




Systems Behavior Change for  
School Environments:

Taking Nutrition  
Education to the  
Next Level

JULY 31, 2016

SOCIETY FOR NUTRITION EDUCATION AND BEHAVIOR  
CONFERENCE

- 
- ▶ How important do you think nutrition education is in the work we do?

# Agenda

- ▶ Overview of Session
- ▶ Nutrition Bill of Rights
- ▶ PSE approach
- ▶ SLM of CA infrastructure
- ▶ California Spotlights
- ▶ Closing

# Speakers

- ▶ Shannan Young, Food Systems Program Manager  
Dairy Council of California
- ▶ Heather Reed, *Nutrition Education Consultant*  
California Department of Education
- ▶ MaryAnn Mills, *Smarter Lunchrooms Movement*  
*Program Manager*, UC CalFresh Nutrition  
Education Program



# Session Objectives

- ▶ Consider how key partners at the state and local level collectively create a movement for systems behavior change in schools
- ▶ Synthesize ways to innovate nutrition education by integrating with wellness policy and the cafeteria environment to create a culture of wellness in schools
- ▶ Discover how California schools leverage SLM to market their nutrition programs within their communities



# The Nutrition Education Bill of Rights

**Heather Reed, MA, RDN**  
*Nutrition Education Consultant*  
California Department of Education

[hreed@cde.ca.gov](mailto:hreed@cde.ca.gov)



Are our students ready to be healthy eaters for life?



# Consider the State Park Outdoor Bill of Rights

California  
Children's



Outdoor  
Bill of Rights

- ▶ Discover California's past
- ▶ Splash in the water
- ▶ Play in a safe place
- ▶ Camp under the stars
- ▶ Explore nature
- ▶ Learn to swim
- ▶ Play on a team
- ▶ Follow a trail
- ▶ Catch a fish
- ▶ Celebrate their heritage



# Now...

## A Healthy Eaters' Bill of Rights

### ▶ Write down:

- ❑ 1-2 **nutrition skills or experiences** students need to know, do, or have by the time they are 18 years old.
- ❑ Share with your neighbor

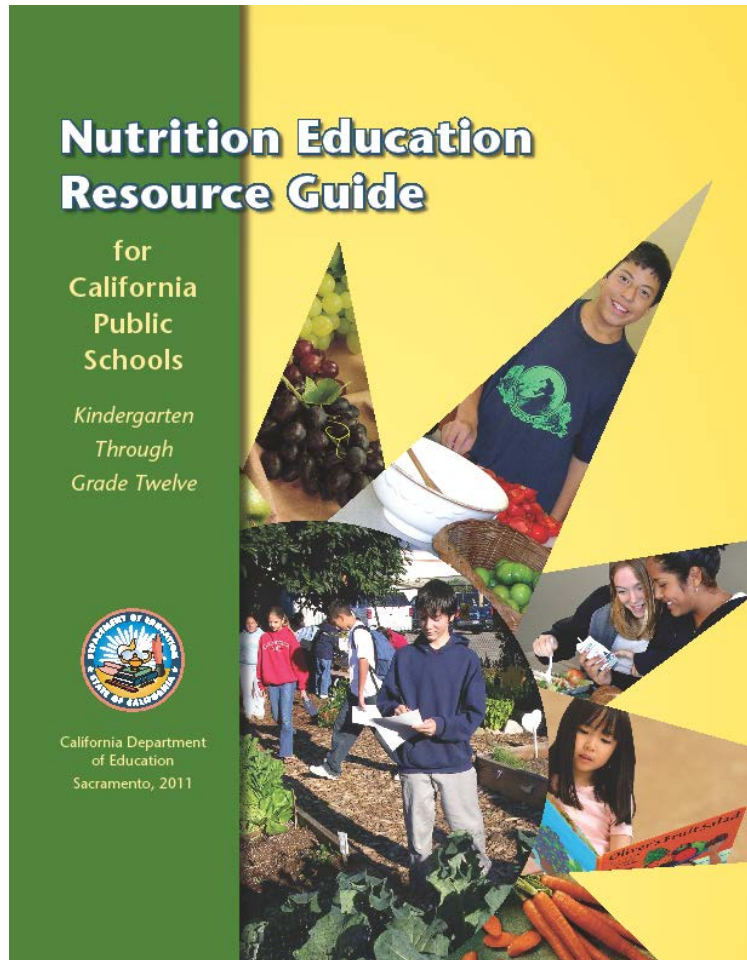


# California Department of Education

## Nutrition Competencies

What students should know  
and be able to do at each  
grade level

- All grade levels
- Nutrition specific-  
content areas
- Aligns with  
common core



# Nutrition Education Continuum

## Promotion

- Posters
- Bulletin Boards
- Newsletters
- Marketing

## Activities

- Taste Testing
- Planning
- Purchasing
- Cooking
- Food Safety

## Curriculum

Common core standards

# Impact of Each

## Promotion

- Impulse
- Visual Influence

## Activities

- Visual Influence
- Knowledge

## Curriculum

- Knowledge
- Decision Making

Systems approach enhanced by policy and environmental supports

# SNEB Definition of Nutrition Education

- ▶ Nutrition education is any **combination of educational strategies, accompanied by environmental supports**, designed to facilitate voluntary adoption of food choices and other food- and nutrition-related behaviors conducive to health and well-being.
- ▶ Nutrition education is delivered through multiple venues and **involves activities at the individual, community, and policy levels.**

- ▶ Contento IR. *Nutrition education: Linking research, theory and practice*. Jones & Bartlett, 2007.

# The Smarter Lunchrooms Movement of California: Why PSE Approach?



**Shannan D. Young, RDN, SNS**

*Program Manager, Food Systems*

[Syong@DairyCouncilofCA.org](mailto:Syong@DairyCouncilofCA.org)



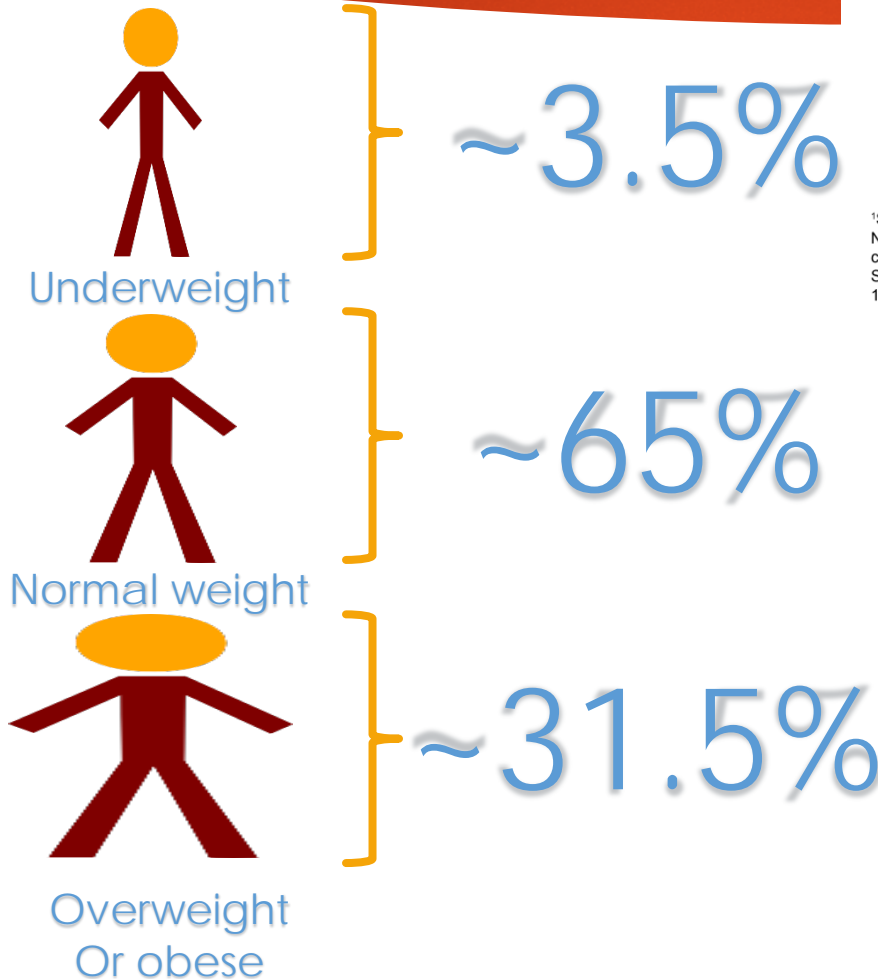
  
**DAIRY COUNCIL  
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Healthy Eating Made Easier®

# California is Home to:

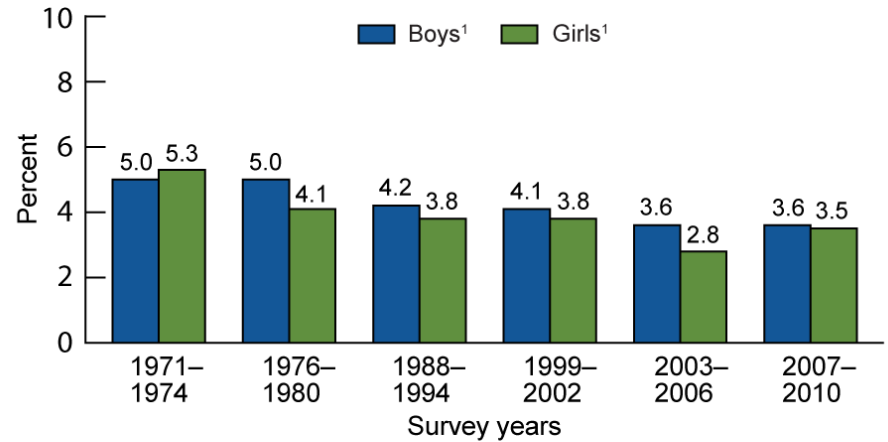
- ▶ **6.2 million students**
  - ▶ 4.3 million students a year eat school meals
  - ▶ 58.6% free and reduced
- ▶ **1,028 school districts**
  - ▶ 10,366 schools
- ▶ **58 counties with County Offices of Education**
- ▶ **61 Local Health Departments**



# Averages for US Children



**Figure. Prevalence of underweight among children and adolescents aged 2-19 years, by sex: United States, 1971-1974 through 2007-2010**



<sup>1</sup>Statistically significant decreasing linear trend between 1971-1974 and 2007-2010.  
 NOTES: Underweight is body mass index (BMI) below the 5th percentile of the sex-specific 2000 CDC BMI-for-age growth charts. Pregnant females are excluded.  
 SOURCES: CDC/NCHS, National Health and Nutrition Examination Survey (NHANES) I, 1971-1974; NHANES II, 1976-1980; NHANES III, 1988-1994; and NHANES, 1999-2002, 2003-2006, and 2007-2010.

## CDC Childhood Obesity Facts

- Childhood obesity has more than doubled in children and quadrupled in adolescents in the past 30 years.<sup>1, 2</sup>
- The percentage of children aged 6-11 years in the United States who were obese increased from 7% in 1980 to nearly 18% in 2012. Similarly, the percentage of adolescents aged 12-19 years who were obese increased from 5% to nearly 21% over the same period.<sup>1, 2</sup>
- In 2012, more than one third of children and adolescents were overweight or obese.<sup>1</sup>



# Academic Achievement

## Academic performance

- ▶ Class grades
- ▶ Standardized tests
- ▶ Graduation rates

## Education behavior

- ▶ Attendance
- ▶ Drop out rates
- ▶ Behavioral problems at school

## Students' cognitive skills and attitudes

- ▶ Concentration
- ▶ Memory
- ▶ Mood



# Creating Healthy Students

Healthy eating and physical activity are linked with:



- ▶ Academic Success
- ▶ Health and Well-being



- ▶ Risk for Obesity
- ▶ Risk for Chronic Conditions (e.g., osteoarthritis)
- ▶ Risk for Chronic Diseases (e.g., Type 2 diabetes)



# School Meals

## Building Blocks for Healthy Children

Access to nutritious, low-cost meals

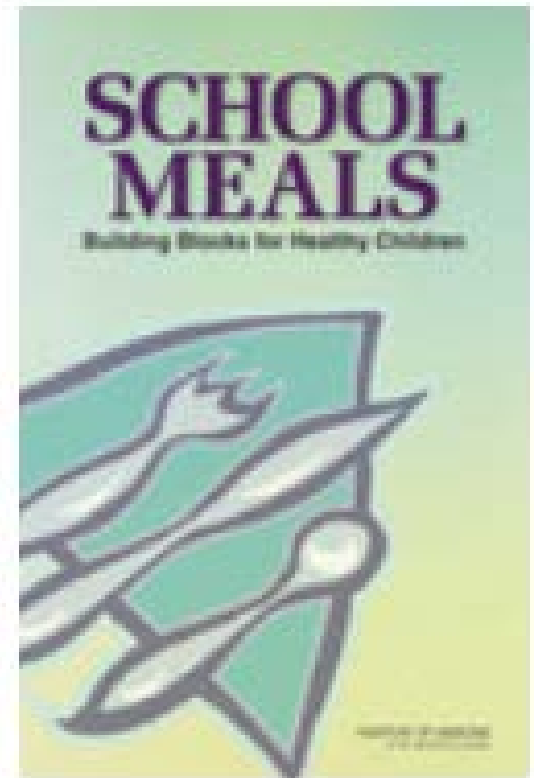
Support growth and development

Foster healthy eating habits

Safeguard children's health

Based on Dietary Guidelines for Americans

Increase availability of key food group



**QUESTION:**

Do health and education agencies in the United States share responsibility for academic achievement and health?

**ANSWER:**

An undeniable “yes”



# Inadequate Nutrition:

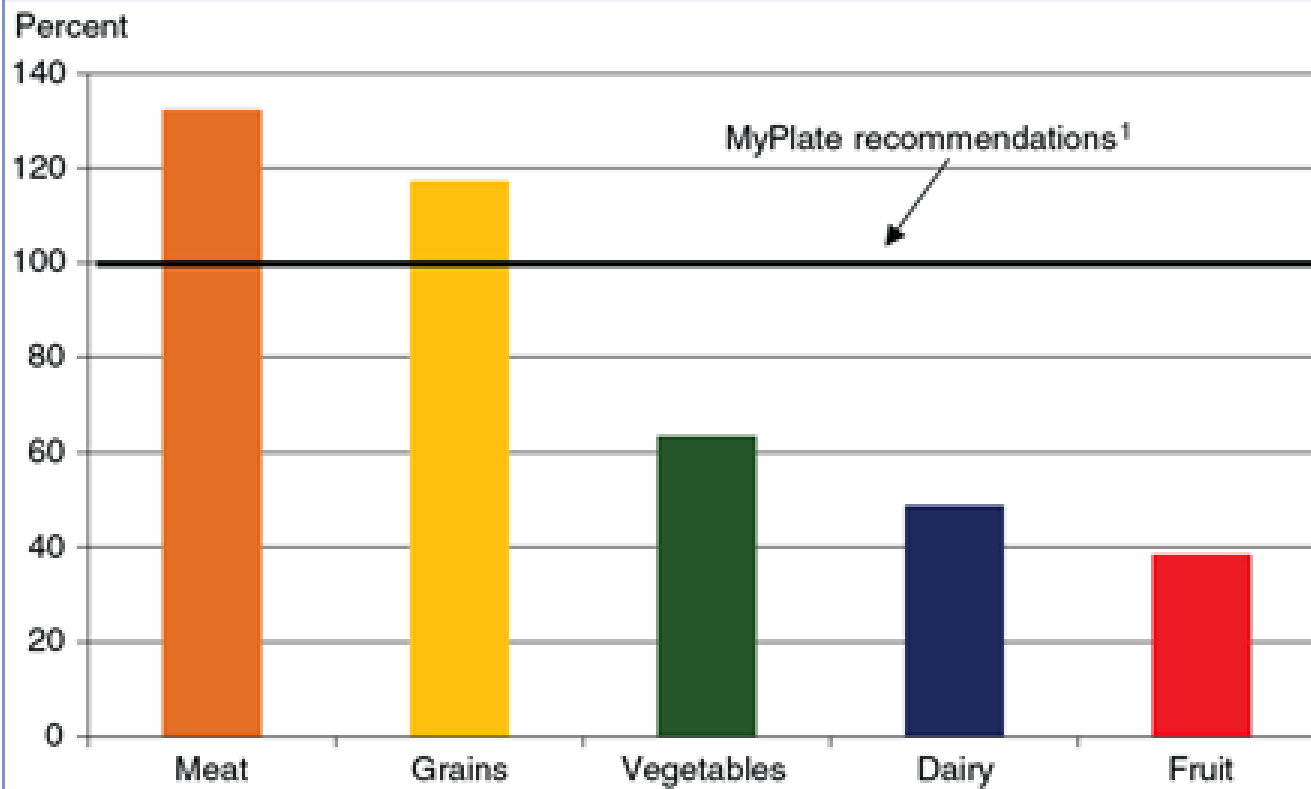
Participating in school breakfast or lunch programs was associated with improvement in grades, standardized test scores and school attendance. After adding specific nutrients (fruits, vegetables and dairy products) missing from students' diets, their academic performance improved.

<http://www.chronicdisease.org/?page=SchoolHealthPubs&hhSearchTerms=%22do+health+and+education+agencies%22>

# US Consumption Compared to MyPlate



U.S. consumption in relation to MyPlate food group recommendations, 2011



Note: Rice data were discontinued and thus are not included in the grains group.

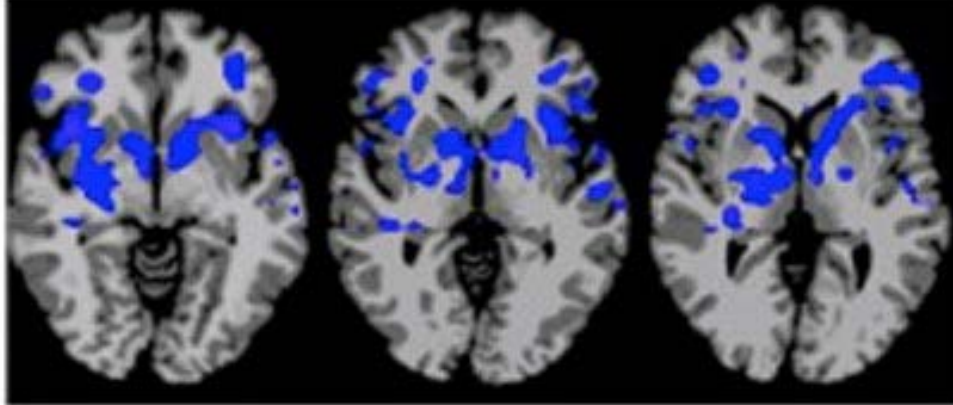
<sup>1</sup>Based on a 2,000-calorie diet.

Source: USDA, Economic Research Service, Loss-Adjusted Food Availability Data. Data as of February 2013.

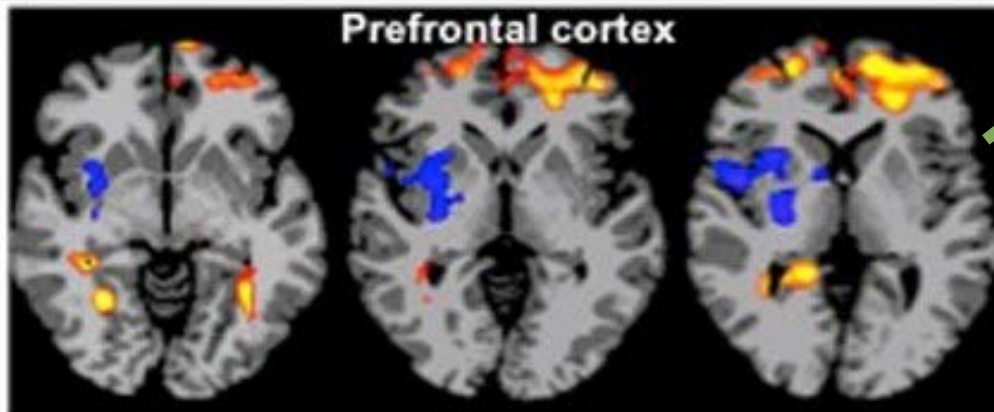


# Why School Meals are so important to students health and academic success?

School Meals prepare scholars' brains to learn ...



Hungry Child  
The Mid-Brain  
Is focused on food  
**NOT READY TO LEARN**  
Grouchy  
Restless  
Anxious



After Eating  
The Front Brain  
Is in working mode  
**READY TO LEARN**  
Calm  
Organized  
Thoughtful  
Alert

## Prep Methods: Perception vs. Reality

Approximately 30% of parents say schools frequently fry and microwave foods, even though school FSDs rarely use these methods. There's a clear gap in what parents THINK is happening and what actually IS happening at school.

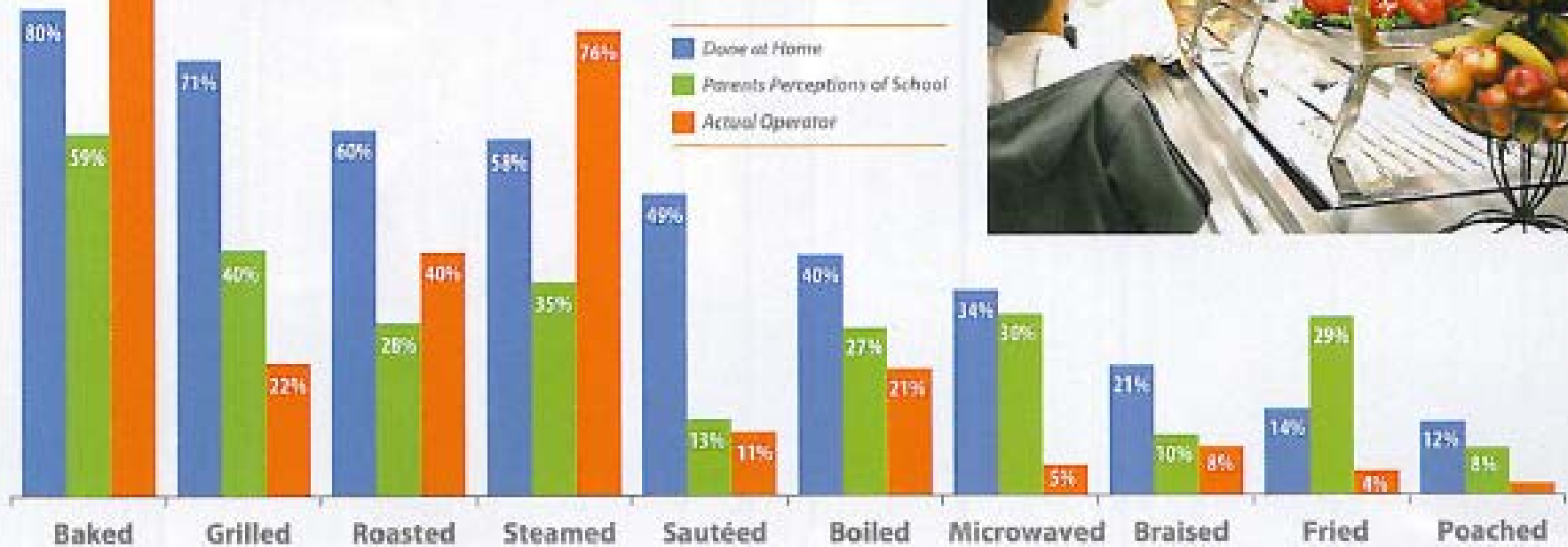


CHART DATA PROVIDED BY DATASSENTIAL

### K-12 SCHOOLS

## Perception Gaps Key to K-12 Participation Opportunities

*Developing strategies for addressing parental mis-perceptions about school food may be the biggest opportunity K-12 FSDs have to grow their programs and participation rates, says Datassential.*

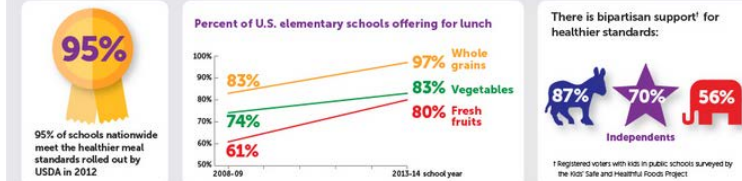
# School Meals getting lots of attention



- ▶ Child Nutrition Reauthorization underway
- ▶ Focus is on obesity prevention, equity
- ▶ Sodium and whole grain flexibility major topics
- ▶ Food waste concerns, with focus on F/V
- ▶ School Breakfast and Summer Foodservice Programs support for increasing participation
- ▶ Nutrition education vs. behavioral economics (SLM)
- ▶ PBA in School Meals research

## HEALTHIER SCHOOL MEALS

### SCHOOL LUNCHES ARE HEALTHIER AND PARENTS ARE ON BOARD



### HOW YOU CAN REDUCE SODIUM in SCHOOL MEALS

- 1 USE HERBS & SPICES**  
Feature "Flavor Stations" in your cafeteria where students can add seasonings (without added sodium) that appeal to their tastes.
- 2 EXPLORE NEW RECIPES**  
Find large quantity recipes for school food service on the new recipe Web site, <http://www.WhatsCooking.fns.usda.gov>.
- 3 ORDER USDA FOODS**  
Stretch your budget and serve nutritious foods by planning your school meals around no-salt-added or low-sodium USDA Foods.
- 4 CONTACT VENDORS**  
Write bid specs that request lower sodium options. Depending on the brand, a food item may have different amounts of sodium.

Check out all of our resources at the "What's Shaking?" Web site: [HTTP://HEALTHYMEALS.NAL.USDA.GOV/WHATSSHAKING](http://HEALTHYMEALS.NAL.USDA.GOV/WHATSSHAKING)

U.S. Department of Agriculture Food and Nutrition Service



# Schools Role in Obesity Prevention: National Results

Survey by Field Research Corporation on behalf of Kaiser Permanente

83%

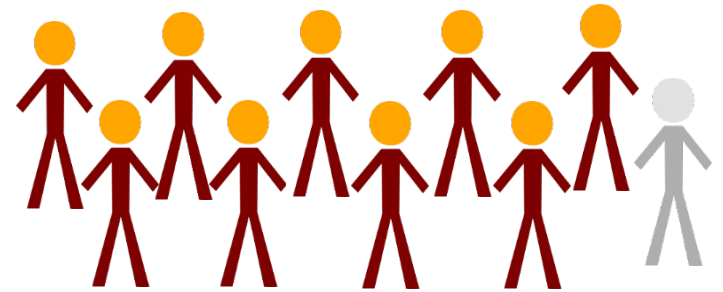
adults favor  
the new USDA  
school  
nutrition  
standards

83%

parents feel  
nutrition  
education is  
highly  
important

71%

adults endorse  
extending  
new standards  
beyond  
mealtime



9 out of 10 parents say K-12  
schools should play a role in  
reducing obesity in their  
community

<http://share.kaiserpermanente.org/article/survey-americans-expect-schools-to-lead-in-preventing->

# Teachers see connection of good nutrition + health with Common Core and school meals.

Teachers were recently surveyed to identify their perceptions of how nutrition education impacts students' food choices and relates to Common Core State Standards. Of 500 teachers, the survey completion rate was 38% (190 teachers).

—Elk Grove Unified School District, CA. Survey May 2015.

**73%**

observe **students making healthier food choices** in the school cafeteria after nutrition lessons.

They (students) love making healthy choices when they have the knowledge!

Teacher, EGUSD  
SHAPE Program

Nearly **75%** state they are **more likely to encourage students to eat school breakfast or lunch** because of their participation in the district's nutrition education program (SHAPE).



## What teachers have to say!

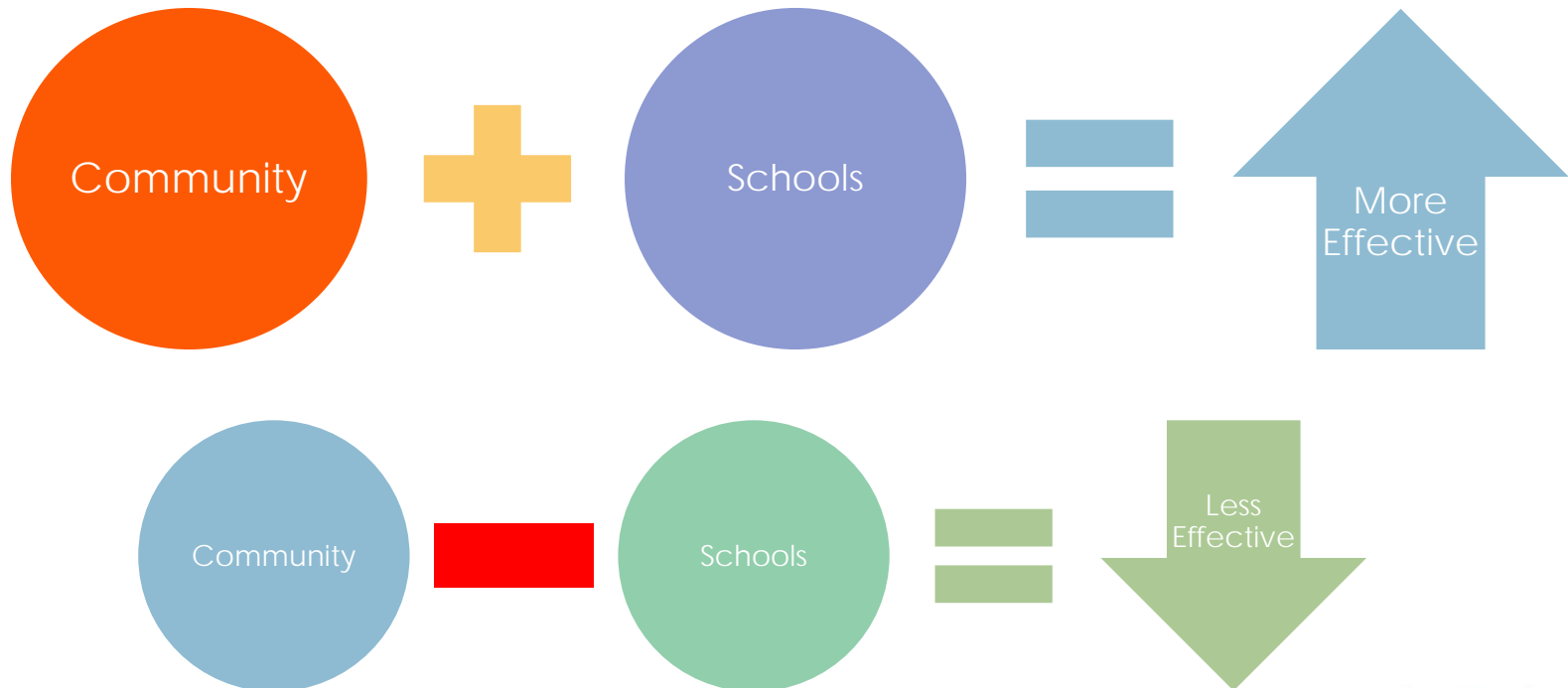
- “They are choosing to try more fruits and vegetables than in the past.”
- “I have observed them bringing to school healthier snacks.”
- “My kids are WAY more aware of the food groups and why they need a balanced diet!”
- “My students are more willing to try new foods and/or willing to try foods that they didn't like before.”

## Teachers are more likely to use nutrition concepts to teach Common Core.

- 75% feel confident they can include nutrition education for their students
- 63% state they will use the subject of nutrition to teach Common Core
- 79% feel prepared to tie nutrition to ELA Common Core
- 65% feel prepared to tie nutrition to Math Common Core

# Systematic Review of Community-Based Childhood Obesity Prevention Studies

- ▶ American Academy of Pediatrics
- ▶ Published July 12, 2013



# Policy, Systems, and Environmental Change

Successful PSE strategies are evidence-based, multisector community collaborations that create changes to make healthier lifestyle choices an easy and feasible option for every member of the community.



## Socio-Ecological Model



# The Smarter Lunchrooms Movement of California: Taking Nutrition Education to the Next Level



## MaryAnn Mills

*Smarter Lunchrooms Movement Program Manager*

*UC CalFresh Nutrition Education Program*

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UNIVERSITY of CALIFORNIA  
cal  fresh Nutrition Education

# Taking Nutrition Education to the Next Level



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of CALIFORNIA®  
Healthy Eating Made Easier®

“Implementing a variety of approaches such as multi-level interventions and community and public health approaches in **addition** to individual or group-based (direct) nutrition education to deliver effective, evidence-based nutrition education and obesity prevention programming.”



# 5 SOLUTIONS FOR CHANGING OUR COMMUNITIES

INTEGRATE PHYSICAL ACTIVITY EVERY DAY IN EVERY WAY.

STRENGTHEN SCHOOLS AS THE HEART OF HEALTH.

MARKET WHAT MATTERS FOR A HEALTHY LIFE.

EAT WELL!

ON THEIR OWN, ANY ONE OF THESE FIVE SOLUTIONS MIGHT HELP SPEED UP PROGRESS IN PREVENTING OBESITY, BUT TOGETHER, THEIR EFFECT WOULD BE REINFORCED, AMPLIFIED, AND MAXIMIZED.

ACTIVATE EMPLOYERS AND HEALTH CARE PROFESSIONALS.

MAKE HEALTHY FOODS AVAILABLE EVERYWHERE.

**ANYONE AND EVERYONE CAN BE A LEADER AND PLAY A PART IN IMPLEMENTING THESE FIVE SOLUTIONS. WHAT CAN YOU DO TO HELP SOLVE OUR OBESITY PROBLEM?**



- Nutrition Education
- School Wellness Policy
- Cafeteria



- Nutrition Education
- School Wellness Policy
- Cafeteria



- Nutrition Education
- School Wellness Policy
- Cafeteria

# Healthy Students



# Gaps

- ▶ Target audience
- ▶ Limited staff
- ▶ Funding limitations

**Table 3: Nutrition Education Funding  
Per Participant in FY 2008 by Program**

Program	2008 Funding (Millions)	Participants <sup>1</sup> (Millions)	Dollars per Year Per Participant <sup>2</sup>
SNAP <sup>3</sup>	\$314.1	28.4	\$11.1
Team Nutrition	13.3	50.3	0.3
WIC-Nutrition Ed	358.0	8.7	41.1
WIC-Breastfeeding Promotion	131.8	1.5	87.8
FDPIR Nutrition Aides	1.2	0.09	13.8

1 All programs based upon average monthly participation unless otherwise noted here. Team Nutrition participation is based on total school enrollment in the National School Lunch Program (NSLP). WIC Breastfeeding Promotion participants include pregnant and breastfeeding women only.

2. Per participant nutrition education dollars are based on unrounded program funding totals not shown.

3. Includes \$1.99M in SNAP-ED resources used at the Federal level.

# SLM of CA Collaborative

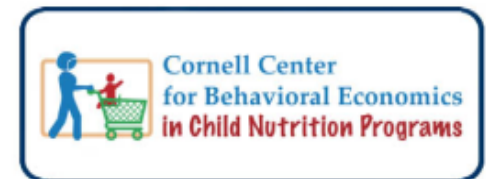


UNIVERSITY of CALIFORNIA  
cal fresh Nutrition Education

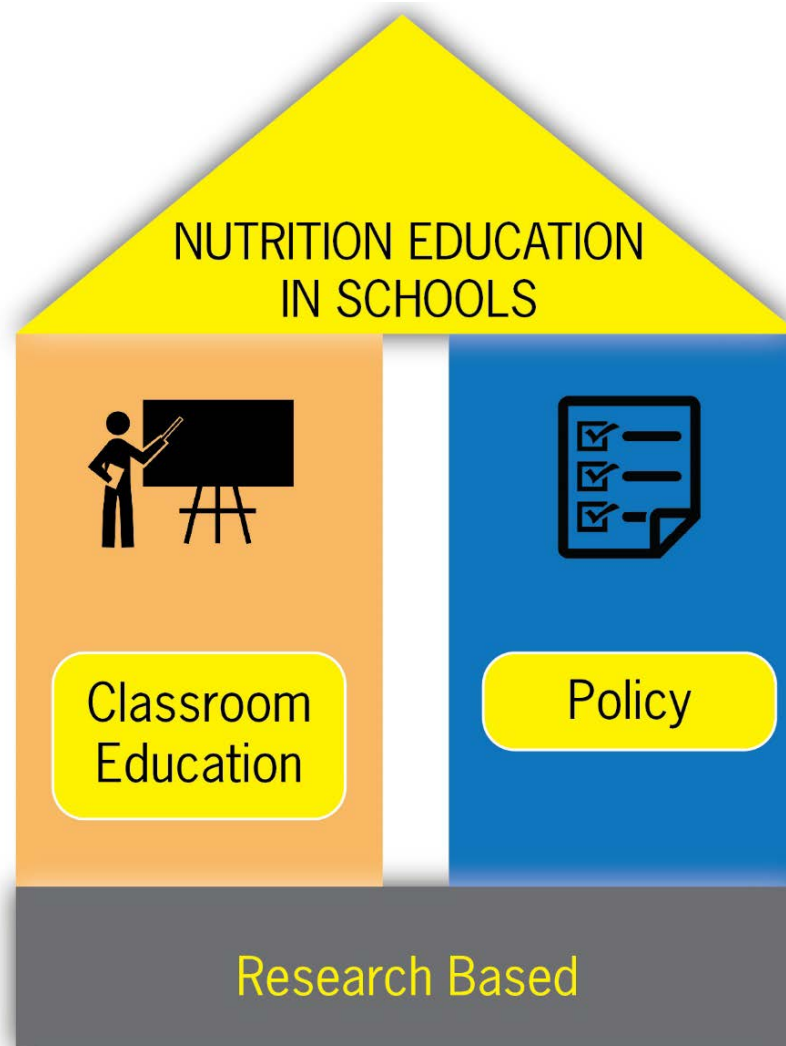
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The  
California  
Endowment



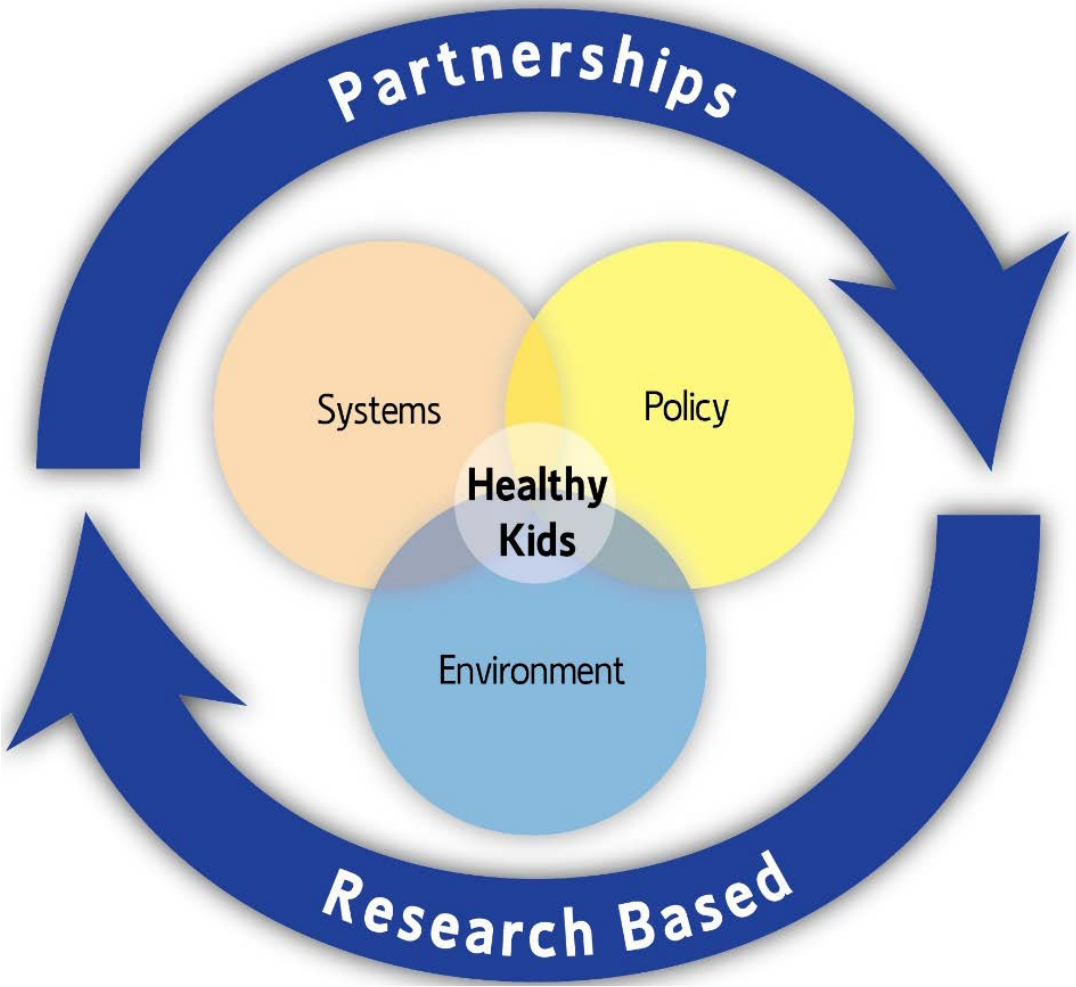
# Delivery Model Before the SLM of CA Collaborative





# Delivery Model

**Systems Approach to Creating a Culture of Healthy Eating**



# The Smarter Lunchrooms Movement



- ▶ Started in 2009 by the Cornell Center for Behavioral Economics
- ▶ Uses behavioral economics to “nudge” students to make healthy choices
- ▶ Evidence-based strategies that improve child eating behaviors and thus improve the health of children



# SLM Strategies in Action

Increased fruit  
consumption by 18%



Vegetable  
consumption increased  
by 25%



It's *not* nutrition  
until it's eaten!

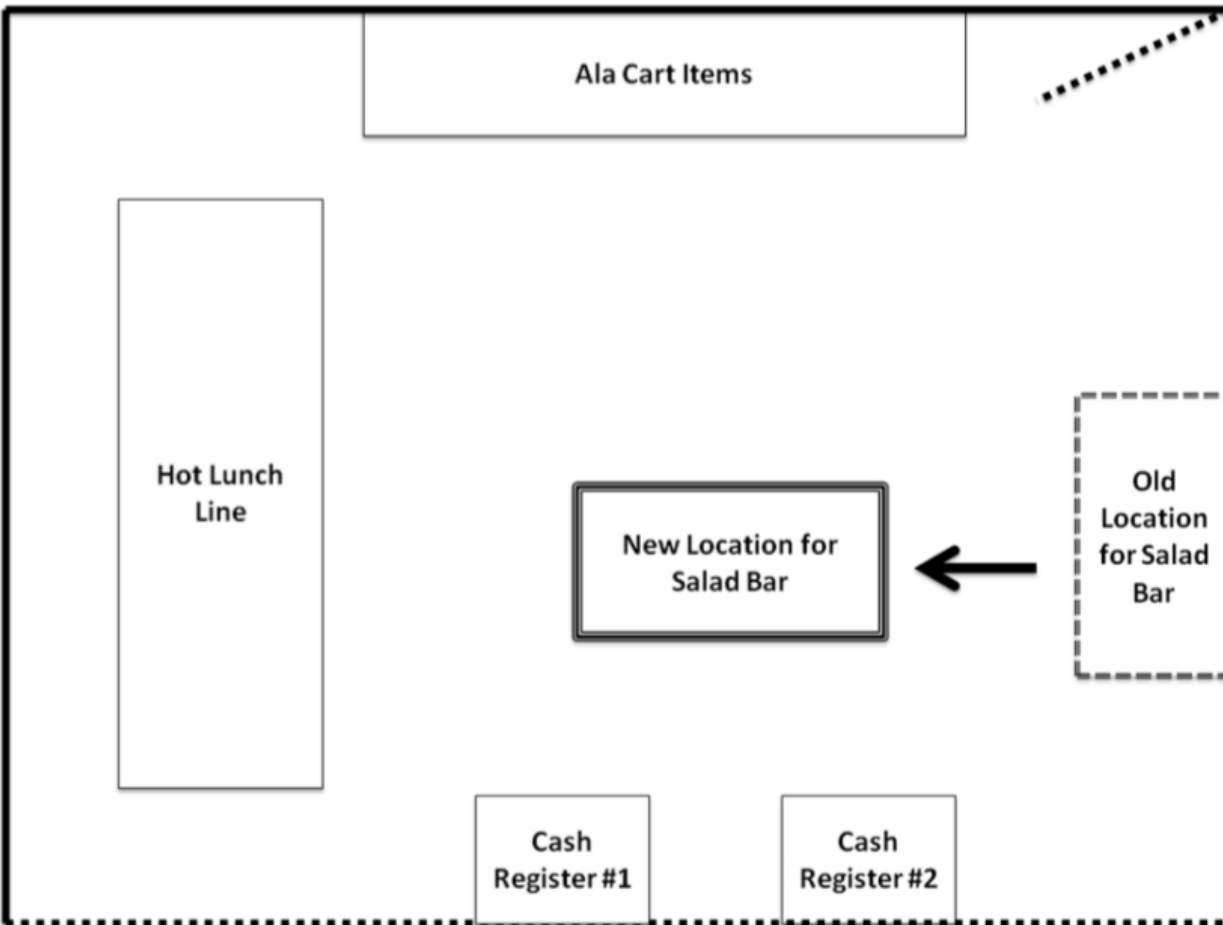
# The Name Game

Use cool or appealing labels to describe foods

- ▶ Carrots → X-Ray Vision Carrots → **Doubled** the consumption of carrots
- ▶ Bean Burrito → Big Bad Bean Burrito → Increased burrito consumption by **more than 40%!** (It could have been more, but they **sold out** in the second of three lunch periods!)



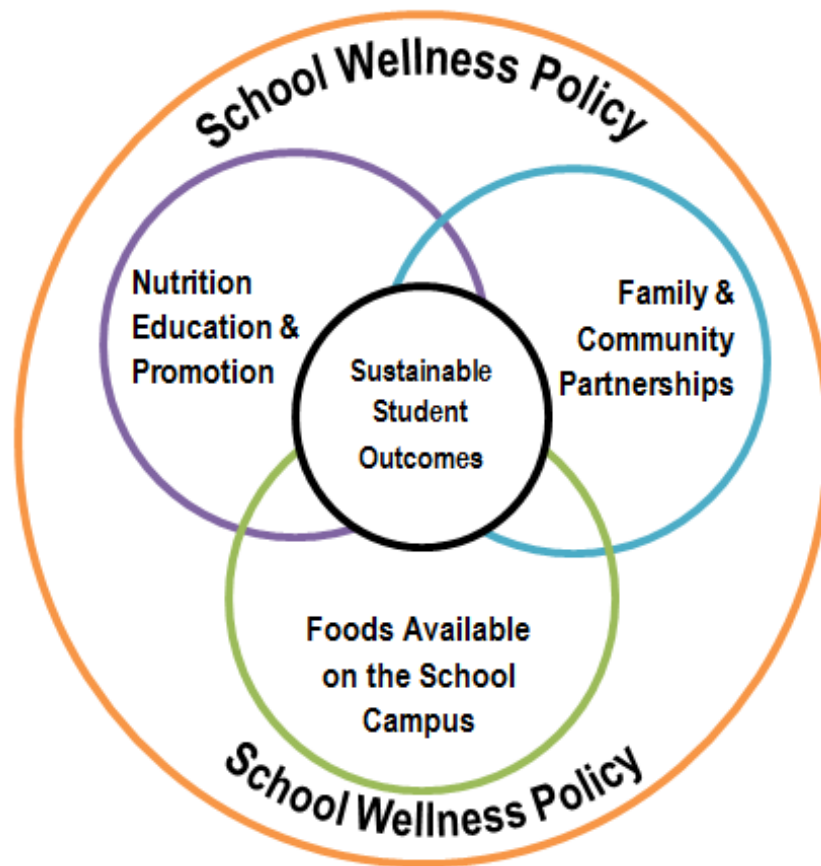
# Moving the Salad Bar



**Daily Salad Sales increased 200-300% within two weeks!!**



# The Shaping Healthy Choices Program: Comprehensive Obesity Prevention in Schools



# SNAP-Ed Students Consume 2xs More Fruits and Vegetables

3 times more likely to  
select a vegetable

2 times likely to select  
both F/V

2 times the variety of  
vegetables

2 times vegetable  
servings

Harvest  
of the  
Month™



# Competitive Food and Beverage Policies

- ▶ Increase availability and selection of healthier options
- ▶ Associated with lower proportions of overweight or obese students



# SLM of CA Implementation

- ▶ Technical Advising Professionals (TAPs) partner with schools to guide and support the implementation of the SLM of CA model.



# Multi-Systems Approach Best Practices



# Marysville Joint Unified School District



## Nutrition Education

- After school program
- Early Childhood
- Parent Education

## School Wellness Policy

- Reinforce cafeteria and nutrition education initiatives
- Implemented and monitored in all schools

## Cafeteria

- Smarter Lunchrooms Movement
- Fresh Fruit and Vegetable Grants

# Comprehensive Nutrition Education

Eating Smart • Being Active<sup>®</sup>



# District-Wide Cafeteria Interventions

**FRESH**  
**FRUIT & VEGETABLE**  
**PROGRAM**

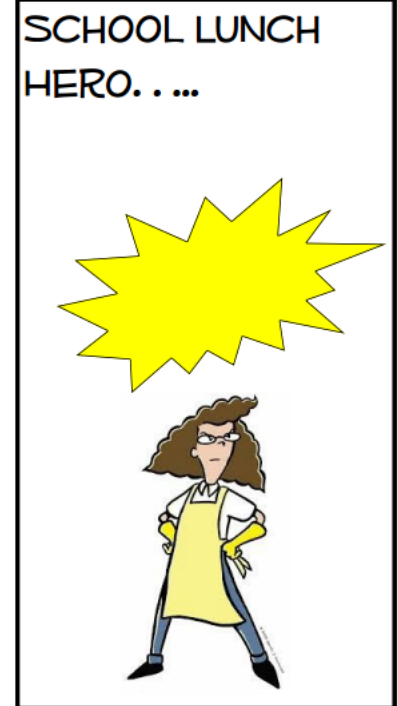


**MYPLATE MONTH!**

Choose **MyPlate.gov**

**Focus on 5 Food Groups Foods**

Choose foods from all of the food groups to make sure you get all the nutrients your body needs to grow strong and healthy!





# Cafeteria Outcomes

## White Milk

Improving Placement

Increasing Number of Servings

Sales DOUBLED!

## Fruit

Increasing Fruit Displays

Adding signage

44% Score Increase!

Establishing Relationships with Partners

Providing Trainings to Food Service Staff

Implementing SLM

69% Increase in Reimbursable Meal Sales!

# School Wellness Policy

## Supporting a Healthy Nutrition Environment

- ▶ School Health Council
- ▶ Nutrition Education and Physical Activity Goals
- ▶ Guidelines for Reimbursable Meals
- ▶ Implementation and Evaluation



# Team Nutrition SLM of CA

CDE awarded FNS grant FFY 2015-2017



**48 California schools received mini grants**

- SLM
- Nutrition Education
- Policy
- Evaluation

# Los Angeles USD VIDEO

FOOD COACH

## CORNELL PROGRAM AT LAUSD HELPS KIDS MAKE BETTER FOOD CHOICES

 Share

 G+

 Tweet





# Team Nutrition SLM of CA

Systems

## Nutrition Education

- Aligned with SLM:
- Classroom education
- Front Line Staff Training

Policy

## Policy

- SLM in LSWP
- Procedure Manuals
- HealthierUS School Challenge

## Cafeteria

- Smarter Lunchrooms Movement
- Tastings, posters

Environment

# Nutrition Education & SLM

## ▶ CA Dept. of Public Health

- ▶ Harvest of the Month activities

## ▶ UC CalFresh NEP

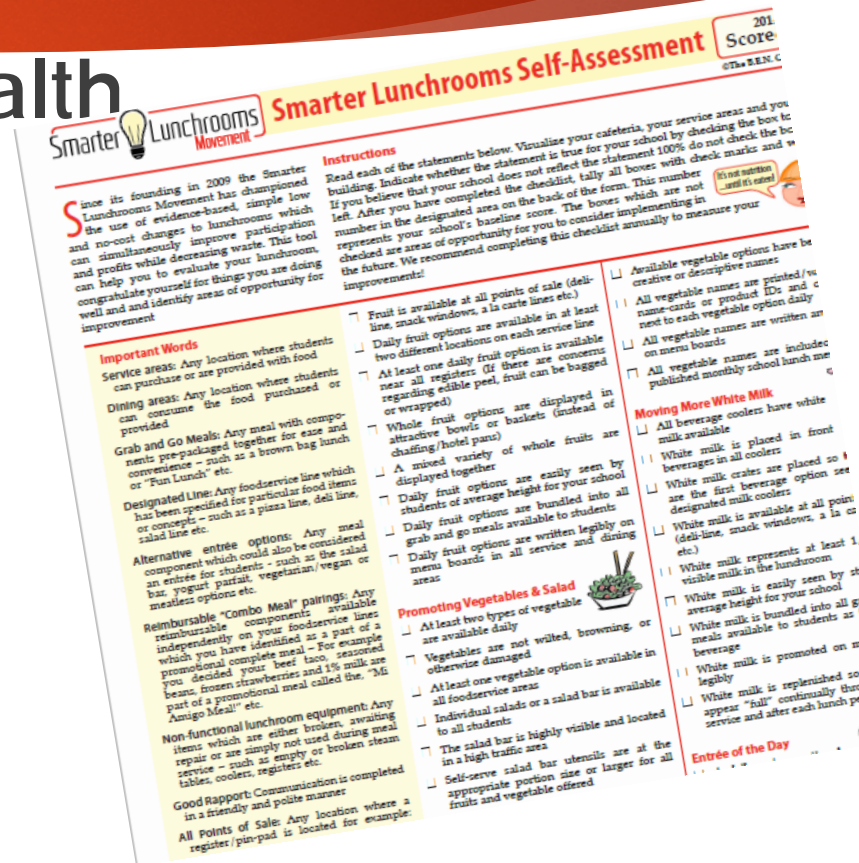
- ▶ Curriculum

## ▶ Dairy Council of CA

- ▶ Curriculum

## ▶ Team Nutrition

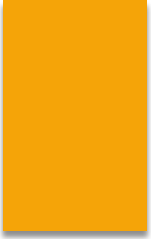
- ▶ Curriculum and Posters



# What Success Looks Like!

- ▶ **↑** in meal participation
- ▶ **↑** in consumption
- ▶ **↓** food waste
- ▶ **↑** student satisfaction



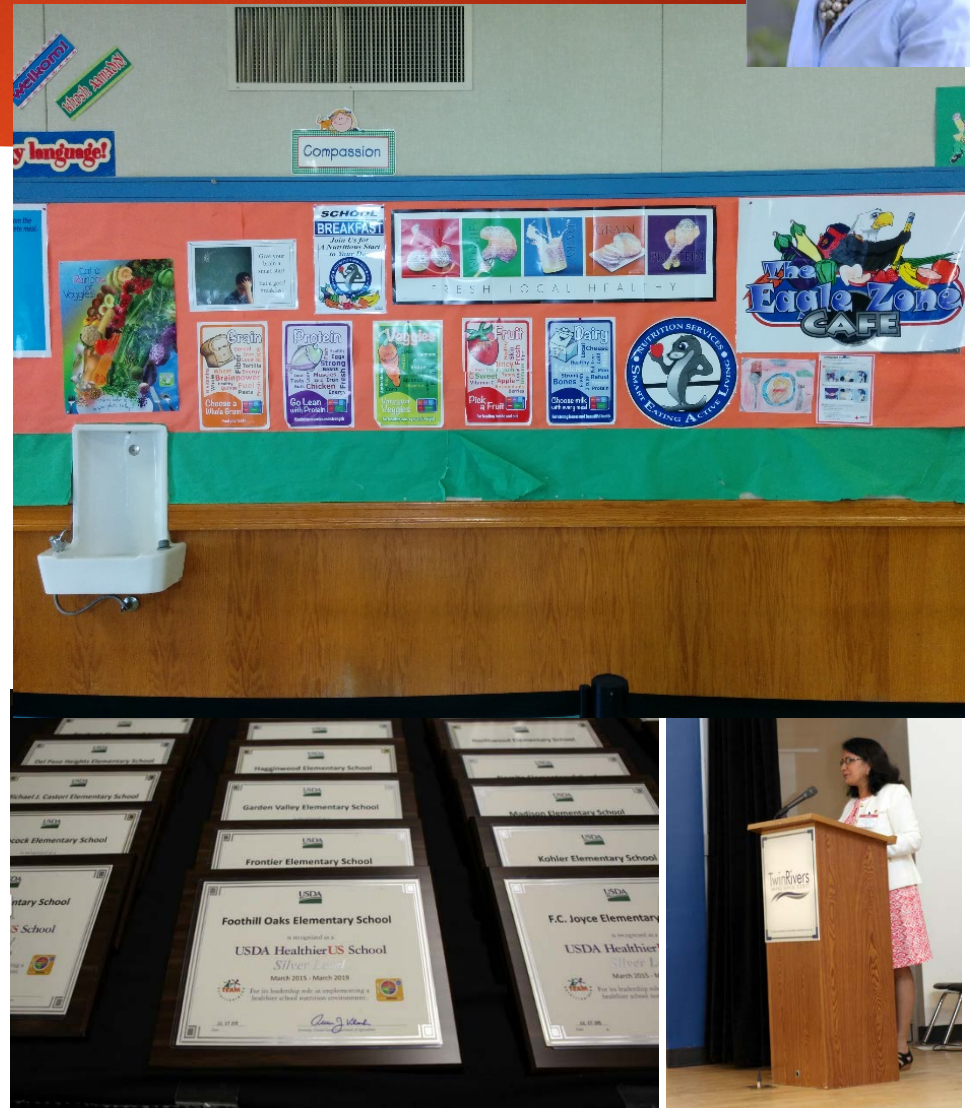




# Twin Rivers USD: 29 Schools Awarded US Healthier School Challenge



- ▶ 6 Gold
- ▶ 20 Silver
- ▶ 4 Bronze
- ▶ Strong Wellness Policy & Committee
- ▶ Wellness Programs
  - ▶ Fresh Fruit and Vegetable Program Grant
  - ▶ Supper Program
  - ▶ Salad Bars
  - ▶ Dairy Council of California Nutrition Education Curriculum
  - ▶ Smarter Lunchrooms
  - ▶ Harvest of the Month
  - ▶ Campus Produce Market
  - ▶ Neal the SEAL Classroom Nutrition Education
  - ▶ Chef Rio Cooking Cart
  - ▶ Chef Rio Contract
  - ▶ Jr Chef Program



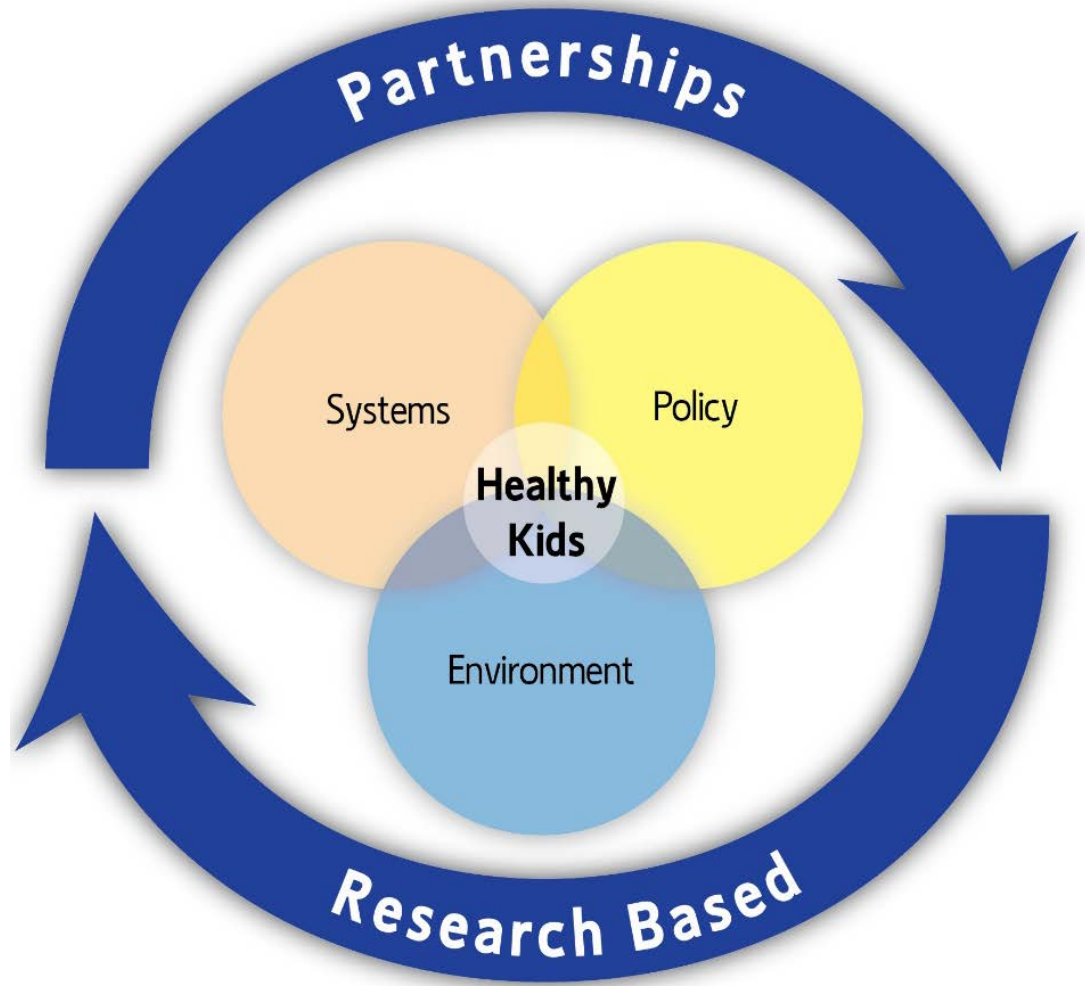
# Chef Rio Cooking Cart





# Delivery Model

**Systems Approach to Creating a Culture of Healthy Eating**



# Thank You!

- ▶ Shannan Young, Food Systems Program Manager  
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