



State of Arizona
Department of Education

Team Nutrition Grant

**Arizona Healthy School Environment Model Policy
Implementation Pilot Study**

February 2005

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I. Team Nutrition Grant Project

The Team Nutrition Grant Project began in 2003 with the goal to guide and assist schools to create and maintain a coordinated, comprehensive school health program. Such a program integrates a school's child nutrition programs, with the classroom, the community, and entire school environment. A coordinated, comprehensive school health program (CSHP) can be implemented to create a healthy school environment through a "model" nutrition policy.

Using the USDA's Food and Nutrition Service Team Nutrition's Changing the Scene, A Guide to Local Action, the project proposed to implement the model at a state level by forming a state level coalition of key decision makers within the school environment. This coalition evolved into the Action for Healthy Kids Arizona State Team. A sub-committee of the Action for Healthy Kids Arizona State Team developed a draft Arizona Health School Environment Model for Piloting (see Appendix A)

A Team Nutrition Grant application was submitted to the USDA, Food and Nutrition Services for an opportunity to implement this project. The project received funding in late 2003.

Goals of the Team Nutrition Grant Project

1. To develop and place in action a state coalition of key state level partners surrounding the school environment
2. To develop a statewide "model" nutrition policy to create a healthy school environment in Arizona
3. To increase awareness and support for the Nutrition Task Force and the need for a statewide "model" nutrition policy
4. To promote, pilot, and evaluate the implementation of the "model" nutrition policy statewide
5. To increase statewide implementation of the policy using marketing and peer training of the pilot evaluation data and experiences.

The competitive USDA Grant to evaluate the model policy developed by the state coalition, Action for Healthy Kids, Arizona State Team provided funding for 8 schools, 4 elementary schools and 4 junior high and /or high schools, to pilot the model policy.

Pilot Schools

Thirty schools voluntarily applied to participate in the piloting of the model policy. A panel of members from the education community selected the pilot schools using specific criteria while scoring the grant applications using a rubric totaling 100 points. The 8 schools awarded mini-grants include:

- Harriet Johnson Primary School-Tucson Unified School District
- Stanfield Elementary School-Standfield Elementary District #28

- Bouse Elementary School-Bouse District
- Monte Vista Elementary School-Creighton School District
- Madison Park School-Madison School District #38
- Catalina Magnet High School-Tucson Unified School District
- Vista Alternative High School-Yuma Union High School District
- Mountain Trail Junior High-Paradise Valley Unified School District

Nutrition Model Policy Overview

As part of the grant requirements, the pilot schools implemented the most recent version of the policy during the fall semester of 2004. Pilot schools received a mini-grant of five to ten thousand dollars for their participation.

The model policy is divided into four primary sections;

1. Food Service Operation
2. Nutrition Education
3. Food Choices at School
4. Physical Education and Healthy School Environment

Sections 1 and 3 were required as part of the pilot study while sections 2 and 4 were suggested but not required. These last two sections were added after the schools had applied and been selected. However, each school was strongly encouraged to implement all 4 sections as each section added to the integrity of the model and school program.

To support the model pilot schools with sections 2 and 4 the Arizona Department of Education provided each school with nutrition and physical education curriculum in addition to funding received through the mini-grants.

The model policy states that all students shall possess the knowledge and skills necessary to make nutritious and enjoyable food choices for a lifetime. In addition, all school staff is encouraged to model healthy eating behavior as a valuable part of daily life. School leaders shall prepare, adopt, and implement a comprehensive plan to encourage healthy eating.

II. Data Collection and Evaluation Methods

As part of the grant requirements, the Arizona Department of Education evaluated the implementation of the Arizona Healthy School Environment Model at the pilot schools in three key ways. These include the collection of financial data, height and weight data and nutrition analysis of all foods offered during school hours.

Financial Data

Just mentioning a possible change to the contents of the school lunch menu, school store or vending machines makes most school administrators nervous as it could impact revenue collected from these services. In the past, removing soda from a vending machine in favor of water or products like Gatorade® was assumed to result in loss of revenue. Most schools depend on this revenue for many important school programs and it makes sense that administrators do not wish to put this revenue in jeopardy.

To determine if revenue will be impacted by implementing the model policy, key financial data was requested of each pilot school. Pre-implementation financial data was collected for two to three months prior to the model policy implementation and was collected for four months following model policy implementation. The financial form (see Appendix B) was completed monthly by each school and asks for information regarding program meals, student sales, a la carte sales, vending sales and any other food sales that occur during school hours.

Height and Weight Data

Nationwide, obesity in childhood is on the increase. Antidotally Arizona is noticing increases in childhood obesity. However, school age children are not routinely weighed in school and no state agency requires collection and reporting of this information. Offering support to collect this information in the pilot schools and resources to complete the data collection and reporting is one step to determine the extent of childhood obesity in Arizona. By no means do we expect implementation of a model policy to generate significant and marked changes to childhood obesity in only 4 months. Rather, we use this opportunity to generate the interest in collecting this information and demonstrate the capability to report meaningful information.

Each school willing to collect height and weights on students and report the data pre-model policy implementation and again post-model policy implementation received a new standing scale for their nurse's office. In addition, each school nurse was offered a copy of the Child Health Indicator Program (CHIP-AZ) software, a program supported by the Arizona Department of Health Services, Office of Women's and Children Health for school nurse data collection and reporting. The ADE purchased these items separate from the school mini-grants.

A minimum of 100 student height and weight data was requested from each participating school, with the sample obtained from each grade level offered at the school. From the

data, BMIs were calculated. Of the eight schools, three declined to collect the height and weight data for the purposes of this project.

Nutrient Analysis

A sample of one weeks menus along with all other foods available for sale during school hours were analyzed by ADE staff using Nutrikids® for Windows by Lunchbytes. The analysis was then shared with the pilot school food service staff. The information was incorporated in to the changes planned in order to meet the required steps of implementing the model policy. The nutrition analysis was conducted again approximately two months after the model policy is implemented. The pre and post-model policy implementation analysis was compared to identify pre and post compliance levels with the model policy.

III. Summary of Pre-Model Policy Implementation Findings Program Plans

Eight pilot schools applied and were chosen to participate in this pilot project to implement the Arizona Healthy School Environment Model Policy. Within the Model Policy two of the four sections were required to be implemented. The remaining two sections were highly recommended but not required.

Each of the eight schools as it turns out chose a unique approach to implement the Model Policy and meet the needs of their school based on student population, school staff interests and parent and student wishes. This pilot will provide ADE several different models to study and recommend to schools wishing to implement the Model Policy in the future. Listed below is a brief summary of the eight schools and their approach to the Model Policy pilot project.

Bouse Elementary- The staff incorporated more physical activity into the student's daily schedules and implemented the nutrition curriculum provided by ADE. They also changed out the products within their vending machines that had previously offered soda with a water or juice machine.

Catalina Magnet High School- The students from Catalina formed a student advisory committee that had input on their a la carte offerings so it would be tailored to their preferences. They also had fresh fruit kiosks available where students could choose from a variety of fruits each morning. New vending machines were put into place offering a selection of sports drinks and bottled water.

Harriet Johnson Primary School-. The staff developed a program to introduce a variety of fruits and vegetables to Pre-K through second graders that would not otherwise be introduced to this audience. Classroom lessons about the fruits and vegetables were followed by 'taste testing' in the cafeteria. Students had the opportunity to try such items as jicama, sweet potato strings and kiwi.

Madison Park Middle School- The staff started two innovative new programs; breakfast in the classroom and recess before lunch. Both programs have been shown by research to increase students willingness to learn as well as improving test scores.. Madison also hired a graphic designer and developed a new healthy motto- "Got Health?" which they placed on T-Shirts and lanyards for the students to wear. The vending machine contents were modified to increase the amount of healthy choices offered to the students during the school day without compromising the students taste preferences.

Monte Vista Elementary- The staff at Monte Vista had made a variety of healthy changes prior to this grant project, but were looking to do more. Changes to their school environment include improving the food choices that the students had in their school store, which they did without any negative financial impact. Additionally, the staff incorporated the comprehensive nutrition curriculum into the classrooms, which used nutrition examples to teach core subjects such as math and science.

Mountain Trail Middle School- A group of dynamic teachers at Mountain Trail Middle School who used their grant funding as an opportunity to put their thinking caps on and create a whole new curriculum with a nutrition flare. These teachers developed lesson plans that incorporate nutrition and physical activity with math, English, life science, culinary arts and physical education classes. To help

with this project, the school store run by the PTSO made significant changes to their foods offered during the school day. Along with the school store, the dynamic menu in the cafeteria reflected what the teachers instilled in their students during their classroom learning.

Stanfield Elementary- The motivated administration at Stanfield made huge strides to improve the food choices for the students at Stanfield during their lunch and breakfast meals. The students were involved in helping select new menu items by participating in a taste testing and ranking each new item according to their likes and dislikes. The most popular items were added to the menu. The staff also held an evening 'Lights Out' event that celebrated an after school program as well as the great nutrition changes the school had made.

Vista Alternative High School Vista Alternative High School added an entire new class to motivate their students to adopt a healthy lifestyle. The school did not have a Physical Education class, nor the equipment to provide one. So, with a little creativity, the principal contacted a local gym where the students can exercise 3 times a week with PE instructor. On the other two days, the students will learn about health and nutrition and how to apply it to their everyday lives. Additionally, the cafeteria made changes to their a la Carte and menu offerings that provided healthy foods so the students had the chance to put what they learn about making healthy choices into practice.

Pre Implementation
Financial Reports

During the months before the Model Policy was implemented at each pilot school the Team Nutrition Grant Financial Monthly Report was completed. Below is a table of the key data collected in the months prior to model implementation. These data points will serve as a baseline to events that occur as a result of the Model Policy Implementation during the fall of 2004.

Elementary Schools

	Bouse	H. Johnson	Monte Vista	Stanfield
Grades Serves	Pre K-8	PreK-2	K-5	Pre-K-8
Enrollment	28	377	900	722
Location	Rural	Urban	Urban	Rural
Average Breakfasts/day	26	88	473	474
% participation	94%	23%	53%	65%
Average Lunches/day	28	292	789	688
% participation	100%	78%	88%	95%
Average Profit/Loss mo.	(\$1,174)	\$2,722	\$9,002	\$19,075
Student Sales Activities	None	None	Snacks in snack bar open 2 times week	Snow cones, popcorn
Vending Beneficiary	None	None	None	Student Council
Vending Revenue/mo.	\$0	\$0	\$0	\$519

Middle and High Schools

	Mountain Trail	Vista Alt. HS	Catalina Magnet HS	Madison
Grades Served	7-8	9-12	9-12	3-8
Enrollment	800	303	1620	909
Location	Suburban	Urban	Urban	Urban
Average Breakfasts/day	53	14	81	226
% participation	7%	5%	5%	25%
Average Lunches/day	291	26	276	668
% participation	36%	9%	17%	74%
Average Profit/Loss mo.	\$7,052	(\$1,148)	(\$2301)	\$7,554
Student Sales Activities		Candy gram, candle sales		Cookie dough, pencils, candy, jamba juice, fry bread, candy grams
Vending Beneficiary		Student Council	Student Services	Student Council
Vending Revenue/mo.	\$1,500	\$142	\$2,330	\$245

Nutritional Reports

The grant coordinator from ADE met with each school during the spring of 2004 and collected information on every food and beverage item sold at that time during the school day.

Each school was provided with a detailed analysis of their program meals and all other food offerings (vending, school store and al a carte) along with a letter that outlined the nutrients that did not meet the guidelines along with suggestions on how to improve.

The table below summarizes each schools calories, fat, saturated fat and total protein from all there food choices offered. Please note that this table is not all-inclusive, as it does not include any micronutrients such as vitamins or mineral contributions of the food offerings. However, the nutrients listed below give an example of the type of information each school was provided.

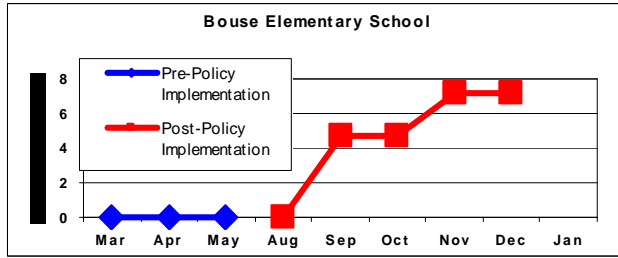
	Calories	Total Fat (grams)	% Fat calories	Sat Fat (gram)	% of Sat Fat calories	Protein
Bouse						
Program Meals K-6 (B&L)*	618	21.58	31.43	7.49	10.92	26.32
Program Meals 7-12 (B&L)	618	21.58	31.43	7.49	10.92	26.32
Vending	109	0	0	0	0	0.09
Catalina High School						
Program Meals (B&L)	1386	30	31	11	12	52
Lunch Express	867	40	33.8	12.6	11.08	33.4
Harriet Johnson Primary School						
Program Meals (B&L)	1251	34.33	24.70%	9.6	8.65	45
Lunch Express	744	39.5	30	13.1	10	28
Madison Park Middle School						
Program Meals (B&L)	801	23.05	25.91	8.31	9.34	30.48
Vending	212	8.86	37.51	1.92	8.12	2.92
Monte Vista Elementary						
Program Meals (B&L)	751	26.81	32.11	8.59	10.29	26.97
School Store	145	9.91	61.71	1.85	11.54	4.34
Mountain Trail Middle School						
Program Meals (B&L)	1009	35.64	31.78	12.64	11.27	37.42
A la carte/Vending	213	5.5	23.27	1.7	7.19	2.6
School Store	177	4.04	20.55	1.23	6.25	1.15
Stanfield Elementary						
Program Meals K-6 (B&L)	630	20.63	29.5	7.31	10.46	25.74
Program Meals 7-12 (B&L)	645	20.93	29.21	7.5	10.47	26.7
Vending	198	0	0	0	0	0
Vista Alternative High School						
Program Meals (B&L)	1136	39.66	31.41	13.41	10.63	46.13
A la carte/Vending	218	7.95	32.84	2.68	11.05	4.32

* B&L= Breakfast and Lunch Meals

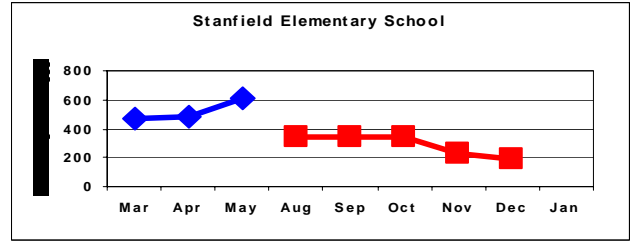
IV. Final Results

Final financial and nutrition results are as reported by each grant school as of the January 10, 2005.

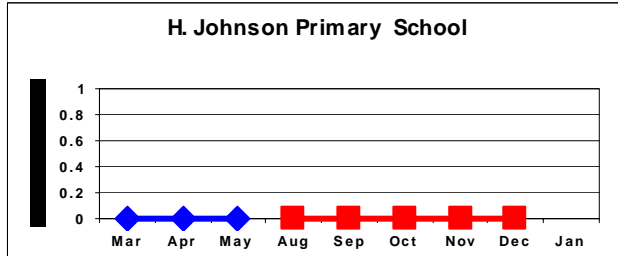
Financial:



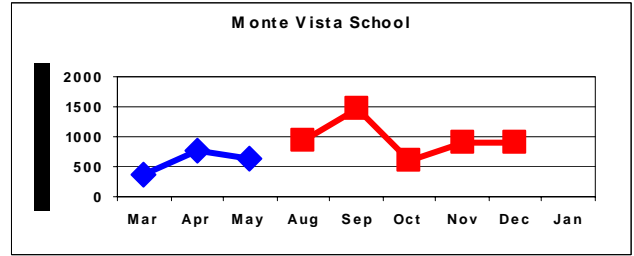
Bouse Elementary- New Vending Sales



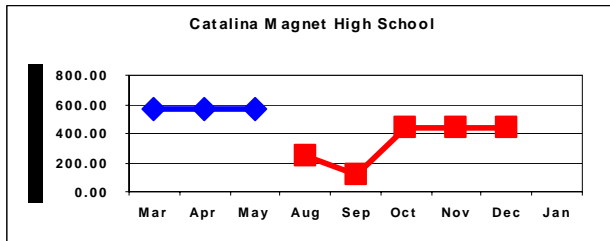
Stanfield Elementary- Vending already healthy before grant. Difference: machines off at meal times beginning August 04



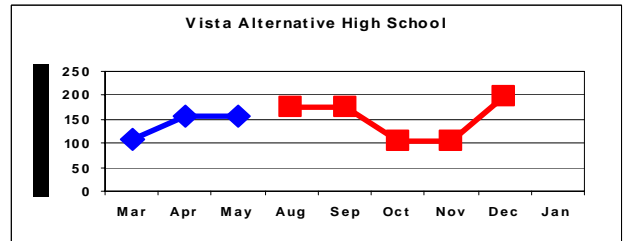
No Vending or School Sales



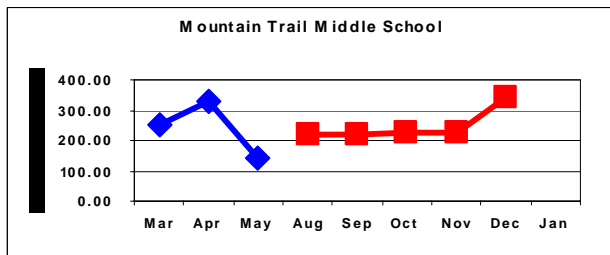
Sales from school store open 2 days week after lunch. In August, all foods sold are healthy choices.



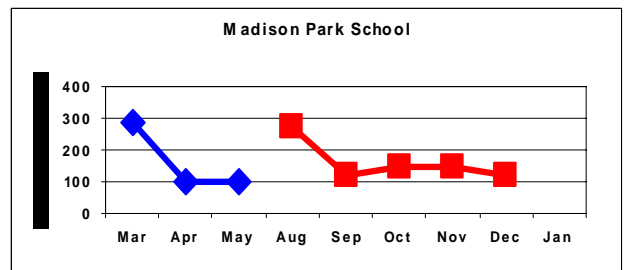
Removed soda before grant received. Using Tax Credit for supplanting funding loss. Slowly adding new vending.



Vending available all day. No soda before grant. Minor changes to contents for grant.



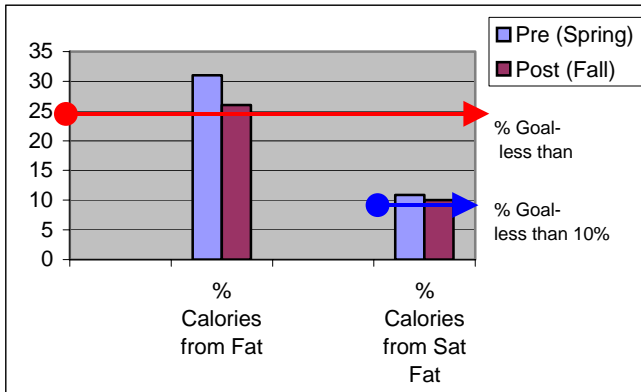
School store content changed to healthier choices in August; sales remain same. Vending available during the school day already healthy before the grant.



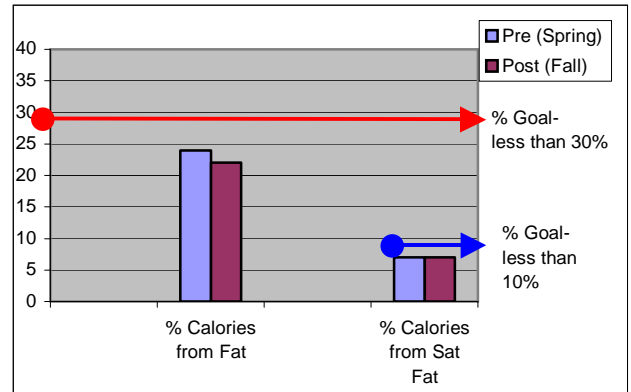
Vending available meal time only. Content changes made in August to healthier choices.

Nutrition:

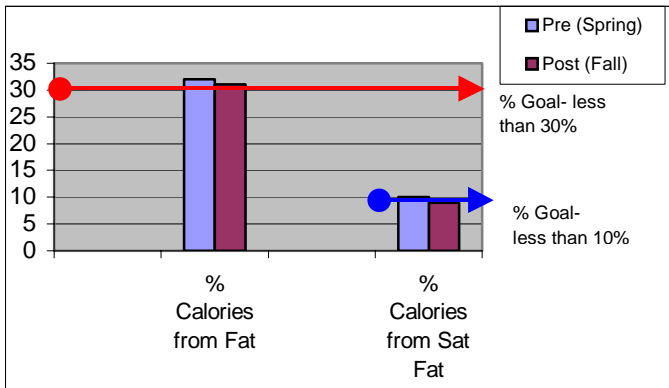
Elementary Schools
Percent Total Fat Calories and Saturated Fat Calories
 Goal for Fat- Less than 30% of Total Calories
 Goal for Saturated Fat- Less than 10 % of Total Calories



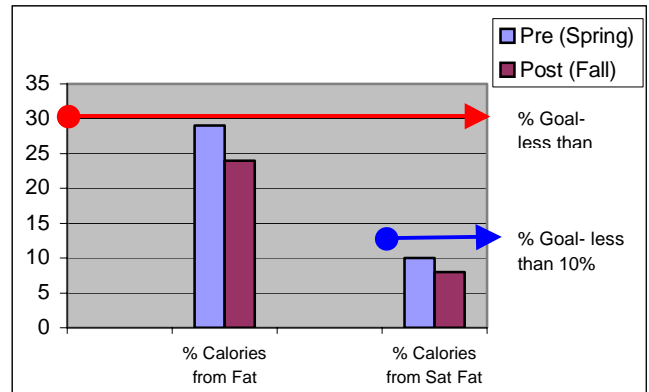
**Bouse Elementary
Program Meals**



**Harriet Johnson Primary
Program Meals**

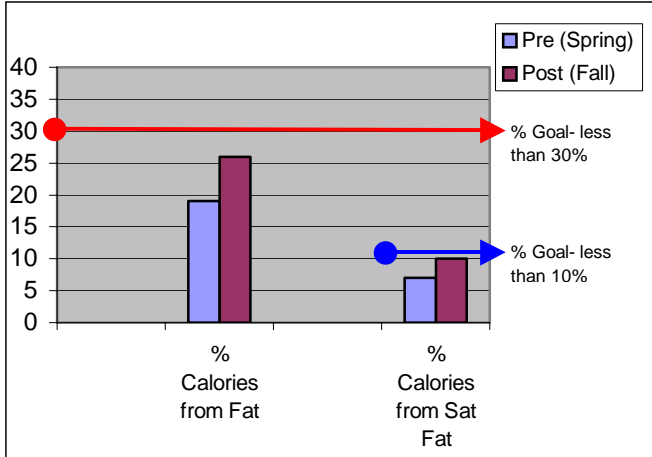


**Monte Vista Elementary
Program Meals**

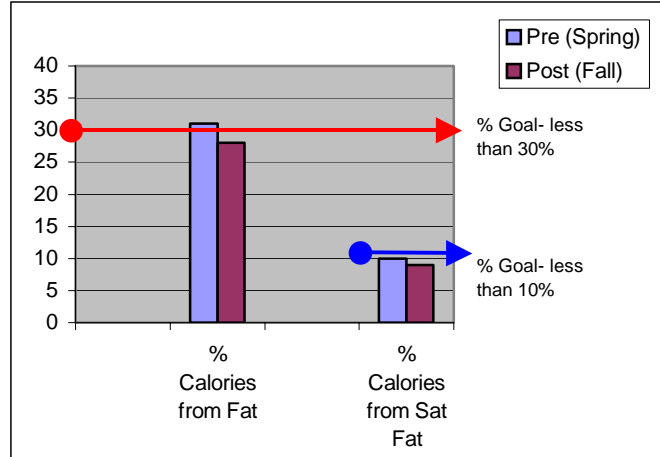


**Stanfield Elementary
Program Meals**

Junior High and High Schools
Percent Total Fat Calories and Saturated Fat Calories
 Goal for Fat- Less than 30% of Total Calories
 Goal for Saturated Fat- Less than 10 % of Total Calories



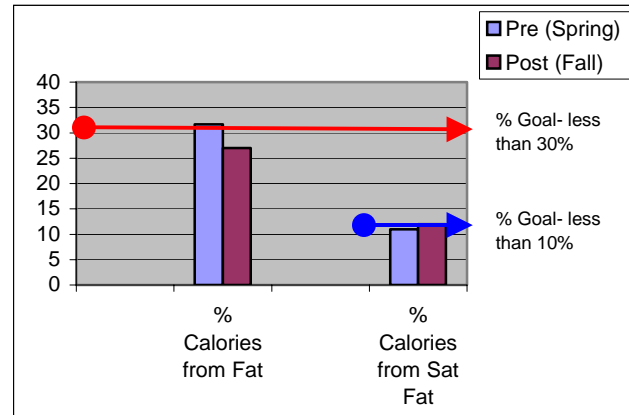
Catalina Magnet High School
Program Meals



Vista Alternative High School
Program Meals

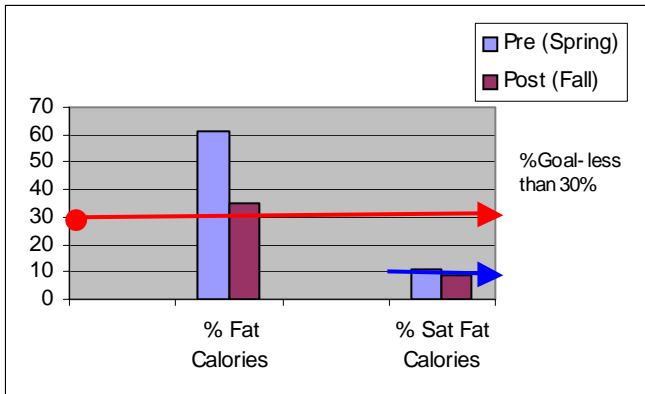


Madison Park School
Program Meals

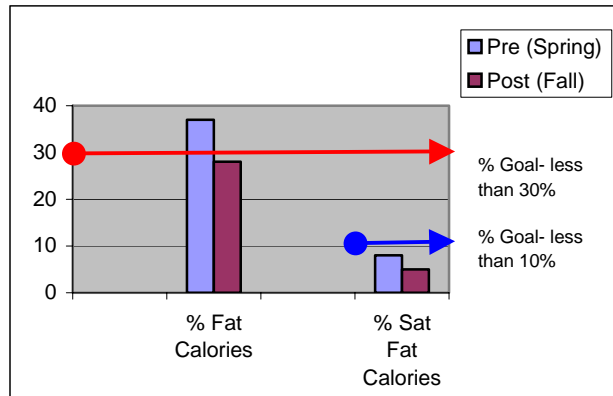


Mountain Trail Middle School
Program Meals

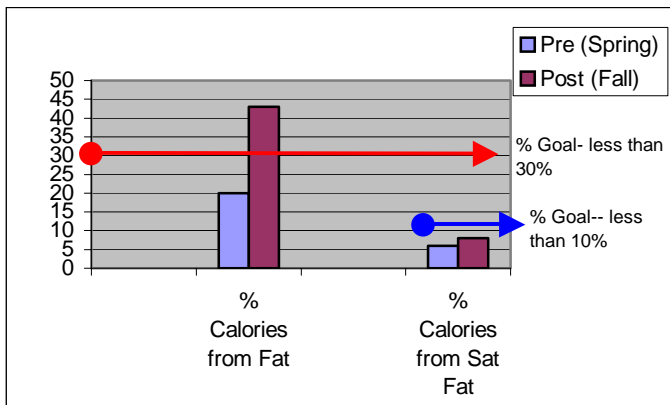
**Pilot Schools with
Vending, A la Carte or School Stores
Percent Fat Calories and Saturated Fat Calories**
Goal for Fat- Less than 30% of Total Calories
Goal for Saturated Fat- Less than 10 % of Total Calories



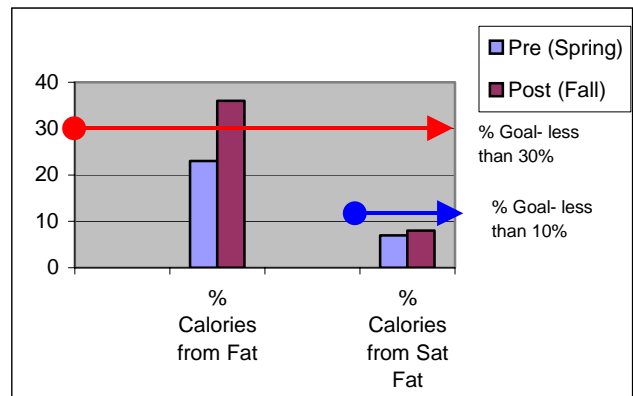
**Monte Vista Elementary
School Store**



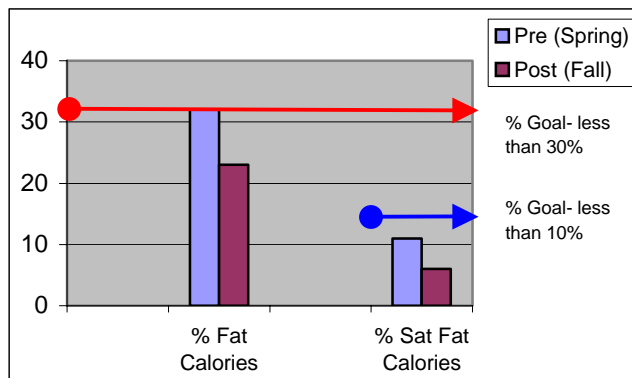
**Madison Park School
Vending**



**Mountain Trail Middle School
School Store****



**Mountain Trail Middle School
A la Carte/Vending**

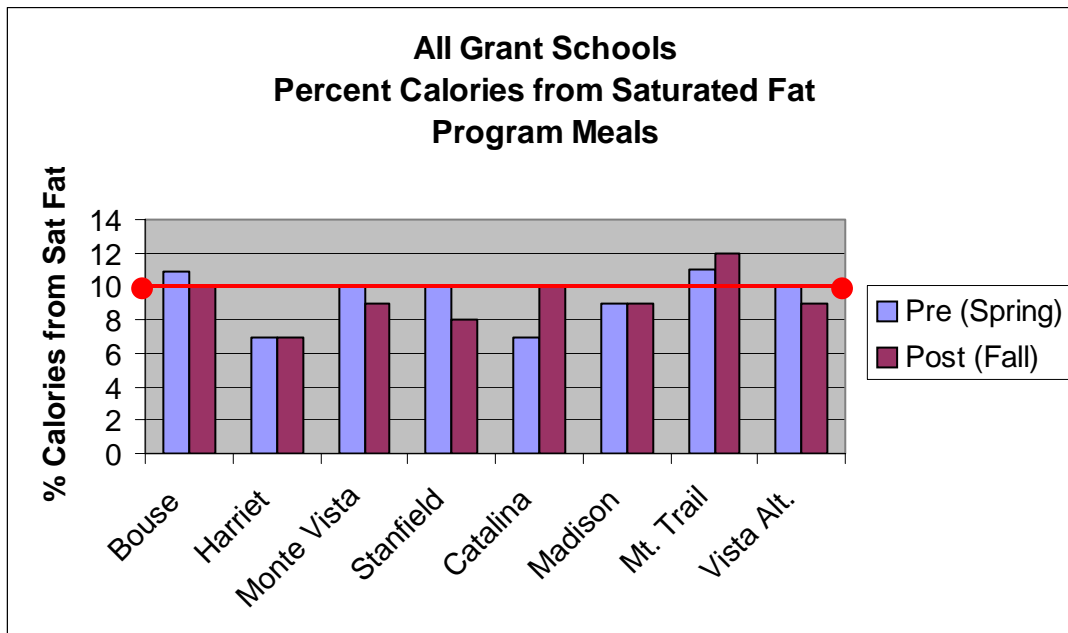
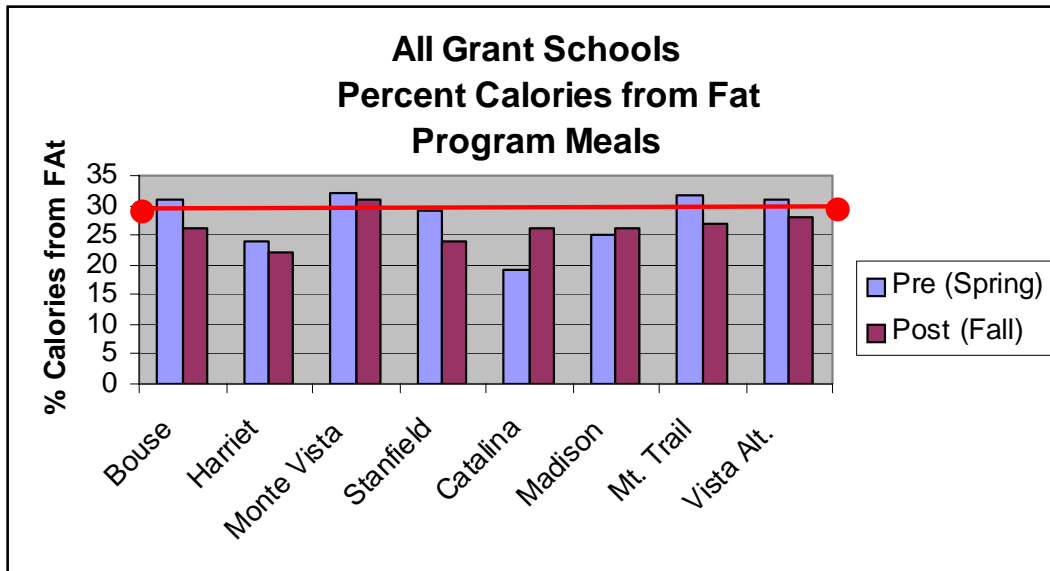


**Vista Alternative High School
A la Carte/Vending**

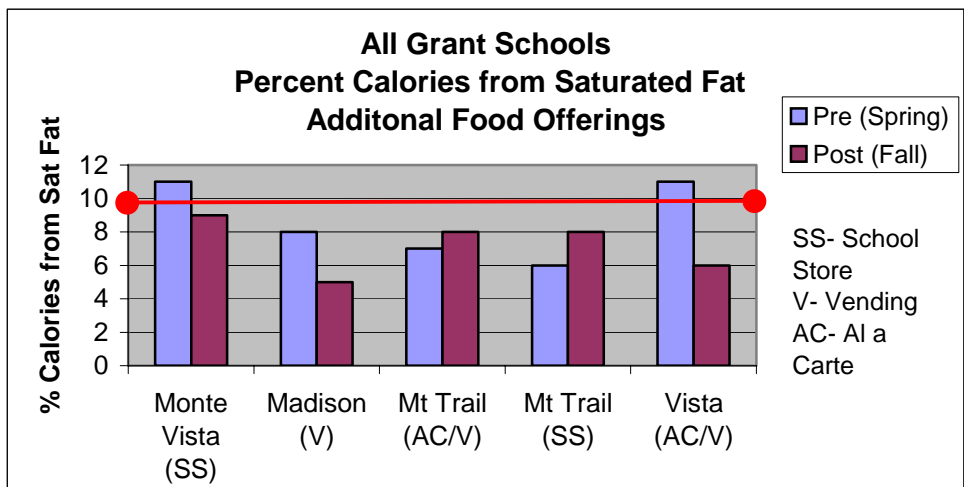
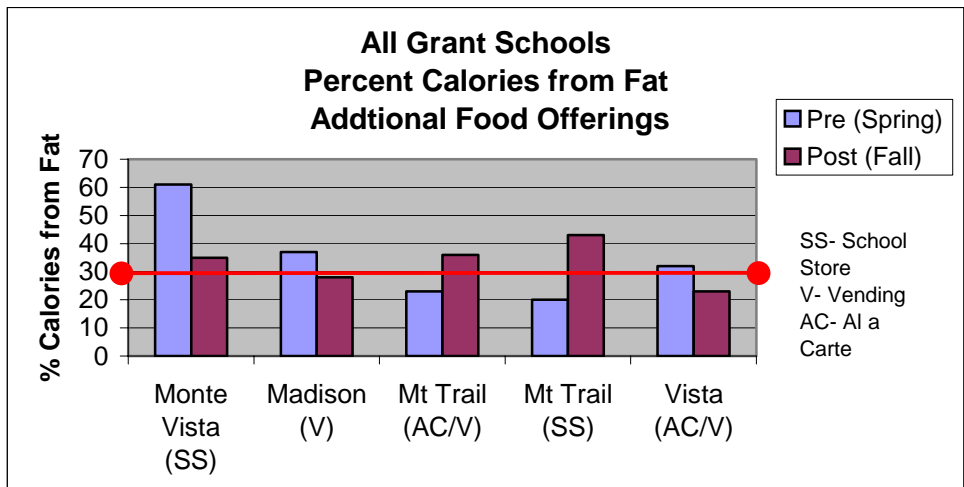
****Disclaimer-** please note that despite increase of percent calories from fat in Mt. Trails School Store, the food items sold improved dramatically in nutrient density as displayed in graph section 'Individual School Nutrition Improvement' listed below.

**All Grant Schools
Percent Calories from Fat and Saturated Fat**

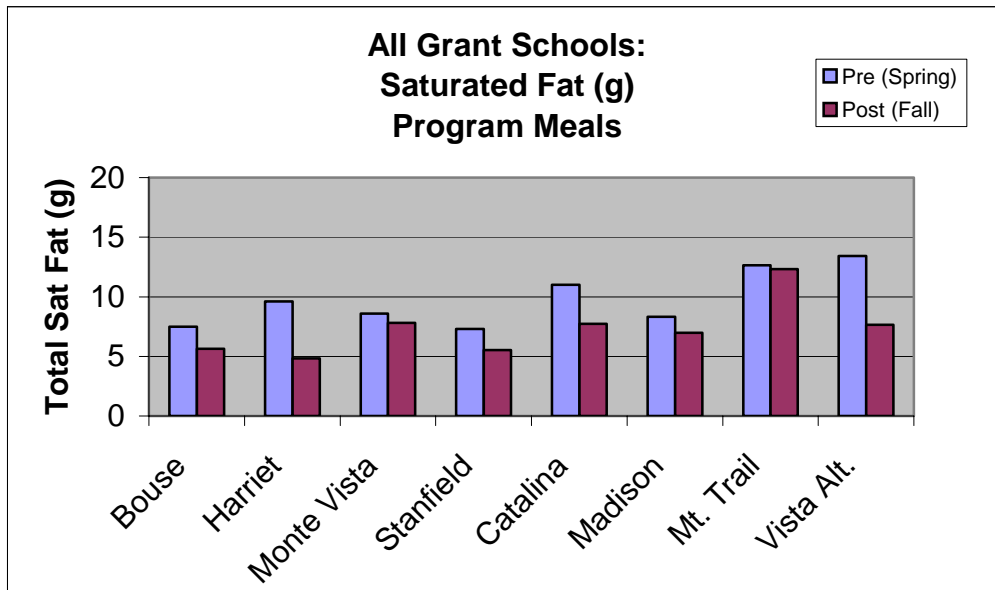
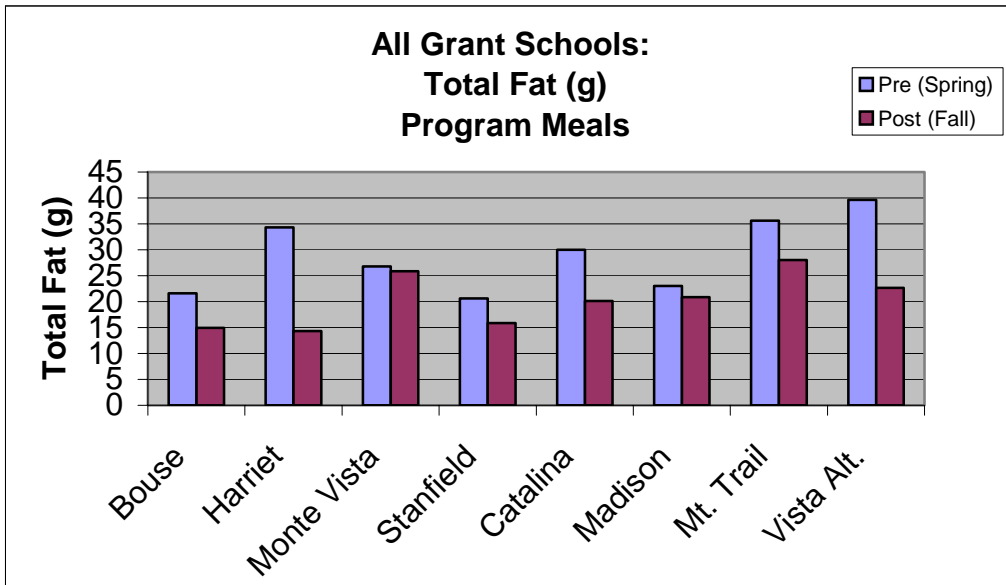
Goal for Fat- Less than 30%
Goal for Saturated Fat- Less than 10%



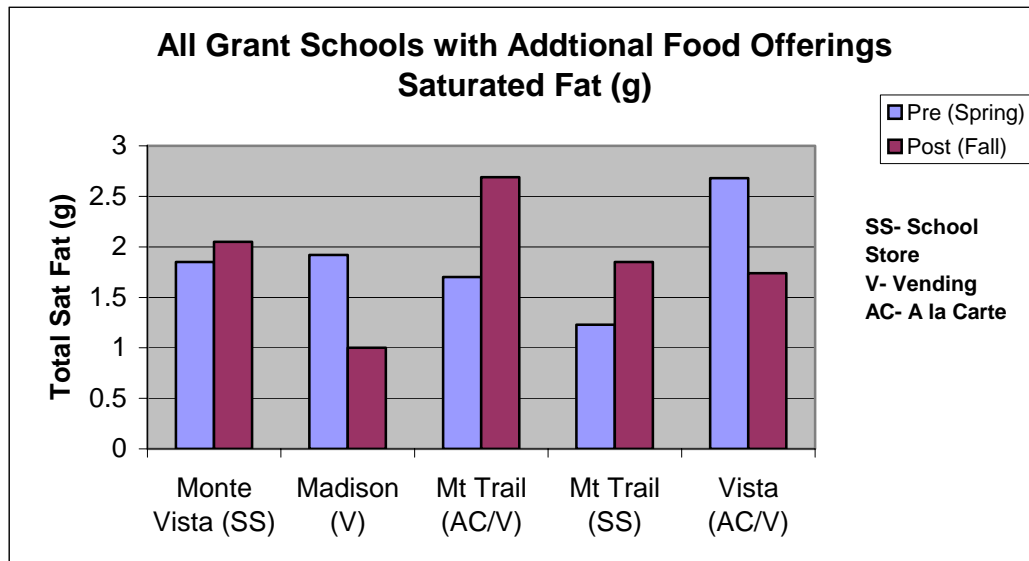
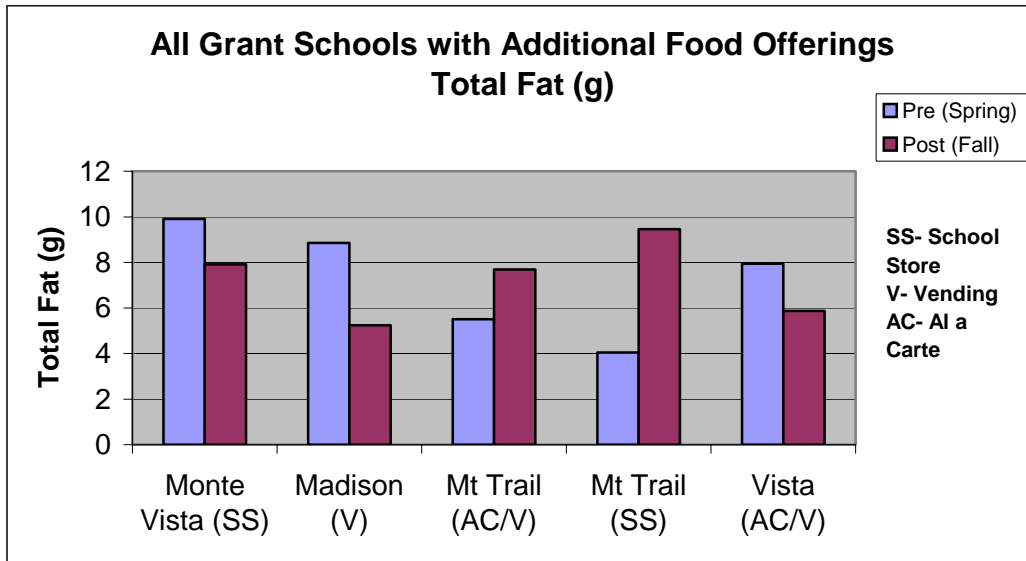
All Grant Schools with Additional Food Offerings
Percent Fat and Saturated Fat



**All Grant Schools
Total Fat and Saturated Fat grams (g)**

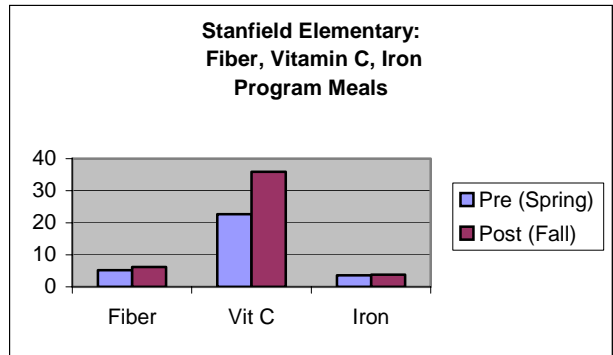
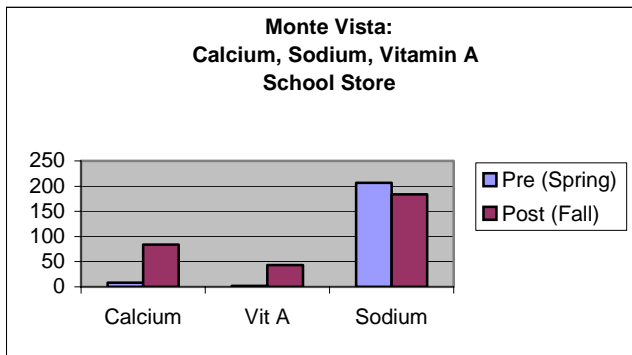
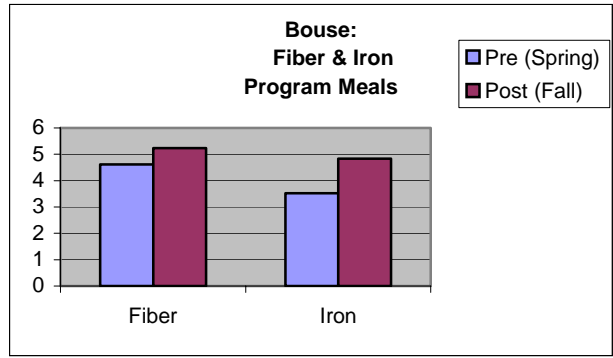
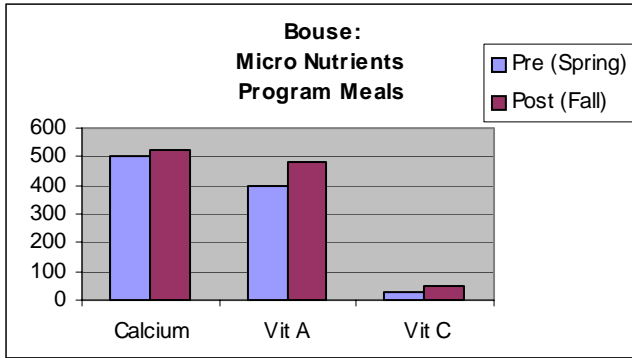


**All Grant Schools with Additional Food Offerings
Total Fat and Saturated Fat grams (g)**

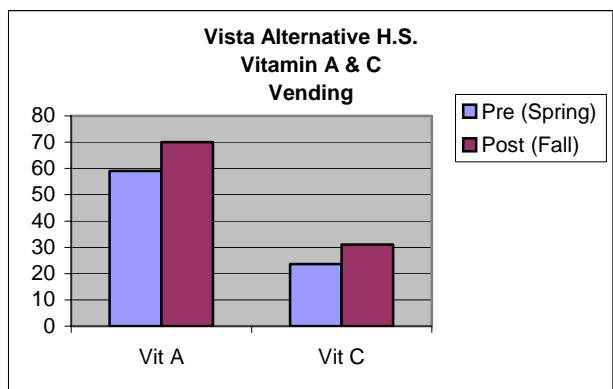
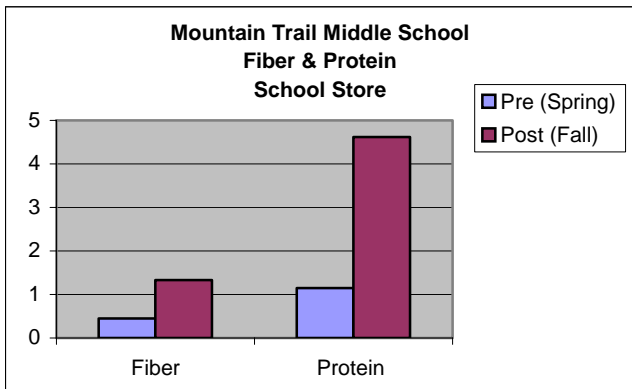
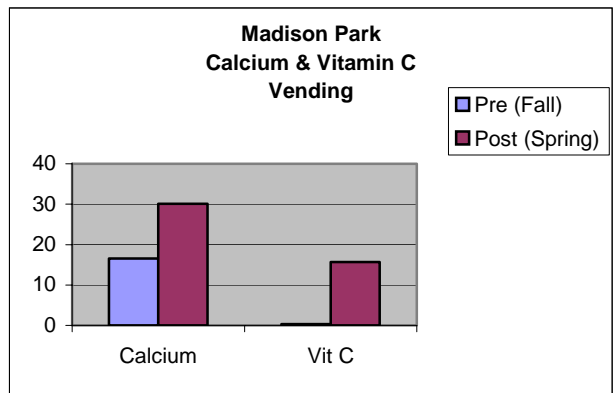
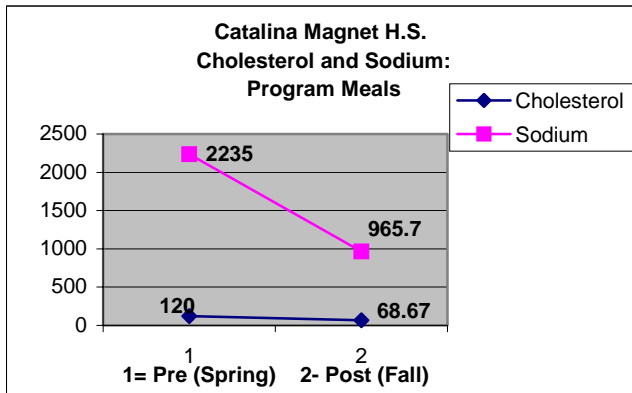


Individual School Nutrition Improvements

Elementary Schools



Junior High and High Schools



Height and Weight Data (BMI)

Height and weight data pending as of February 1st, 2005.

IV. Discussion

Financial:

Each school that offered additional foods via vending, al a Carte or school stores showed no negative financial impacts after making healthy changes to their food selections. Each graph listed above indicates what each school changed and what was already acceptable according to the policy standards prior to the fall of 2004. Several schools already had healthy vending in place, but made other changes such as school store options. While other schools had no other food choices other than the program meal, they had a different focus such as improving the quality of their menu, adding nutrition curriculum or increasing their program meal participation.

Nutrition:

Overall, each schools program meals improved with decreases in their overall fat and saturated fat content. Those schools with vending or school stores also made dramatic improvements in the nutrient content of their offerings. It does appear with the some of the graphs that the fat and saturated fat content increased with the changes made. This is due to the high sugar and low nutrient snacks were replaced with a better nutrient quality snacks that contained more healthy fat than previously offered.

The graph of Mountain Trails vending and school stores reflect an increase in total fat and saturated fat in both their vending and school stores. However, it should be noted that the items that were previously sold where high in refined sugar and were low in fat/calories due to the fact they were mainly candies like jellies, hard candy, fondant, which contained no actual nutrient value. The items that replaced the non-nutritive items included peanuts; trail mix, beef jerky, and granola bars. These products contained more fat, but the type of fat was predominately healthy mono and polyunsaturated and not saturated fat, which is the unhealthier fat of the three. Thus, the changes that were made were for the betterment of the students' health, despite the reflection of a higher fat content in the graphs above.

Monte Vista's school store improvements decreased the fat content as well as the saturated fat content from its original offerings. The selections are slightly above the 30% of calories from fat goal, but are closer to meeting it than they were before the changes were made.



Arizona Department of Education
Child Nutrition Programs
Team Nutrition Grant Financial Monthly Report

Section 1:

Name:	Date:
Report for the Month of:	Year:
School Name:	Phone Number:
Contract No.:	
Check one: <input type="checkbox"/> HS Closed Campus <input type="checkbox"/> HS Open Campus <input type="checkbox"/> Elementary <input type="checkbox"/> Jr. High/Middle School	

Section 2:

Program Meals	Meals Served #	Revenue \$	Reimburse \$	Total \$	Wages \$	Meal Cost \$	All other (Indirect) Cost \$	Total \$	Profit (Loss) \$
Children Breakfasts									
Adult Worker Breakfasts									
Other Adult Breakfasts									
Children Lunches									
Adult Worker Lunches									
Other Adult Lunches									
Comments (impact on atmosphere, students, explain any 5% or greater difference from previous report)									

Section 3:

<input type="checkbox"/> Check box if student sales occurred	Describe Student Sales:
Which District Account Do Student Sales Get Deposited? <input type="checkbox"/> Student Services <input type="checkbox"/> Student Activities <input type="checkbox"/> Other(specify): _____	Ending Balance of this account for the month:
Comments: (impact on clubs and fundraising activities, etc.)	

Section 4:

Other Food Sales	Revenue \$	Reimburse \$	Total \$	Wages \$	Food Cost \$	All other Indirect Cost \$	Total \$	Profit (Loss) \$
Al a Carte								
Vending								
Other Foods								
Comments (impact on students, items sold, explain any 5% or greater difference from previous report)								



Instruction Tips
Arizona Department of Education
Team Nutrition Grant Financial Report
Tips to Complete Monthly Report

Section 1: Basic Information

Complete the boxes by providing your name and your school name, date report completed, reporting month, phone number, and contract number. Check the box describing your school type.

Section 2: Program Meal Information

Complete each box by providing the number of meals served for each category. Each box should have a number or information provided. Place a "0" (zero) in any box that has no value or information available. We will call for information if a box is left blank.

Also provide the financial information about each category including the revenue and cost information. Subtract the Total Cost from the Total Revenue will determine the Profit/Loss recorded in the last column. All boxes are asking for dollar amount except the first box which is asking for the number of meals served for the month. Wage expenses can be reported in a lump sum amount for all categories if breaking out wage expenses by meal is not feasible. If one number is being provided record it in the first box and line through the remaining boxes.

Comments: explain any difference of 5% or greater from previous reports and record any antidotal comments from students regarding the implementation of the Nutrition Policy in your school. This may include feedback from students regarding changes in food options, changes in attitudes, changes in the mealtime atmosphere, days closed for break, etc.

Section 3: Student Sales

Complete each box by providing information regarding any student sales that occurs at your school during the report month. Use a "0" (zero) for any boxes where no activity or numbers are reportable during the time period. Check the appropriate box that represents the account used to collect funding from student sales and the ending balance of the account used for these sales programs. Provide comments about the Nutrition Policy impact on club and student sales and record any changes the policy makes to these sales activities.

Section 4: Other Food Sales

Complete each box by providing the monthly revenue and cost information for all other food sales occurring at your school during the month. This may include Al a Carte, Vending and School Store sales. Subtract Total Cost from Total Revenue to obtain Profit/Loss recorded in the last column.

Comments: explain any difference of 5% or greater from previous reports and record any antidotal comments from students regarding the implementation of the Nutrition Policy in your school. This may include the impact of the policy on vending machine choices and sales, school store sales and Al a Carte options and sales, etc.