to manage these challenges is also recommended.

## **Attachment A – School Wellness Policy (SWP) Rationale**

The Federal Child Nutrition and WIC Reauthorization Act of 2004 included a new requirement that all school districts participating in the U.S. Department of Agriculture subsidized meals program, authorized by the Richard B. Russell National School Lunch Act or the Child Nutrition Act of 1966 must establish a school wellness policy for improving student nutrition and physical activity by July 1, 2006 (Public Law 108-265). This new federal policy was intended to prompt schools nationwide to develop comprehensive initiatives to promote healthful nutrition and physical activity programs and policies.

This legislation also placed the responsibility of developing a wellness policy at the local level, so that the individual needs of each district can be addressed through appropriate measures. According to the requirements for the Local Wellness Policy, school districts must set goals for nutrition education, physical activity, campus food provision, and other school-based activities designed to promote student wellness. Additionally, districts are required to involve a broad group of individuals (i.e., public health department, HEAL-SLO, Cal Poly STRIDE, school board members, school administrators, etc.) in policy development and to have a plan for measuring policy implementation.

The Lucia Mar Unified School District drafted a formal wellness policy on April 4, 2006. Arguably, schools cannot achieve their primary mission of education if students and staff are not physically, mentally and socially healthy. The underlying belief is that all schools (regardless of level) should provide a campus-wide environment where students are taught healthy eating and physical activity knowledge, skills and values. In addition, an effective school wellness policy should include the built environment of the campus which would provide ample opportunity to practice these skills on a daily basis.

## **Attachment B – Heal SLO/TCE Purpose and Goals**

The purpose of the grant was to engage in school wellness policy advocacy and community activities to combat the growing epidemic of childhood obesity among the county’s high risk populations. In 2008, the public health department engaged the County Office of Education (COE), by focusing on pilot programs in Oceano supported by the Boys and Girls Club (B&G) and in San Miguel support was provided by the San Miguel Resource Connection (SMRC). A list of activities and objectives were drafted by the grant committee consisting of the different agencies. A list of activities and objectives are listed in the next “Benchmark” section.

### **HEAL-SLO/TCE Goals and Benchmarks**

- **Capacity Building**
  - Attend at least 2 statewide/regional activities
  - Develop at least 2 new revenue sources
- **Community Engagement**
  - Conduct advocacy training with at least 25 new parents/teen leaders
  - Engage other parent/community organizations on the need for childhood obesity policies and programs
  - Establish supportive collaborative for school wellness councils (SWC) and recruit school wellness council members
    - Provide resources, technical assistance/support, and training as appropriate to the school wellness councils
- **Assessment**
  - Facilitate a review of environmental supports/barriers and provide technical assistance/support for assessments
    - Conduct walkability and food availability assessments, student physical activity and nutrition analysis
    - Compile assessment findings in a report for each school district
  - Conduct at least 4 teen presentations on assessment findings to policy makers
- **Policy Development and Advocacy**
  - Research other school wellness policies and develop comprehensive resources for the school wellness council
  - Research recent California school wellness legislation; develop reference sheet for school wellness council
  - Convene each school wellness councils for policy development and revision meetings
  - Facilitate school wellness advocacy for school board member approval of school wellness programs
  - Implement programs to demonstrate sustainable, long-term solutions to obesity prevention in schools
- **Implementation Monitoring and Peer Learning**
  - Develop measures and collect data to assess TCE/HEAL-SLO activities
  - Conduct follow-up survey of attitudes/knowledge of local policymakers on the environmental and policy influences of obesity prevention

- Review school wellness policy process and outcome evaluations/program implementation with school wellness councils
- Present challenges/successes to school board in at least 2 meetings
- Disseminate executive summaries of evaluation findings
- Coordinate youth leaders to present highlights in year 2 at a county-wide meeting of all school district superintendents and COE superintendent

## Attachment C – Additional Childhood Obesity Information, Studies and Links

Childhood overweight is one of the most serious problems currently affecting individual and public health.<sup>x</sup> The prevalence of American children classified as “overweight” or “obese” has tripled in the past 20 years<sup>xi</sup> and currently those numbers conservatively are known to exceed 30 percent.<sup>xii</sup> Moreover, Centers for Disease Control (CDC) data showed that Mexican American children, between the ages 6-11, were 1.3 times more likely to be overweight as Non-Hispanic White Children.<sup>xiii</sup> (<http://www.cdc.gov/nchs/data/hus/hus08.pdf>)

San Luis Obispo County data also shows increasing rates of childhood overweight and obesity.<sup>xiv</sup> Seventy four percent of children ages 6 to 11 in 2007 report they do not meet daily exercise requirements and 25 percent reported that they ate fast food the previous day (California Data Book, San Luis Obispo County, 2007). Physical fitness tests conducted in the 2007-2008 school year show that 19.1 percent of San Luis Obispo 5<sup>th</sup>, 7<sup>th</sup>, and 9<sup>th</sup> grade children are not in the Healthy Fitness Zone, indicating “overweight” or “obese” students.<sup>xv</sup> During the same fitness testing year (2007), data showed that 33 percent of the Latino children were not in the Healthy Fitness Zone, indicating a health disparity correlating with the demographic distribution of low income families and the enrollment of Hispanic or Latino children in the north and the south portions of the county.<sup>xvi</sup> In fact, recent data from UCLA shows that the poorest people are at highest heart disease risk.<sup>xvii</sup>

Obesity occurs when a child consumes more calories than he or she uses. But this imbalance between calories consumed and calories used isn’t merely the result of the child’s behavior. It is the result of many different factors—including behavioral, environmental and genetic factors. (<http://www.cdc.gov/obesity/childhood/causes.html>). One such factor is what experts call an “obesogenic” environment. Americans live in an environment which is promoting weight gain. For instance, today the United States produces about 4200 kcals (kilocalories) per day for every man, woman and child; whereas a range of only 1500-2500 kcals is necessary for healthy weight maintenance. Things like greater food availability, a decrease in home cooking, portion distortion and decreased breakfast consumption, advertising regulations and sedentary pastimes all contributed to this change over the past thirty years.<sup>xviii</sup> Our genetic makeup did not change over the past thirty years, but our environment including product marketing practices targeting children and families, certainly has changed.

### Reasons for concern:

- 1. Being overweight or obese increases many health risks for children.** The CDC website points out that obese children and adolescents are at risk for health problems during their youth and as adults. For example, obese children and adolescents are more likely to have risk factors associated with cardiovascular disease (such as high blood pressure, high cholesterol, and Type 2 diabetes) than are other children and adolescents. (<http://www.cdc.gov/obesity/childhood/index.html>.) Additionally, a New England Journal of Medicine study concluded that “The prevalence of the metabolic syndrome is high among obese children and adolescents, and it increases with worsening obesity.” (<http://content.nejm.org/cgi/content/abstract/350/23/2362>)<sup>xix</sup> Metabolic syndrome is a

“cluster of conditions that occur together, increasing the risk of heart disease, stroke and diabetes.” While having just one of these conditions — increased blood pressure, elevated insulin levels, excess body fat around the waist or abnormal cholesterol levels — isn’t diagnosed as metabolic syndrome, it still contributes to the risk of serious disease. The risk is even greater if more than one of these conditions occur in combination.<sup>xx</sup>

<http://www.mayoclinic.com/health/metabolic%20syndrome/DS00522> . Of children born in the year 2000, it is estimated that one in three will become a diabetic in their lifetime and those with diabetes will lose, on average, 10–15 years of life. This is directly related to weight, and Latinos are at greater risk than Caucasians or African Americans.

(<http://www.cdc.gov/chronicdisease/resources/publications/AAG/ddt.htm>)

- 2. Childhood obesity increases the risk of obesity in adulthood.** Obese children and adolescents are more likely to become obese as adults.<sup>xxi</sup> For example, one study found that approximately 80% of children who were overweight at ages 10–15 years were obese adults at age 25 years.<sup>xxii</sup> The study also found that if overweight begins before 8 years of age, obesity in adulthood is likely to be more severe.

(<http://www.cdc.gov/obesity/childhood/index.html>)<sup>xxiii</sup>

- 3. Obesity is starting at earlier ages, so we must take steps to prevent it sooner.** Nearly one in five U.S. four-year-olds are obese, according to a study published in the *Archives of Pediatrics and Adolescent Medicine*.<sup>xxiv</sup> Yet, it’s possible to prevent some negative consequences if people are informed about the problem and encouraged to make changes. Making lifestyle changes such as increased moderate/vigorous exercise and improved nutrition can even delay or derail the development of serious diseases that may result from metabolic syndrome.<sup>xxv</sup>



## Attachment D – Research Model and Approach

### Using the Ecological Model: Five Levels of Influence

Individually-based approaches to overweight and obesity prevention and treatment are widely viewed as ineffective by themselves; because they do nothing to alter the environmental factors believed to contribute to the population-wide overeating and inadequate physical activity.<sup>xxvi</sup> This study used ecological models for assessment and intervention because it takes the connections between people and their environments into consideration.<sup>xxvii</sup> The focus remains on environmental factors (barriers to healthy eating and physical activity) and moves away from simply “blaming the person” for their health status.<sup>xxviii</sup> Researchers and practitioners systematically assess and intervene on each of the following five levels of influence:

1. Student factors (example: individual attitude and knowledge of food, Physical Activity (PA) etc.)
2. Family factors (example: SES, family role modeling, knowledge of food etc.)
3. School/Work factors (example: built environment, water availability etc.)
4. Community factors (example: demographics, SES, walking and biking to school etc.)
5. Public Policy (example: school wellness policy, budgetary means to accomplish objectives)

### Broad Research Goals

Once baseline measures were collected and analyzed; overarching program goals were established to drive stronger school wellness policy recommendations. They included:

- a. Advance policy and environmental changes that promote healthy eating and physical activity options in school.
- b. Help initiate sustainable program initiatives which would help motivate students to eat healthier and engage in more physical activity.
- c. Strive to make the “easier” or “default” choice the healthier choice.
- d. Improve the health of the staff as well as the health of the students.

### Data Collection Theory:

The newly formed STRIDE research team targeted socio-ecological domains in-line with national wellness policy recommendations and theory to guide data collection and ultimately provide intervention recommendations. Domains--health behavior thought most to influence eating and physical activity—included:

1. Individual – measured actual physical activity during recess and physical education – data collection methods were direct observation using a standardized physical activity assessment instrument and photo documentary for communication clarity when presenting data.
2. Individual – measured actual amount of food consumed or thrown away – data collection method was a plate waste study. Photo documentary utilized to supplement recommendations.
3. Family – measured family involvement in food selections (school and home) – data collection method was key informant interview and modified school health index score card

instrument. The photo documentary was utilized to supplement box lunch contents brought from home or purchased on the way to school; document volume and portion control, and provide clarity for presenting recommendations.

4. School – measured built environment of the physical barriers to healthy eating and physical activity -including access and promotion of healthy food options – data collection method was photo documentary, key informant interviews, and modified school health index score cards.
5. Community – measured built environment of the physical barriers to healthy eating and physical activity – data collection included: photo documentary including examples of safe routes to school and potential business or vendors near the school, and key informant interviews.
6. Policy – measured written school wellness policy – data collection method was key informant interview and modified school health index score card. Completion by key informants (N=5) specific to each school site. Specific interest areas included: identification of the barriers and successes to the school wellness policy since it was implemented in 2006.

### **Data Collection Methods**

Data collection revolved around five measurement activities: photo documentary (built environment), direct observation (physical activity and cafeteria), key informant interview (n=5), modified elementary school health index score card (n=5), and a plate waste study. Please view the photo documentary analysis. Results and suggestions from the photo documentary analysis have been integrated with the component and overall recommendations.

## Attachment E – Key Informant Interview Scripts

### Baseline Data: Key Informant Interview Script (2009)

Script Introduction (Interviewer: David Hey – March through May 2009)

In 2006, a revised Student Wellness Policy was adopted and implemented at your school (provide copy of school wellness policy). We would like to ask you some questions to learn your opinions about the student wellness policy that was implemented at your school.

Let's start with the policies your *school has been working on so far*...

1. In your opinion, what were the most important changes that happened as a result of the Student Wellness Policy being implemented at your school?
2. What were the easiest changes to make when the Student Wellness Policy was implemented?  
Interviewer prompt: Why do you think this/these changes were made so easily?

### Easiest Changes (2006)

3. What strategies were used that helped ease these changes into place?
4. What were, or continue to be, the most difficult changes to make when the school wellness policy was implemented? Interviewer prompts? Why do you think this/these changes were so difficult? What strategies were used to make these changes? If you had it to do again what would you do differently?

Let's talk about the policies *you have not yet changed*.

5. What were the policies you had planned to change but have not yet been able to change?
6. In your opinion, what were or are the barriers that keep these changes from happening at your school?
7. What would you say are the most important next steps to take that will make this school a healthier place for students? Interviewer may prompt ... Why do you think so? Can you give me a little more detail?
8. What would you say are the most important next steps to take that will make this school a healthier place for teachers and all school staff members?

### Outcome Data: Key Informant Interview Script (2010)

Script Introduction (Interviewer: Laurie Pugh – March through April 2010)

1. What were the biggest health and wellness milestones this year?
2. What were the biggest health and wellness disappointments?

3. Were there any pivotal times this year when there was stability of a particular intervention? (If so, what were the circumstances?)
4. There were several different health and wellness activities and events to be implemented this past year. Do you think you could list all of these health and wellness activities and events? Name all the activities that come to mind?
5. Okay so now you told me about several interventions (some that worked- and some that didn't work). Of those that did work, why did they, and what funding *and what staffing* are being used to keep the sustainable interventions in place?
6. Tell me about the health and wellness interventions that didn't work (if applicable). (Why do you think this was the case?)
7. Were there any inputs or concerns from the parents? (If so, please elaborate).
8. If you had unlimited support and funding to try one health and wellness initiative that you tried over the course of the year, (or one you didn't) what would it be?
9. What word would describe your personal overall feeling of the program experience this past year?

## References

---

- <sup>i</sup> Hill, J. O., & Trowbridge, F. L., (1998). . . . Childhood Obesity: Future directions and research priorities, *Pediatrics*, 101(3), 570-574.
- <sup>ii</sup> Colditz, G. A. (1999). Economic costs of obesity and inactivity. *Medicine in Science Sports and Exercise*, 31(11 Supplement), S663-7.
- <sup>iii</sup> Story, M. (1999). School-based approaches for preventing and treating obesity. *International Journal of Obesity Related Metabolic Disorders*, 23(Supplement 2), S43-S51.
- <sup>iv</sup> Symons CW, Cinelli B, James TC, Groff P. *Bridging student health risks and academic achievement through comprehensive school health programs*. *Journal of School Health*. 1997; 67: 220-227.
- <sup>v</sup> Moag-Stahlberg A, Howley N, Luscri L. A national snapshot of local school wellness policies. *J Sch Health*. 2008; 78: 562-568.
- <sup>vi</sup> Metos J, Nanney MS. The strength of school wellness policies: one state's experience. *J Sch Health*. 2007; 77: 367-372.
- <sup>vii</sup> Lee, S. M., Burgeson, C. R., Fulton, J. E., & Spain, C. G. (2007). Physical education and physical activity: Results from the school health policies and programs study 2006. *Journal of School Health*, 77(8), 435-463.
- <sup>viii</sup> Getlinger, M. J., LAUGHLIN, C. V. T., Bell, E., Akre, C., & Arjmandi, B. H. (1996). Food waste is reduced when elementary-school children have recess before lunch. *Journal of the American Dietetic Association*, 96(9), 906-908.
- <sup>ix</sup> Rainville, A. J., Lofton, K. L., & Carr, D. H. (2009). Recess before lunch in elementary schools: Development of a best practice checklist. *Journal of Child Nutrition and Management*, 33(2)
- <sup>x</sup> Hill, J. O., & Trowbridge, F. L., (1998), Childhood Obesity: Future directions and research priorities, *Pediatrics*, 101(3), 570-574.
- <sup>xi</sup> Ogden, C. L., Flegal, K. M., Carrol, M. D., & Johnson, C. L. (2002). Prevalence and trends in overweight among US children and adolescents, 1999-2000. *JAMA*, 288(14), 1728-1732.
- <sup>xii</sup> Hedley, A. A., Ogden, C. L., Johnson, C. L., Carroll, M. D., Curtin, L. R., & Flegal, K. M. (2004). *JAMA*, 291(23), 2847-2850.
- <sup>xiii</sup> CDC. Health United States. (2008) Table 75. Accessed September 11, 2009 from [http://www.cdc.gov/nchs/data/08.pdf](http://www.cdc.gov/nchs/data/hus/08.pdf).
- <sup>xiv</sup> Children Now. 2007 *California County Data Book*, San Luis Obispo County. Available at [www.childrennow.org](http://www.childrennow.org). (Accessed Tuesday, August 18, 2009).
- <sup>xv</sup> California Department of Education. Physical Fitness Testing (2008). December 1, 2008 available at <http://www.cde.ca.gov/ta/tg/pf/>. (Accessed Tuesday, August 18, 2009).

- 
- <sup>xvi</sup> Childhood Obesity Prevention Task Force (2007). Community Action Plan to Increase Healthful Eating and Regular Physical Activity among Children in SLO County. Available at <http://www.slocounty.ca.gov/AssetFactory.aspx?did=13147>. (Accessed Tuesday, August 18, 2009).
- <sup>xvii</sup> HealthDay News, University of California, Los Angeles, *Poorest People at Highest Heart Disease Risk: U.S. Data Economic Disadvantage plays bigger role than race, ethnicity, review finds*, Available at: <http://consumer.healthday.com/Article.asp?AID=641775> (Accessed August 6, 2010).
- <sup>xviii</sup> West Virginia Health Statistic Center (HSC). *Obesity: Facts, Figures and Guidelines*. Available at <http://www.wvdhhr.org/bph/oehp/obesity/section1.htm>. (Accessed Thursday, September 9, 2009).
- <sup>xix</sup> Weiss, Ram M.D. (2004). *Obesity and the Metabolic Syndrome in Children and Adolescents*. New England Journal of Medicine. Vol. 350. No. 23. Available at <http://content.nejm.org/cgi/content/abstract/350/23/2362>. (Accessed September 9, 2009).
- <sup>xx</sup> Mayo Clinic Staff. (2007). Mayo Clinic. *Metabolic Syndrome Definition*. Available at <http://www.mayoclinic.com/health/metabolic%20syndrome/D500522>. (Accessed September 9, 2009).
- <sup>xxi</sup> Hedley, A. A., Ogden, C. L., Johnson, C. L., Carroll, M. D., Curtin, L. R., & Flegal, K. M. (2004). *JAMA*, 291(23), 2847-2850.
- <sup>xxii</sup> Ibid.
- <sup>xxiii</sup> Whitaker, Rober, M.D. (1997.) *Predicting Obesity in Young Adulthood from Childhood and Parental Obesity*. New England Journal of Medicine. Vol. 337. No. 13. Available at <http://www.content.nejm.org/cgi/content/abstract/337/13/8699020>. (Accessed September 9, 2009.)
- <sup>xxiv</sup> Anderson, Sarah, Ph.D. and Whitaker, Robert, M.D., M.P.H. (April 2009). *Prevalence of Obesity Among U.S. Preschool Children in Different Racial and Ethnic Groups*. Archives of Pediatrics and Adolescent Medicine. 2009. 163 (4): 344-348. Available at <http://archpedi.ama-assn.org/cgi/content/abstract/163/4/344>. (Accessed September 9, 2009).
- <sup>xxv</sup> Mayo Clinic Staff. (2007). Mayo Clinic. *Metabolic Syndrome Definition*. Available at <http://www.mayoclinic.com/health/metabolic%20syndrome/D500522>. (Accessed September 9, 2009).
- <sup>xxvi</sup> Sallis, J. F. & Owen, N. (2002). In Glanz, Rimer, & Lewis, *Health Behavior and Health Education: Theory, Research and Practice (3<sup>rd</sup> Edition)*. Jossey-Bass Publishers, pgs. 462-484.
- <sup>xxvii</sup> Smedley, B. D. & Syme, S. L. (2000). *Promoting Health: Intervention Strategies from Social and Behavioral Research*. Washington D.C.: National Academy Press.
- <sup>xxviii</sup> World Health Organization, (1998). *Obesity: Preventing and Managing a Global Epidemic*. Geneva: World Health Organization.
-