2005 Dietary Guidelines for Americans and the New Dietary Reference Intakes: Potential Implications for the NSLP and SBP Meals

Child Nutrition Division
USDA Food and Nutrition Service

FNS Programs

- FNS administers 15 domestic nutrition assistance programs
  - these programs serve 1 in 5 people in the U.S. each year

- While the 2005 Dietary Guidelines for Americans (DGA) will influence most programs, a few merit special attention:
  - National School Lunch Program (NSLP) and School Breakfast Program (SBP)
  - Food Stamp Program (FSP)
  - Special Supplemental Food Program for Women, Infants and Children (WIC)

- These four programs represent roughly 89% of FNS program spending in FY 2005

The 2007 Horizon

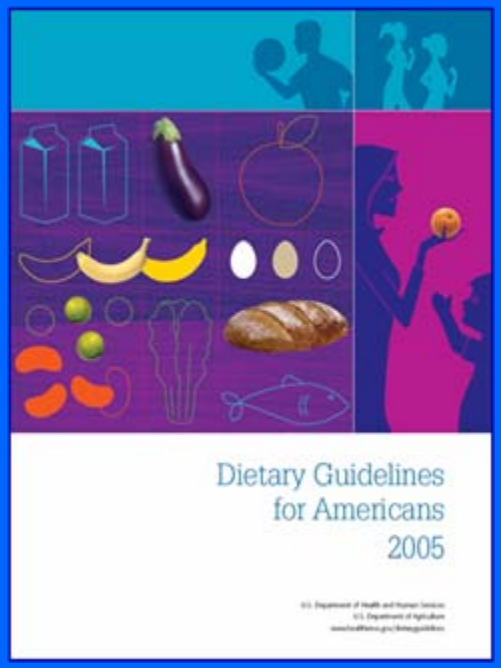
- Publication of Proposed Rule regarding implementation of 2005 DGA in NSLP and SBP
- Publication of Proposed Rule regarding implementation of 2005 DGA in CACFP - 2008
- Publication of Proposed Rule regarding WIC food package changes (8/7/06)
- Publication of revised Thrifty Food Plan market basket (FSP)

General Considerations for Program Change

- Administrative
  - Cost
  - Burden
  - Feasibility
- Customers/Target Population
  - Participation & Satisfaction
  - Hunger prevention
    - ➔ Hungry children don't learn as well
    - ➔ Disruptive children impede the learning of others

USDA School Meals: Statutory Nutrition Requirements

- By law, school meals are required to meet minimum nutrition standards that are:
  - Consistent with the most recent recommendations from the Dietary Guidelines for Americans
  - Provide a percentage of the daily Recommended Dietary Allowances (RDAs) for specific nutrients



Current Nutrition Standards: Applicable 1995 DGAs

- Eat a variety of foods
- Limit total fat to 30% of total kcals
- Limit saturated fat to less than 10% of total kcals
- Choose a diet low in cholesterol and sodium
- Choose a diet with plenty of grains, vegetables, and fruits
- Increase dietary fiber

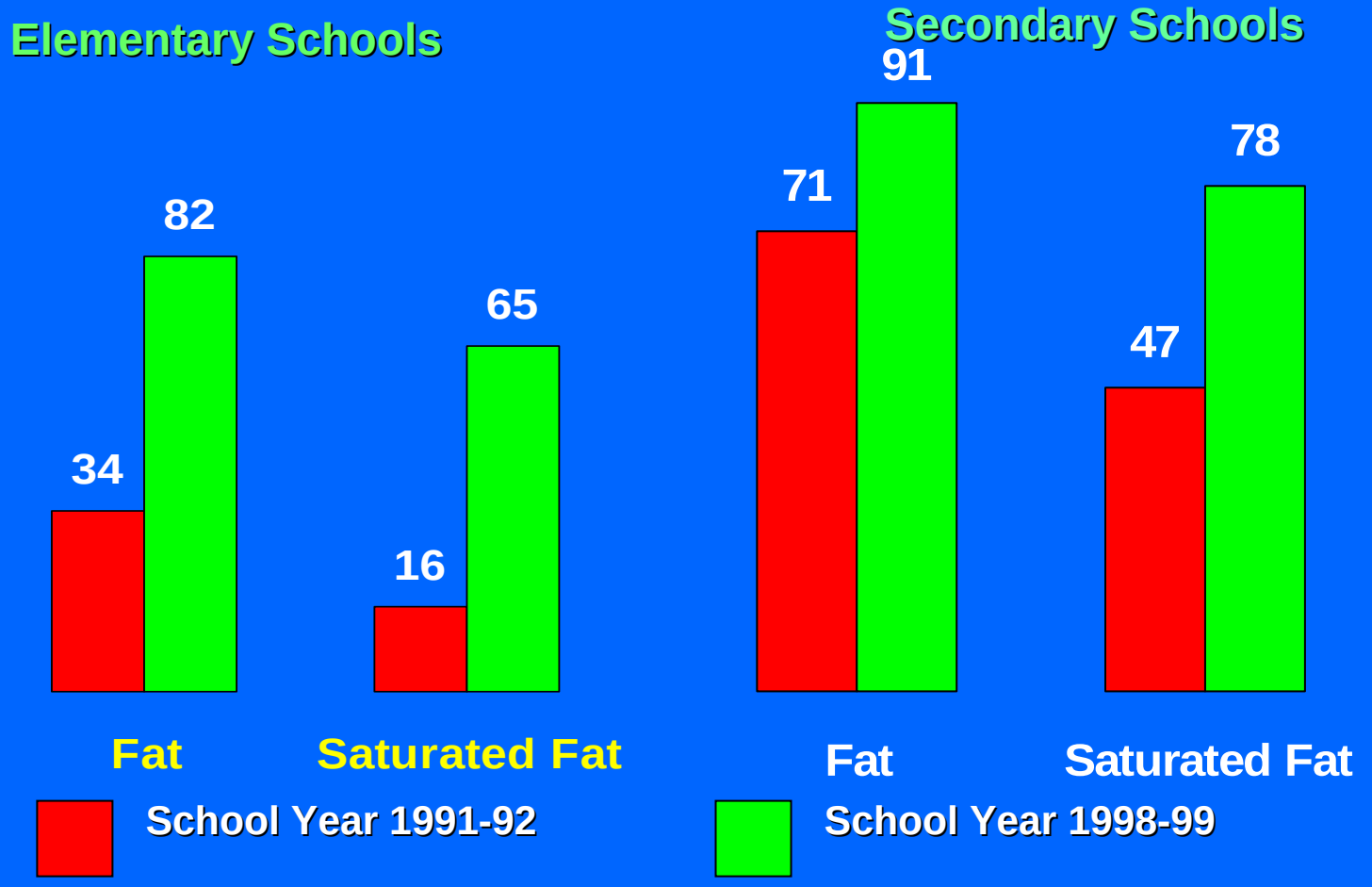
Current Nutrient Standard Requirements

- <u>Lunches</u> must provide 1/3 of the calories for a growing child and 1/3 of the RDAs for:
  - protein
  - calcium
  - iron
  - vitamin A
  - vitamin C

- <u>Breakfasts</u> must provide ¼ of the calories for a growing child and ¼ the RDAs for the same nutrients.

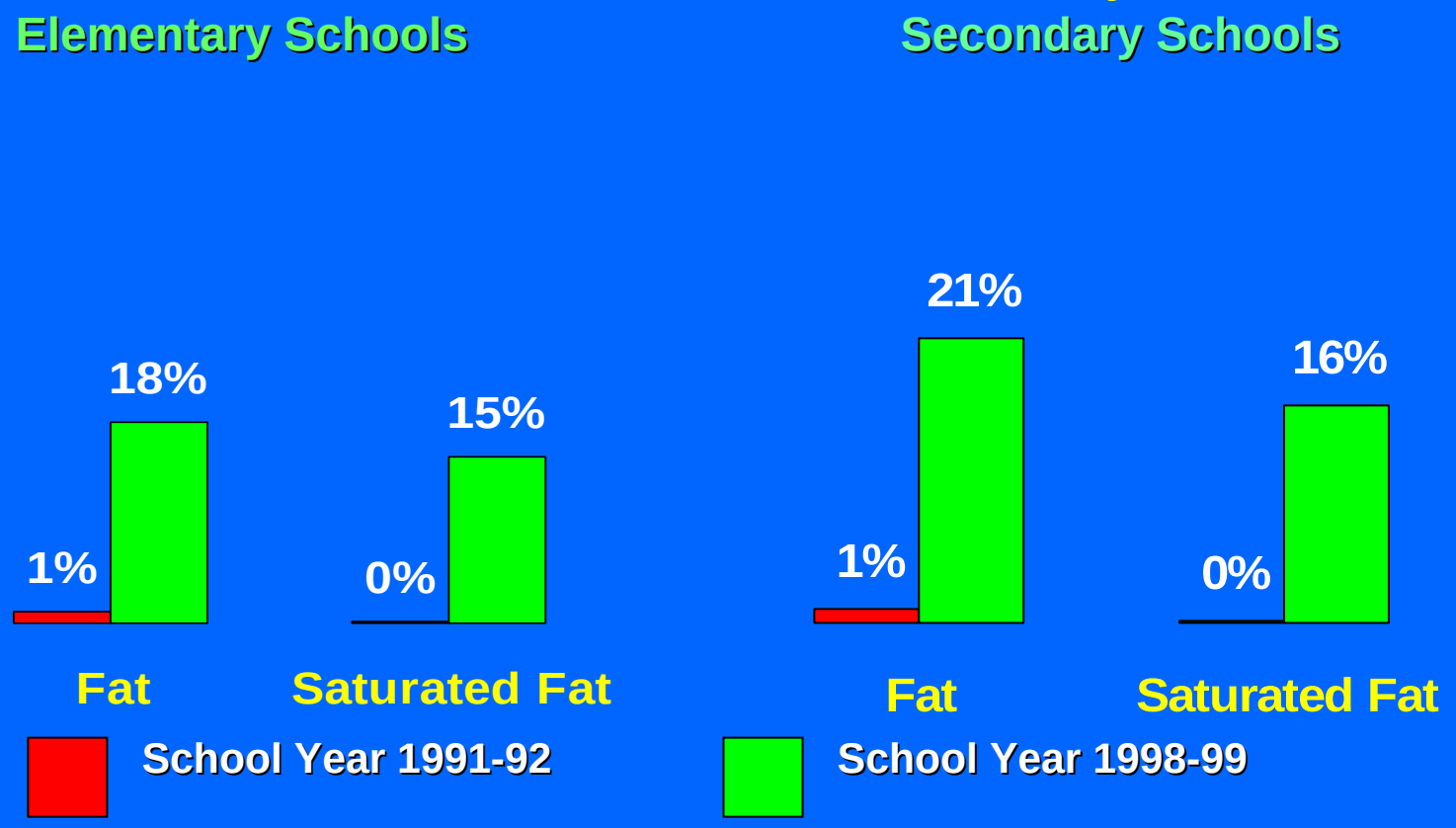
In 1998-99 More Schools Offered Students the Opportunity to Select a Low Fat Lunch

…but even a dietitian couldn't select a low fat NSLP meal at 9 to 18% of schools



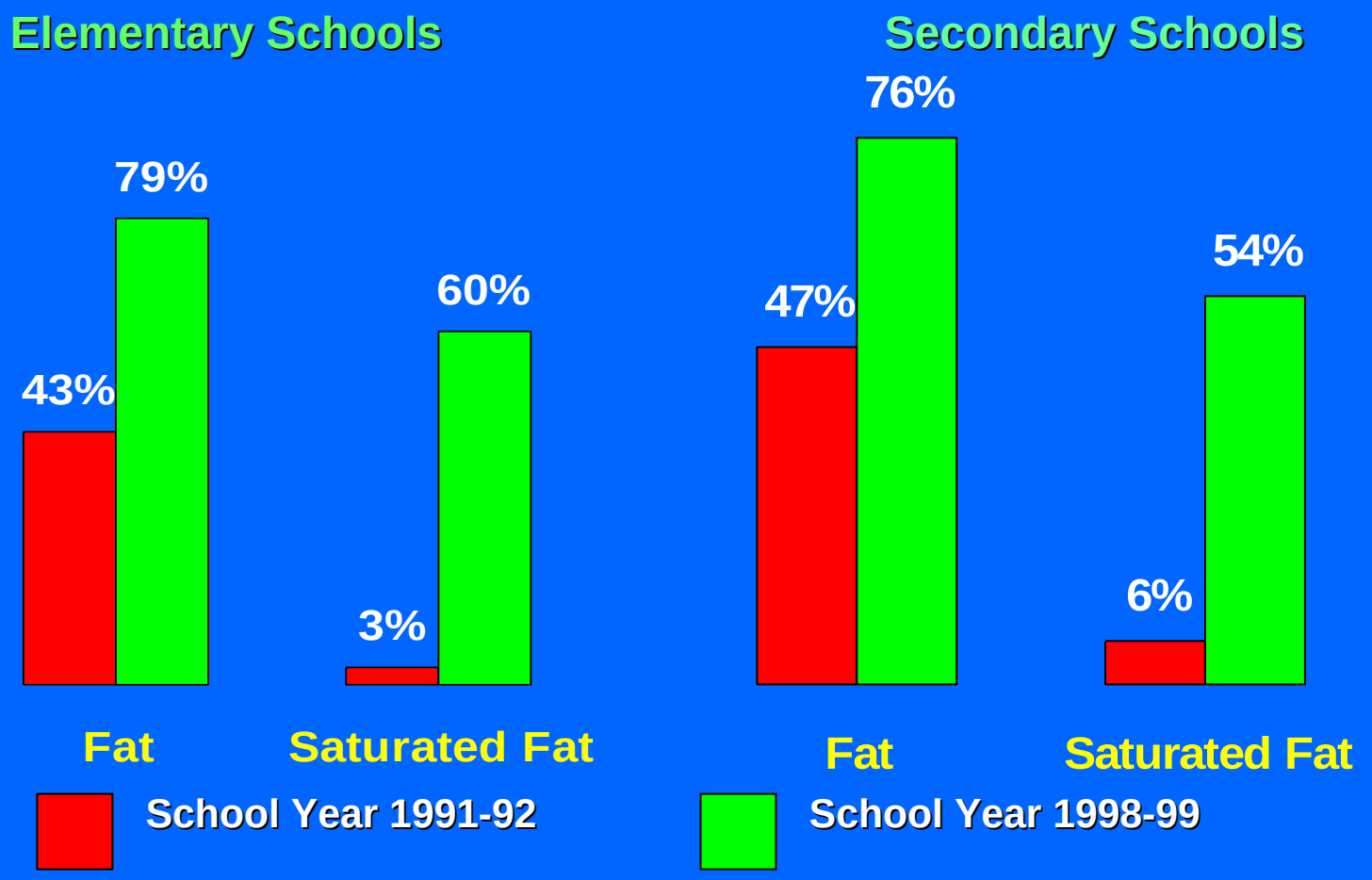
In 1998-99, More Schools Met the Fat and Saturated Fat Standards for Lunches Offered on Average…

but most schools were not "there" yet

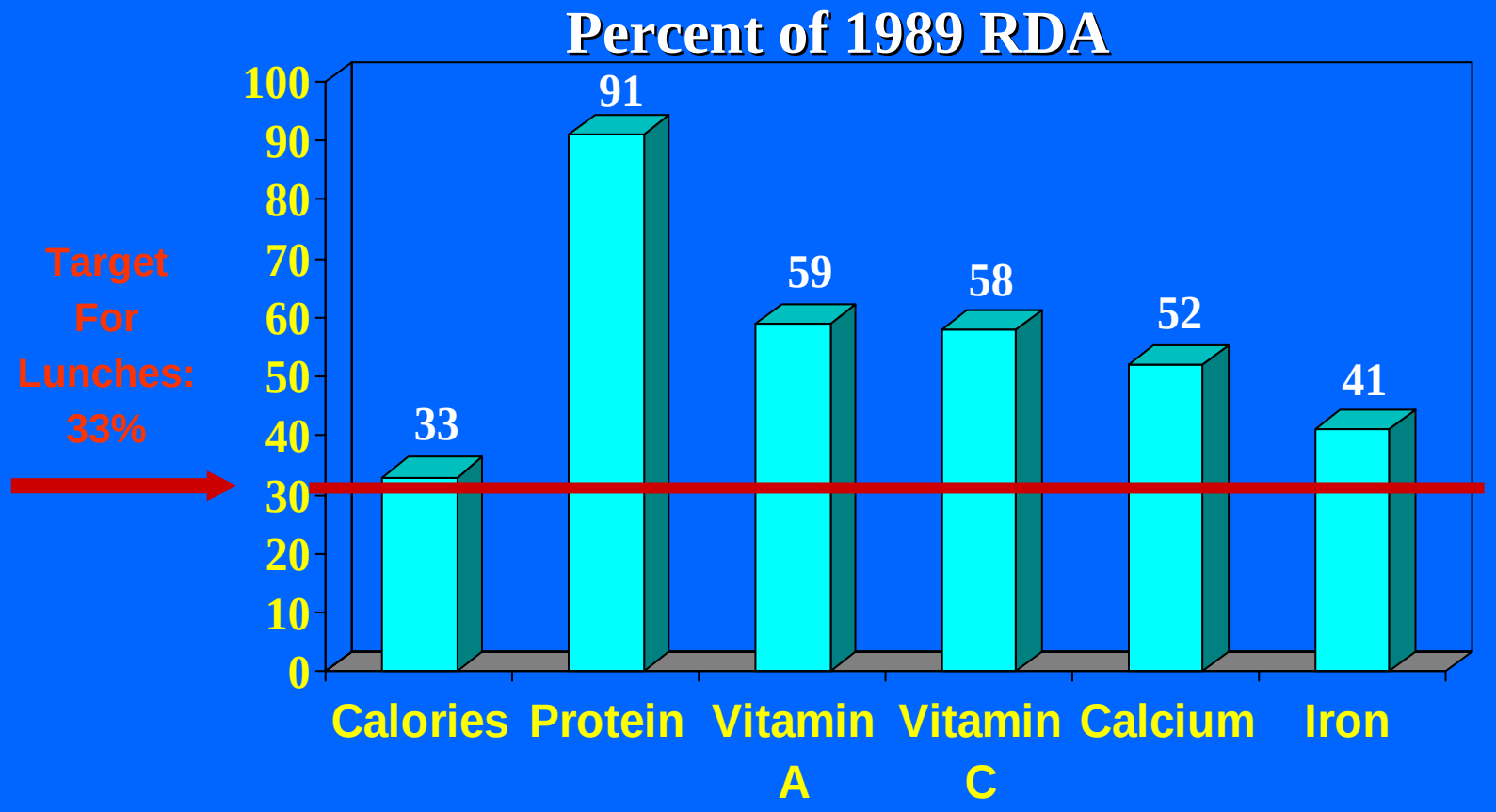


In 1998-99, More Schools Met the Fat and Saturated Fat Standards for <u>Breakfasts</u>

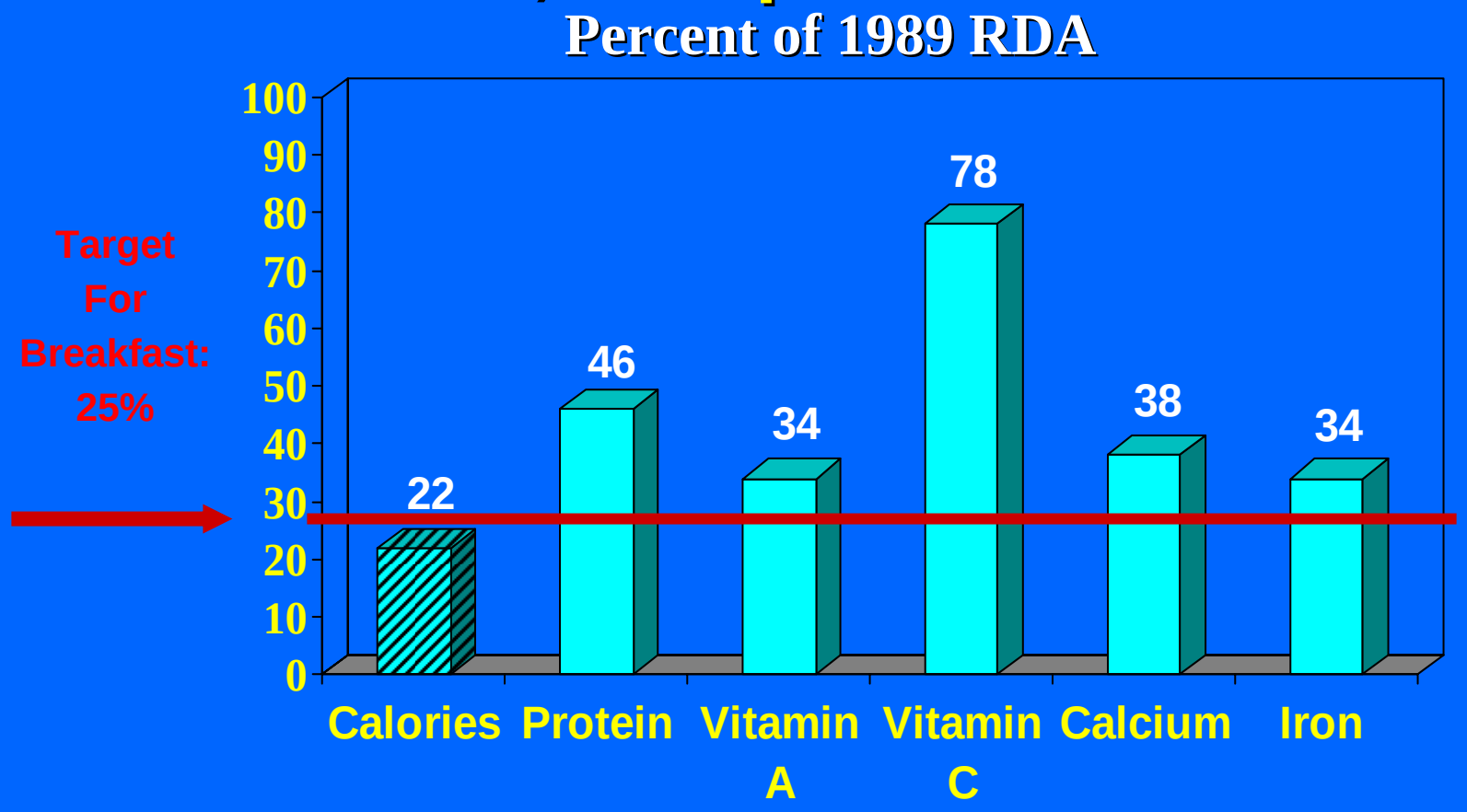
Offered on Average…*but ¼ to ½ still needed to improve*



NSLP Lunches Still Provide One-third Or More Of The Daily RDA



SBP Breakfasts Are (still) Nutritious Provide One-quarter Or More Of The Daily RDA, Except for Calories



Why is change needed?

Dietary Reference Intakes: A New Approach to RDAs

1994: began creation of the Dietary Reference Intakes (DRIs), including new RDAs

- Joint US + Canada effort
- "there has been a significant expansion of the research base, an increased understanding of nutrient requirements and food constituents…"

Why is change needed?

Dietary Reference Intakes: A New Approach to RDAs

- **1997:** DRIs for Calcium, Phosphorus, Vitamin D, and Flouride (a.k.a. the bone nutrients) 432 pages
- **1998** DRIs for Thiamin, Riboflavin, Niacin, Vitamin B6, Folate, Vitamin B12, Pantothenic Acid, Biotin, and Choline (a.k.a. the B vitamins report) 564 pages
- **2000:** DRIs for Vitamin C, Vitamin E, Selenium and Carotenoids (a.k.a the antioxidant report) 506 pages
- **2001** DRIs for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc (a.k.a. the micronutrient report) 773 pages
- **2002** DRIs for Energy, Carbohydrates, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids (a.k.a. the macronutrient report) 1331 pages
- **2004** DRIs for Water, Potassium, Sodium, Chloride, and Sulfate (a.k.a. the electrolyte report) 617 pages

➔ TOTAL: 4,223 pages

Why is change needed?

- First RDAs' published in 1943 to serve as goals for planning food supplies and interpreting food consumption by groups
- 1968: 101 pages
- 1974: 128 pages
- 1980: 185 pages
- 1989: 284 pages
- DRIs 1997-2002:
  - 4,223 pages

The current NSLP/SBP Rules are based on the 1989 RDAs

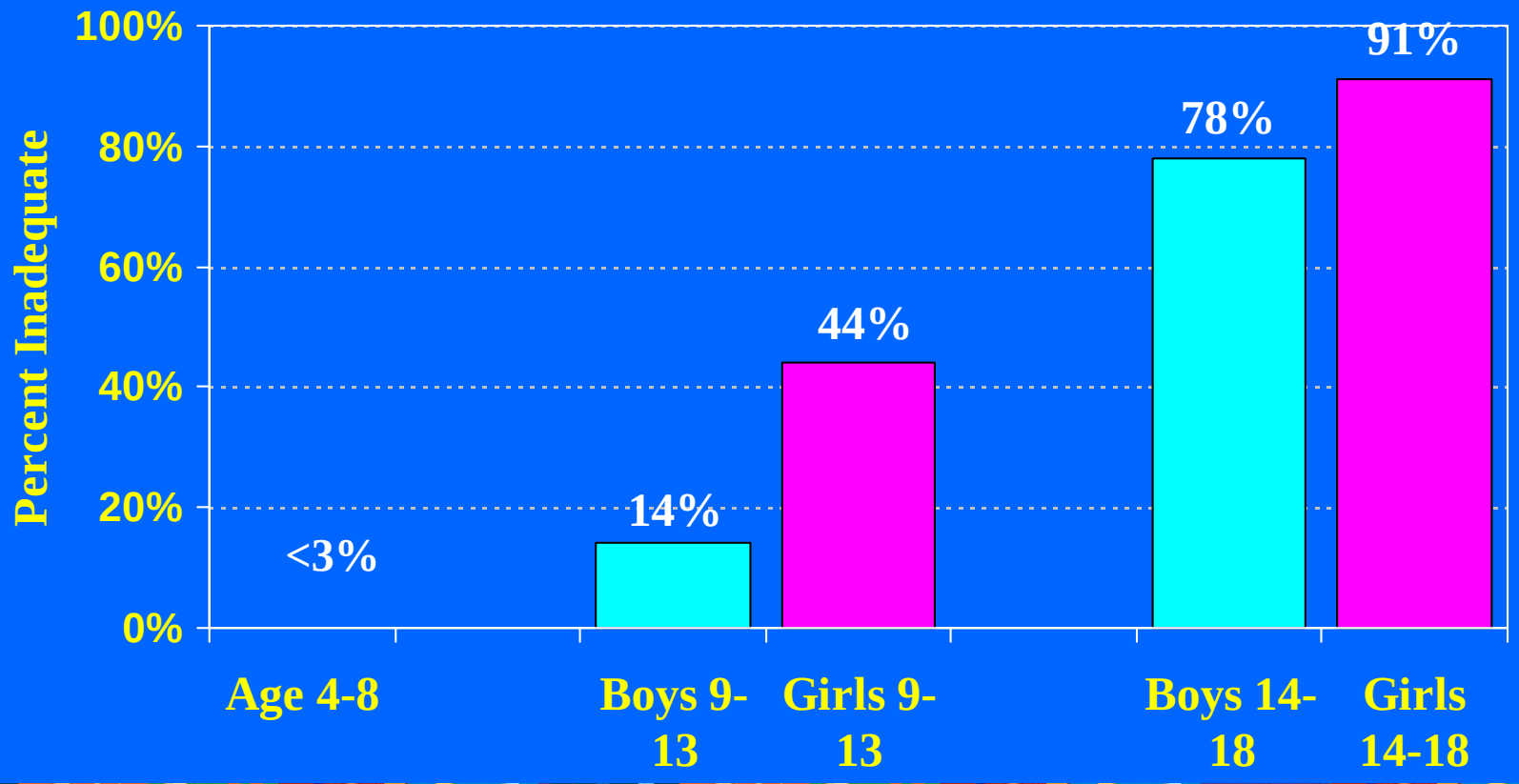
Percent Inadequate

How are children doing?

2001-2002

Percent Inadequate: Magnesium 2001-2002

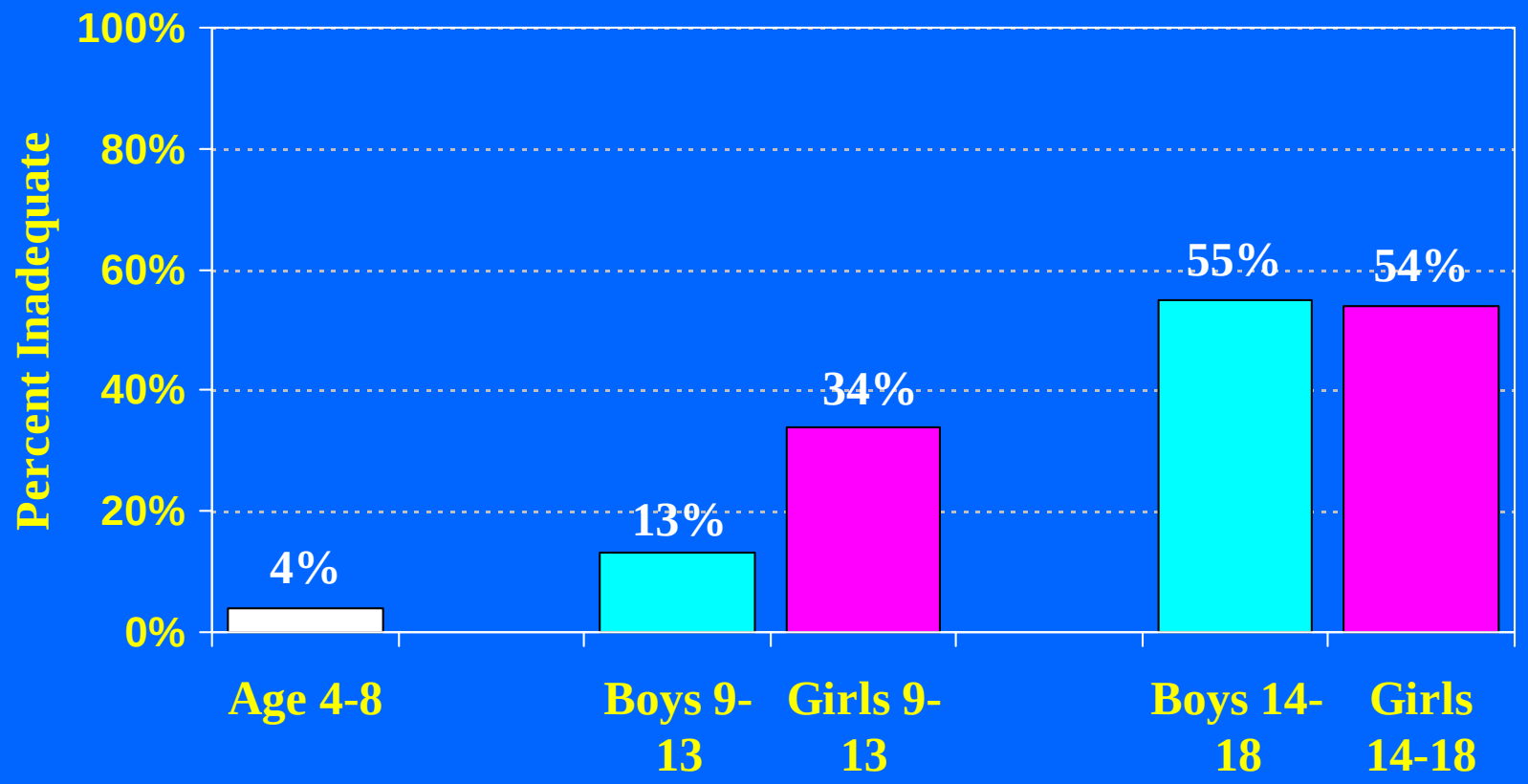
Percent of School-Aged Children With Inadequate Intake of Magnesium



NHANES 2001-2002 USDA/ARS

Percent Inadequate: Vitamin A 2001-2002

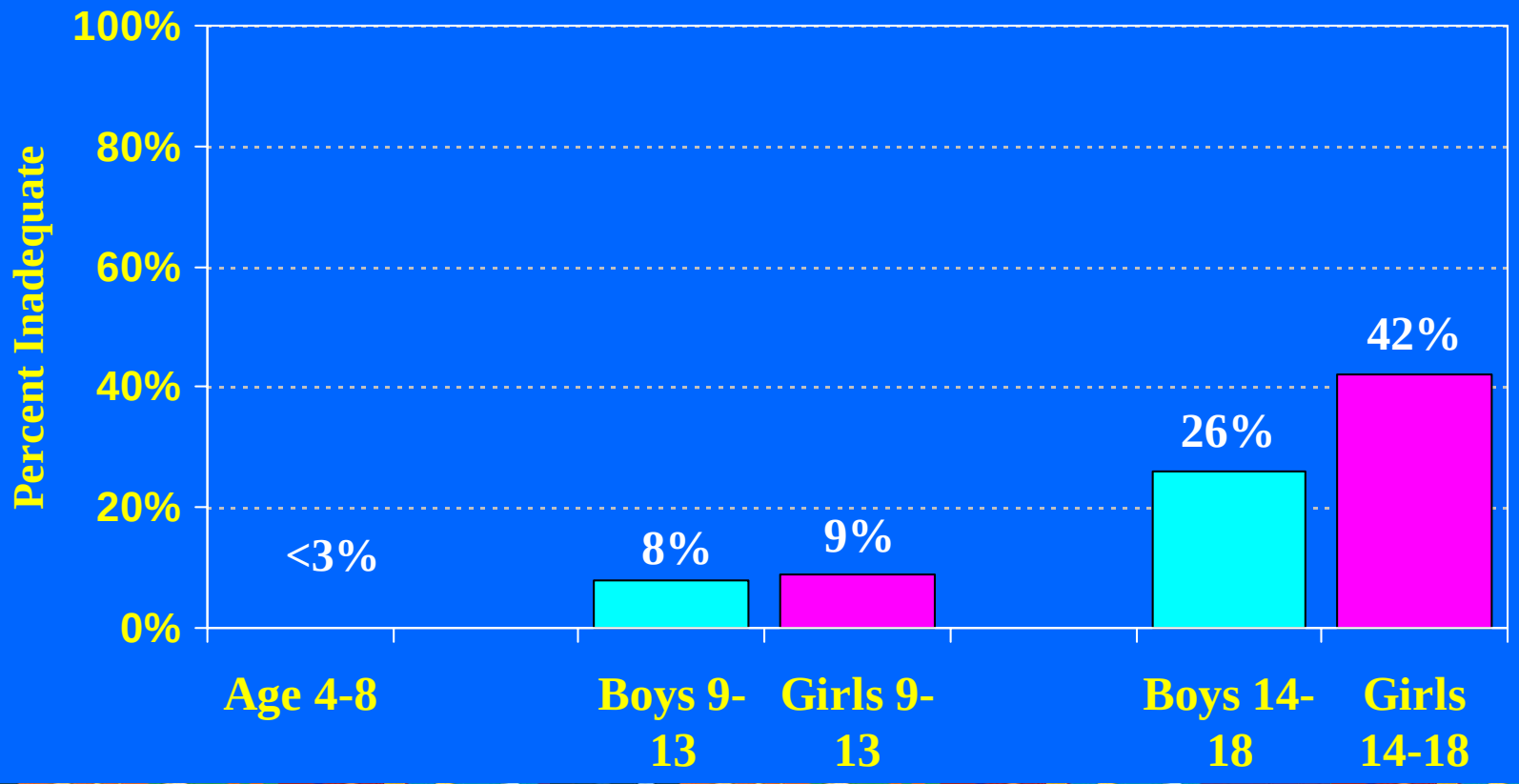
Percent of School-Aged Children With Inadequate Intake of Vitamin A



NHANES 2001-2002 USDA/ARS

Percent Inadequate: Vitamin C 2001-2002

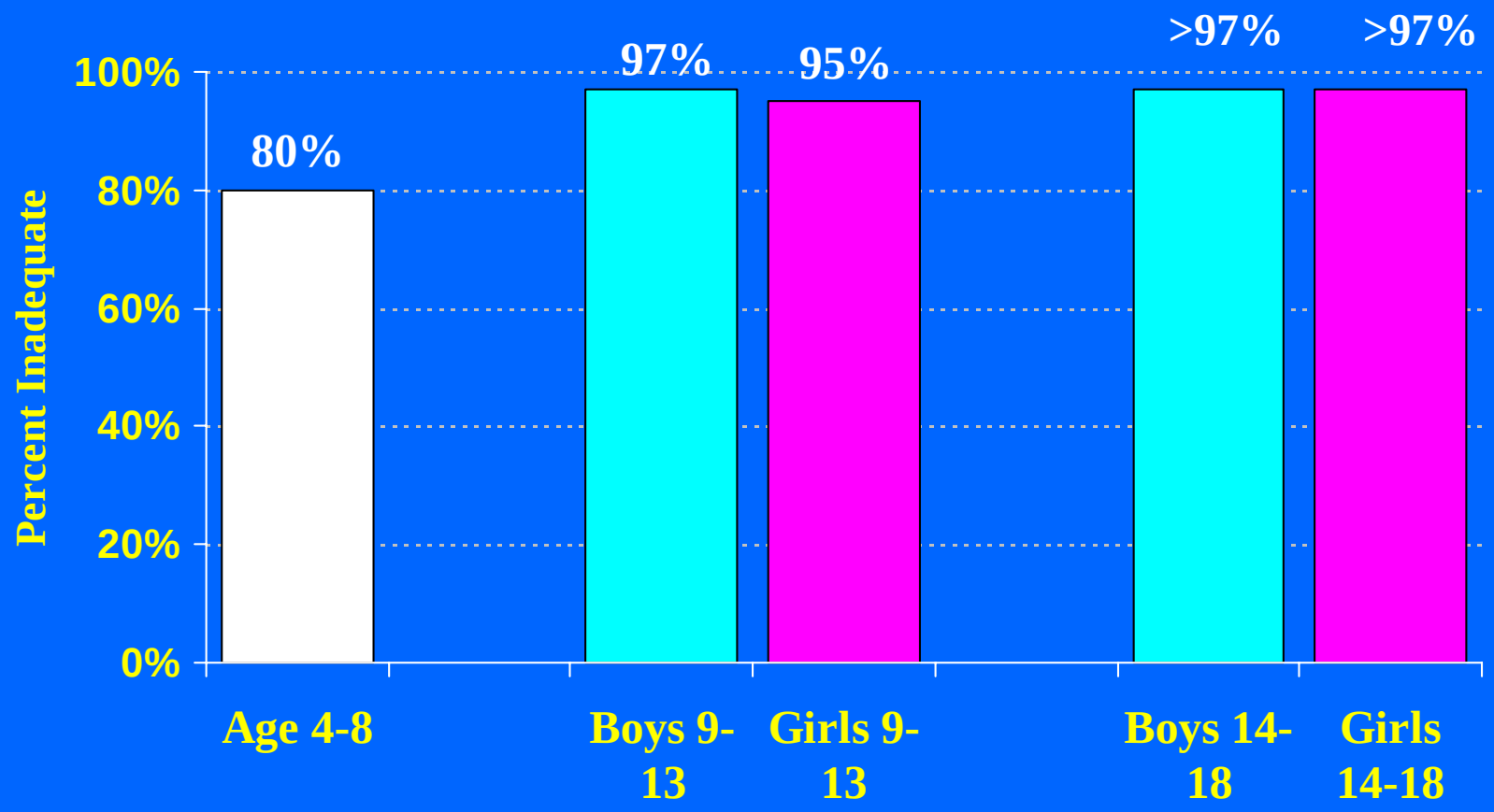
Percent of School-Aged Children With Inadequate Intake of Vitamin C



NHANES 2001-2002 USDA/ARS

Percent Inadequate: Vitamin E 2001-2002

Percent of School-Aged Children With Inadequate Intake of Vitamin E



NHANES 2001-2002 USDA/ARS

Why is Change Needed?

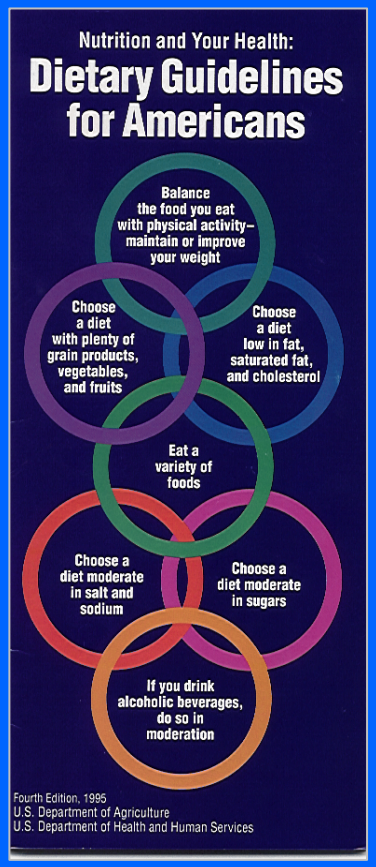
A Bit of History on the Dietary Guidelines for Americans (DGAs)

- First issued in 1980 by USDA and DHHS
- By law, updated every 5 years

- 1990: first DGA quantitative recommendations for:
  - percent of calories from total fat (not more than 30% of total calories)
  - saturated fat (less than 10% of total calories)

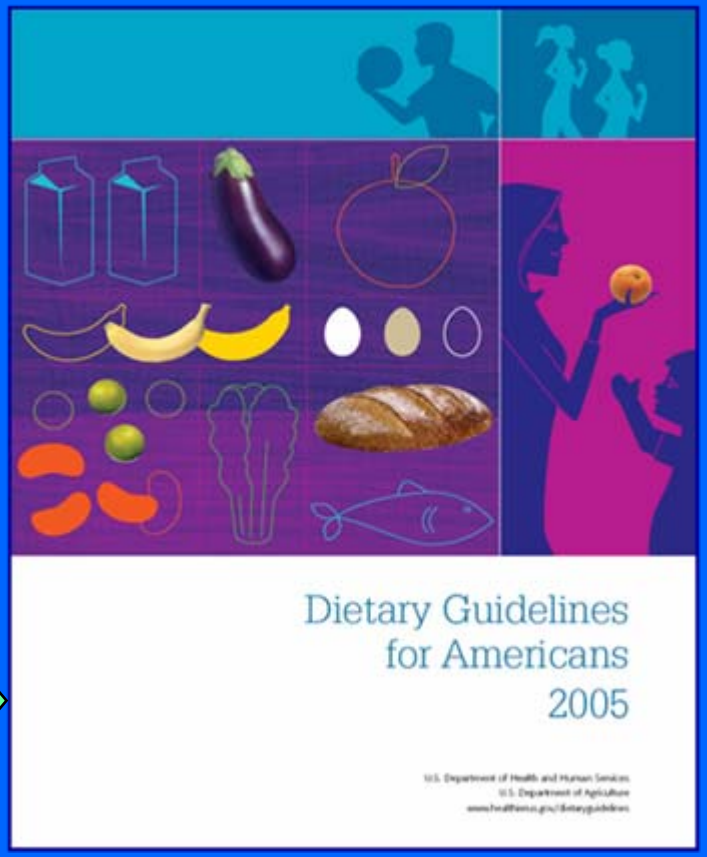
Why is Change Needed?

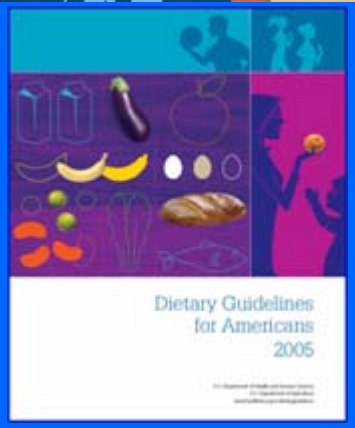
The New Dietary Guidelines for Americans (DGAs)



The current NSLP/SBP Rules are Based on the 1995 DGAs

2005 DGAs 10 years newer; Reflect the DRIs





Basic premises of the Dietary Guidelines…

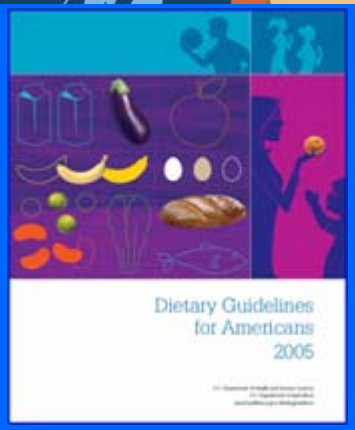
"Good nutrition is vital to good health and is absolutely essential for the healthy growth and development of children and adolescents."

"…nutrient needs should be met primarily through consuming foods."

Why is Change Needed?

The 2005 Dietary Guidelines for Americans)

- New quantitative recommendations for certain foods and nutrients
  - Nutrients:
    - total fat:
      - ages 2 - 3 years = 30 to 35% of calories
      - ages 4-18 years = 25 to 35 % of calories
      - mostly from fish, nuts and vegetable oils
    - saturated fat: less than 10% of total calories
    - cholesterol: less than 300 mg/day
    - sodium: less than 2,300 mg/day
    - fiber: 14 grams per 1,000 calories
  - Foods:
    - fat-free or low-fat milk:
      2 cups/day for ages 2-8
      3 cups/day for ages 9-18
    - whole grains: at least ½ of bread/grain consumption
    - fruits and vegetables: 4 ½ cups for a 2,000 calorie diet



2005 DGAs: Nine Focus Areas

1. Adequate nutrients within calorie needs
2. Weight management
3. Physical activity
4. Food groups to encourage
5. Fats
6. Carbohydrates
7. Sodium and potassium
8. Alcoholic beverages
9. Food safety

2005 DGAs: Adequate Nutrients within Calorie Needs

- Meet recommended intakes within energy needs by adopting a balanced eating pattern.
- Consume a variety of nutrient-dense foods and beverages.
- Choose foods that limit the intake of saturated and trans fats, cholesterol, added sugars, salt, and alcohol.

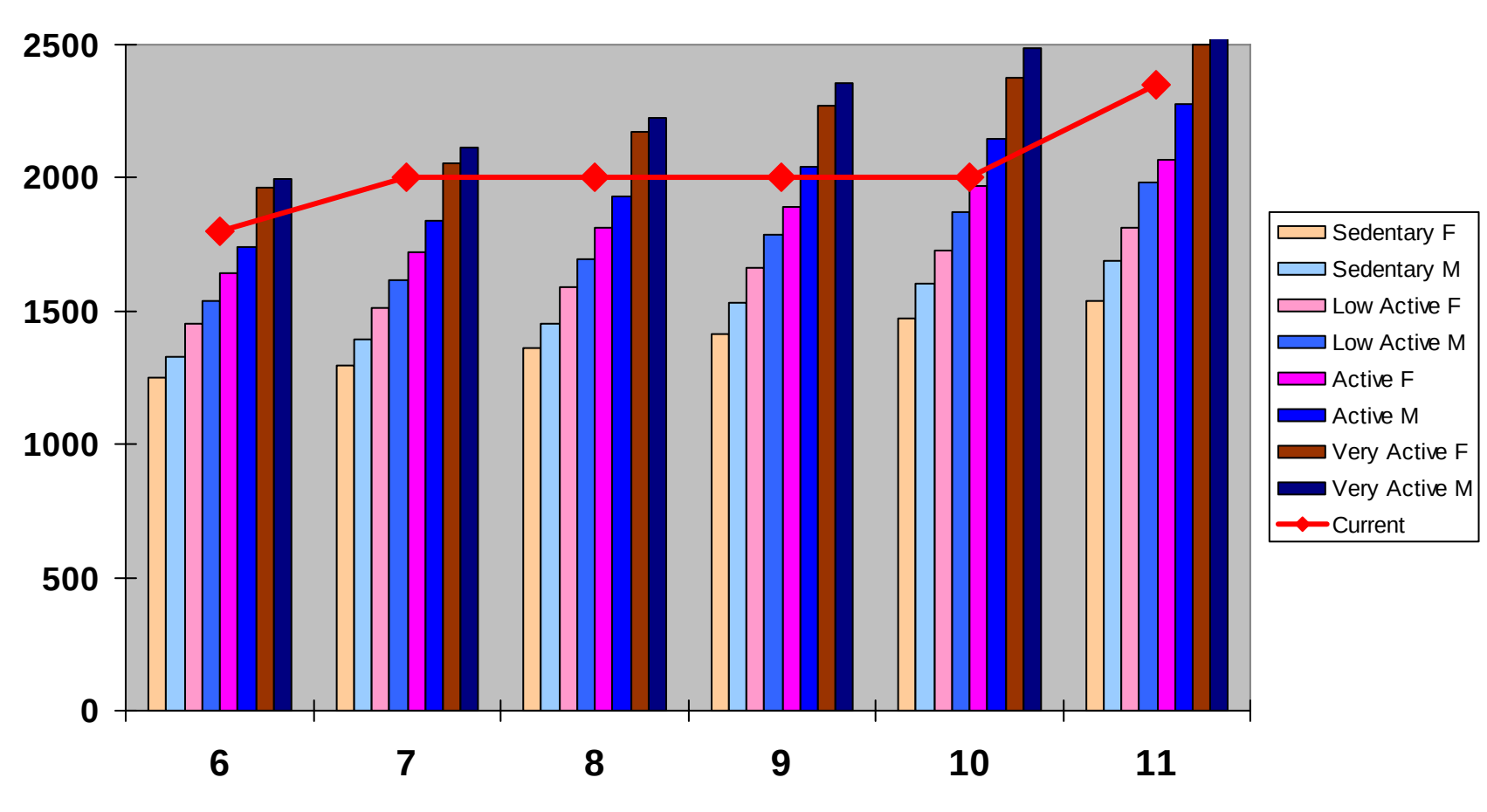
Specific Questions: NSLP/SBP Calories

- How should calorie levels be determined?
  - School meal calorie levels are currently based upon the 1989 RDA for calories; this RDA provided one calorie level per age
  - The 2005 DGA and the new DRIs provide calorie ranges based on activity level (sedentary, low active, active, very active) at each age
  - Challenge to meet individual needs of children in a group feeding situation while minimizing both hunger and obesity

DRI Estimated Energy Requirements (EER) by Activity Level, Ages 6 to 11 Years

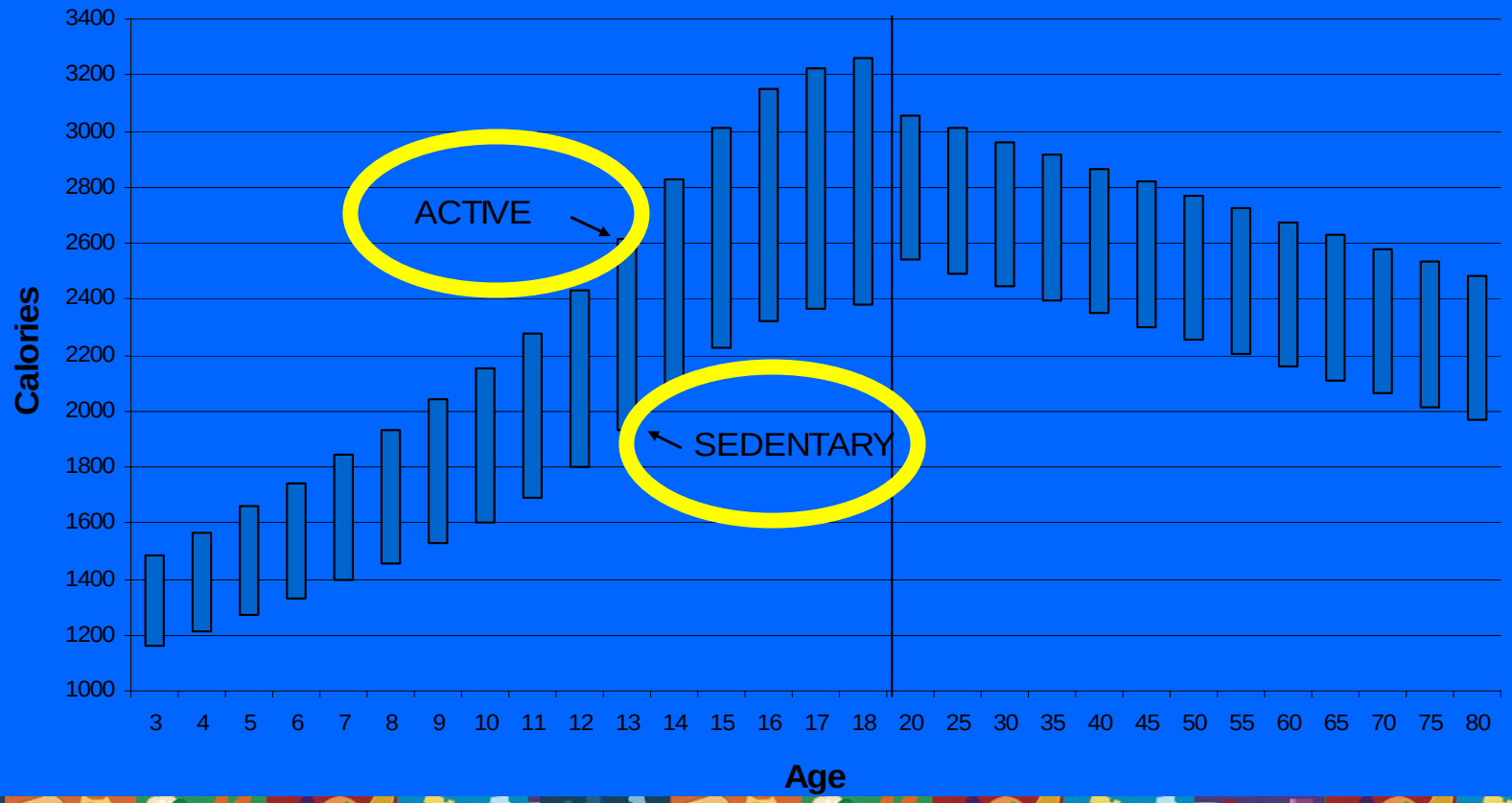
vs.

Current Basis for NSLP/SBP Calories



Calorie Needs Vary According to Activity Levels

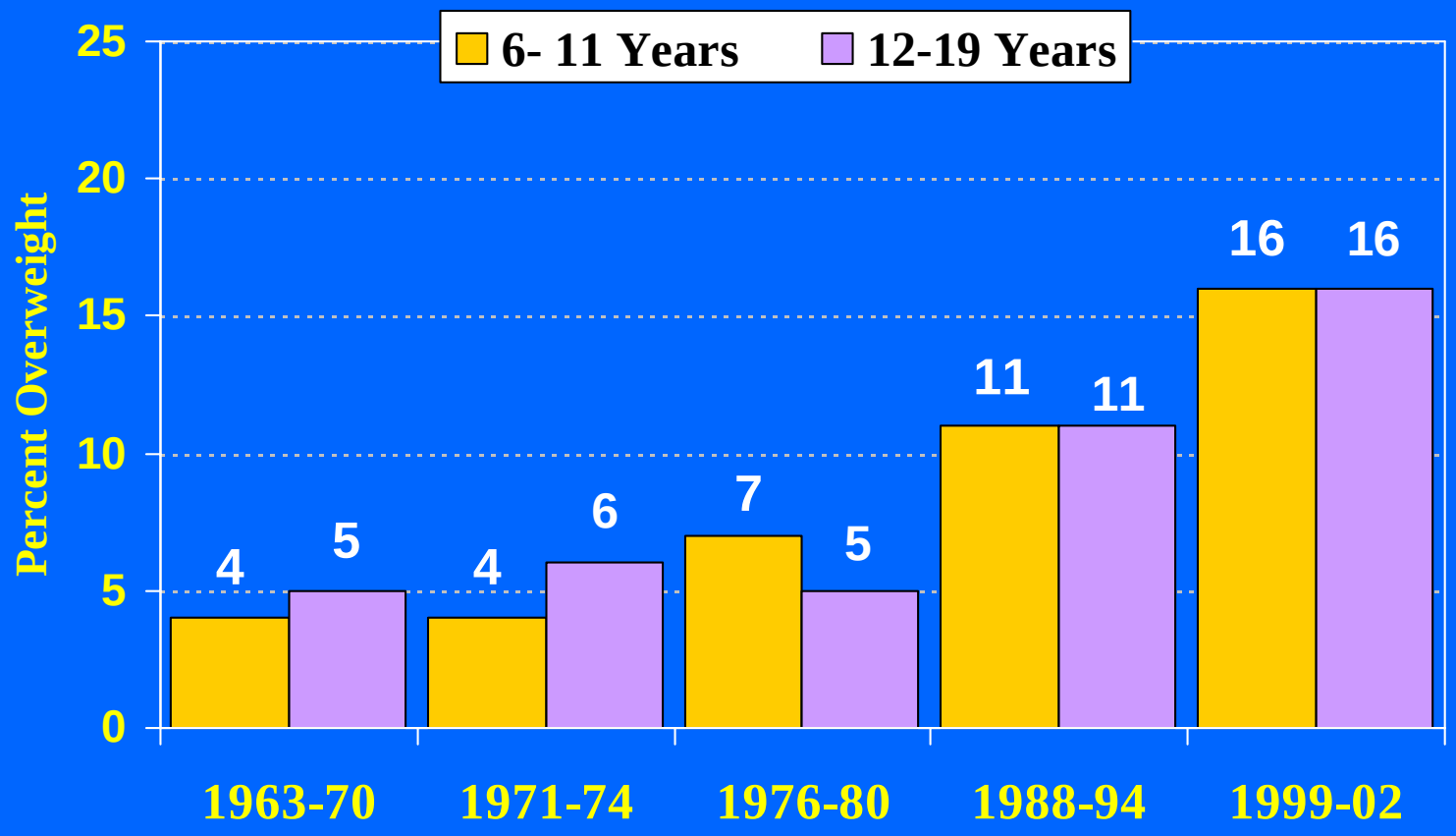
Estimated Energy Requirements for males*



*From the National Academy of Sciences Institute of Medicine Dietary Reference Intakes Macronutrient Report

16 Percent of Children and Adolescents are Overweight

Prevalence of Overweight among Children and Adolescents



NHANES 1999-2002 DHHS/NCHS: % with BMI at or above 95th percentile

Nutrients of Concern for Children

- Calcium
- Fiber
- Potassium*
- Magnesium*
- Vitamin E*

*Not required to be listed on Nutrition Facts Panel

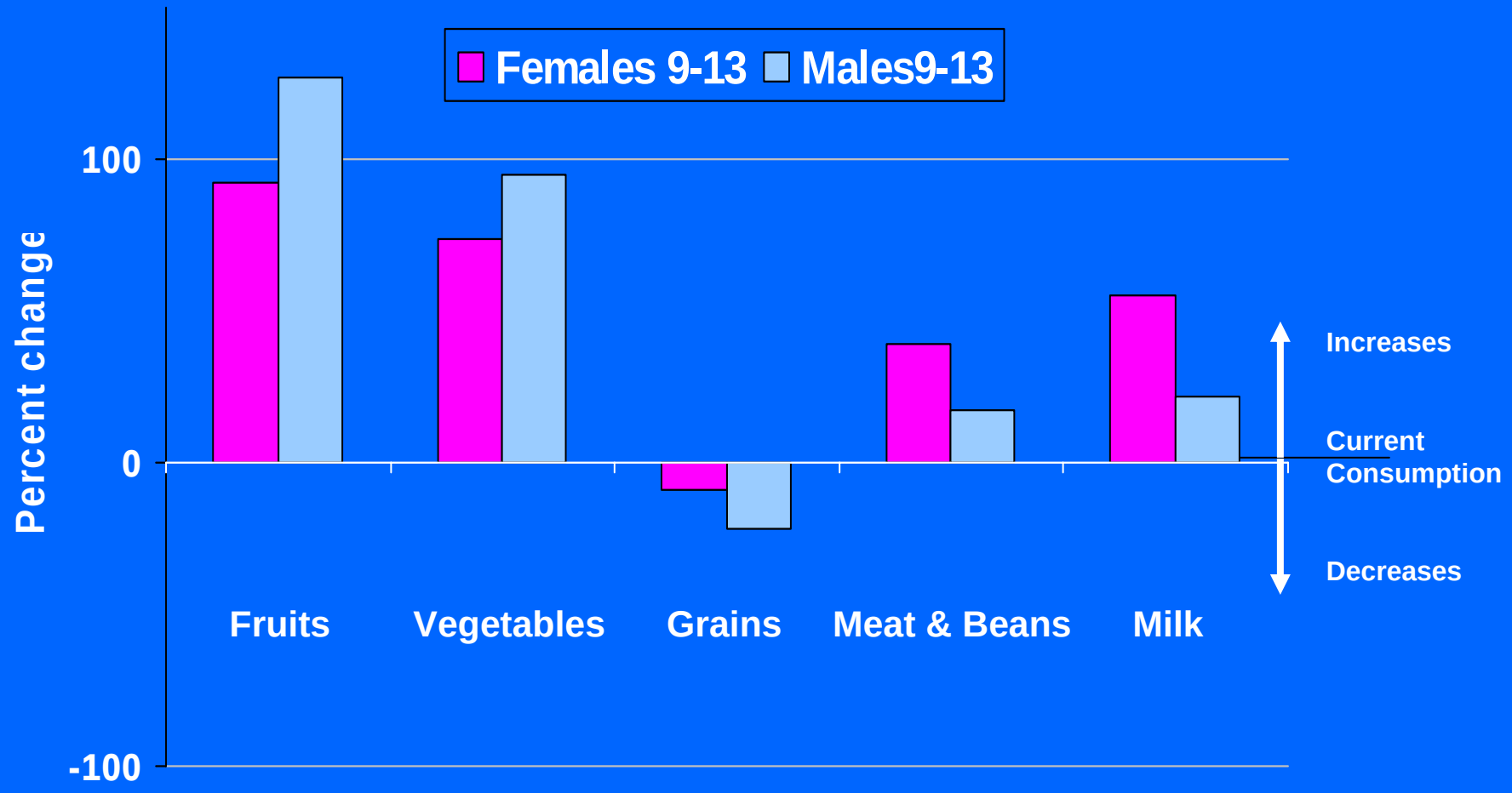
Specific Questions: NSLP/SBP Fiber

- **Should a minimum level be set for fiber?**
  - **Currently, schools are encouraged to increase fiber in school meals, but a specific numeric target is not set**
  - **The 2005 DGA offers clear recommendation of 14 g/1000 kcal for fiber intake across all ages**
  - **Data from CSFII 1994-96 indicate that the mean intake of fiber**
    - **at lunch by NSLP participants was about 5 g**
    - **SBP participants consumed about 3 g at breakfast**
  - **The new guidelines would necessitate offering approximately 6 to 8 g of fiber at breakfast 7 to 11 g at lunch depending on the calorie needs of the age group being served**

2005 DGAs: Food Groups to Encourage

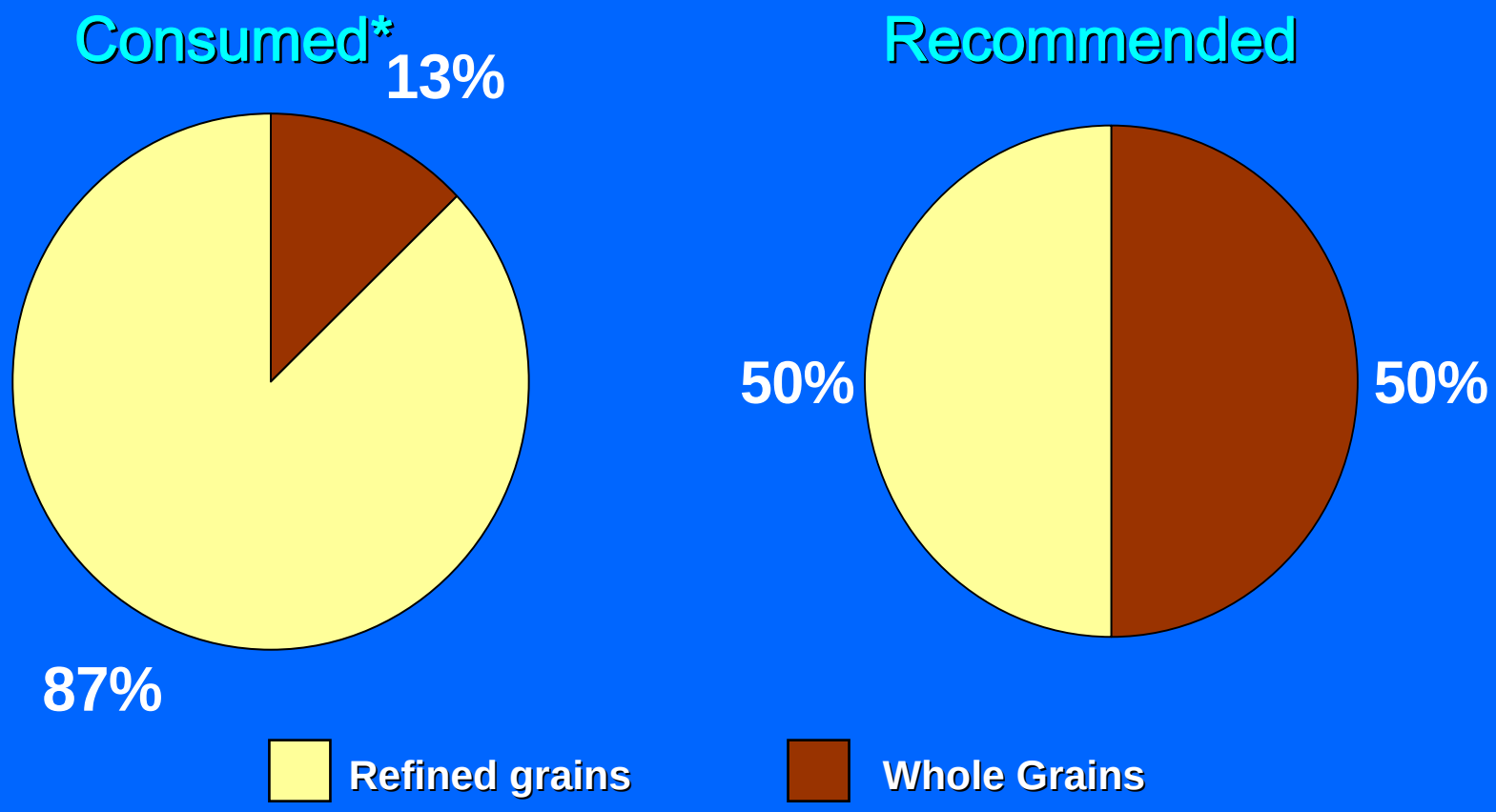
- Consume sufficient amounts of fruits and vegetables while staying within energy needs.
- Choose a variety of fruits and vegetables each day.
- Consume 3 cups per day of fat-free or low-fat milk or equivalent milk products—kids 2 to 8 need 2 cups daily.
- Consume at least 3 ounce equivalents of whole grains daily.

MyPyramid Recommendations Compared to Consumption*



*Consumption data from NHANES 2001-2002

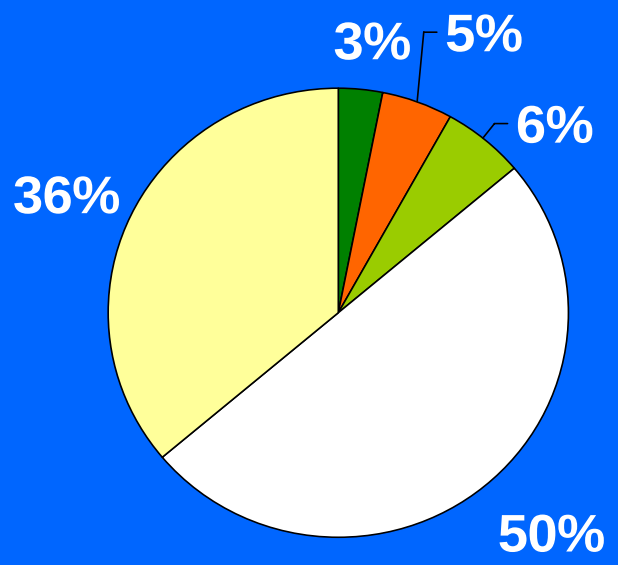
Grain Recommendations Compared to Consumption



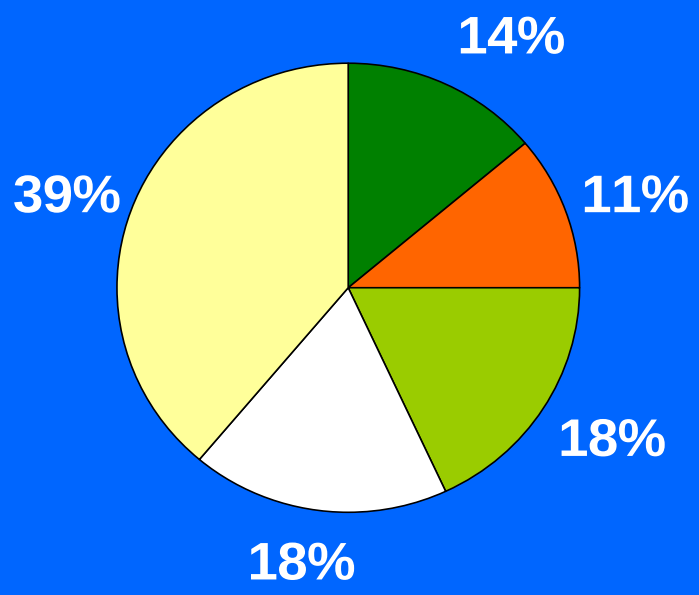
*Consumption by males 9-13

Vegetable Recommendations Compared to Consumption

Consumed*



Recommended



Dark Green | Orange | Legumes | Starchy | Other Vegetables

*Consumption by females 9-13

2005 DGAs: Fats

- For children 2-3 years of age, keep total fat intake between 30 to 35 percent of calories.
- For children and adolescents 4-18 years of age, keep total fat intake between 25 to 35 percent of calories.
- Most fats should come from polyunsaturated and monounsaturated fatty acids, such as fish, nuts, and vegetable sources.

Specific Questions: NSLP/SBP Trans Fats

- **Should a nutrient standard be set for *trans* fats?**
  - ***trans*** **fats have not previously been addressed in the DGA or monitored in school meals**
  - **The 2005 DGA recommends that intake of *trans* fats be minimized; *trans* fats were added to the nutrition facts panel of food products in January, 2006**
  - **Challenge in minimizing planning & monitoring requirements while following DGA**

2005 DGAs: Carbohydrates

- Choose fiber-rich fruits, vegetables, and whole grains.
- Choose and prepare foods and beverages with little added sugars or caloric sweeteners.

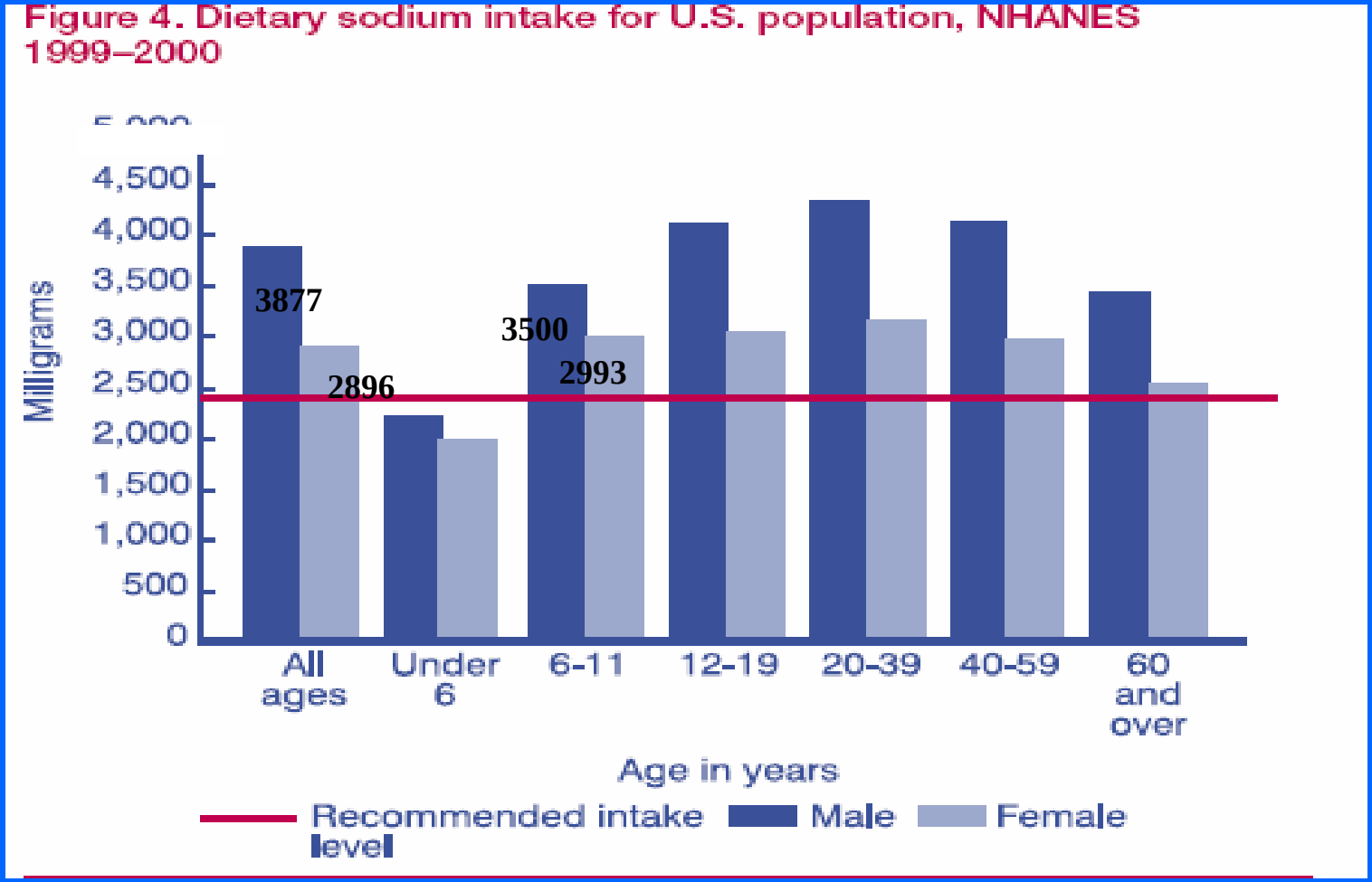
2005 DGAs: Sodium and Potassium

- Consume < 2,300 mg (~1 tsp. salt) of sodium per day.
- Choose and prepare foods with little salt.
- At the same time, consume potassium-rich foods, such as fruits and vegetables.

Specific Questions: NSLP/SBP Sodium

- Should a maximum level be set for sodium?
  - Previous DGAs have not recommended a specific value for sodium intake, rather to consume sodium in moderation
  - Both DGA 2005 and the Dietary Reference Intakes (DRI) now recommend a clear Tolerable Upper Intake Level (UL) for daily sodium intake
  - Data from the School Nutrition and Dietary Assessment Study-II (SNDA-II) indicate that high school lunches contain about 1,380 mg of sodium
    - ➔ if current DGA/DRI guidance is followed, the maximum amount of sodium allowable in a high school lunch would be about 770 mg (44% reduction)

Current Sodium Intake



Source: http://www.cdc.gov/nchs/data/nhanes/databriefs/calories.pdf

Adopting the 2005 Recommendations

To reflect the 2005 DGAs, school meals would need to:

- Meet nutrient and caloric standards that reflect the applicable Dietary Reference Intakes and DGA Recommendations for children and adolescents.
- Provide nutrient-dense meals that encourage consumption of fruits, vegetables, whole grains, and fat-free or low-fat milk, without exceeding energy needs.

Rule Making Process

- USDA assembled an internal working group to develop recommendations to revise program nutrition standards that reflect the relevant Dietary Guidelines.
- Group took into account:
  - Group feeding limitations
  - School food service logistics
  - Cost restrictions
  - Student acceptance
- Proposed rule now under development!

Additional Impacts

- Program Monitoring
- Program Guidance and Technical Assistance Materials
- Child and Adult Care Food Program Meal Patterns
- Food Distribution

Commodity Program Improvements:

Products are continually reviewed to ensure they support the *Dietary Guidelines for Americans*.

Improvements include:

- ✓Reduced fat processed cheese blend
- ✓Light Mozzarella Cheese
- ✓85% lean ground beef
- ✓90% lean ground beef patties
- ✓95% lean turkey ham
- ✓97% lean pork ham
- ✓Tuna canned in water
- ✓Canned fruits packed in juice or lite syrup
- ✓Reduced fat bakery mix
- ✓Whole wheat flour

Commodity Program Improvements:

- ✓ Many State Agencies are now using request driven methods to build commodity orders to met menu needs
- ✓ National Processing Agreement Program has centralized some administrative functions
- ✓ 50% + of commodities for NSLP are further processed
- ✓ 53% + (FY06) of commodities are fruit, vegetable and grain products

Commodity Program Improvements:
What's Next?

NSLP:

More whole grains please!

Whole grain spaghetti and macaroni

Brown Rice, Quick Cooking