

# Overfed, Undernourished:

## Examining Food Choices and Health Impact

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# Understanding Child Food Intake

## *What We'll Cover Today*



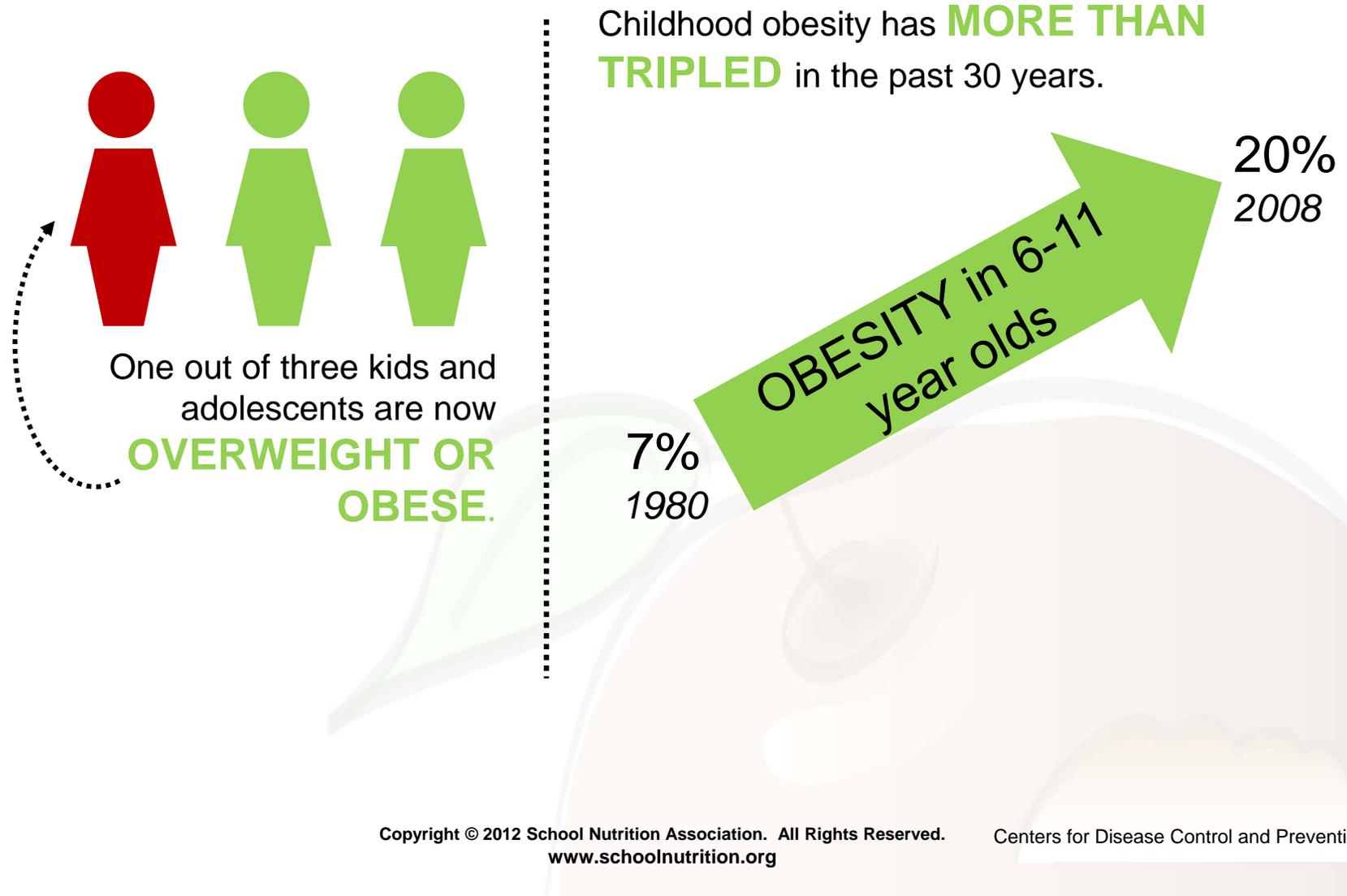
The Importance of **SCHOOL FOOD**

The Changing Face of **SCHOOL MILK**

A Look at **AT-HOME INTAKE**

Recommendations and **ACTION-BASED ADVICE**

# The Staggering Facts



# The Health Effects



## Short Term

- Risk for **heart disease**
  - In a population-based sample of 5- to 17-year-olds, 70% of obese youth had at least one risk factor for cardiovascular disease.
- More likely to have **prediabetes**
  - Prediabetes is a condition in which blood glucose levels indicate a high risk for development of diabetes.
- At risk for **physical and mental health** issues
  - Children and adolescents who are obese are at greater risk for bone and joint problems, sleep apnea, and social and psychological problems such as stigmatization and poor self-esteem.

## Long Term

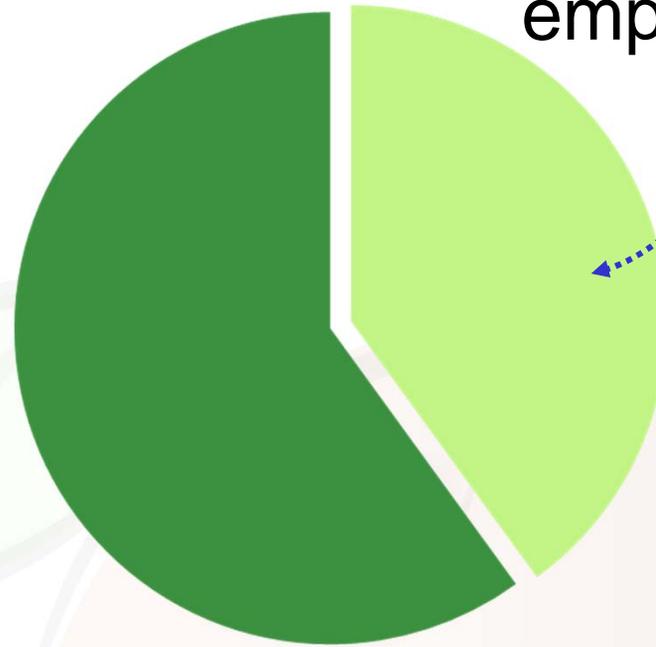
- More likely to be **obese adults**
  - Children and adolescents who are obese are likely to be obese as adults and are therefore more at risk for adult health problems such as heart disease, type 2 diabetes, stroke, several types of cancer, and osteoarthritis.
  - One study showed that children who became obese as early as age 2 were more likely to be obese as adults.

# Overfed But Undernourished

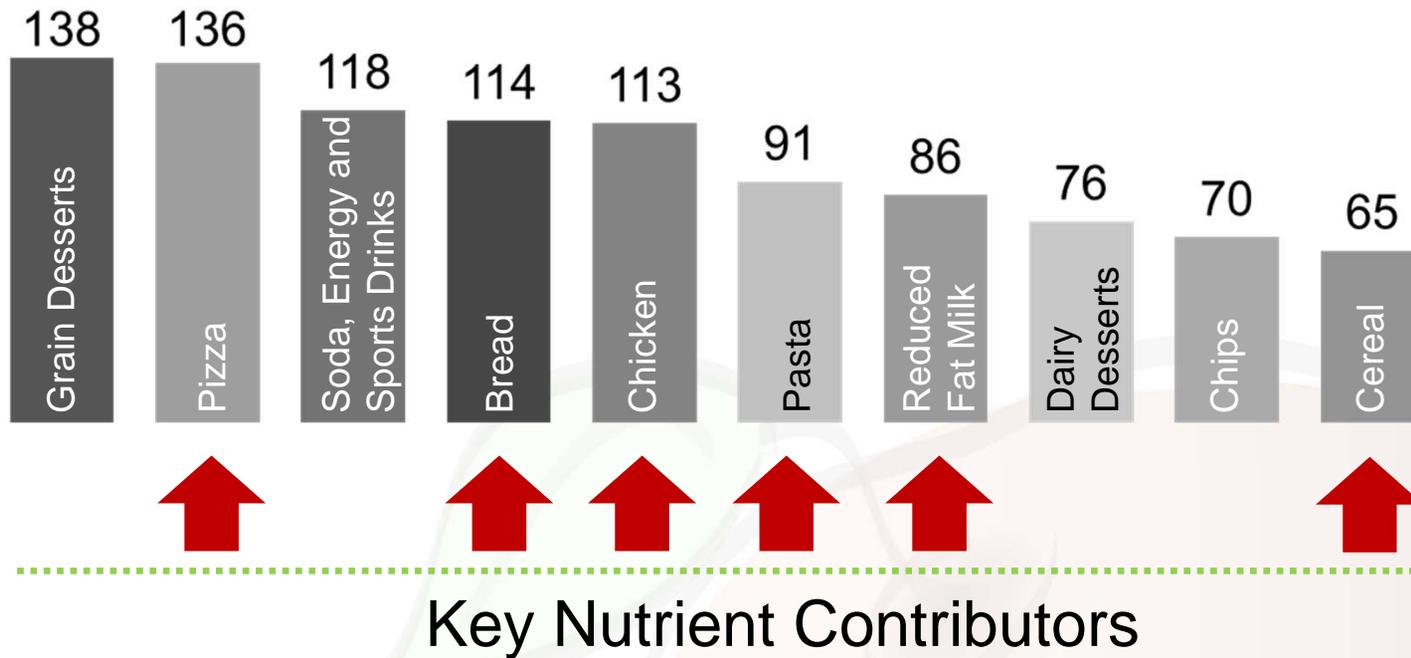


Children ages  
2-18 average  
about **2,000**  
**CALORIES**  
per day

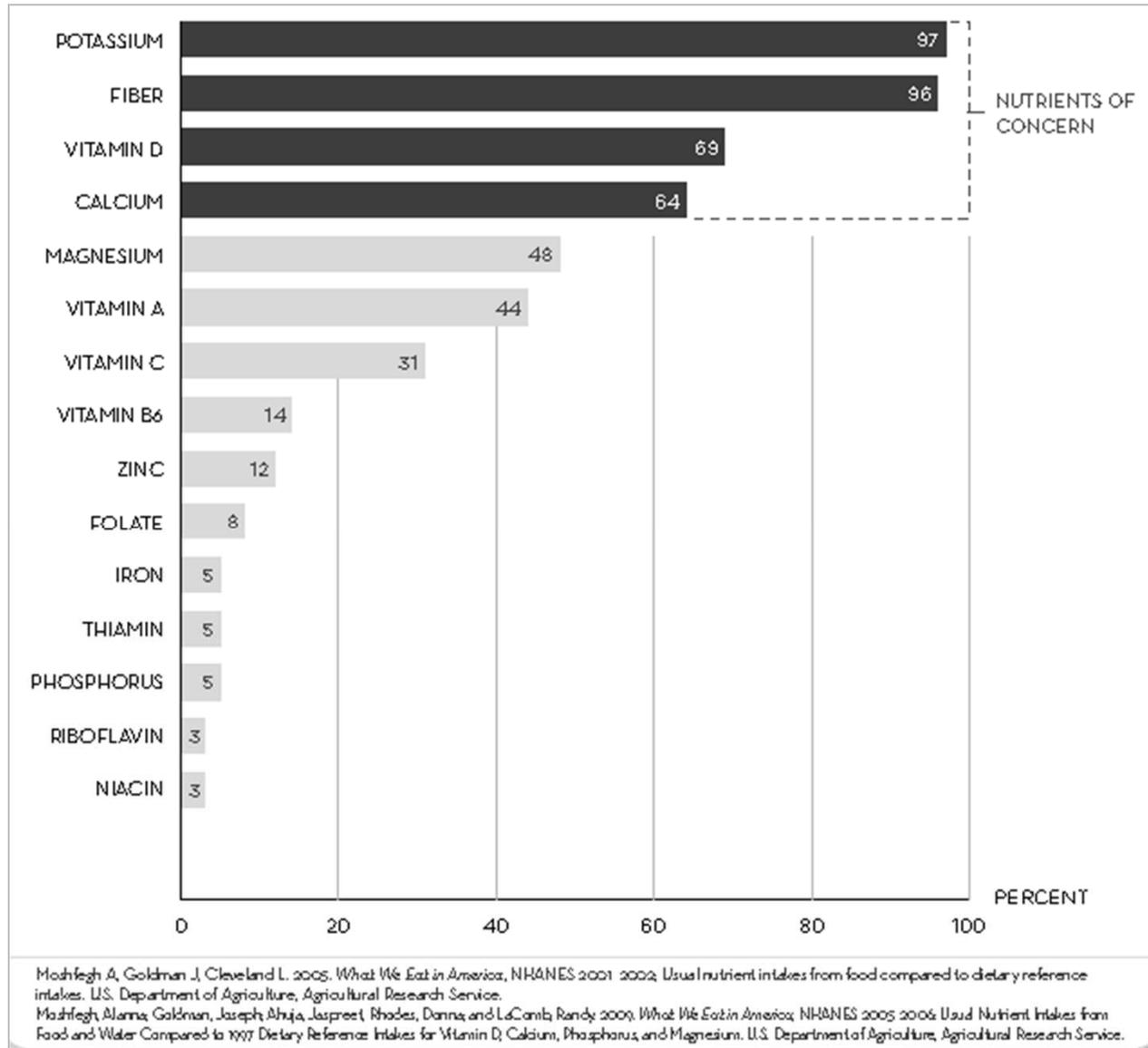
**40%** of  
calories are  
empty calories



# The Top 10 Contributors to Kids' Calories



# Percent Of Americans Not Meeting Nutrient Recommendations

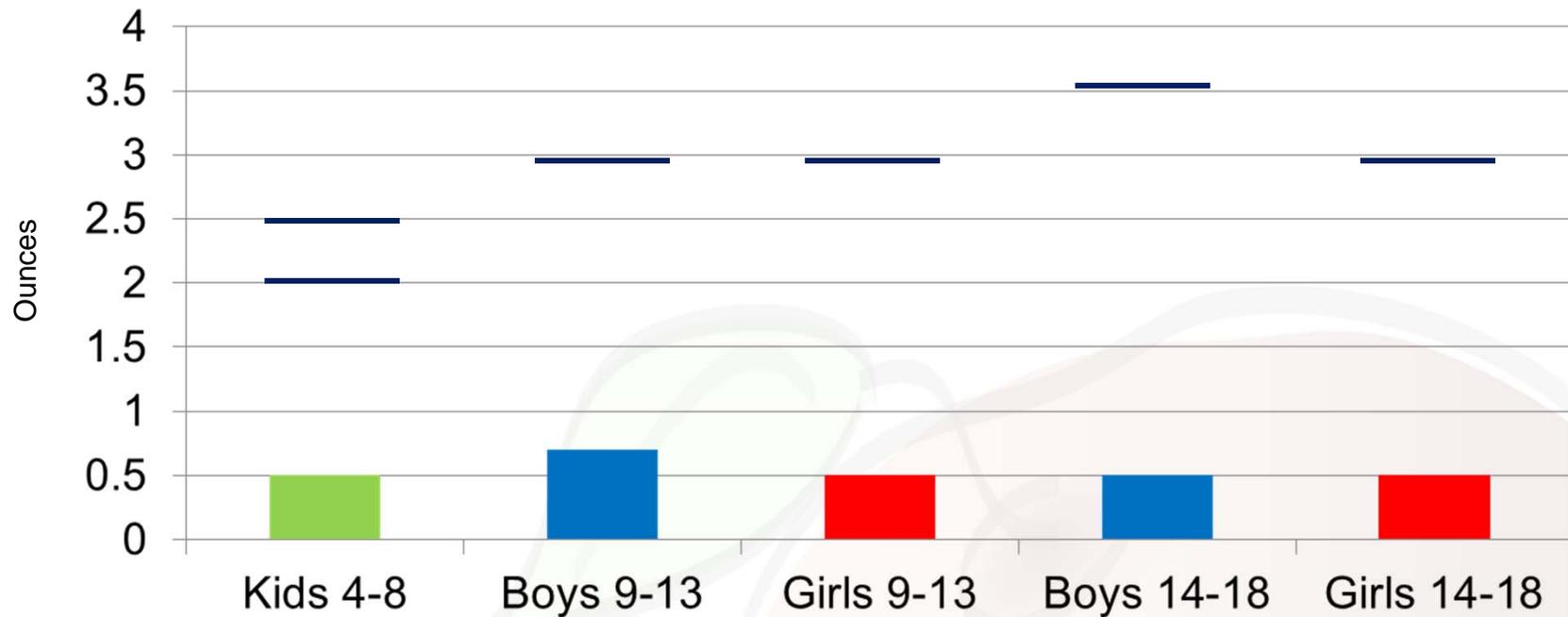




# Where are the Gaps?



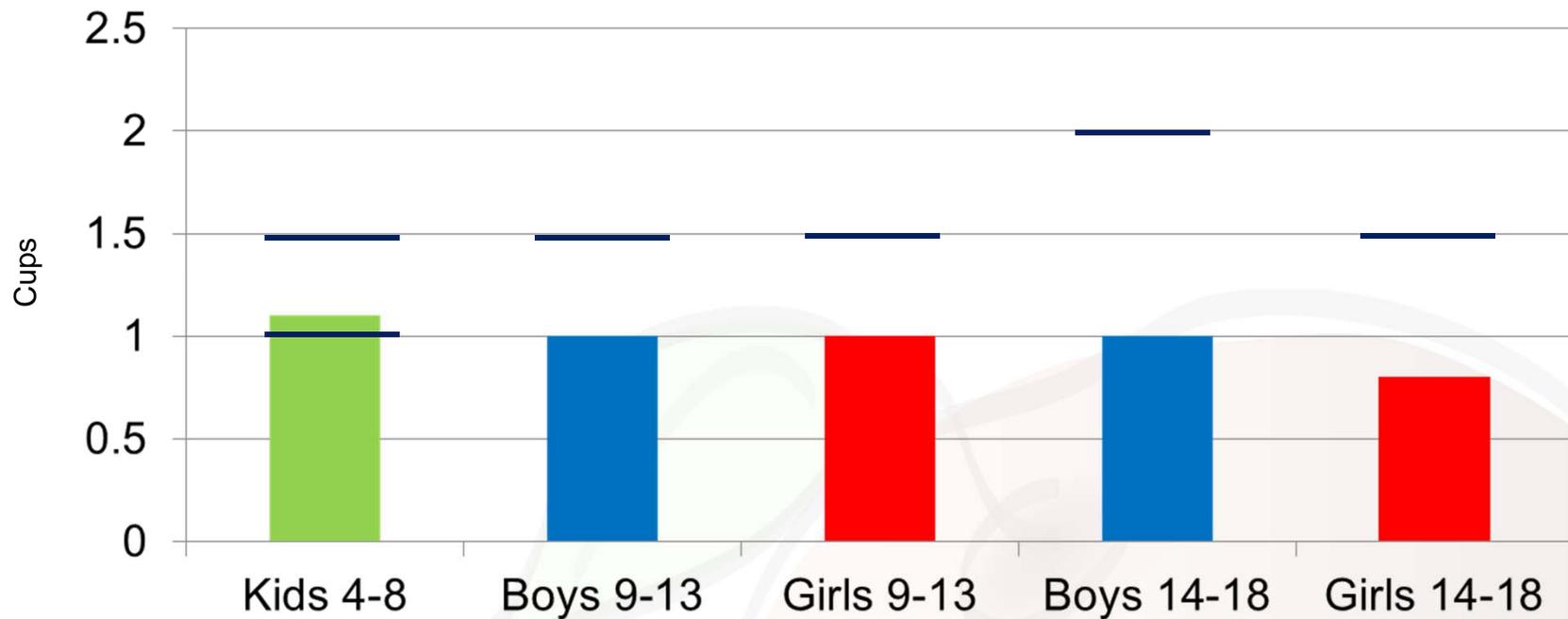
## Usual Intakes of Whole Grain



# Where are the Gaps?



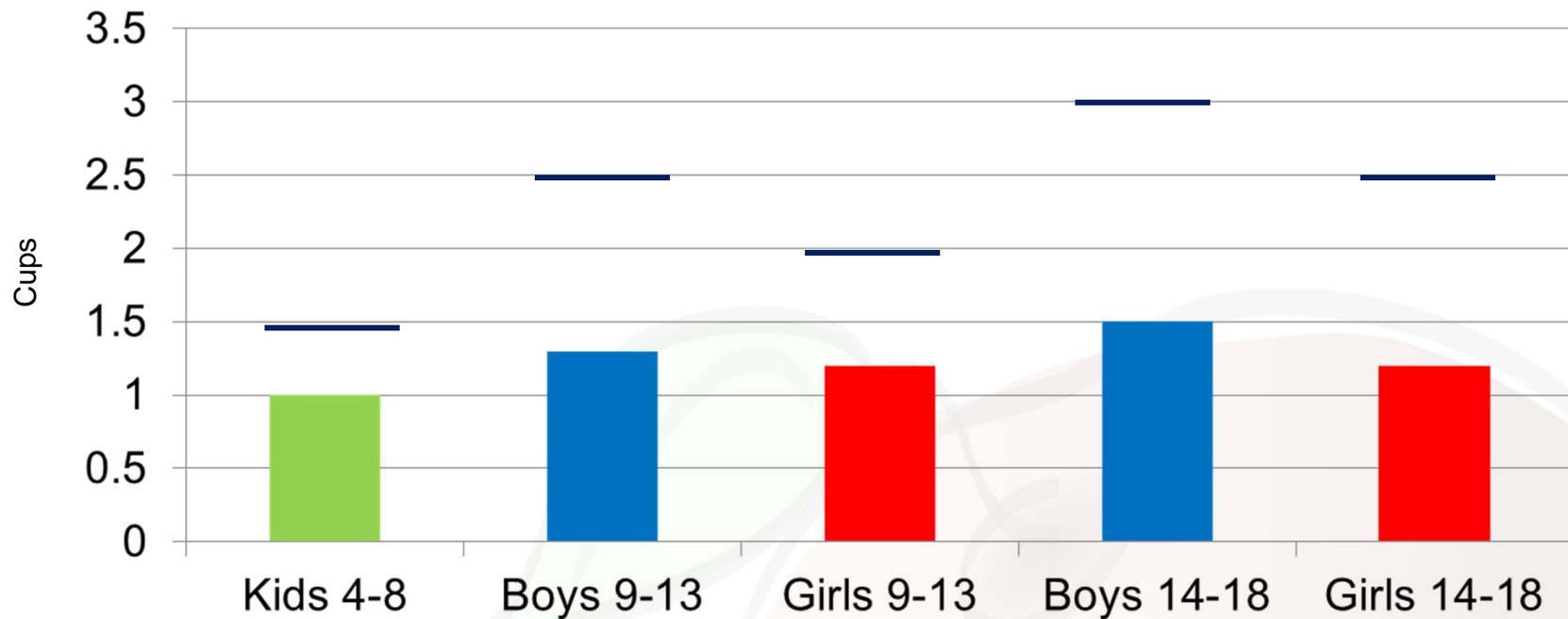
## Usual Intakes of Fruit



# Where are the Gaps?



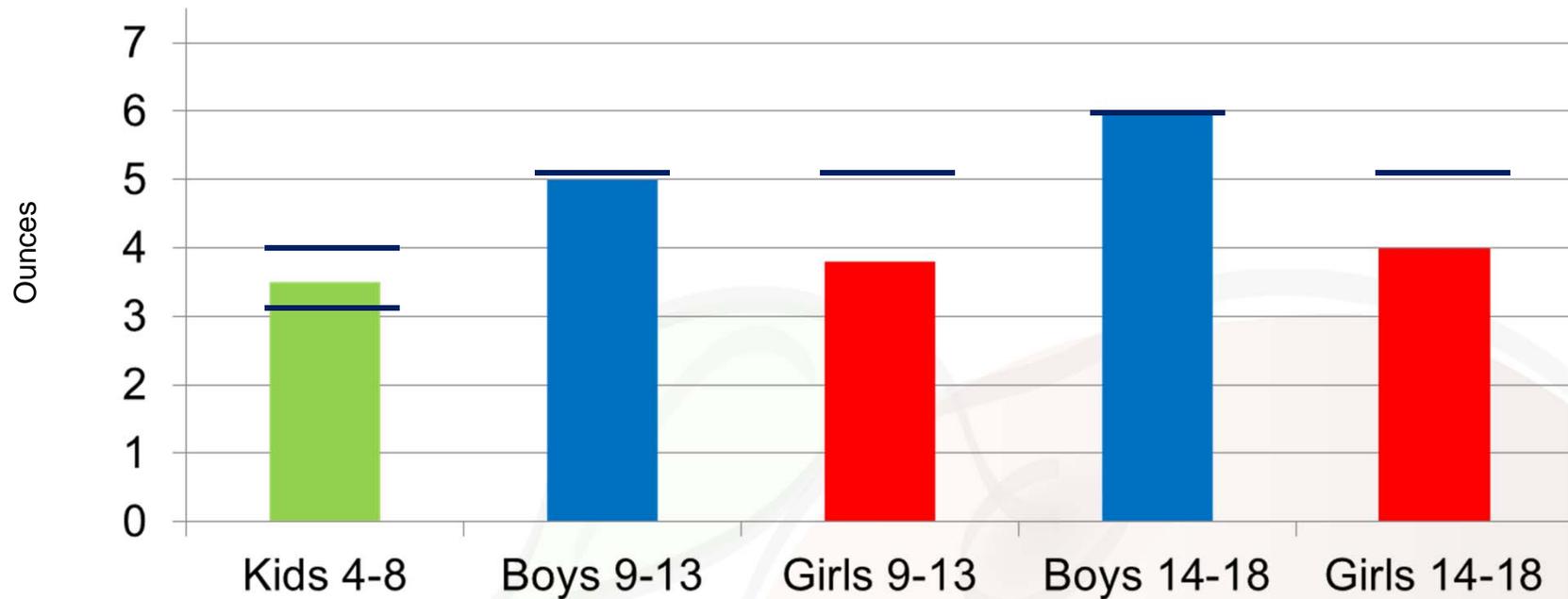
## Usual Intakes of Vegetables



# Where are the Gaps?



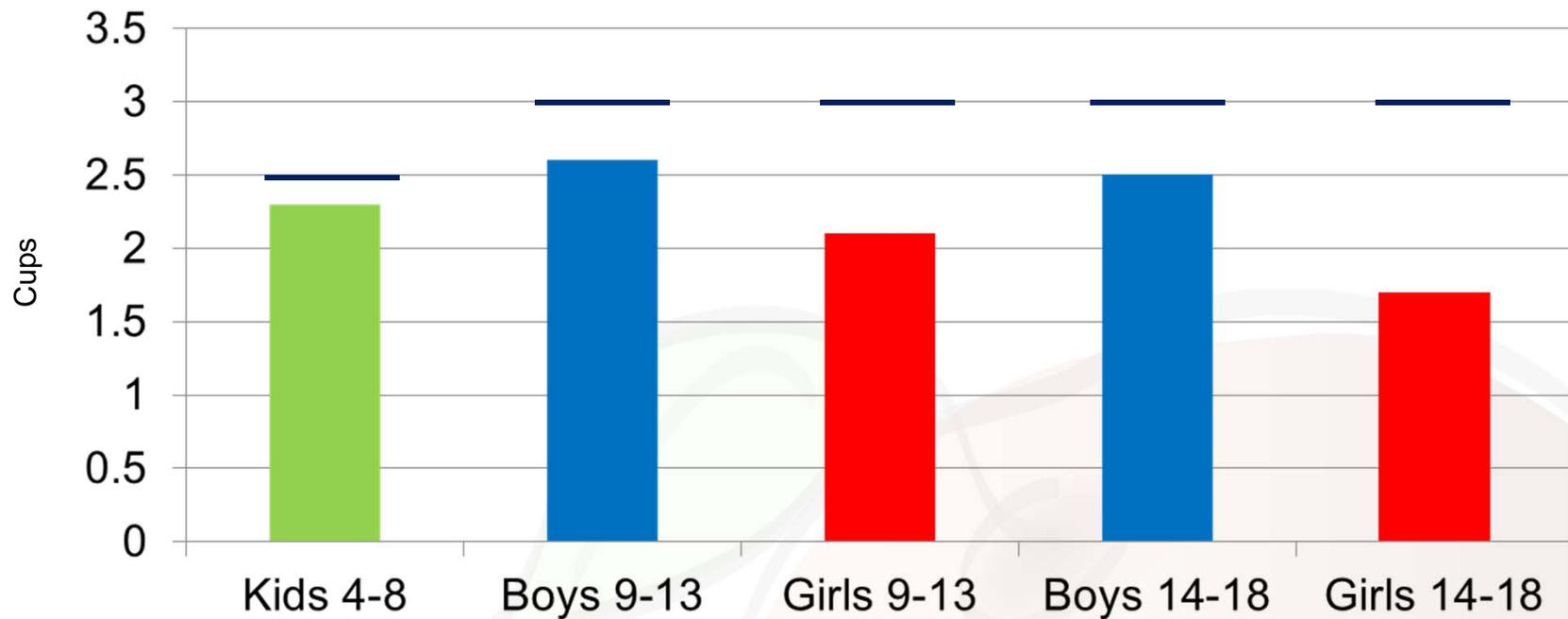
## Usual Intakes of Meat



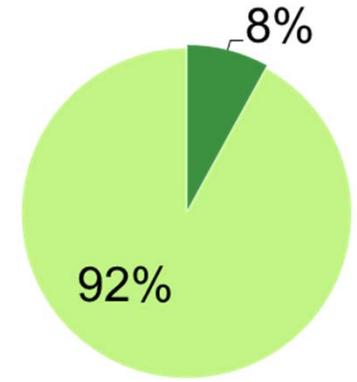
# Where are the Gaps?



## Usual Intakes of Milk and Milk Products



# 9 out of 10 Teen Girls Do Not Drink Enough Milk



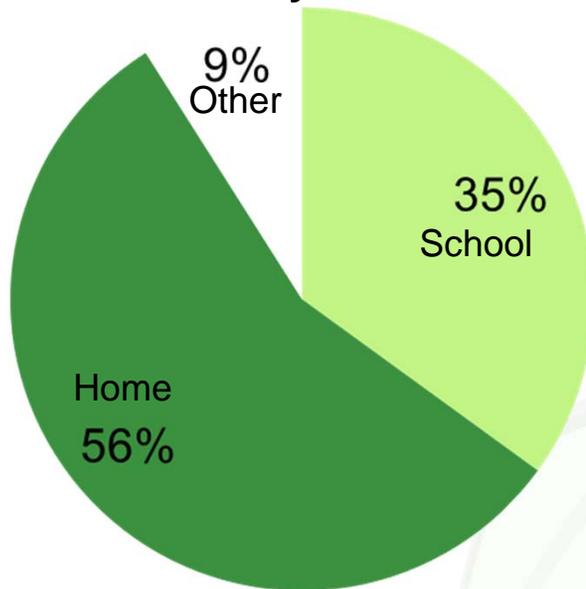
■ Meeting recommendations  
■ Below recommendations



Where Do  
Kids Eat?

# Where are Kids Eating?

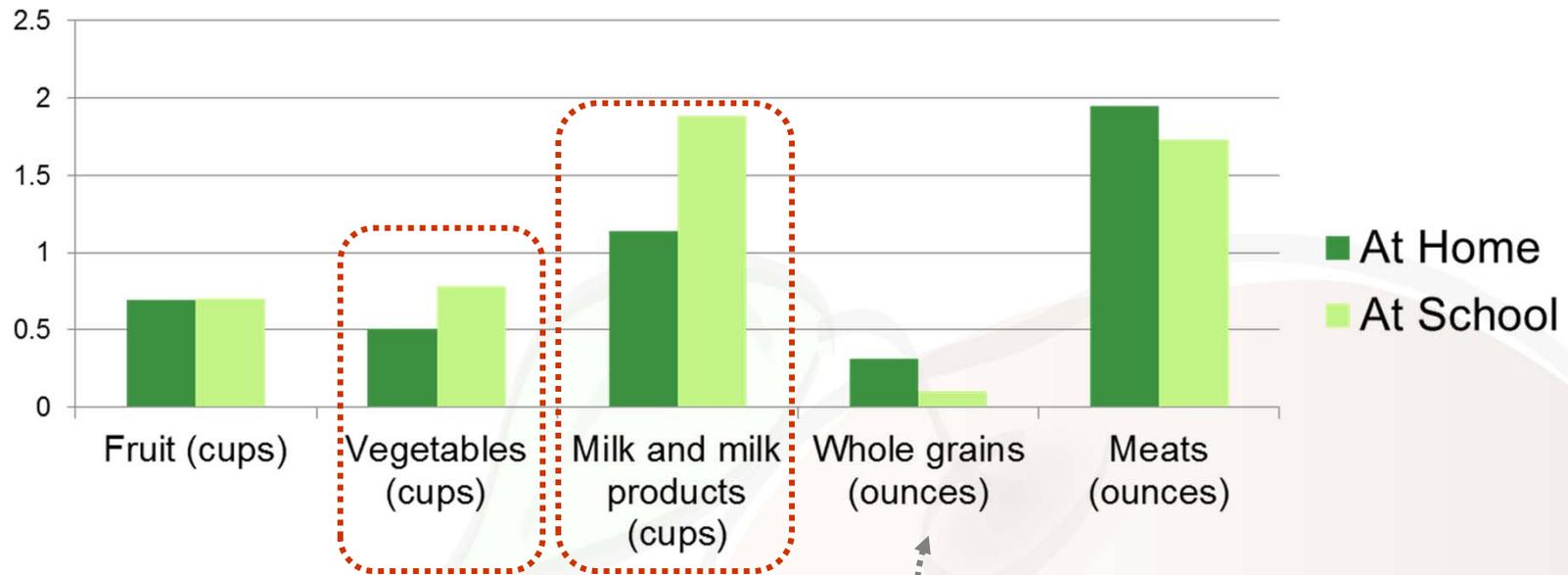
**Percentage of Calories At School,  
Home and Away from Home**



# School Meals Disproportionately Contribute Vegetables and Milk



Food group contribution per 1,000 calories

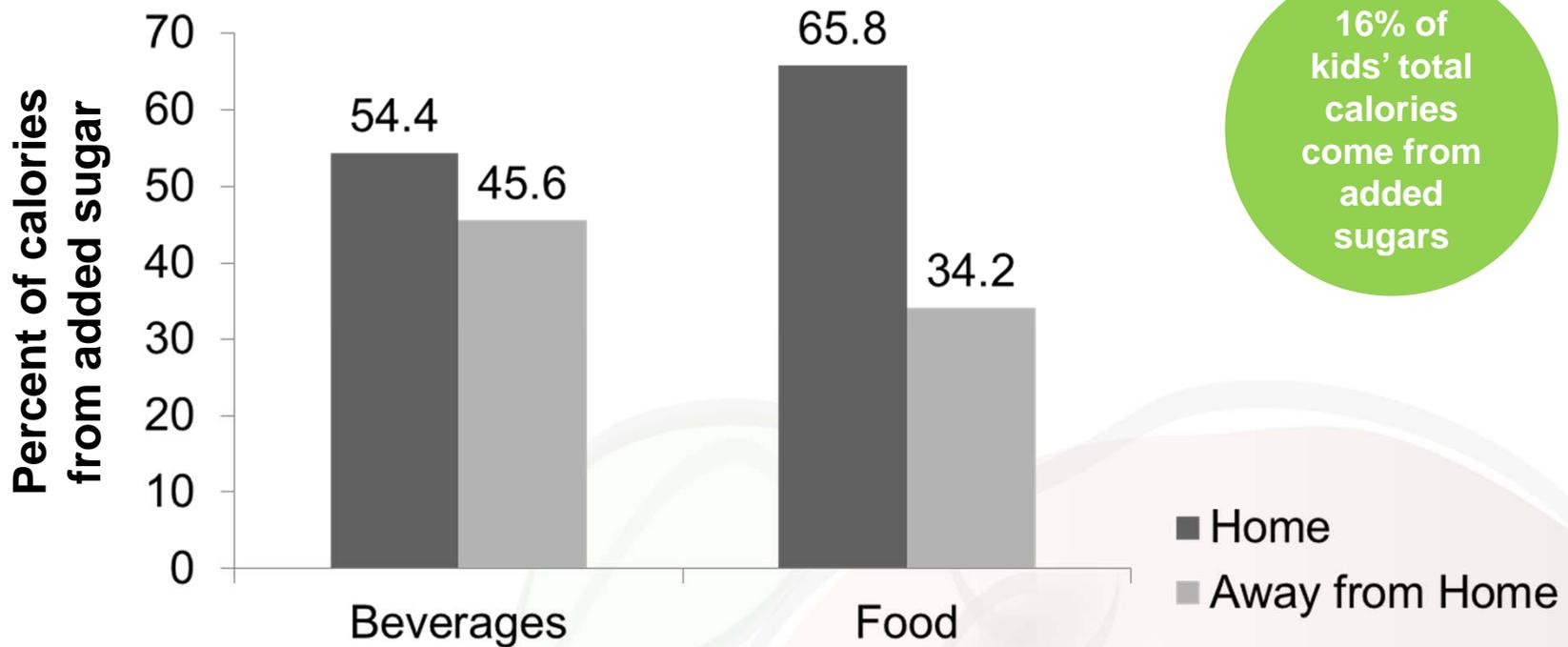


Likely to change with new school meals

# “Home” is the Top Source of Empty Calories for Kids



# And, The Top Source of Added Sugars



# The Summertime Effect: Kids Are At Risk During the Summer Months



Recent seasonal comparison research (comparing children's outcomes during the summer and during school year) reports that children gain body mass index (BMI) **nearly twice as fast** during the summer as during the school year.

Summer BMI gains are especially likely for black and Hispanic children, and for children who are already overweight.



How Do  
School  
Meals Help?

# New Guidelines, New Menus



Students to see healthier school lunches under new USDA rules



# School Food Has Already Undergone a Makeover

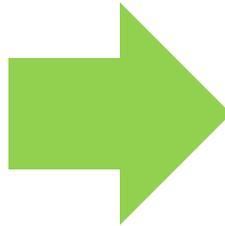


1 in 5 schools purchased locally grown produce

# Menu Makeovers

## BEFORE

- Pizza sticks (3.8 oz) with marinara sauce (1/4 cup)
- Banana
- Raisins (1 oz)
- Whole milk (8 oz)



## AFTER

- Chef salad (1 cup romaine, 0.5 oz low-fat mozzarella, 1.5 oz grilled chicken)
- Whole wheat soft pretzel (2.5 oz)
- Corn, cooked (1/2 cup)
- Baby carrots, raw (1/4 cup)
- Banana
- Skim chocolate milk (8 oz)
- Low-fat ranch dressing (1.5 oz)
- Low-fat Italian dressing (1.5 oz)

- ✓ **Increasing Whole Grain**
- ✓ **Offering More Fruits and Veggies**
- ✓ **Decreasing Sodium**

# Our Next Challenge



Serving  
nutritious, kid  
appealing  
foods.

# What the Kids Said...

“Now that lunch menus are changing, I’m starting to pay more attention to what I’m eating at school.

**Before, my friends and I would always complain about how school lunches were unhealthy and didn’t taste that good.** Now, because of the new standards for school lunches, I think my opinion about school lunches will change. These new standards may cause me to buy school lunch more often. **The menu looks more appetizing and a lot healthier.** I usually bring lunch to school, but I buy lunch too. Right now, we are given healthy options such as fresh vegetables and fruits and whole-wheat sandwiches, but we are also given the options of French fries, pizza and burritos. Of course, those options are often chosen over the healthy ones. However, with these new standards, students will eat healthier, which is important. I will probably buy lunch from school more often now that the menu has changed.”

—By Saniya Soni, San Jose, California



# What the Kids Said...

“I think these new rules will help me and other kids to start making healthier choices.

I always buy lunch at school if it’s available. I have to bring lunch to school on Tuesdays and Wednesdays when there is no hot lunch. I already see changes being made. My school is offering more salad choices and soup options instead of foods high in fat, such as mozzarella sticks.

**I think the new rules will improve kids’ health and encourage kids to eat low-fat foods, even at home.** I will continue buying the new lunches because I think it will be good for my health, although it might not taste as good as the previous lunch options. On the other hand, I think kids should get more freedom to make their own choices, and that it’s okay to have some foods like ice cream once in a while. Also, I think it will be hard for many kids to say goodbye to their favorite foods. But overall, I think it’s a good idea to set the new standards.”

—By Linda Tong, Pine Brook, New Jersey



# What the Kids Said...



“I think the new lunch menus will have a positive impact. Healthy, fresh ingredients will help with the focus of students in the classroom and improve overall performance in class and out. **The food being served at school could motivate students to make better food choices in their daily lives.** My school has some healthy options, but they could more fully embrace healthy food.

Currently, I eat school-served lunches, and I think the changes will be for the better. I will enjoy the new food options, and I’m eager to see what will be served next.”

—By Tavian Moore, Grand Rapids, Michigan





# A Closer Look at School Milk

# Milk is on the New Menu



- ✓ Fat Free White Milk
- ✓ Lowfat White Milk
- ✓ Fat Free Chocolate Milk

8 ounces at each meal  
No calorie or sugar restrictions  
Offer at least two choices

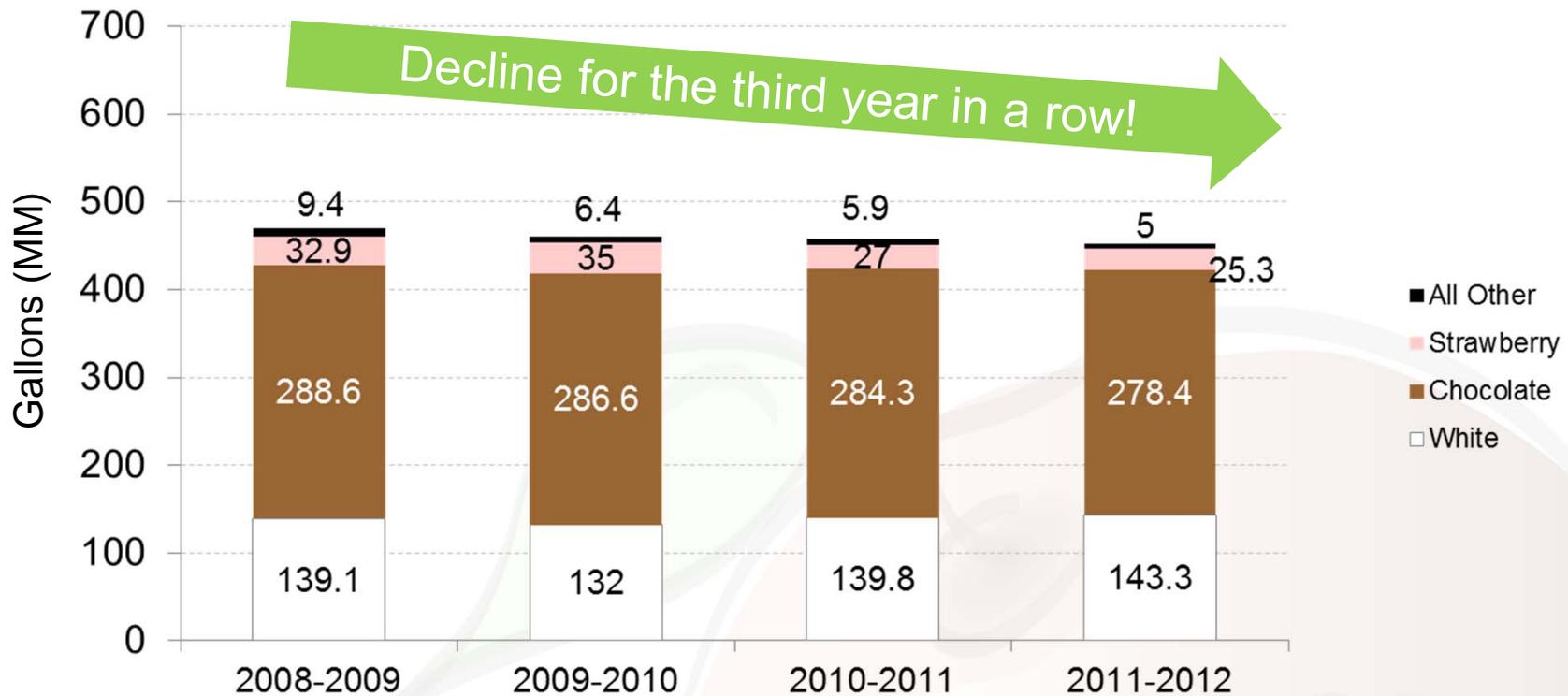


Grades	Lunch kcal
K-5	550-650
6-8	600-700
9-12	750-850

# Nutrient-Rich Milk is STILL on the Decline at School

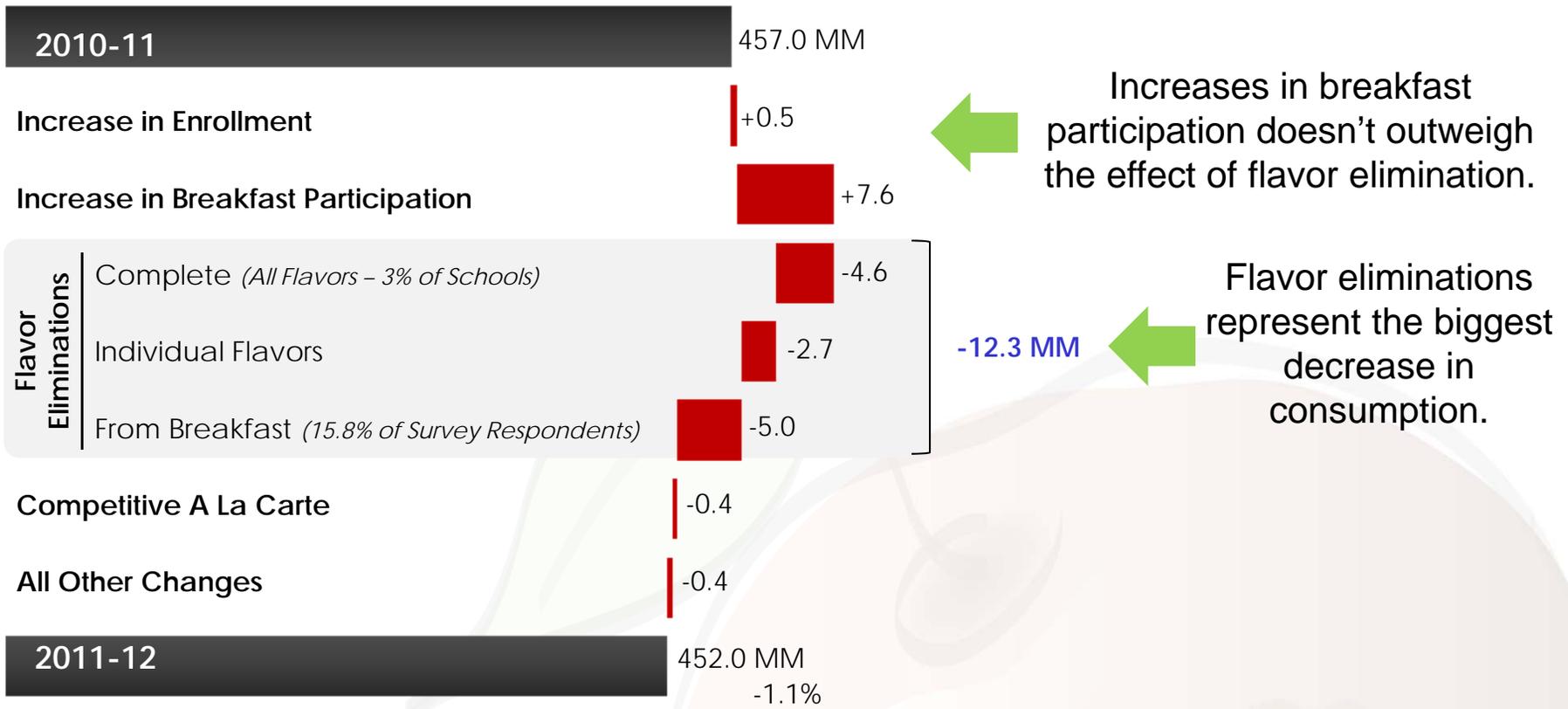


School milk declined 1.1% in just one year

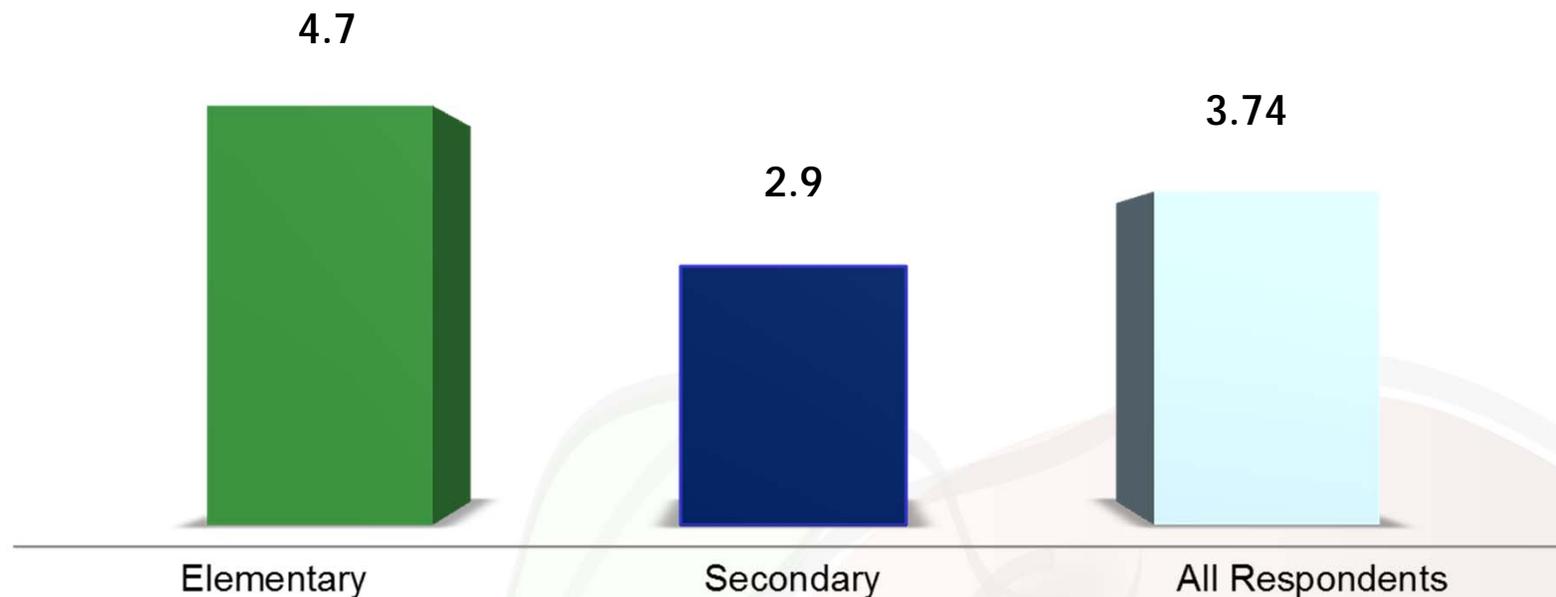


# Why the Decline?

## Eliminating Milk Choices Decreases Consumption



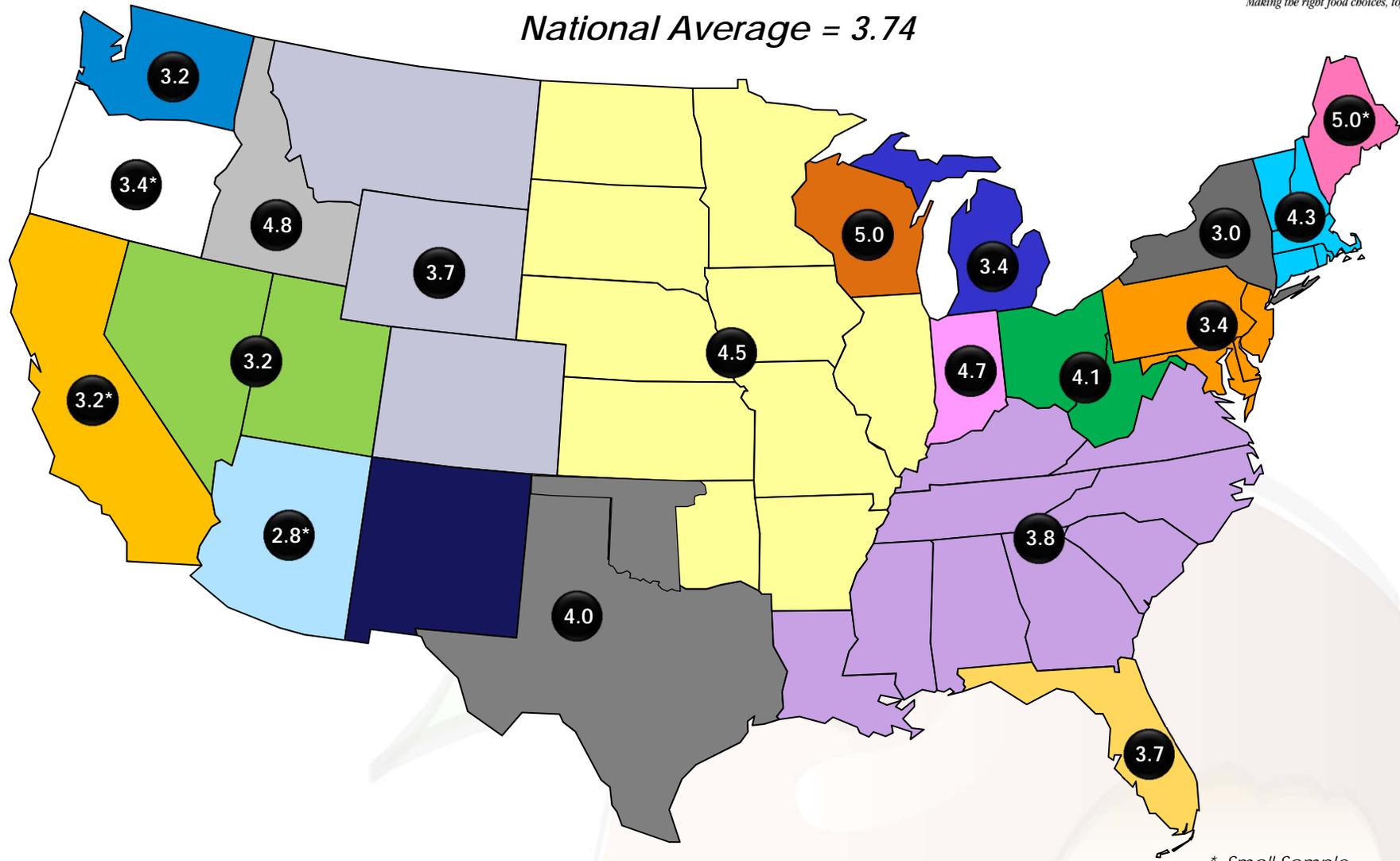
# Kids Average Less than Four Servings of Milk Per Week



# Weekly Milk Servings per Student



National Average = 3.74



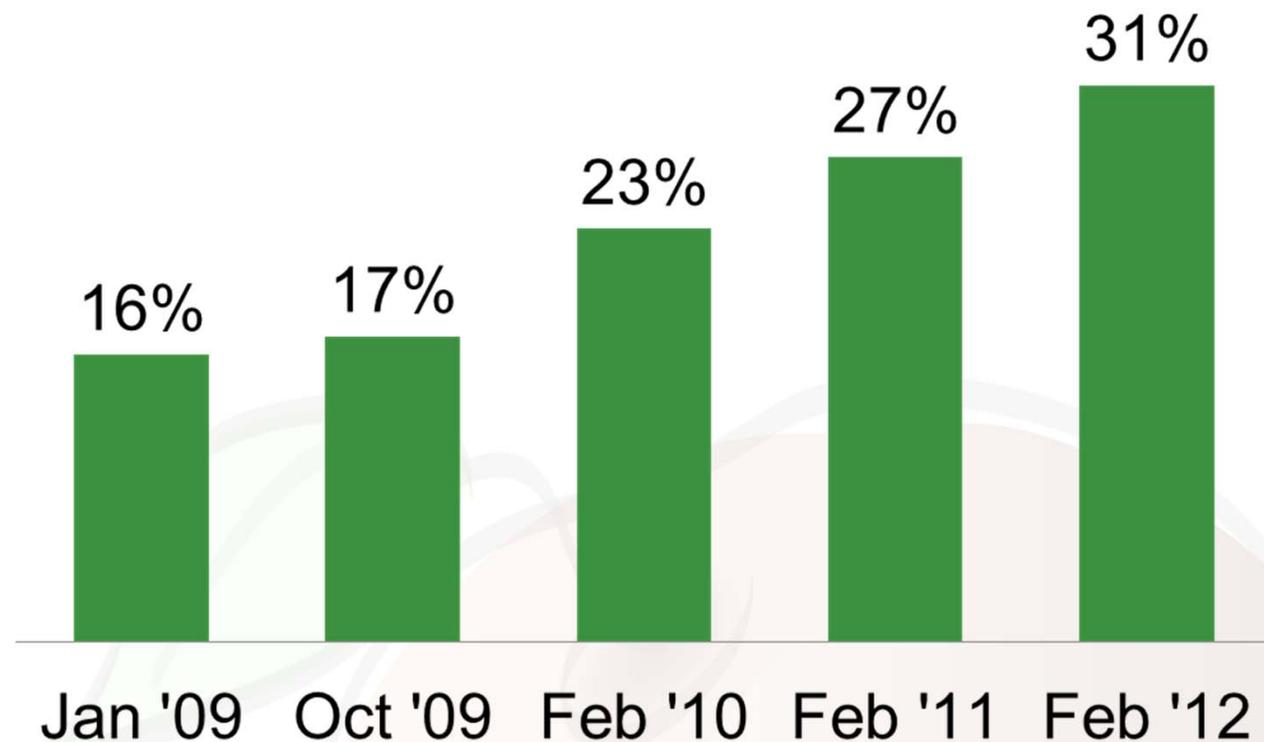


Is  
Flavored  
Milk Part  
of the  
Solution?

# Flavored Milk Concerns?

Portion of Directors Experiencing More Questions than Last Year

Parents and teachers are most frequently involved (66% and 52% respectively) with public interest groups mentioned 12% of the time, double the level of last year.

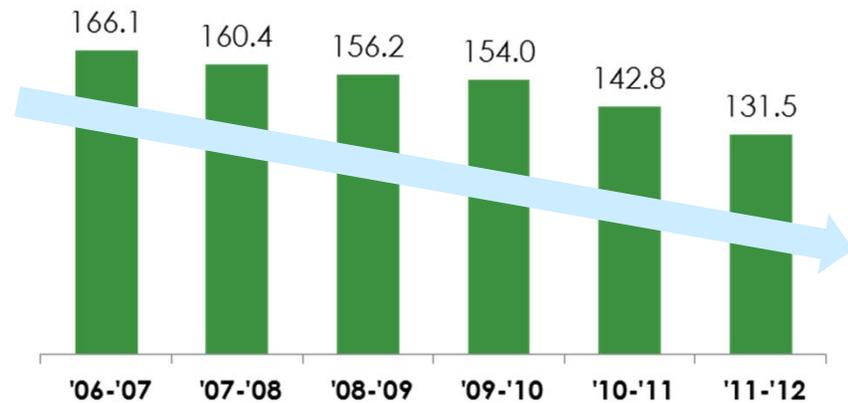


# Today's Flavored Milk is Different



The average flavored milk in schools this year had 131.5 calories, 11.3 calories less than last year and 35 fewer calories than 5 years ago.

**Avg Calories in 8oz Serving of Flavored Milk**



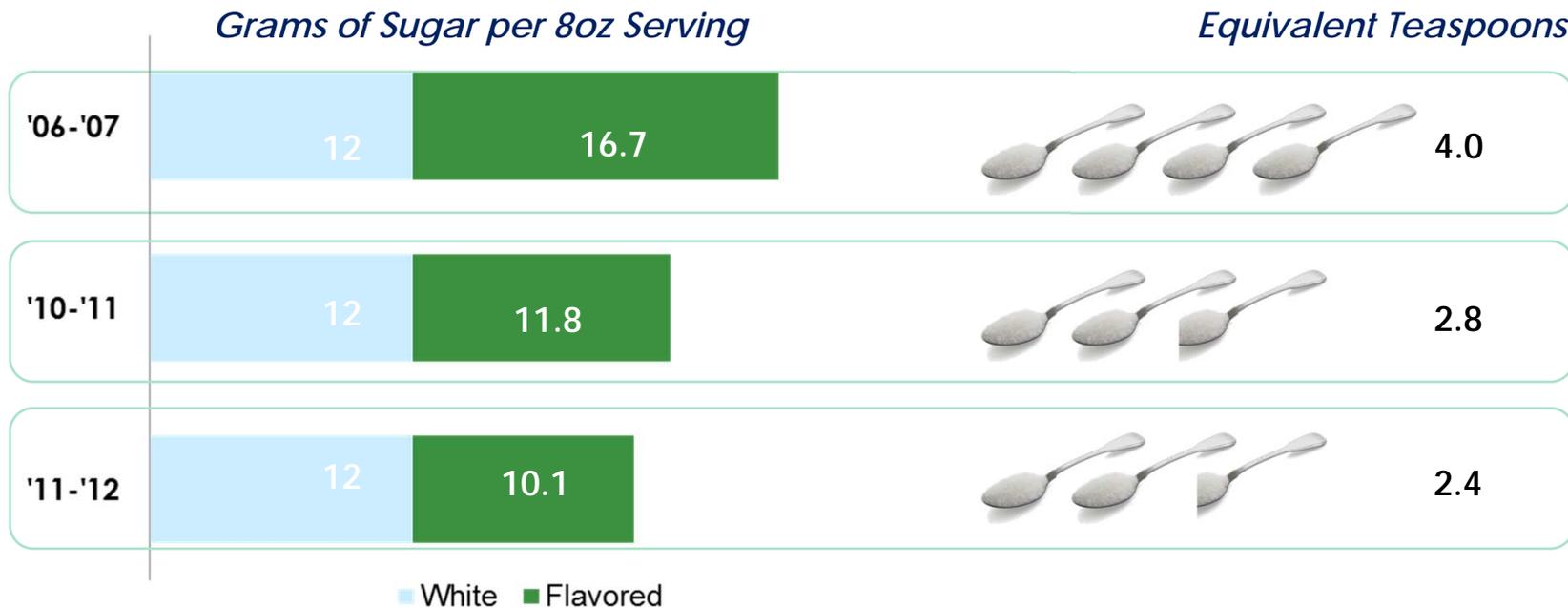
AVERAGE CALORIES PER 8 OZ OF MILK IN SCHOOLS by School Year							
	'06-'07	'07-'08	'08-'09	'09-'10	'10-'11	'11-'12	5 Yr Change
White	110.8	107.8	106.2	105.8	104.3	97.9	-12.9 calories -12%
Flavored	166.1	160.4	156.2	154.0	142.8	131.5	-34.6 calories -21%
<b>TOTAL</b>	<b>150.0</b>	<b>144.1</b>	<b>141.2</b>	<b>140.0</b>	<b>131.0</b>	<b>120.9</b>	<b>-29.2 calories -20%</b>

# Added Sugar Has Declined 40%



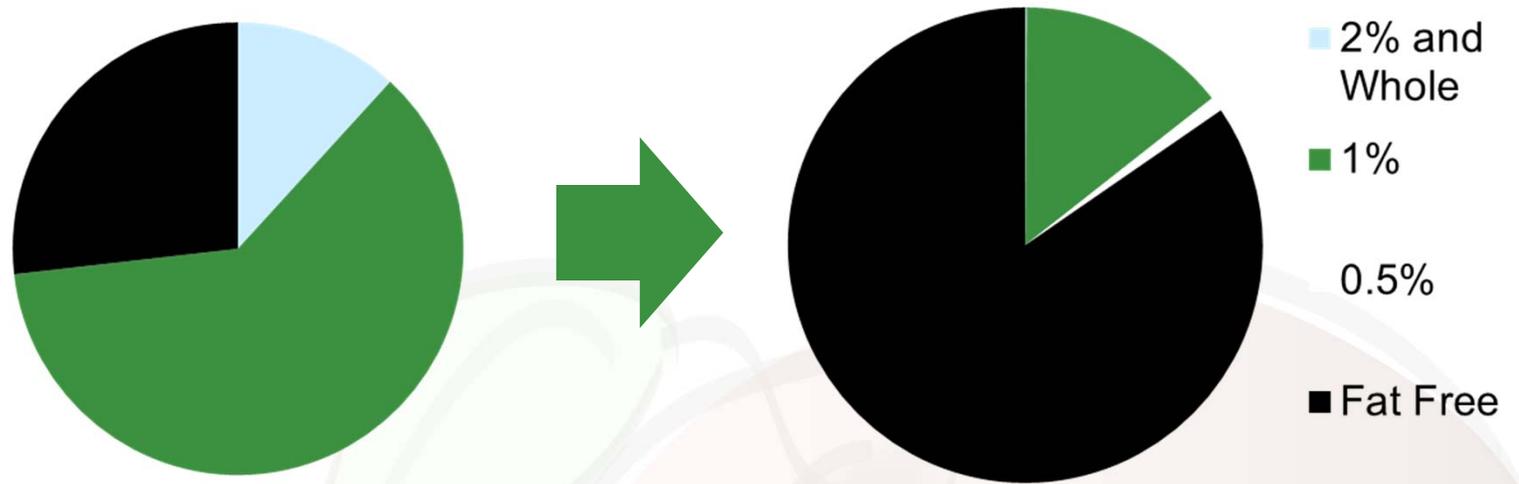
The sugar level in school chocolate milk has declined by 6.6 grams per serving over five years.

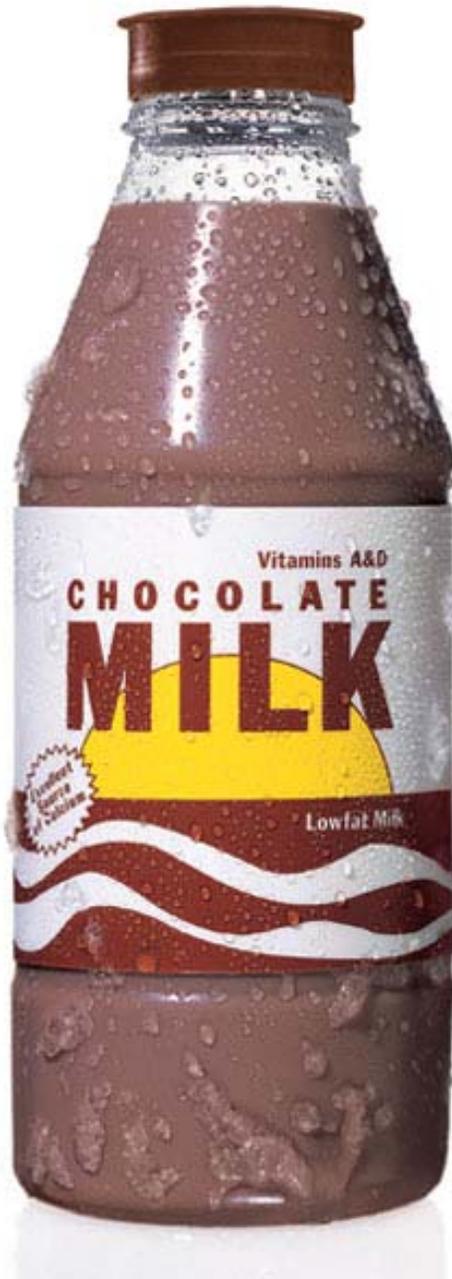
78% of all flavored milk volume is now sweetened with sugar



# Fat Levels Have Declined...

And will continue to decline with new regulations in effect this month





# 7 Reasons to Keep Fat Free Chocolate Milk on the Menu



# 1 KIDS DRINK MORE MILK when it's flavored.

Johnson RK, Frary C, Wang MQ. The nutritional consequences of flavored milk consumption by school-aged children and adolescents in the United States. *J Am Diet Assoc.* 2002; 102(6):853-856.

National Dairy Council and School Nutrition Association. The School Milk Pilot Test. Beverage Marketing Corporation for National Dairy Council and School Nutrition Association. 2002.



USDA National Nutrient Database for Standard Reference, Release 23

Nutrients included are either a good/valuable source in one 8-ounce serving of lowfat milk and lowfat flavored milk, and/or nutrients lacking in America's diets.

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**MilkPEP**  
Milk Processor Education Program

**2** Flavored milk has the **SAME NINE ESSENTIAL NUTRIENTS** as white milk and is a healthful alternative to soft drinks.

Frary CD, Johnson RK, Wang MQ. Children and adolescents' choices of foods and beverages high in added sugars are associated with intakes of key nutrients and food groups. *J Adolesc Health* 2004;34(1):56-63.

American Academy of Pediatrics, Committee on School Health. Soft drinks in schools. *Pediatrics* 2005; 113:152-154.

**3** Helps kids **MEET MILK RECOMMENDATIONS**, and provides 3 of 4 nutrients of concern (calcium, vitamin D, potassium).



Greer FR, Krebs NF and the Committee on Nutrition. Optimizing bone health and calcium intakes of infants, children and adolescents. *Pediatrics* 2006; 117:578-585.

Murphy MM, Douglas JS, Johnson RK, Spence LA. Drinking flavored or plain milk is positively associated with nutrient intake and is not associated with adverse effects on weight status in U.S. children and adolescents. *J Am Diet Assoc.* 2008; 108:631-639.

**4** Children who drink flavored milk meet **MORE OF THEIR NUTRIENT NEEDS**; do not consume more added sugar or fat; and are **NOT HEAVIER** than non-milk drinkers.



Murphy MM, Douglas JS, Johnson RK, Spence LA. Drinking flavored or plain milk is positively associated with nutrient intake and is not associated with adverse effects on weight status in U.S. children and adolescents. *J Am Diet Assoc.* 2008; 108:631-639.

Johnson RK, et al. Dietary Sugars Intake and Cardiovascular Health. A Scientific Statement From the American Heart Association. *Circulation.* 2009; 120:1011-1020.



**5** Lowfat chocolate milk is the **MOST POPULAR MILK CHOICE** in schools and kids drink less milk (and get fewer nutrients) if it's taken away.

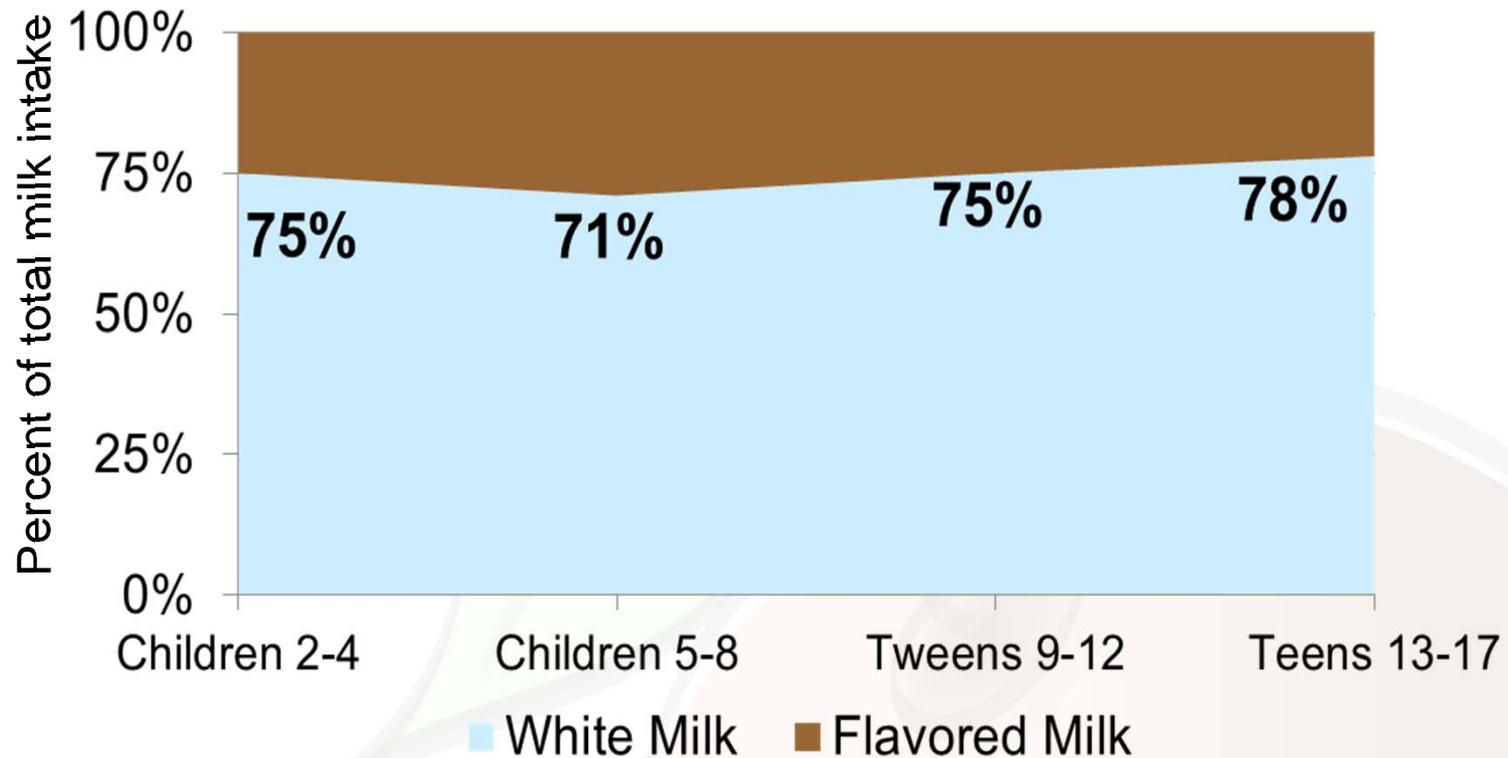
ENVIRON International Corporation. School Milk: Fat Content Has Declined Dramatically since the Early 1990s. 2008.

Patterson J, Saidel M. The Removal of Flavored Milk in Schools Results in a Reduction in Total Milk Purchases in All Grades, K-12. *J Am Diet Assoc.* 2009; 109,(9): A97.

# Flavored Milk is a Small, But Significant, Part of Kids' Milk Intake



Flavored Milk Doesn't Mean Kids Neglect White Milk



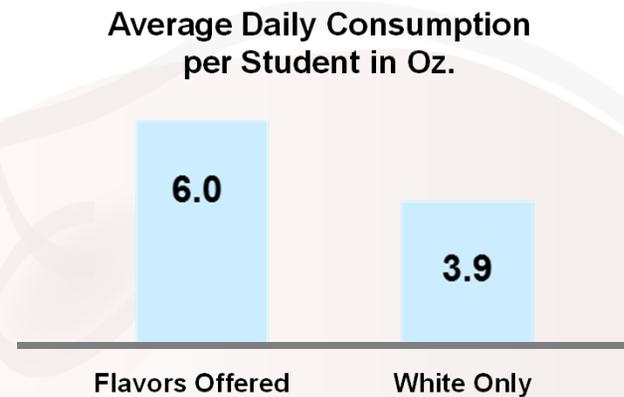
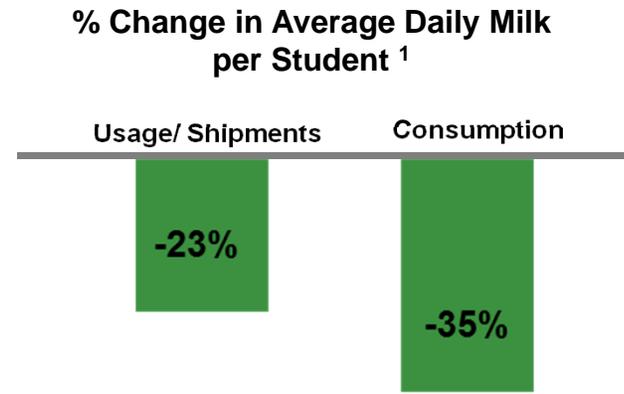
Among stand alone milk drinkers.  
Q.3a Please indicate how many ounces of each type of milk you drank.

# Milk Consumption Drops When Flavored Milk Is Removed



The fewer milks selected and higher waste level, resulted in 35% decline in actual consumption.

On average, student's actual consumption fell to less than 4 ounces per day *(per milk drinker)* when only white milk was offered.



<sup>1</sup> Usage & Consumption Measurement in a Sample of 51 Elementary Schools from 7 Districts.

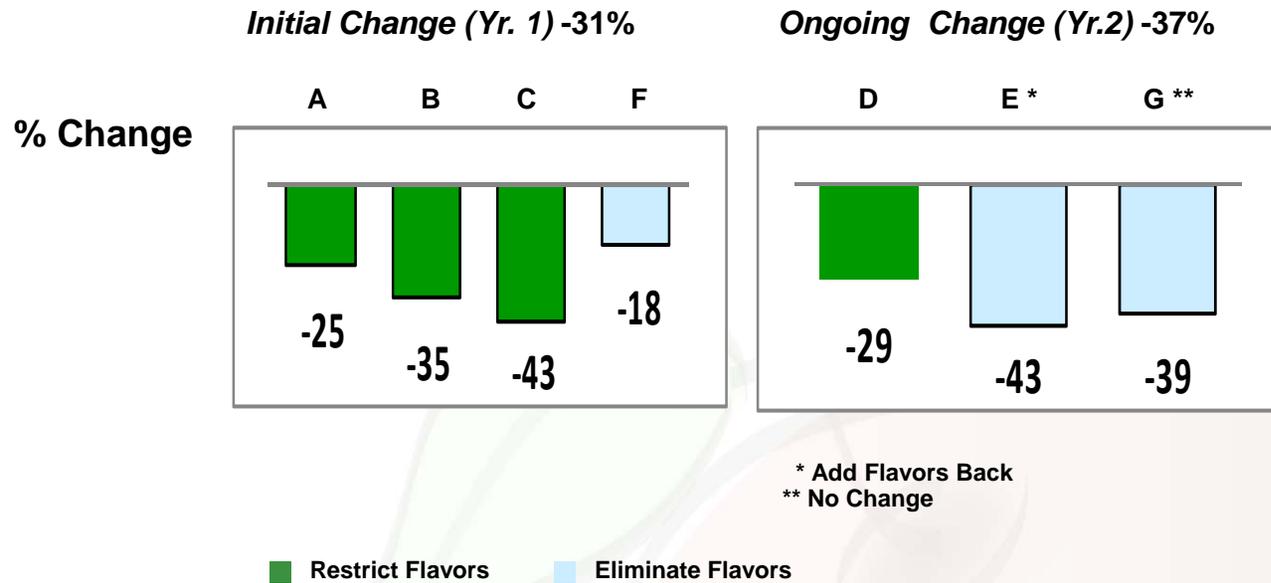
*While the middle school sample was too small to report separately, the decline was comparable.*

<sup>2</sup> Waste rose from 24.5% (flavors and white) to 36.1% (white only).

# Studies Show No Recovery Over Longer Time Periods



***Milk consumption dropped more than projected and did not recover for the districts in Year 2.***



# When Flavored Milk Leaves, Essential Nutrients Leave With It

To replace the nutrients lost from the decline in milk consumption required 3-4 food items to match milk's nutrient contribution.

- Added back **more calories** and fat than were being reduced.
- Added back **roughly half of the sugar**, netting a savings of only 15-28 grams per week.
- **Cost an incremental \$2,200-\$4,600 annually** per 100 students.



*2009 Study "The Impact on Student Milk Consumption and Nutrient Intakes from Eliminating Flavored Milk in Schools," conducted in 58 elementary and secondary schools. Funded by the Milk Processor Education Program (MilkPEP) and conducted by Prime Consulting Group, presented at the School Nutrition Association Annual National Conference 2010.*

**6** Offering kids **REALISTIC AND NUTRITIOUS CHOICES** in school – including milk – not only can help kids learn food and nutrition lessons, but research suggests choice helps **BOOST KIDS’ OVERALL INTAKE OF NUTRITIOUS FOODS.**



# Los Angeles Times

## “School nutrition: A kid's right to choose”



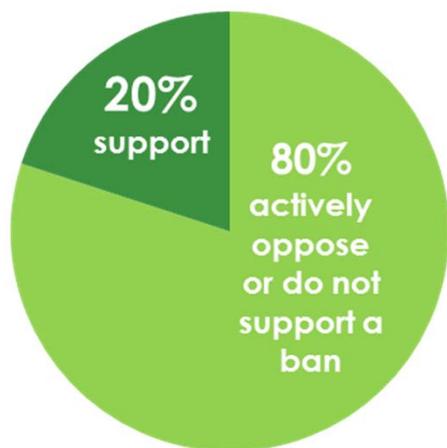
Brian Wansink, PhD  
David Just, PhD

“At one school we studied, kids had a choice of eating in the regular cafeteria line or in a healthy express line stocked only with healthful sandwiches, salads, fruits and vegetables. **We found that simply placing chocolate milk in that line along with the other foods attracted far more kids, and therefore decreased the less nutritious foods** (such as French fries and cookies) on cafeteria trays by 28% and increased healthful choices by 18%. **This happened because we kept chocolate milk, but also because kids had a choice.** They didn't have to abandon school lunch altogether if the healthful fare on any particular day was not an acceptable option.”

“Heavy-handed measures might be effective at putting nutritious foods on the lunch tray, but it is crucial to remember this: It is not nutritious until it is eaten.”

# 7 Moms **SUPPORT** flavored milk in schools.

**Do you support banning chocolate milk at your child's school?**



**Conducted by KRC Research.** A total of 1,000 interviews were conducted with moms of kids in grades K-12. The interviews were conducted online using a national opt-in panel. The interview averaged 8-10 minutes in length and all interviews were conducted between March 9 and March 14, 2012.

**Moms want kids to have a choice**

**77%** do not want choices taken away (in general)

**79%** believe kids need healthy choices at school, including chocolate milk

**86%** agree that well-intended changes can backfire, and foods need to be practical so the foods are eaten

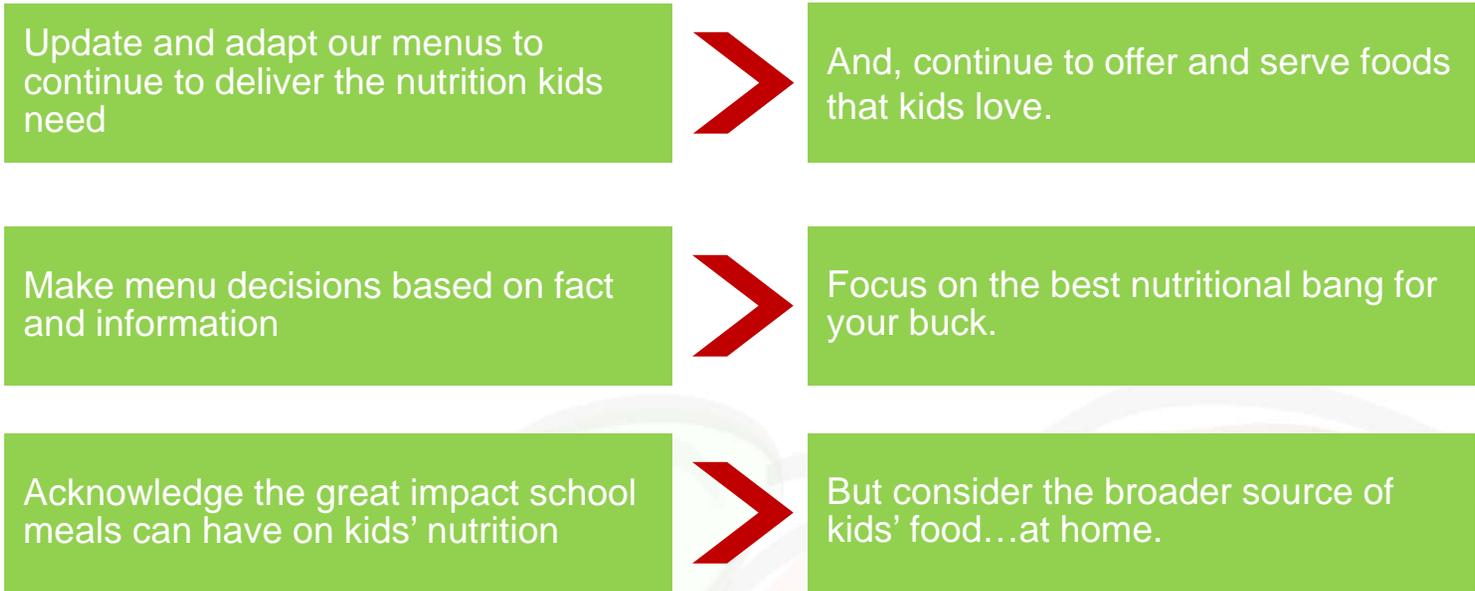
**Moms like what chocolate milk offers**

Moms felt very **positive** about chocolate knowing that it contains **the same nine essential nutrients** as white milk, including calcium, potassium and vitamin D.



What We  
Can Do?

# School Food Service Action Steps



# Questions?

**For More Information on Milk in  
Schools Visit [www.MilkDelivers.org](http://www.MilkDelivers.org)**