

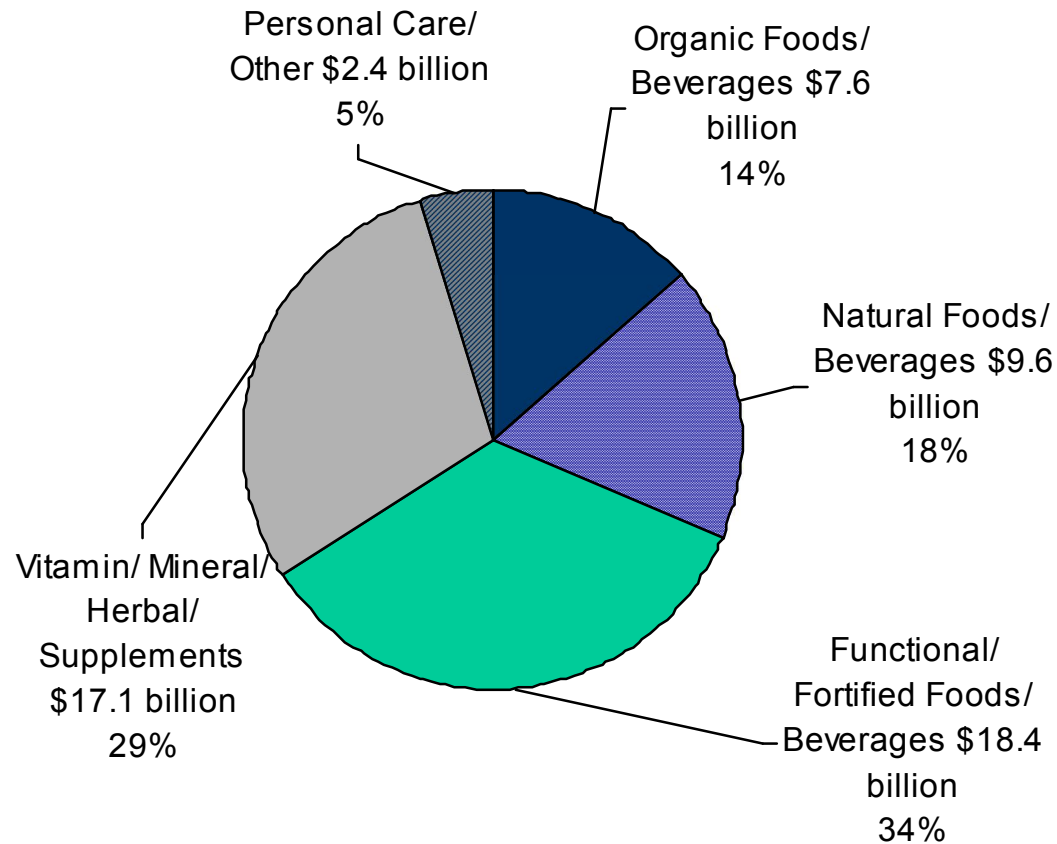
**IQPC Conference on Kid's Nutrition
2003
New Orleans, LA**

**New Ingredients: What Should We Be
Incorporating in the Youth Diet?**

Ian Newton

March 30th. 2003

The 2002 U.S. Health & Wellness Industry Grows To \$59 Billion --- Up 7.5% Versus 2001

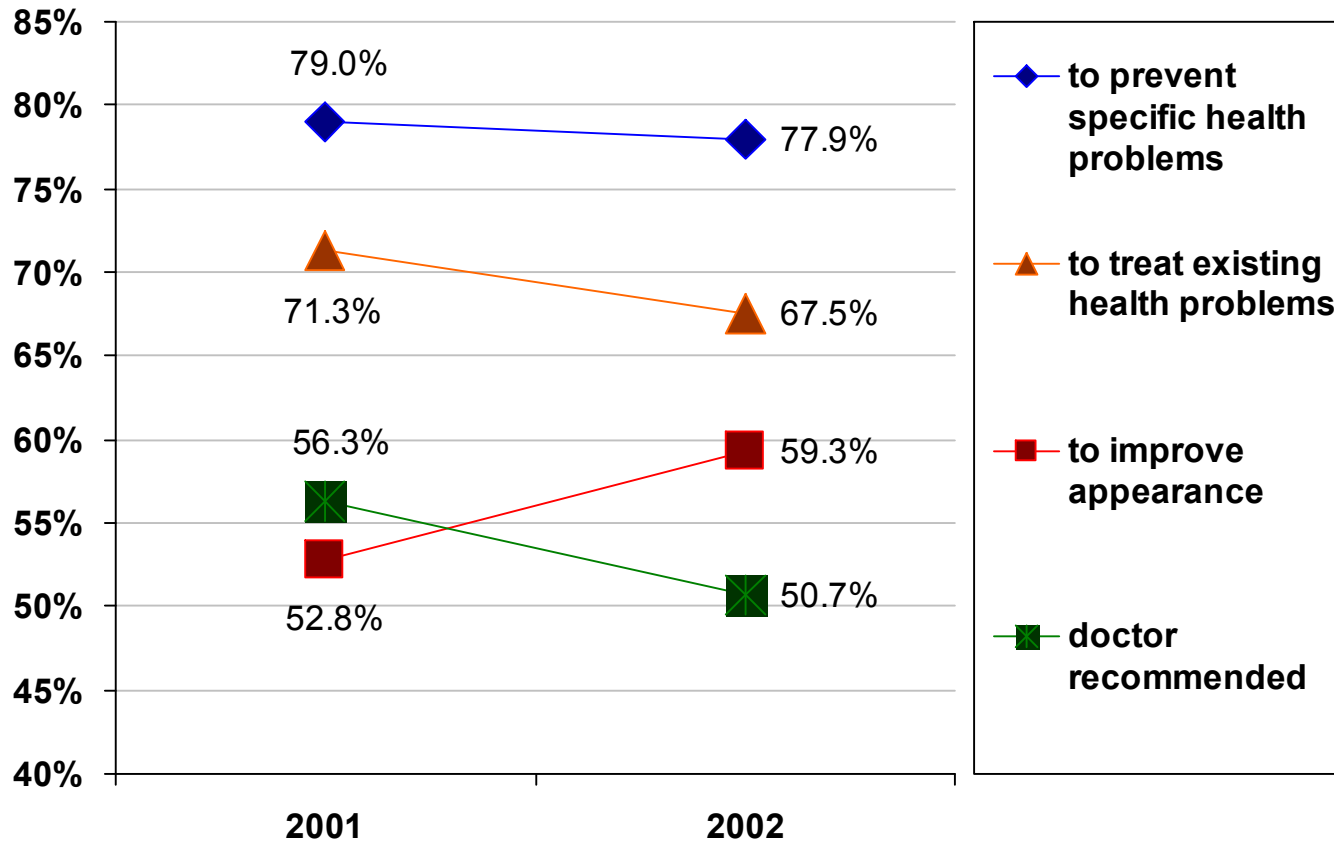


NMI Top 10 Macro Health & Wellness Trends

- ◆ A General Renewed Sense of Wellness
- ◆ Health & Wellness Consumer Polarization
- ◆ The Importance of Product Specificity
- ◆ Organics --- More Than Just Foods and Beverages
- ◆ Consumers Want More Information
- ◆ The Constant Struggle of Weight Loss
- ◆ Lifestyle Wellness Functionality
- ◆ The Opportunity For Targeted Health & Wellness Platforms
- ◆ Disease-Specific Solutions
- ◆ The Groundswell of Environmentalism & Values

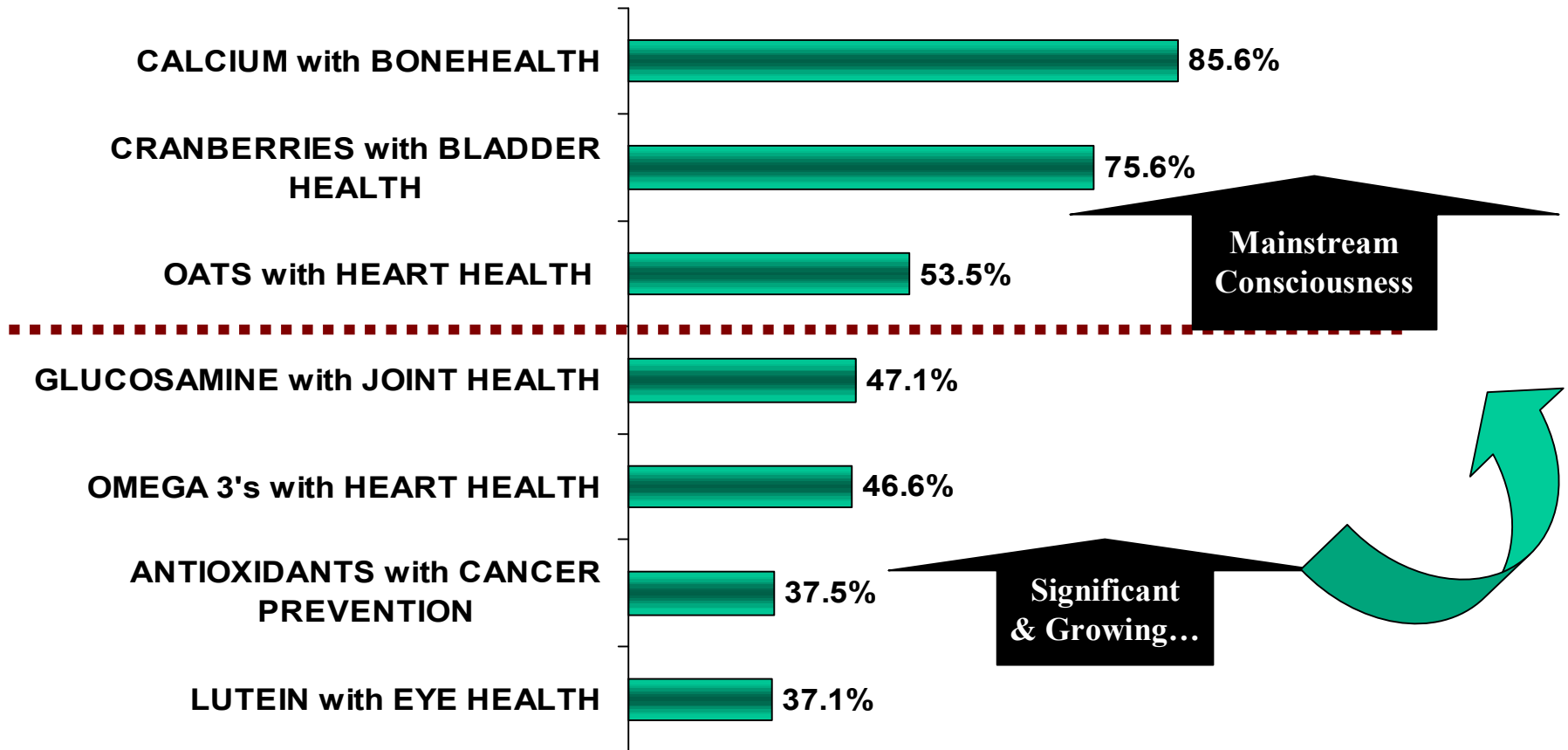
Trends In Why Consumers Maintain A Healthy Lifestyle: *Prevention Is Tops...*

(% general population stating “extremely/very important in WHY they maintain healthy lifestyle)



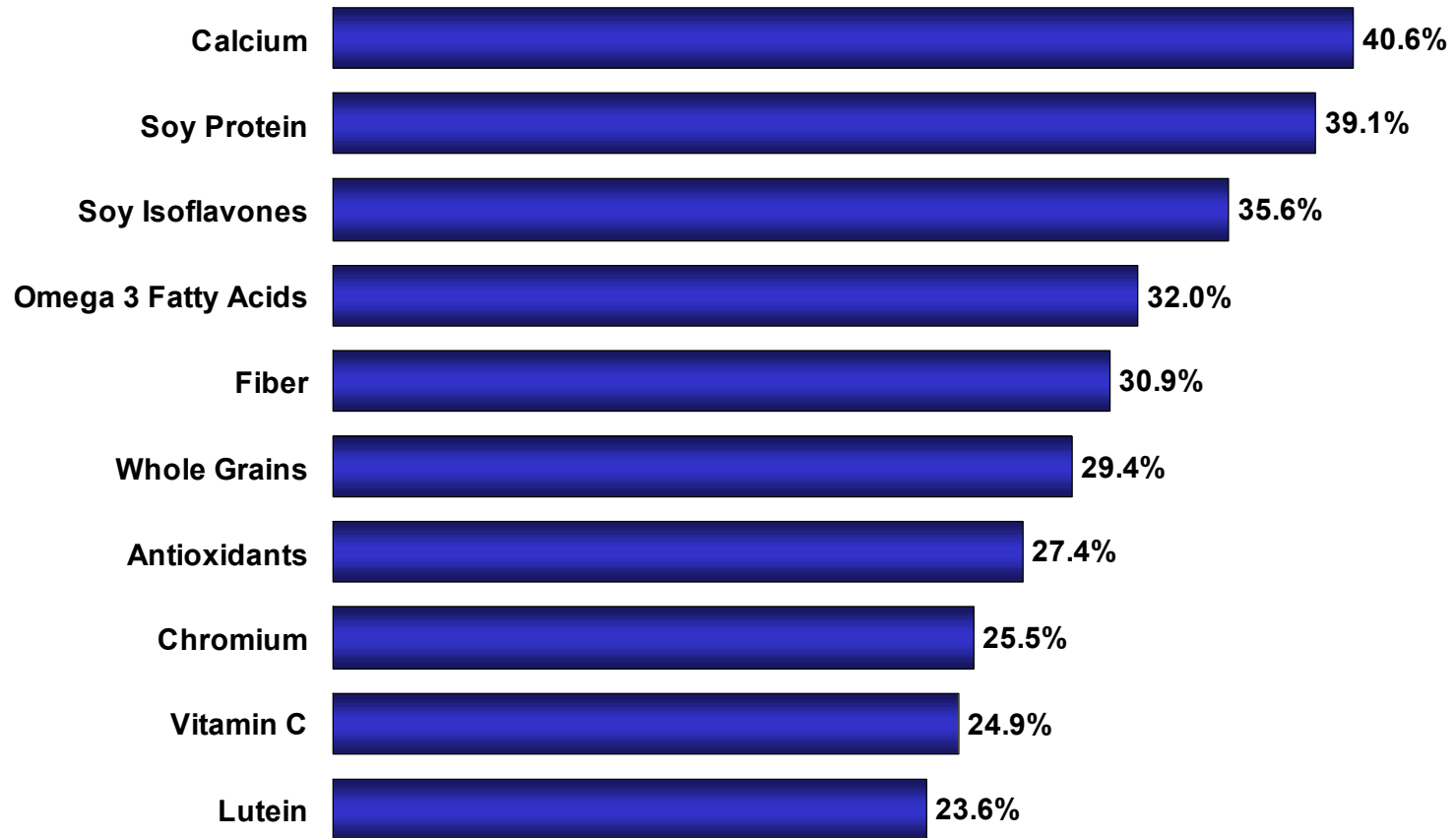
Some Associations Of Specific Ingredients With Specific Health Benefits Are Very Strong

(% general population indicating association of INGREDIENT with SPECIFIC HEALTH BENEFIT)



Opportunities For Supplementation & Fortification: The Top 10 Perceived Nutrient Deficiencies

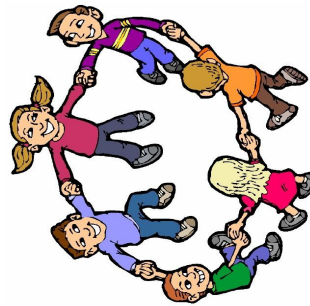
(% general population stating they consider the following to be deficient in their diet....)



Survey on Fortification Opportunities:

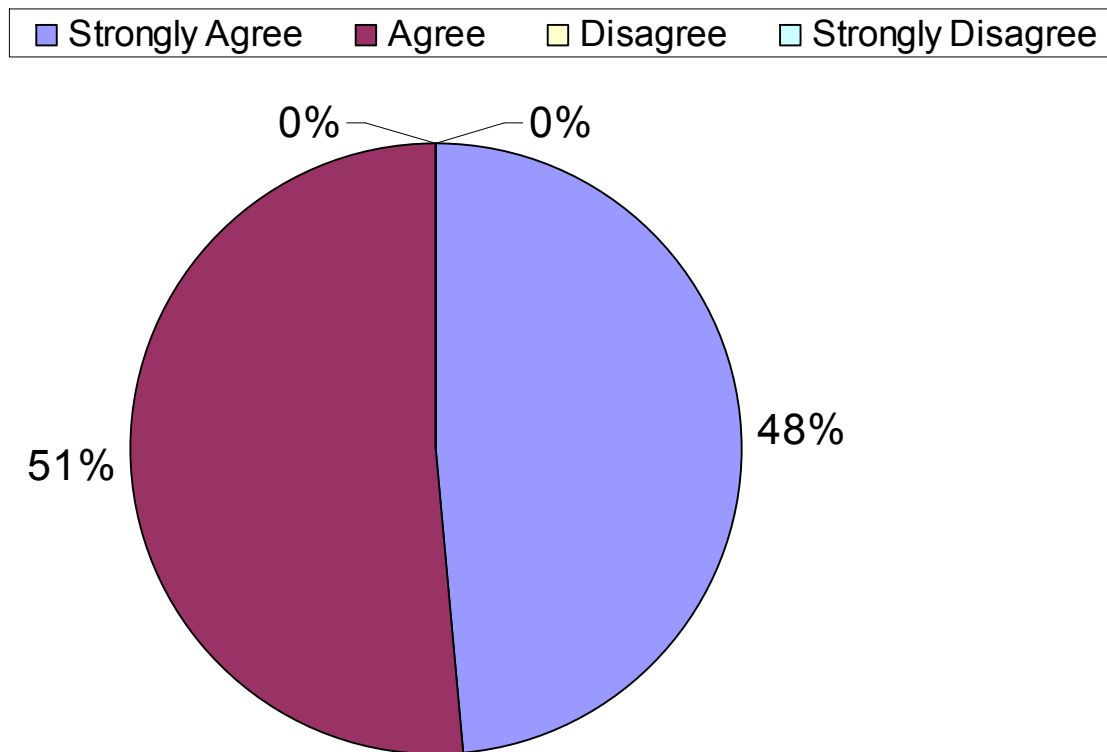
American School Foodservice Association Show
Reno, NV July 2003

Compiled by Roche Vitamins Inc. Marketing



Do you see an opportunity to address child nutrition gaps through fortification?

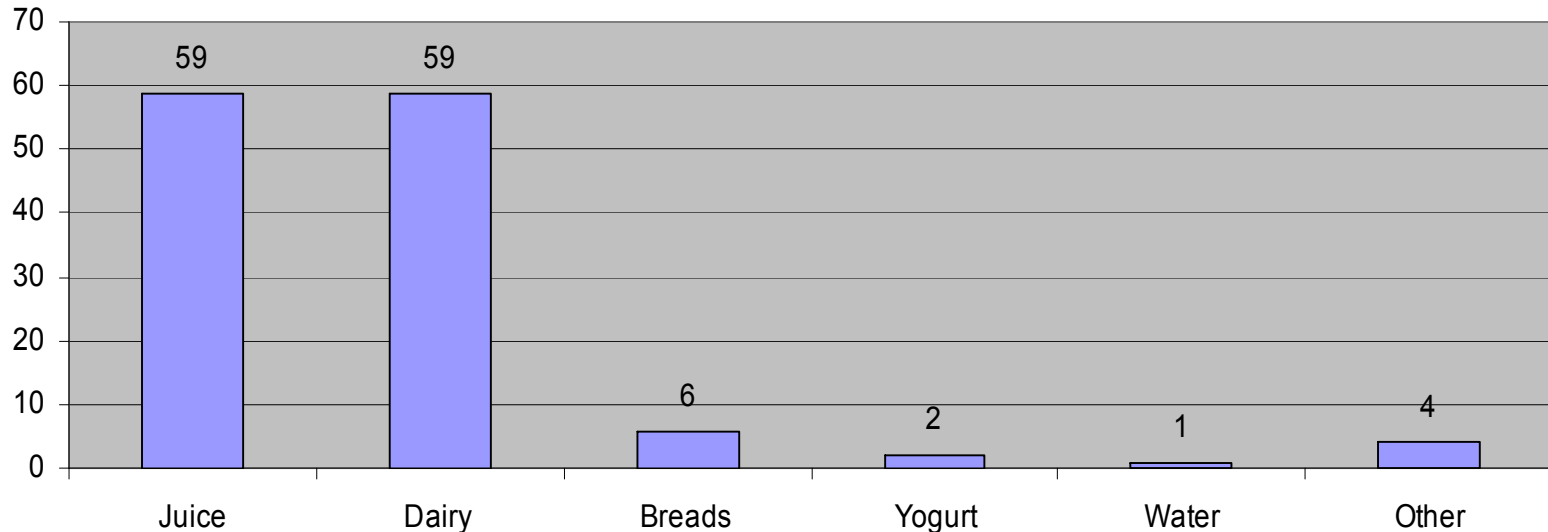
Of 116 total respondents, 115 either strongly agreed or agreed that there is an opportunity to address school age nutritional gaps through fortification.



What are the best delivery foods for fortification?

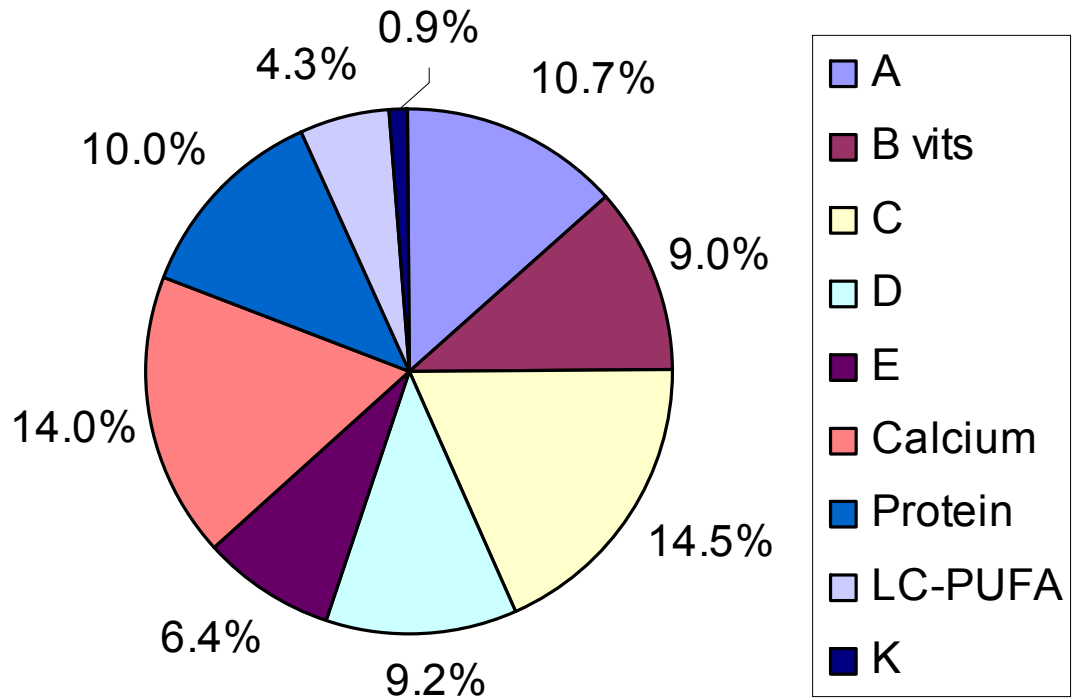
(Respondents could choose any or all from a list)

Overwhelmingly juice and dairy were seen as the best delivery foods for added fortification because they were already deemed to contain healthy ingredients.



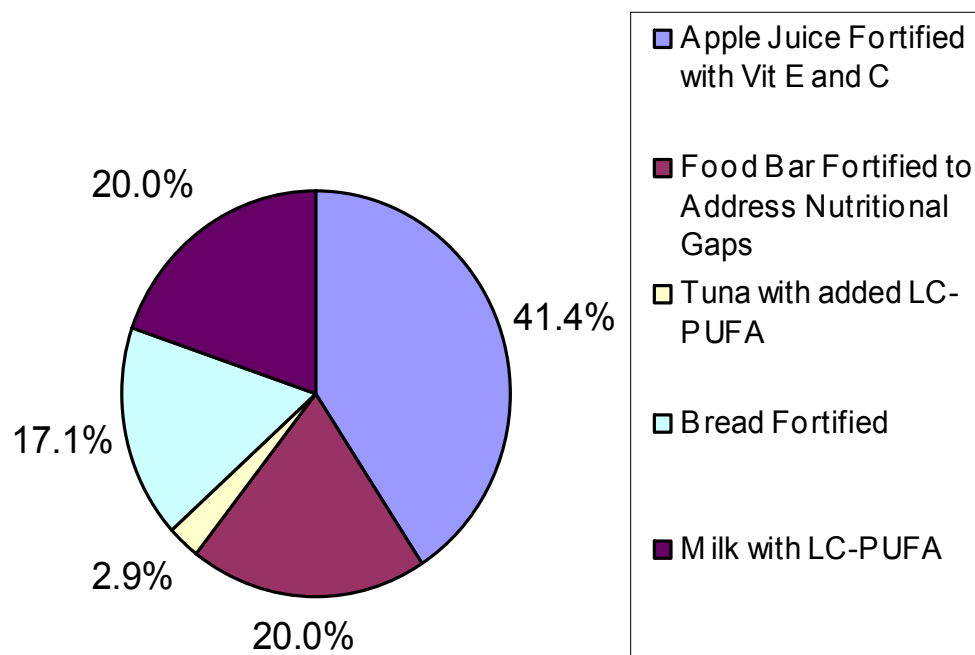
What nutrients are you attempting to increase on the school menu?

Vitamin C, Calcium and Vitamin A were the top three nutrients school menu planners were looking to increase on their menus. The USDA “Study on Nutrient Gaps and Knowledge” suggests that Vitamin E and B6 also need an increased presence in the school age child’s diet. Respondents said “It’s tough to get kids to eat more fish”. They were concerned with finding ways to introduce LC-Omega-3 oils into the diet.



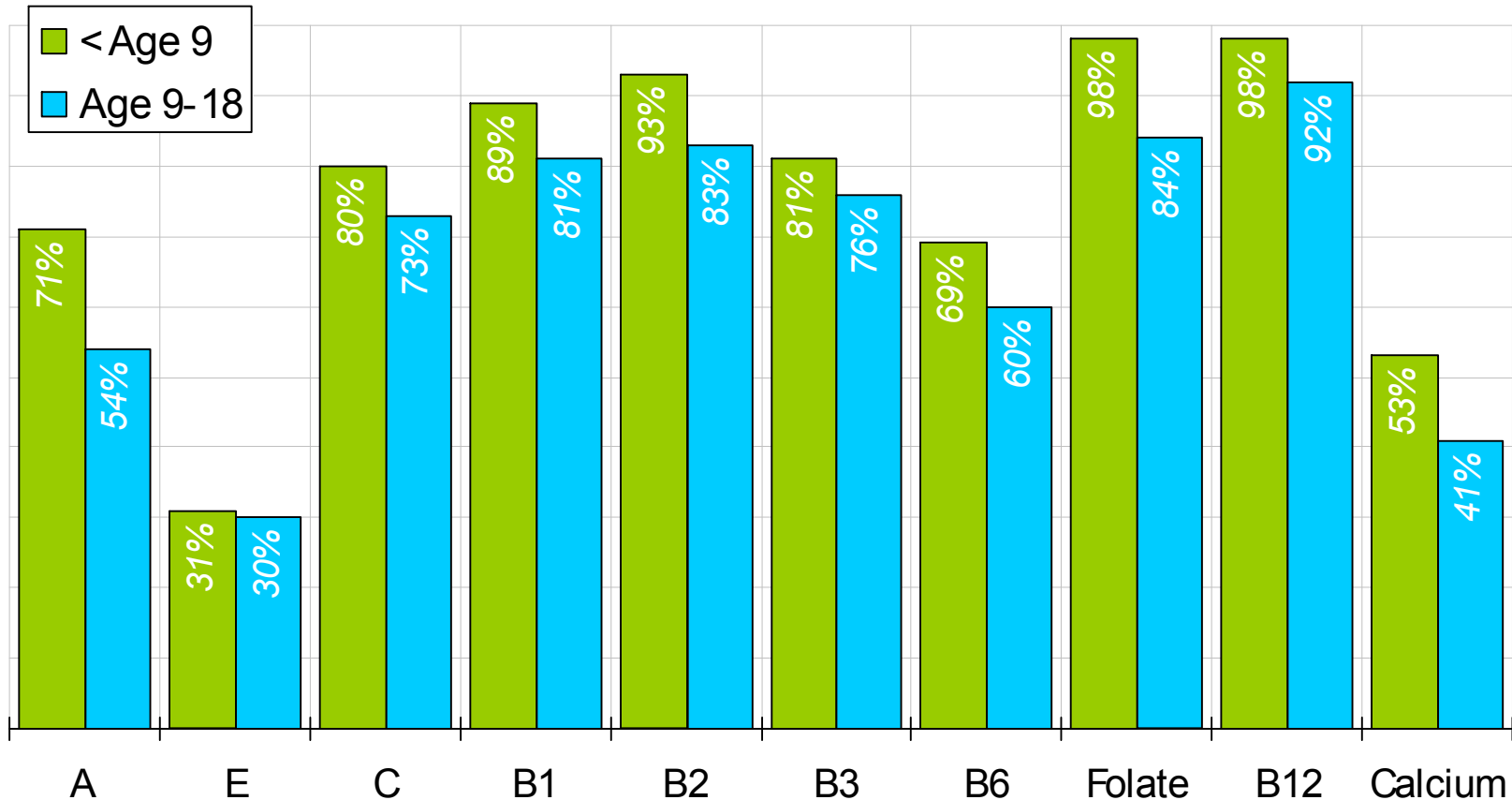
What concept is most appealing to fulfill your goal? (Respondents could choose any or all)

41% responded positively to the concept of **Apple Juice with added Vit C and E**. They commented *“We like the idea of improving nutrition in a product that kids already like and is good for them.”* Additionally 20% responded positively to Milk fortified with LC-Omega 3 and to a Food Bar fortified to address government identified nutritional gaps.



USDA Survey of Nutrient Intake

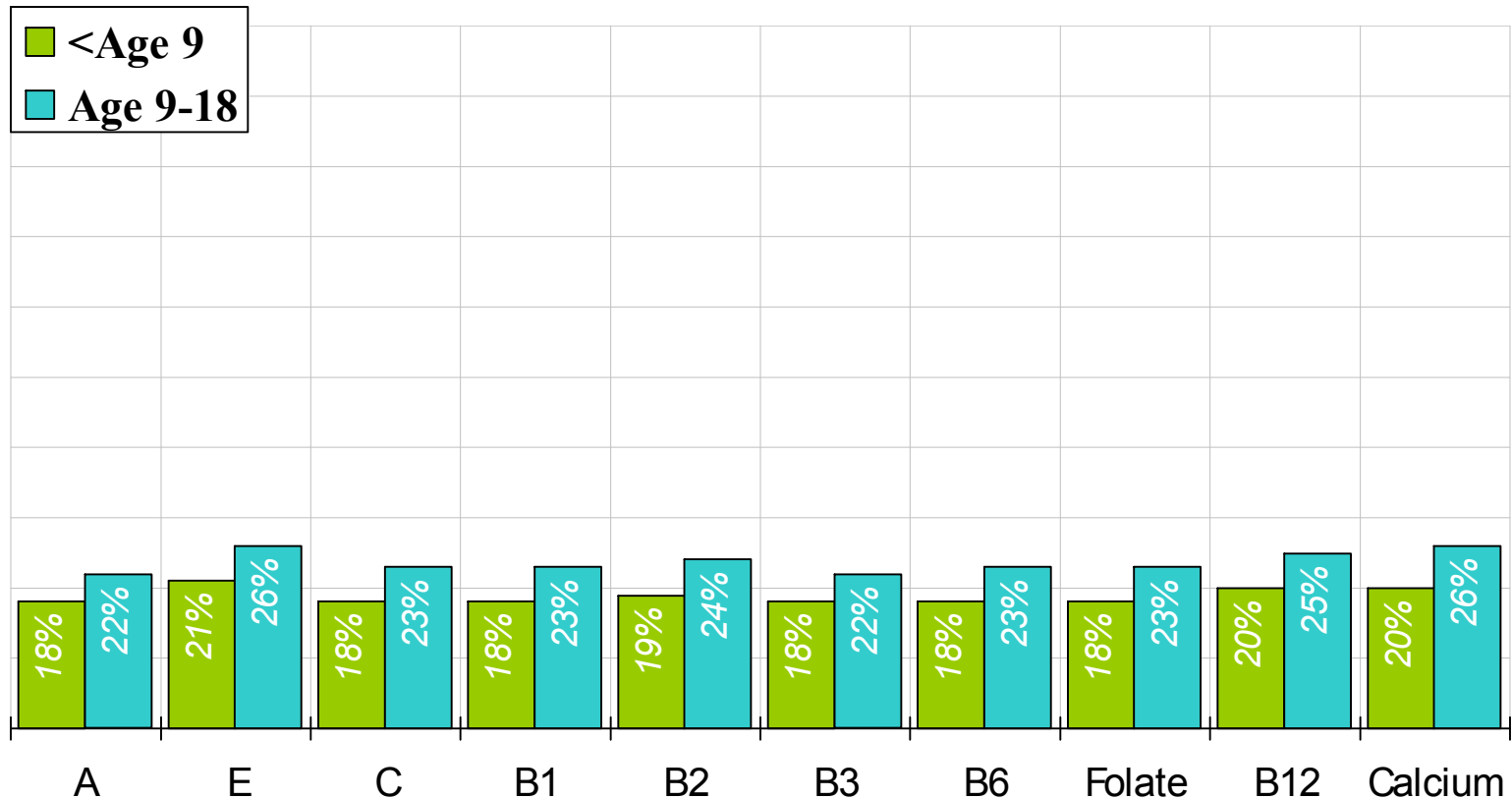
% of Individuals with Diets Meeting 100% RDA



USDA Survey of Nutrient Gaps and Knowledge 1992-94,98

USDA Survey of Nutrient Intake

% of Nutrients in Current Diets Derived from Foods away from Home



USDA Survey of Nutrient Gaps and Knowledge 1992-94,98

Scientific Support:

Vitamin Supplementation, Children and Heart Disease

WASHINGTON (Reuters) -- Children and young adults who have inherited high cholesterol may reduce their risk of clogged arteries by taking vitamins C and E, researchers reported on Monday.

The vitamins improve blood flow through the arteries and may prevent the damage that leads to atherosclerosis, commonly known as hardening of the arteries, the researchers said.

Writing in the journal *Circulation*, Marguerite Engler of the University of California San Francisco and colleagues there and in Austria said the study is the first to show that vitamins can reverse the damage as well.

"When we gave these children moderate doses of vitamins C and E for six weeks, we saw a significant improvement in blood-vessel function, which is an important indicator of cardiovascular health," Engler said in a statement.

An estimated 50 million U.S. children have high levels of cholesterol, and thus a high risk of heart disease and heart attack. The American Heart Association defines this as cholesterol of 200 or higher and low-density lipoprotein -- LDL or "bad" cholesterol -- of 130 or higher.

Drugs including statins work very well to lower cholesterol levels in adults but they can have severe side-effects and are not usually recommended for children.

"The findings of this study suggest hope for children with abnormally high cholesterol levels that their condition can be improved through vitamin supplements," said Patricia Grady, director of the National Institute of Nursing Research, which helped fund the study.

Scientific Support:

Kids Not Getting the Right Diet

Diets rich in fruits and vegetables and low in fat, especially animal fat, have also been shown to lower cholesterol and the risk of heart disease -- but most Americans do not eat this kind of diet.

"Our dilemma was that these kids are supposed to be getting how many servings of fruits and vegetables a day but they aren't doing it," Engler said in a telephone interview.

"We thought, 'Let's still keep up the diet counseling but also let's try the vitamin supplements.'"

Engler's team studied 15 children and young adults age 9 to 20, who had average cholesterol levels of 242 with LDL of 187 on average.

Half the children got daily doses of 500 milligrams of vitamin C and 400 international units of vitamin E for six weeks. The other half got placebos.

Then the groups were switched.

Better diet alone reduced LDL by about 8 percent, but the vitamins, as expected, did not affect cholesterol levels.

The researchers measured how well the arteries were working by examining flow-mediated dilation of the brachial artery.

They were looking for signs of endothelial dysfunction, which can cause blood vessels to stiffen, meaning they do not stretch to accommodate increased blood flow. It is one of the earliest signs of atherosclerosis.

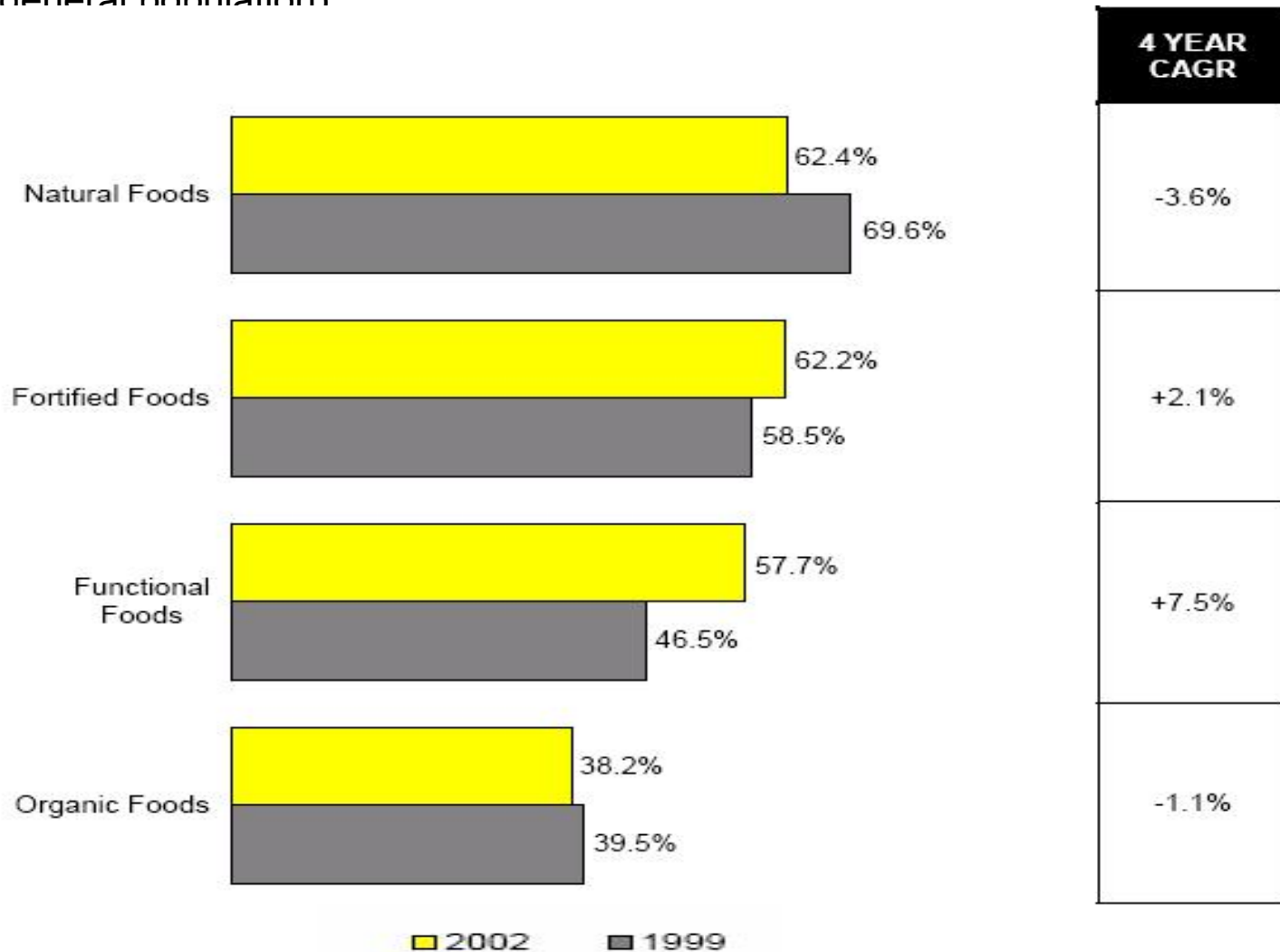
The endothelium is the inner lining of the blood vessels. It releases nitric oxide, which causes the blood vessels to open. The vitamins may restore this process in damaged arteries by reacting with charged particles known as free radicals that damage cells.

Flow-mediated dilation of the brachial artery was around 6 at the start and for those patients given placebo or diet alone, but it was 9.5 after the children got the vitamins.

"Normal FMD of the brachial artery in children is reportedly between 8 percent and 12 percent," the researchers wrote.

Usage in “Healthy” Food/Beverage Categories

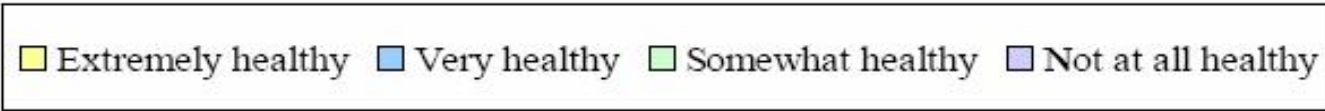
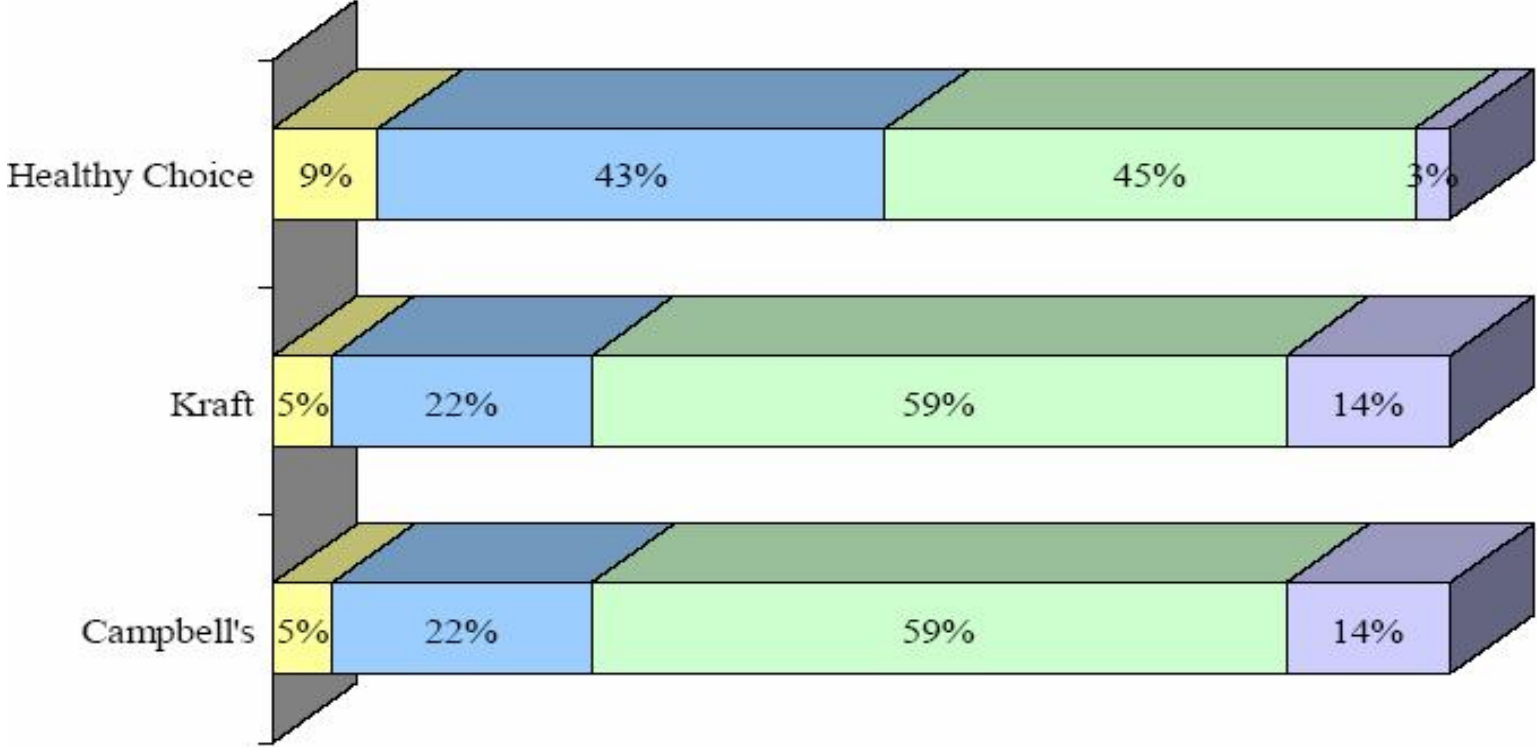
(% of general population)



Source: NMI 2003

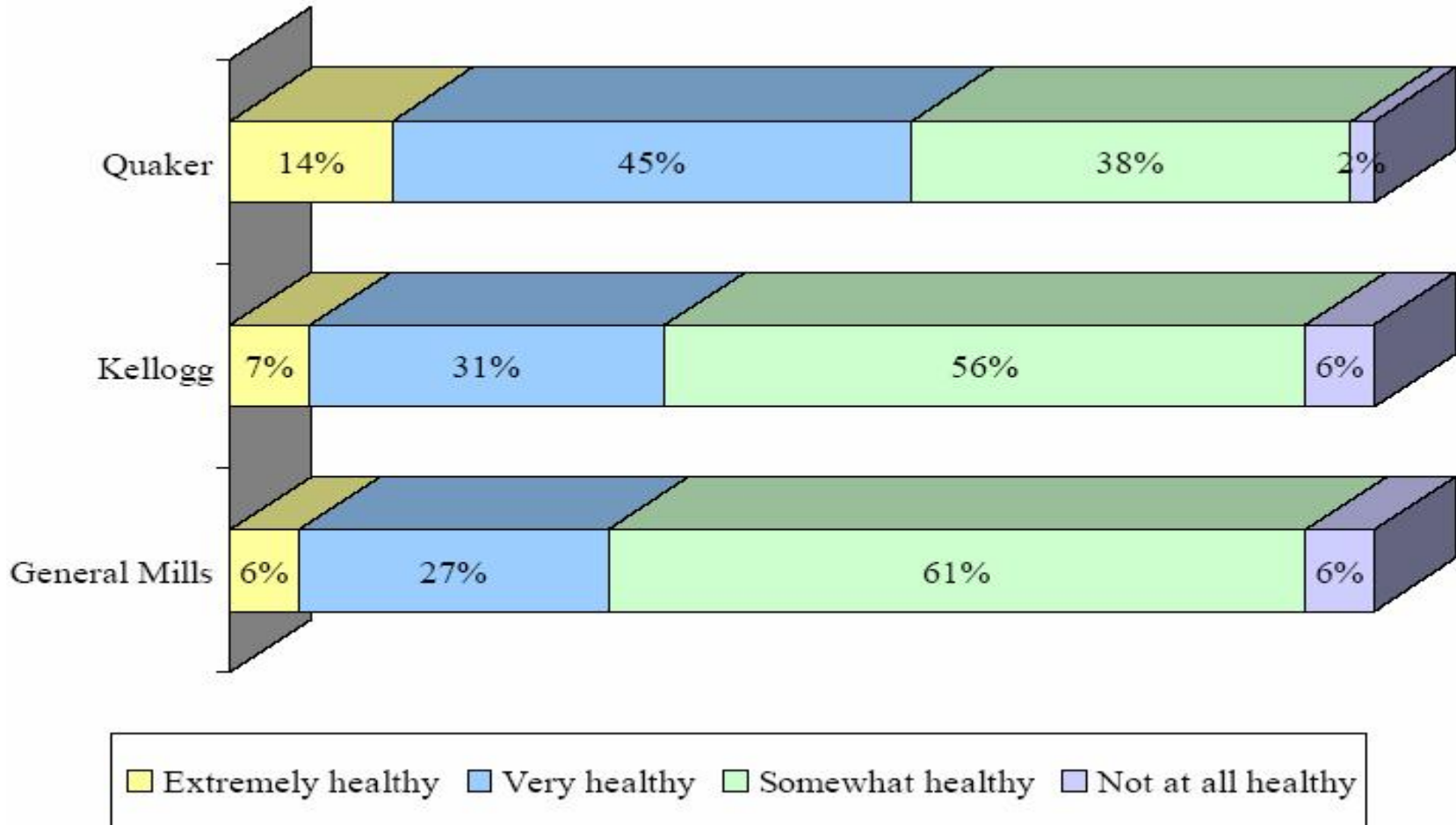
Health Value Perception of Selected Meal Brands

(% of all shoppers)



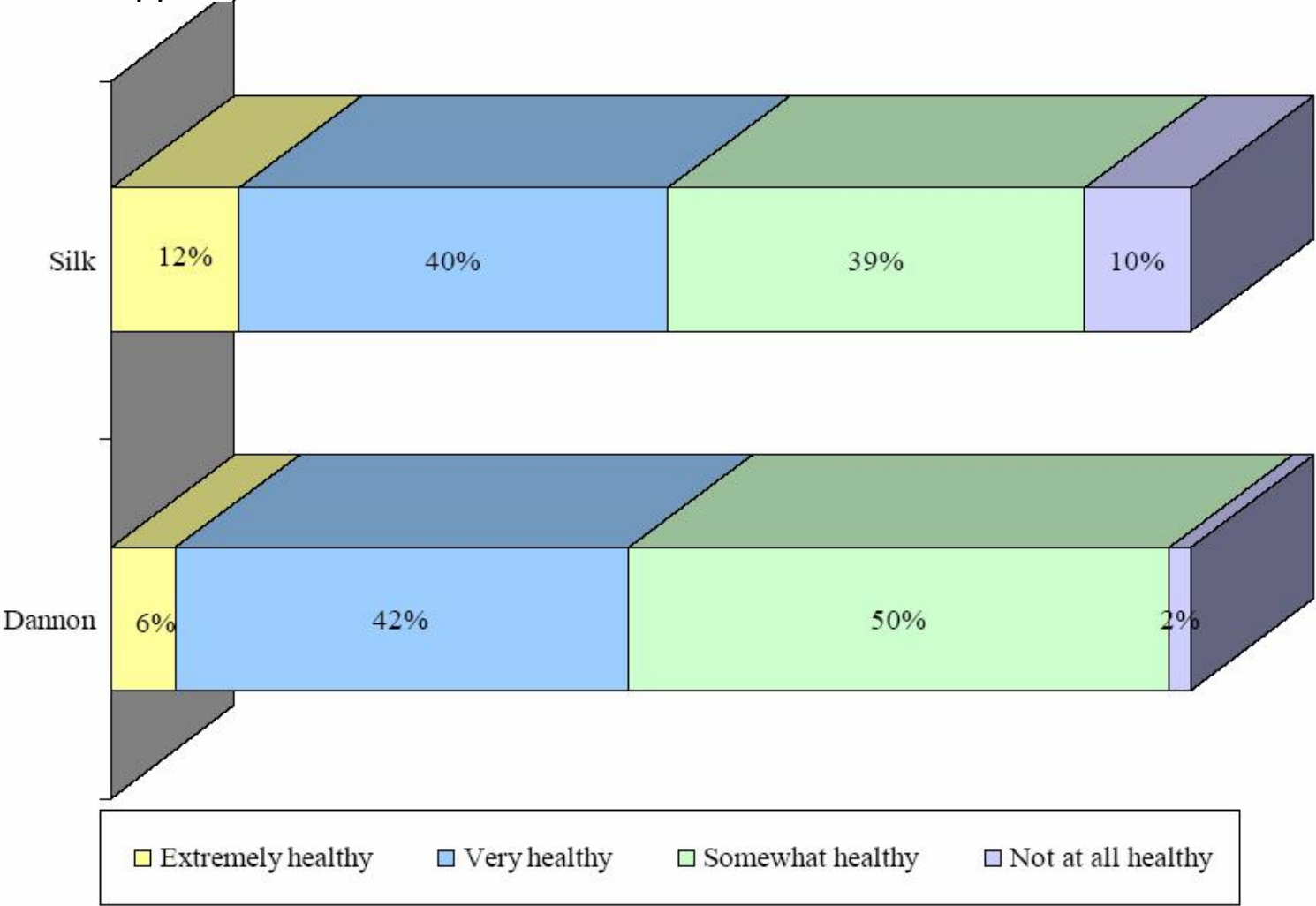
Health Value Perception of Selected Cereal Brands

(% of all shoppers)



Health Value Perception of Selected Dairy and Non-Dairy Brands

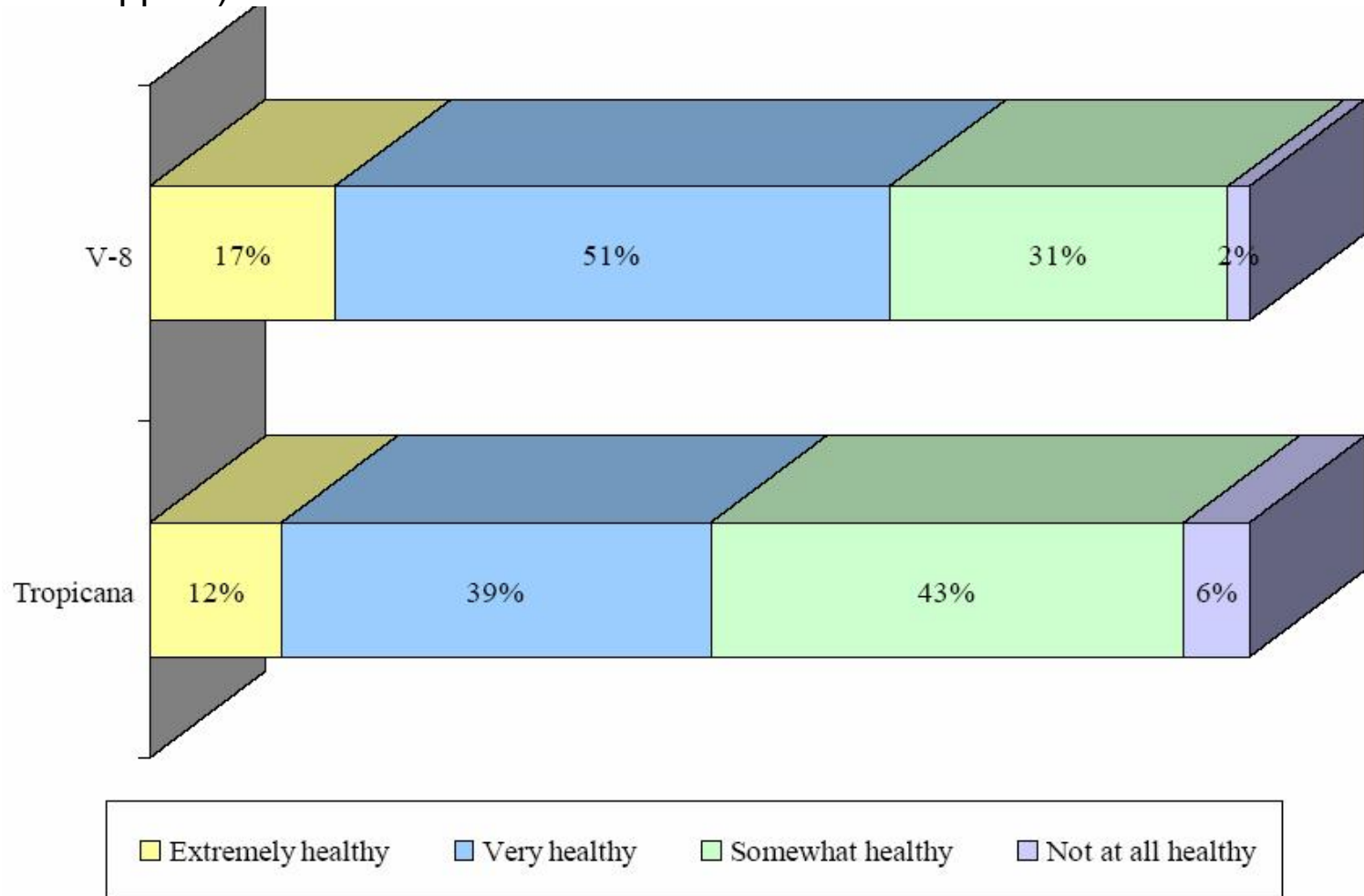
(% of all shoppers)



Source: Healthfocus 2003

Health Value Perception of Selected Juice Brands

(% of all shoppers)



Top 15 Characteristics by Total Global Launches 2000-2002 (Across All Categories)

Rank	Characteristic	Total Global Launches
1	Single serve	3532
2	Natural	3057
3	High Vitamins	2367
4	Kids: Age 4-12	2257
5	Low Fat	1786
6	Organic	1293
7	No Preservatives	1242
8	High Calcium	1221
9	Microwaveable	1154
10	Low Calories	955
11	High Fiber	912
12	High Protein	905
13	High Minerals	857
14	No Artificial Colors	728
15	No Sugar	674

A look at the top product characteristics for this 3 year period indicates several recurring themes:

- **Product format matters**

Consumers are interested, and often driven by, convenience. This is exemplified by “single serve” at the top of the list and “microwaveable” at #9.

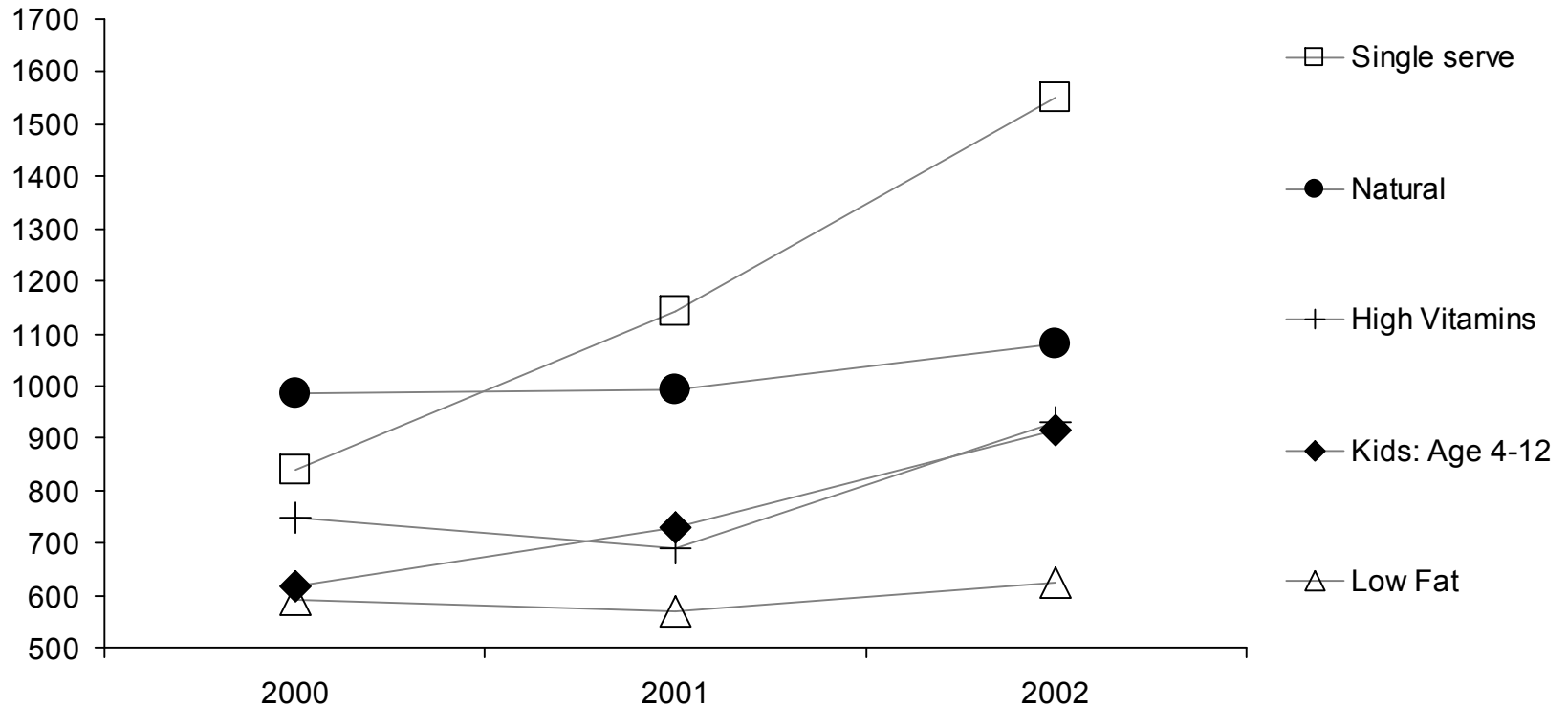
- **Food purity enters mainstream**

Over 5,000 products were launched as either natural, organic, no preservatives, or no artificial colors.

- **Nutritional characteristics are important**

A range of categories utilize nutritional functionality as their “new platform,” with many having high vitamins, high calcium, high fiber, high minerals, etc.

3-Year Trends for Top 5 Global Characteristics (Based on Total Number of Global Launches Over 3 Years Across All Categories)



The single serve characteristic exhibits the largest increase, followed by products targeted to kids 4-12.

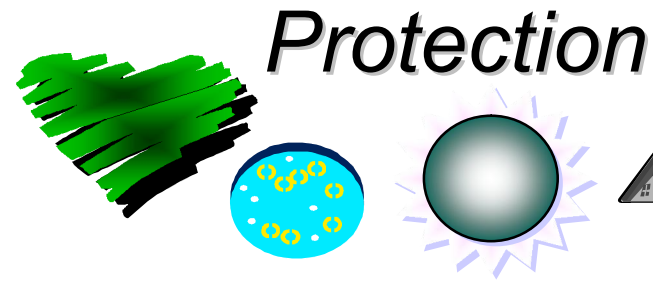
After a slight decline in 2001, products with high vitamins showed a dramatic increase in 2002 new product launches.

Five Key Vitamin Functions in the Human Body

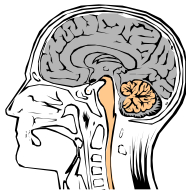
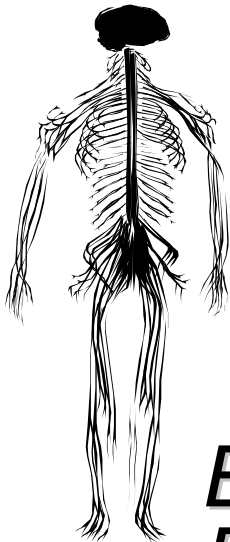


Metabolism

→ ENERGY



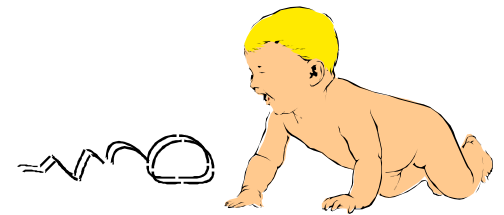
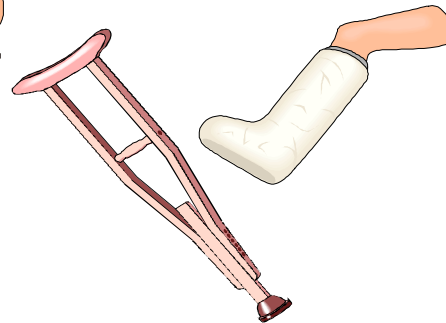
Protection



Basal Requirements



Growth/Repair



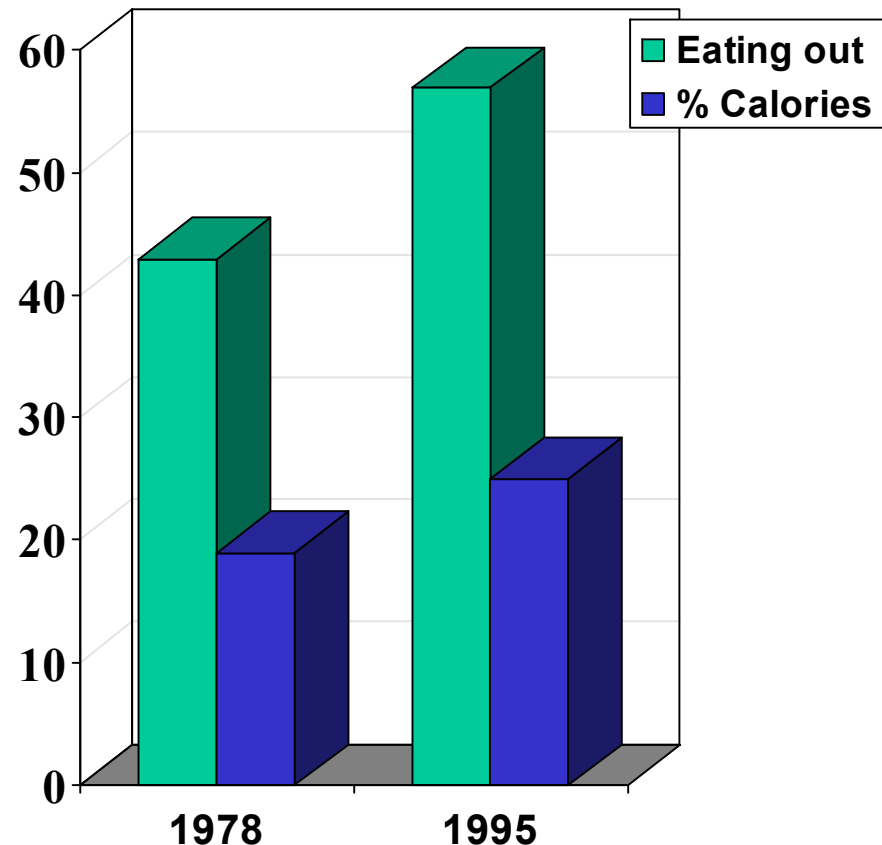
Reproduction

Key Functions for Vitamins in the Human Body

- Metabolism
 - Energy formation/maintenance
 - Regulation of body functions
- Basal Requirements
 - Eyesight
 - Nervous system
 - Brain/cognitive function
- Reproduction
 - Sperm health
 - Pregnancy/lactation
 - Birth defects
- Protection
 - Immune response
 - Environment
 - CVD, Lungs
 - GI tract
 - Recovery from injury
 - Diabetes
 - Chronic disease of elderly
- Growth/Repair
 - Growth Bones
 - Blood Skin
 - Collagen Hair

Eating Out in America (1996)

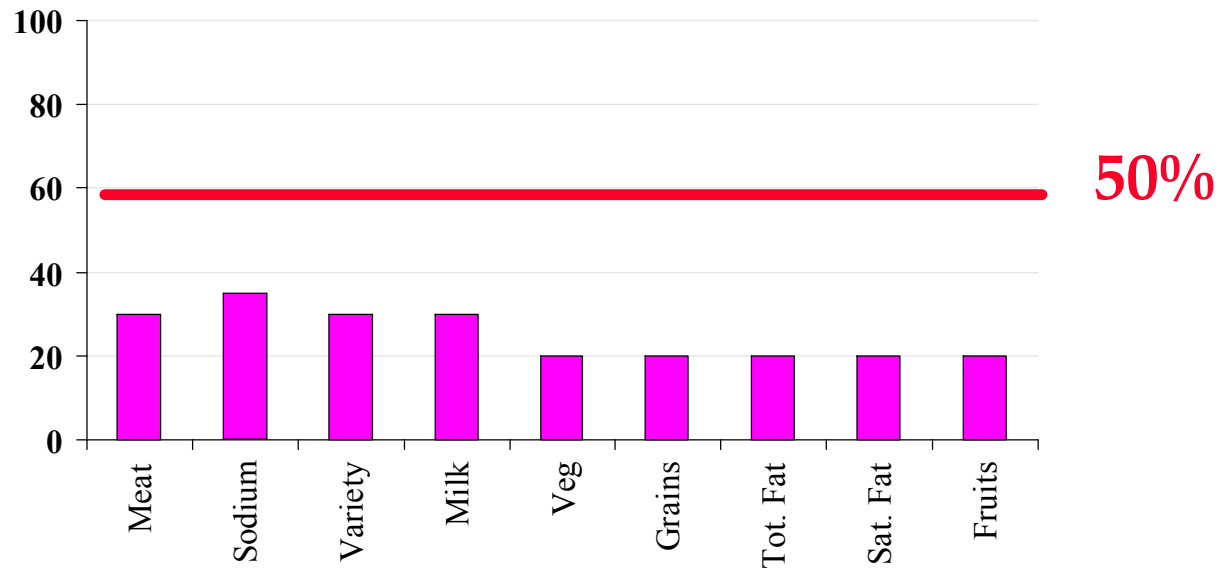
- Increased 33% from 1978 to 1995
- 61% Males eat out daily
- 51% females eat out daily
- About 25% of most nutrients but 30% of fats from eating out.



Healthy Eating Index (USA)

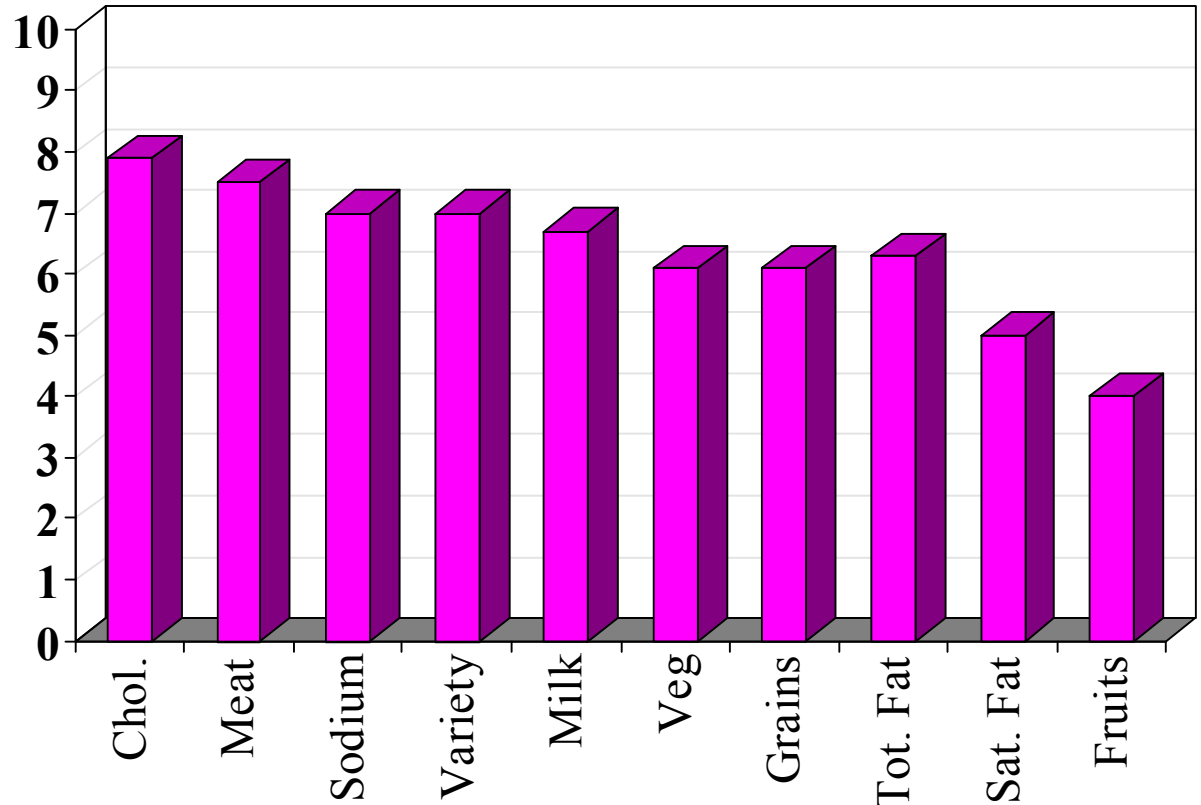
- <20% met , grains, vegs and fruits guide
- <20% met guide for fat and sat. fat
- <30% met milk and meat guides
- <30% achieved variety guide

Percent of Population Meeting Guidelines



Healthy Eating Index (USA)

- Score of ten means meeting guideline
- Avg. Score 6.4
- 75% had a score between 5-8
- <20% met guide for fat
- <30% achieved variety



Food Intakes vs Guidelines

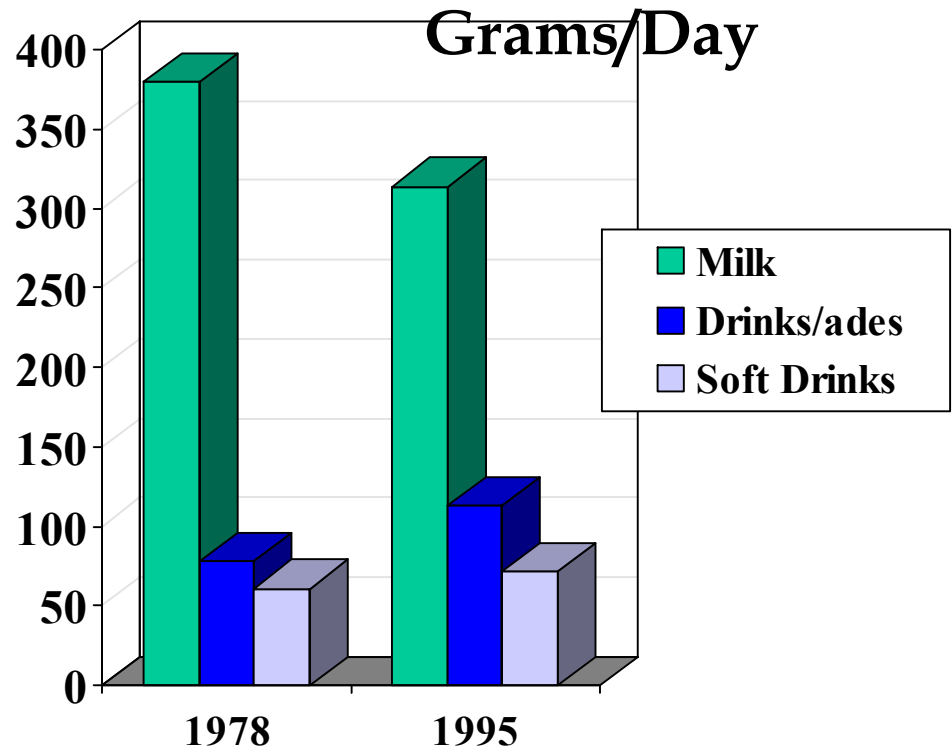
(adolescents)

- Adolescents drink twice as much soft drinks as milk, consumption doubled in girls and tripled in boys from 1977 to 1994
- From 1977 milk intakes have declined 33%, soft drinks doubled

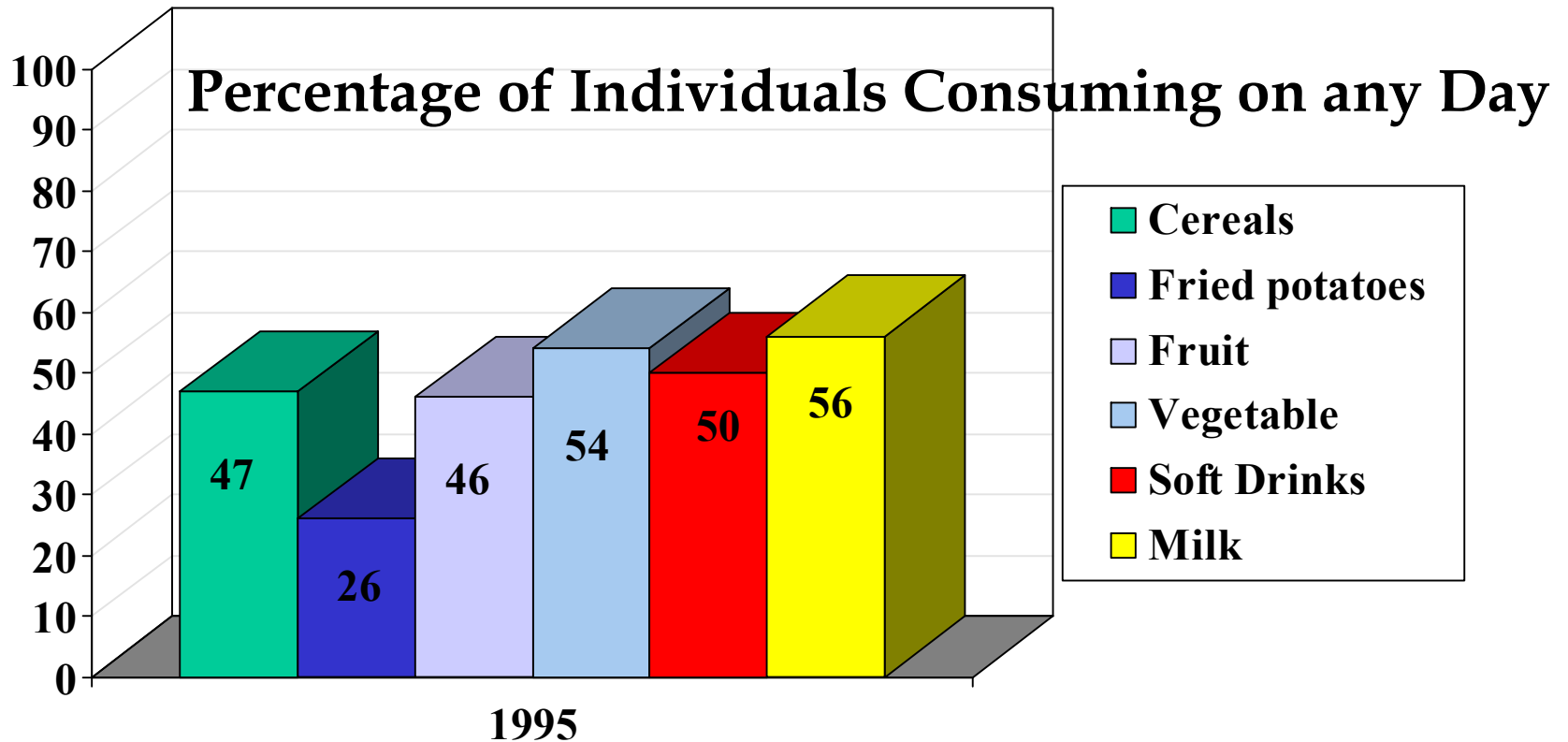
Food Intakes vs Guidelines (children <5 years)

Other Facts

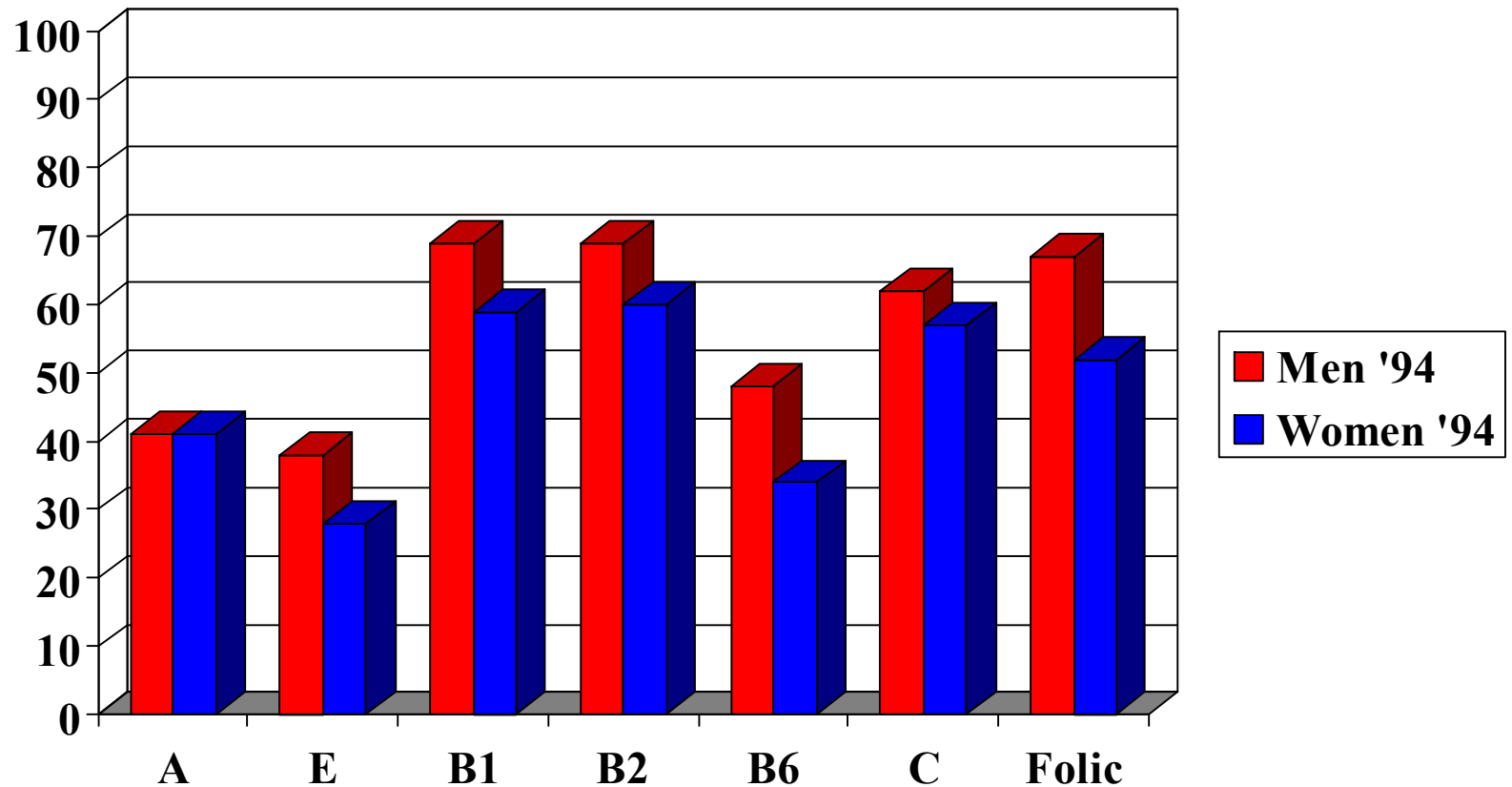
- 50% of potatoes eaten by children/teens are french fries
- Children < 5Y drink more non-citrus (+300%), fruit drinks and ades (+45%) and soft drinks (+18%) and less milk than (-18%) than in 1977



Daily Food Group Consumption



Percentage of Men & Woman in USA Not Receiving 1 RDA



Vitamins and Cataract Prevention

- Univ. Western Ont. Canada
- Epidemiological study of vitamin users and green tea drinkers
- Vit. C 300-600mg, Vit E 400 I.U.
- Cataracts **reduced about 50%**
- Additional studies similar results with 30-60% reductions due to increased intakes of vitamin C.