

Important note to readers

- The “bell curve” slides in this presentation (slides number 20 & 21) were designed to simply give a non-technical audience in a few seconds a feel for the implications of the complicated analytical model recommended by the Institute of Medicine for assessing the percent of a population with inadequate (or excessive) intakes. Those seeking a more complete description of this assessment methodology should see the excellent description in *Dietary Reference Intakes: Applications in Dietary Assessment*. **Institute of Medicine, 2000**

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

Jay Hirschman, MPH, CNS
Director, Special Nutrition Staff
Office of Analysis, Nutrition and
Evaluation
USDA Food and Nutrition
Service

Clare Miller, MS, RD
Senior Nutritionist
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 2006-2007 Horizon

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

Nutrition Standards Governing FNS Programs

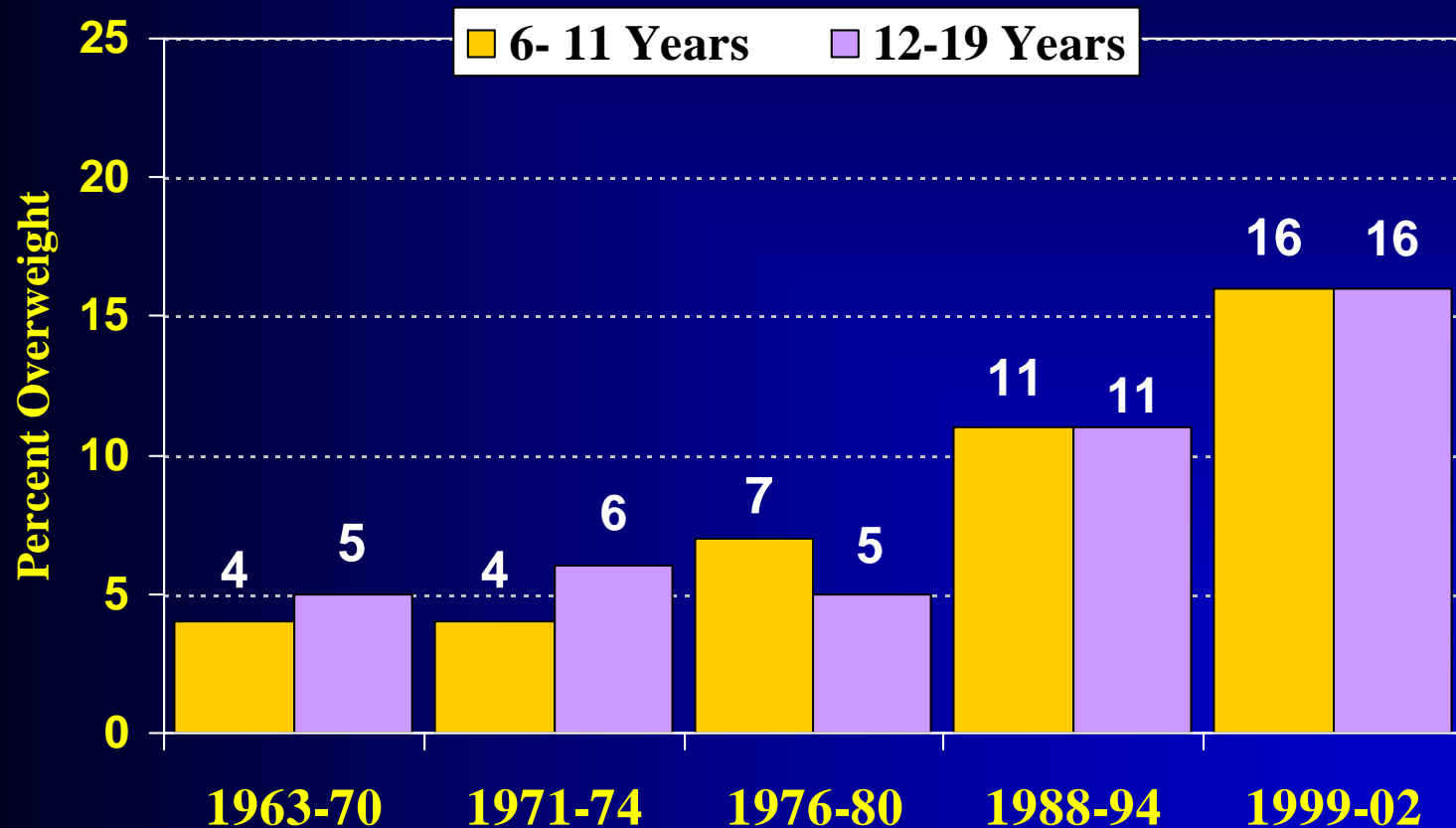
- **NSLP:** Meet 1/3 of the RDAs, and are consistent with goals of the DGA
- **SBP:** Meet 1/4 of the RDAs, and are consistent with the goals of the DGA
- **WIC:** Foods that promote the health of the population served...as indicated by relevant nutrition science, public health concerns, and cultural eating patterns
- **FSP:** Raise nutrition levels of low-income households; benefit levels are based on the cost of USDA's Thrifty Food Plan, a low-cost nutritious diet for a family of four persons

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
- Net Value of the Changes

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

NSLP/SBP: Reimbursable Meals

- Key issue is defining the food and nutrient requirements for a *reimbursable meal*
- **Reimbursable meals**
 - meals served through NSLP and SBP that meet the food and nutrient requirements outlined in regulation are eligible for federal reimbursements;
 - foods served outside of NSLP/SBP (e.g. a la carte, vending) are not reimbursable.

NSLP/SBP:

Current Requirements for Reimbursable Meals

- Nutrients in meals are averaged over a school week; weekly averages must meet regulatory standards
 - 1/3 of RDA for protein, calcium, iron, vitamin A and vitamin C at lunch; 1/4 of RDA for these nutrients at breakfast
 - Appropriate level of calories for age/grade groups
 - Consistent with the DGA
 - Limit the percent of calories from total fat to 30% of the actual number of calories offered
 - Limit the percent of calories from saturated fat to less than 10% of the actual number of calories offered
 - Reduce sodium and cholesterol levels
 - Increase the level of dietary fiber

NSLP/SBP: Current Requirements for Reimbursable Meals

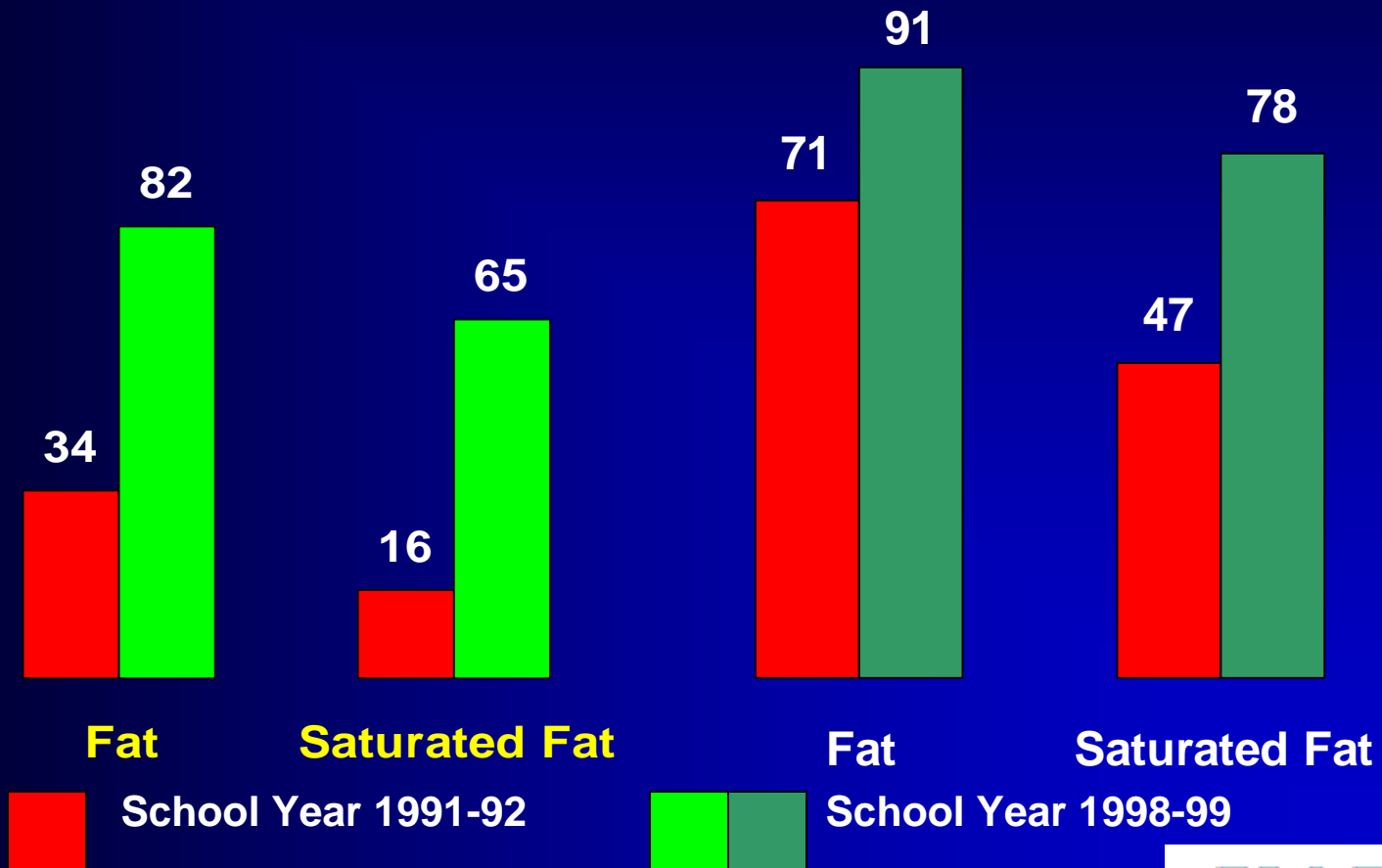
- Four menu planning options
 - Two food-based systems
 - schools must *offer* at least five food items
 - specified quantities of milk, meat/meat alternates, fruits/vegetables, and grains
 - Two nutrient-based systems
 - reimbursable meals must contain a minimum of three menu items
 - specific food requirements include an entrée and fluid milk
- Offer vs. Serve (OVS)
 - Students may refuse certain menu items, as long as they accept the minimum number of components

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 10 to 35% of schools

Elementary Schools

Secondary Schools

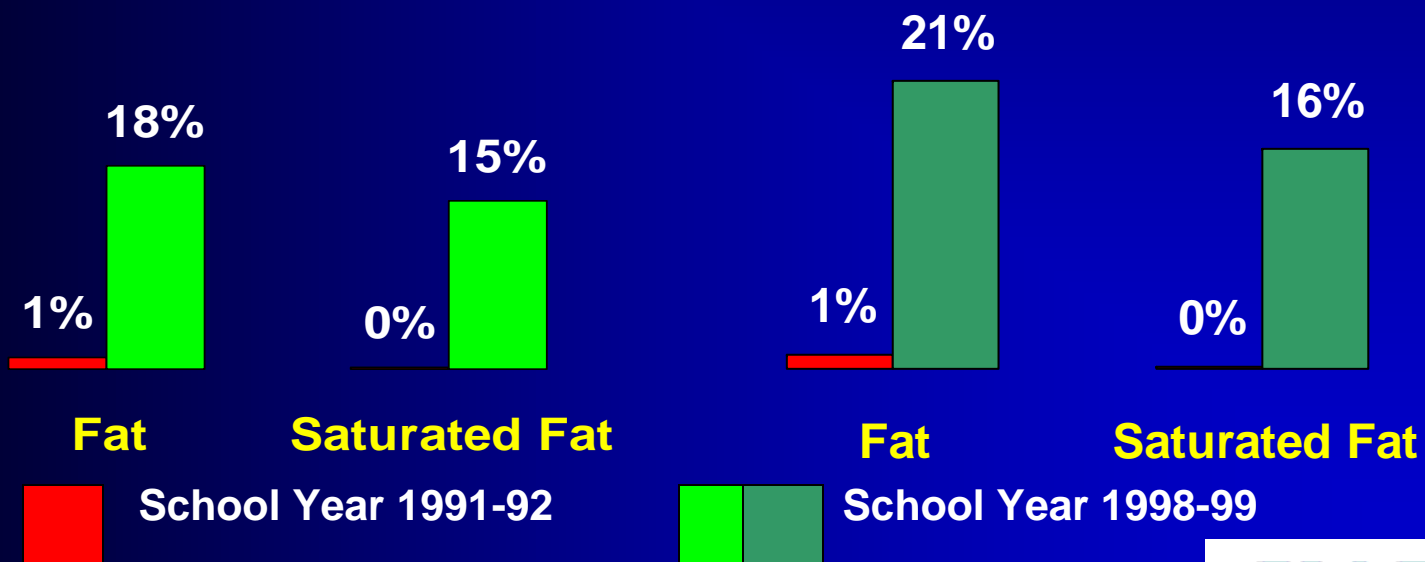


In 1998-99, More Schools Met the Fat and Saturated Fat Standards for Lunches Offered on Average...

but most schools were not “there” yet

Elementary Schools

Secondary Schools

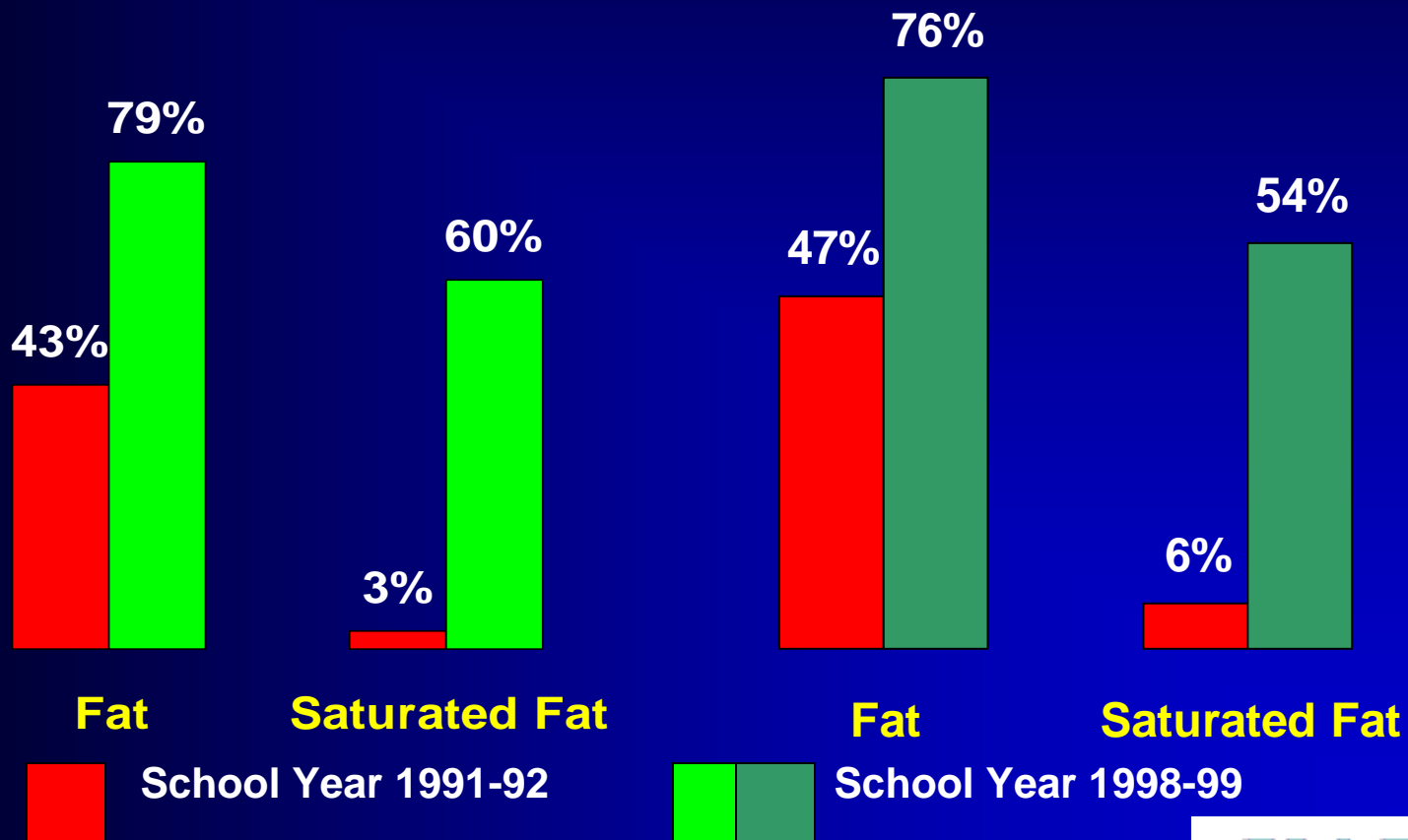


In 1998-99, More Schools Met the Fat and Saturated Fat Standards for Breakfasts

Offered on Average...but 1/4 to 1/2 still needed to improve

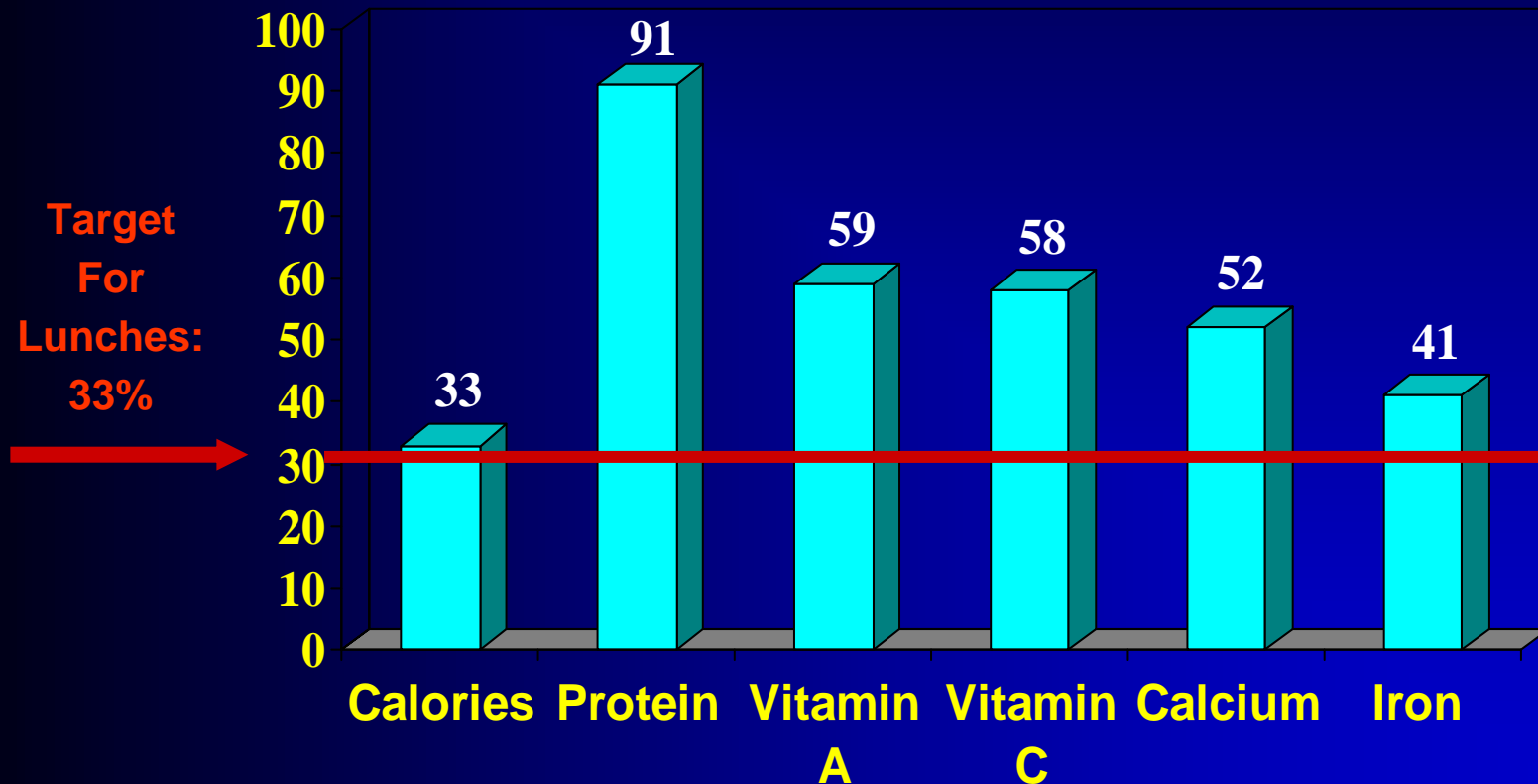
Elementary Schools

Secondary Schools



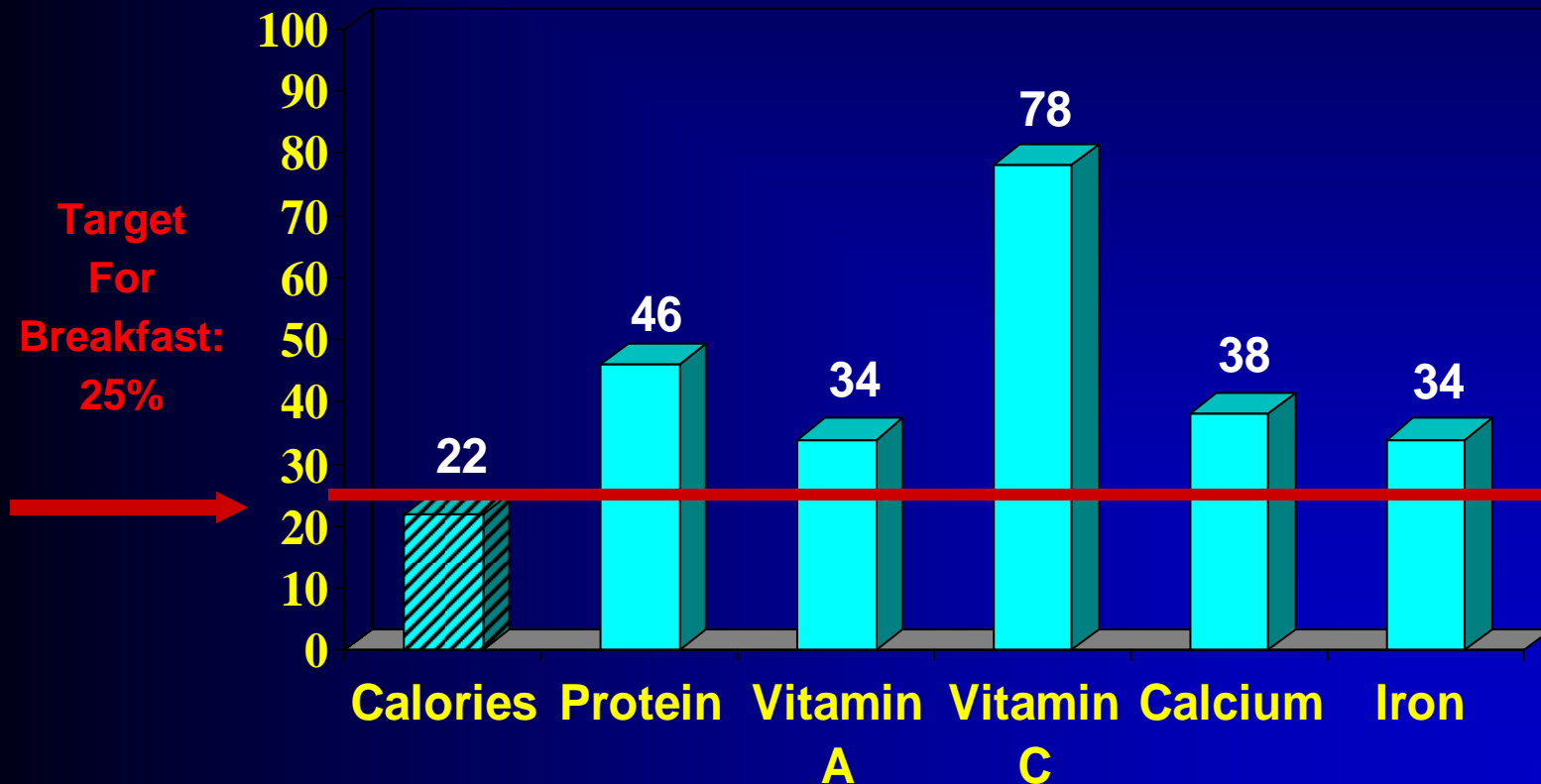
NSLP Lunches Are (still) Nutritious Provide One-third Or More Of The Daily RDA

Percent of 1989 RDA



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

Percent of 1989 RDA



Why is change needed?

A Bit of History on the Recommended Dietary Allowances (RDAs)

- First 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

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?

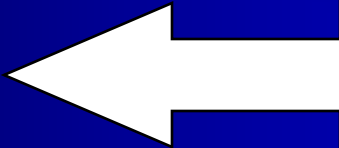
Dietary Reference Intakes: A New Approach to RDAs

- **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**

*not including two additional reports on
uses of the DRIs in assessment and planning*

Why is change needed?

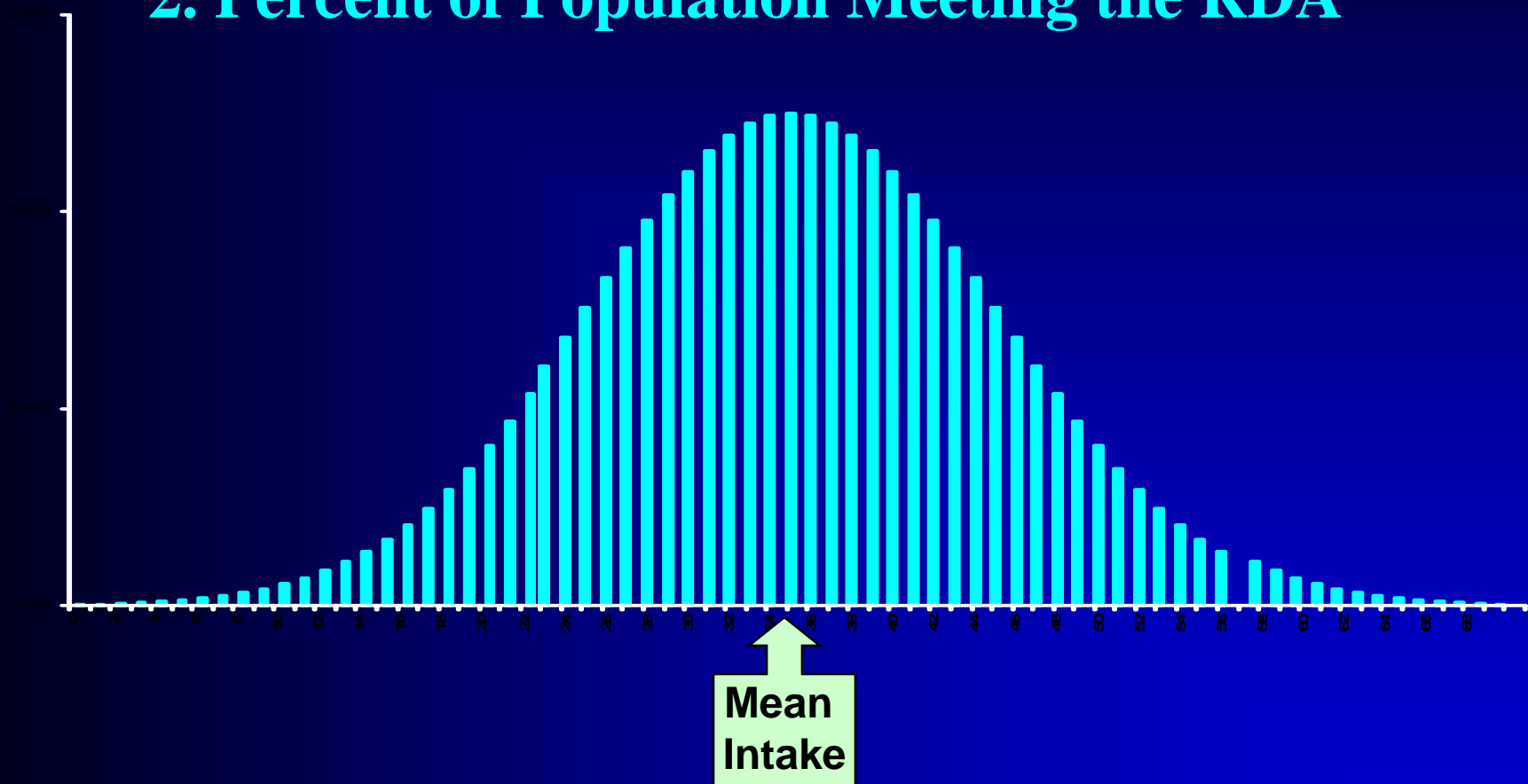
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- 1968: 101 pages
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- **DRIs 1997-2002:**
 - 4,223 pages



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

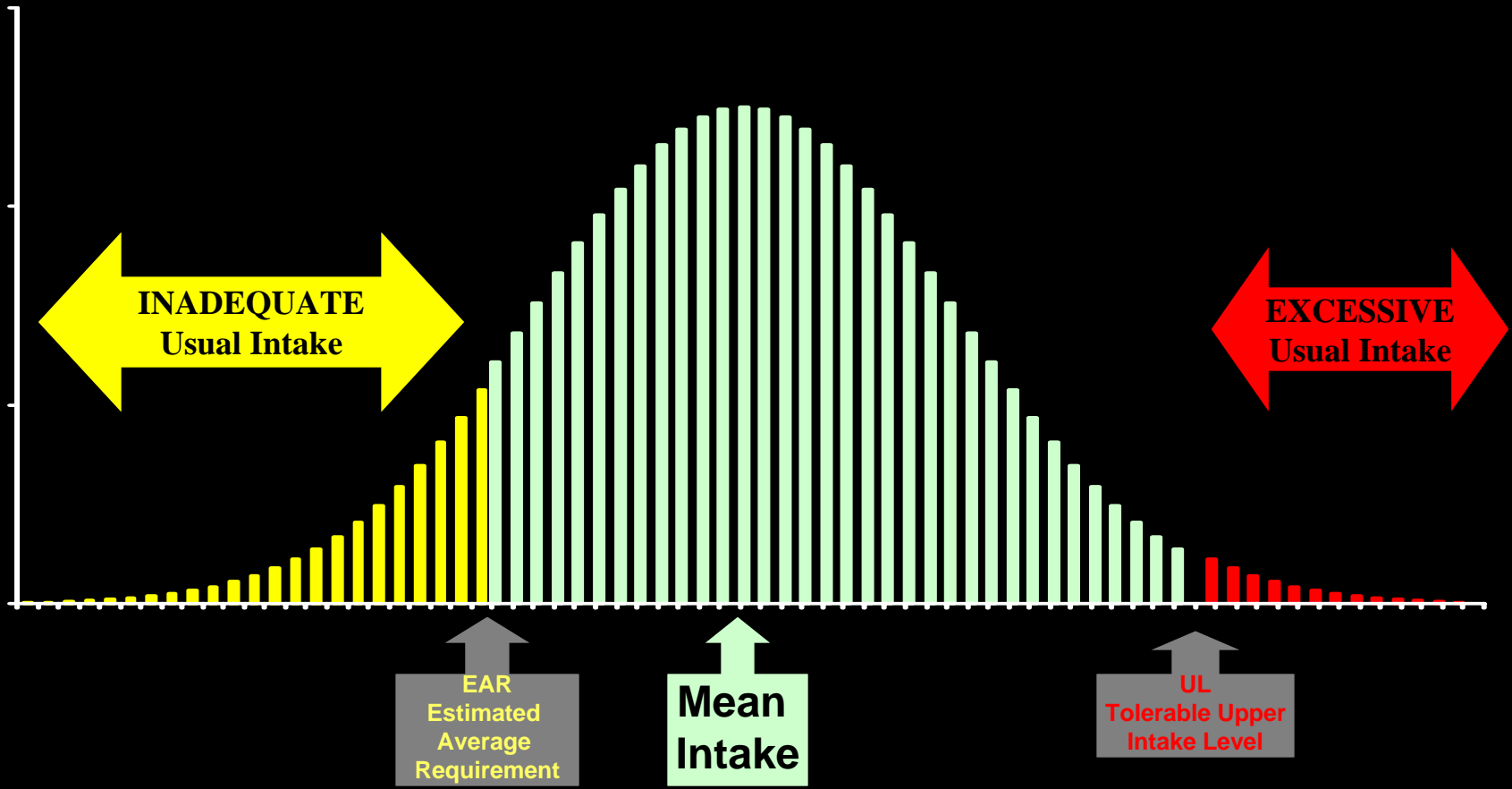
The Old RDA Approach

1. Mean Intake as Percent of RDA
2. Percent of Population Meeting the RDA



DRI Paradigm Shift

Assessing *Percent Inadequate* or
Percent Excessive
Not Just Mean Intake

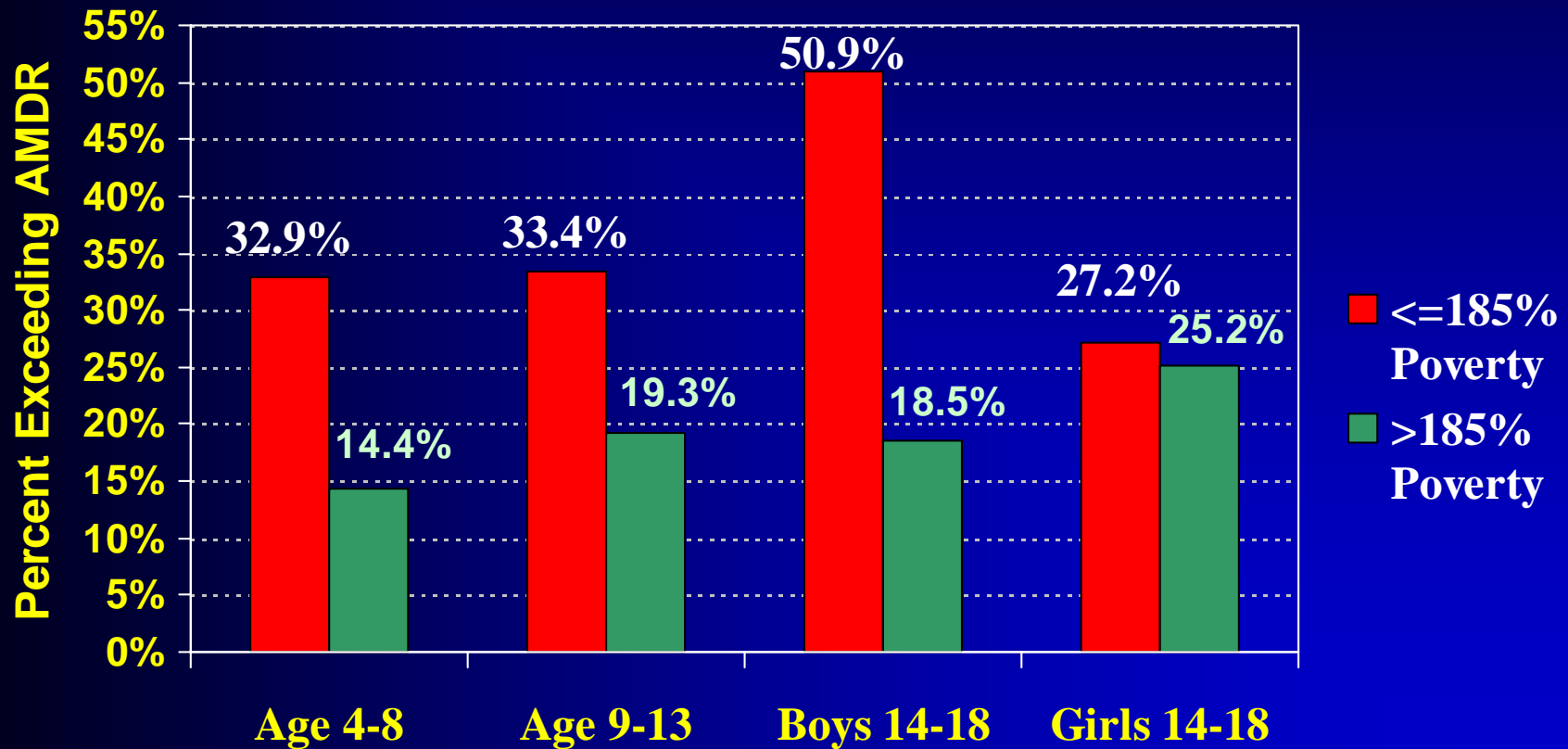


DRI Paradigm Shift

Assessing Percent Inadequate or Excessive Not Just Mean Intake

TOTAL FAT in 1994-96 + 1998 by Poverty Level

**Percent of School-Aged Children With Excessive Usual Intake of
Percent of Calories from Total Fat**

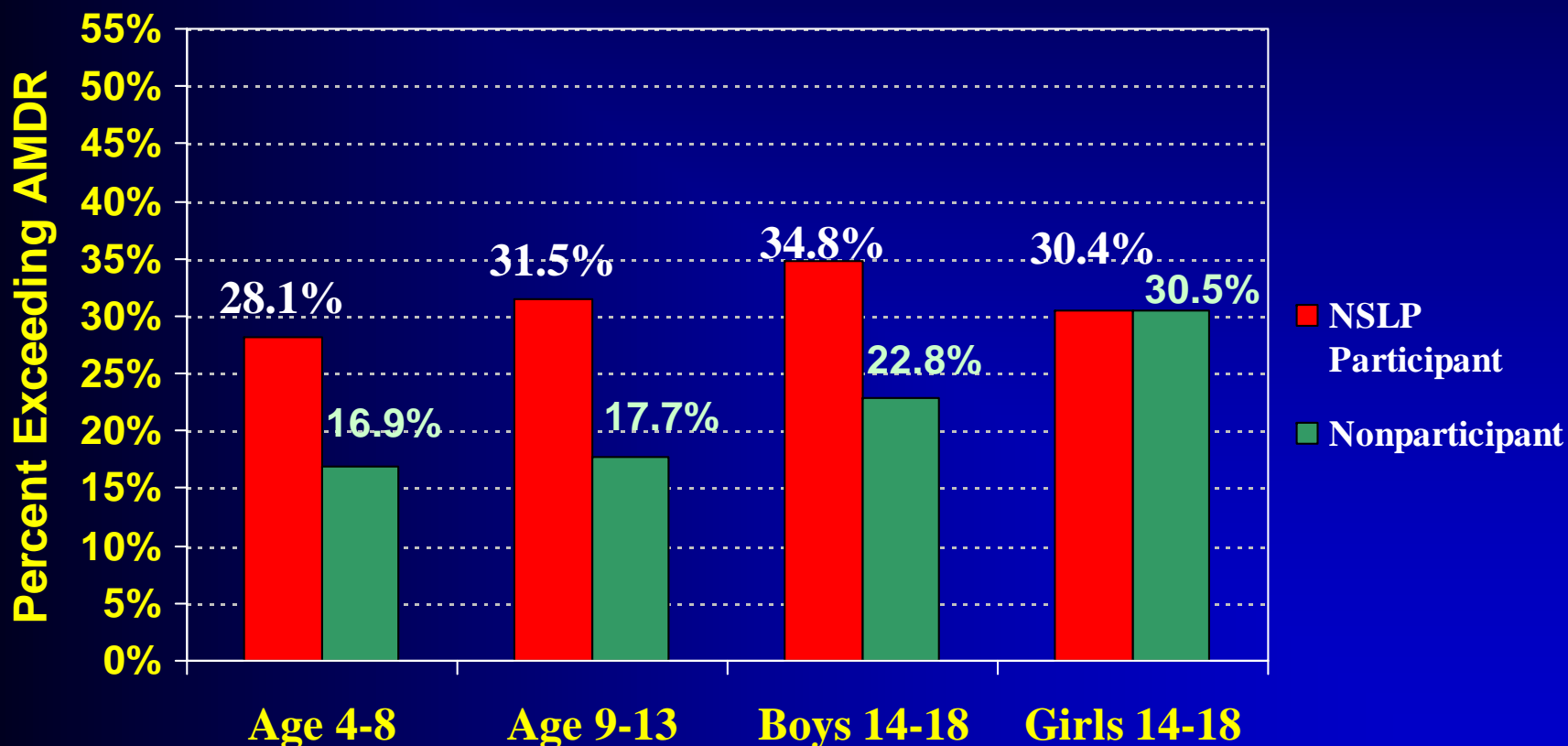


DRI Paradigm Shift

Assessing Percent Inadequate or Excessive Not Just Mean Intake

TOTAL FAT in 1994-96 + 1998 by NSLP Participation

Percent of School-Aged Children With Excessive Usual 24-Hour Intake of Percent of Calories from Total Fat by NSLP Participation

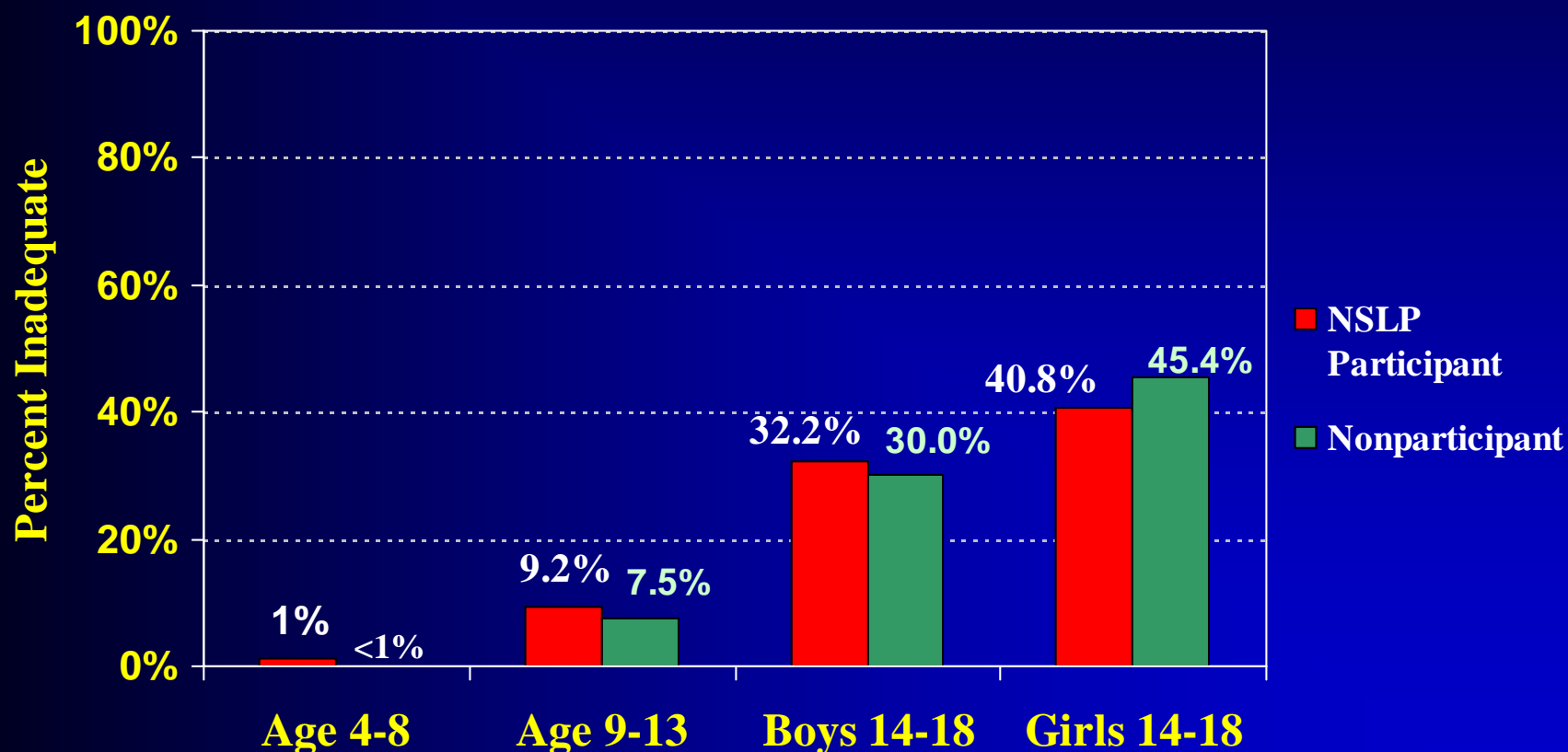


DRI Paradigm Shift

Assessing *Percent Inadequate or Excessive* Not Just Mean Intake

Vitamin A 1994-96 + 1998 by NSLP Participation

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

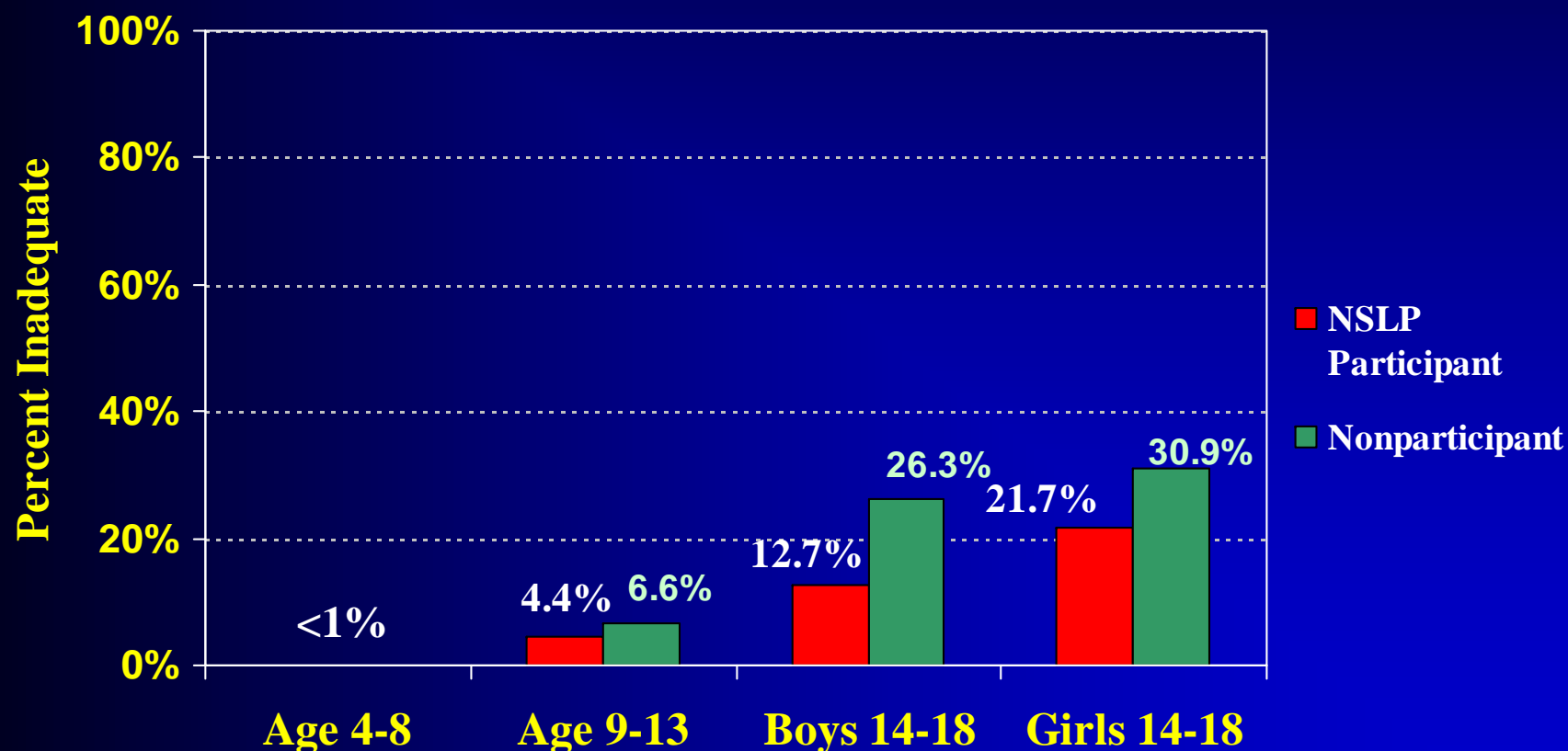


DRI Paradigm Shift

Assessing *Percent Inadequate or Excessive* Not Just Mean Intake

Vitamin C 1994-96 + 1998 by NSLP Participation

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

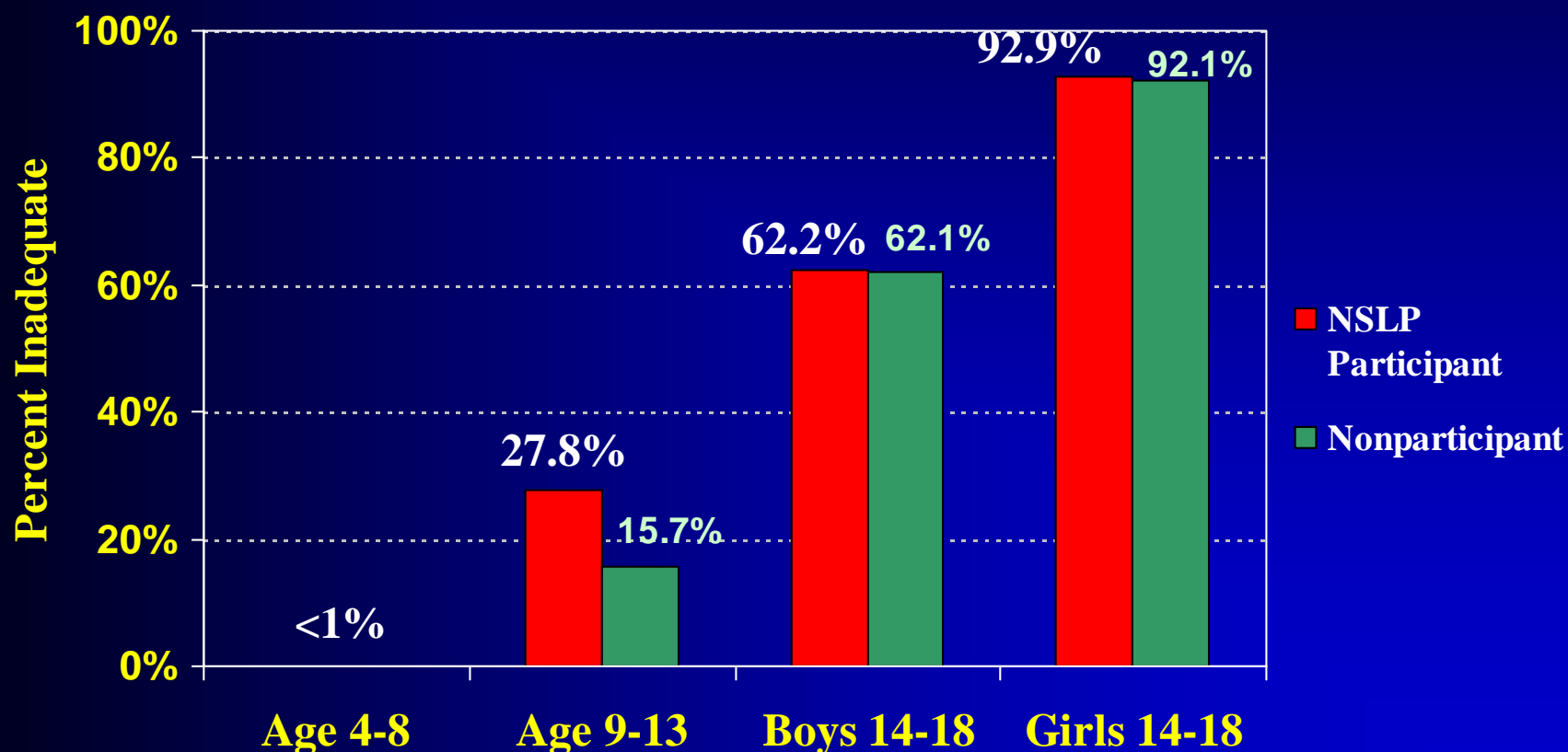


DRI Paradigm Shift

Assessing *Percent Inadequate or Excessive* Not Just Mean Intake

MAGNESIUM 1994-96 + 1998 by NSLP Participation

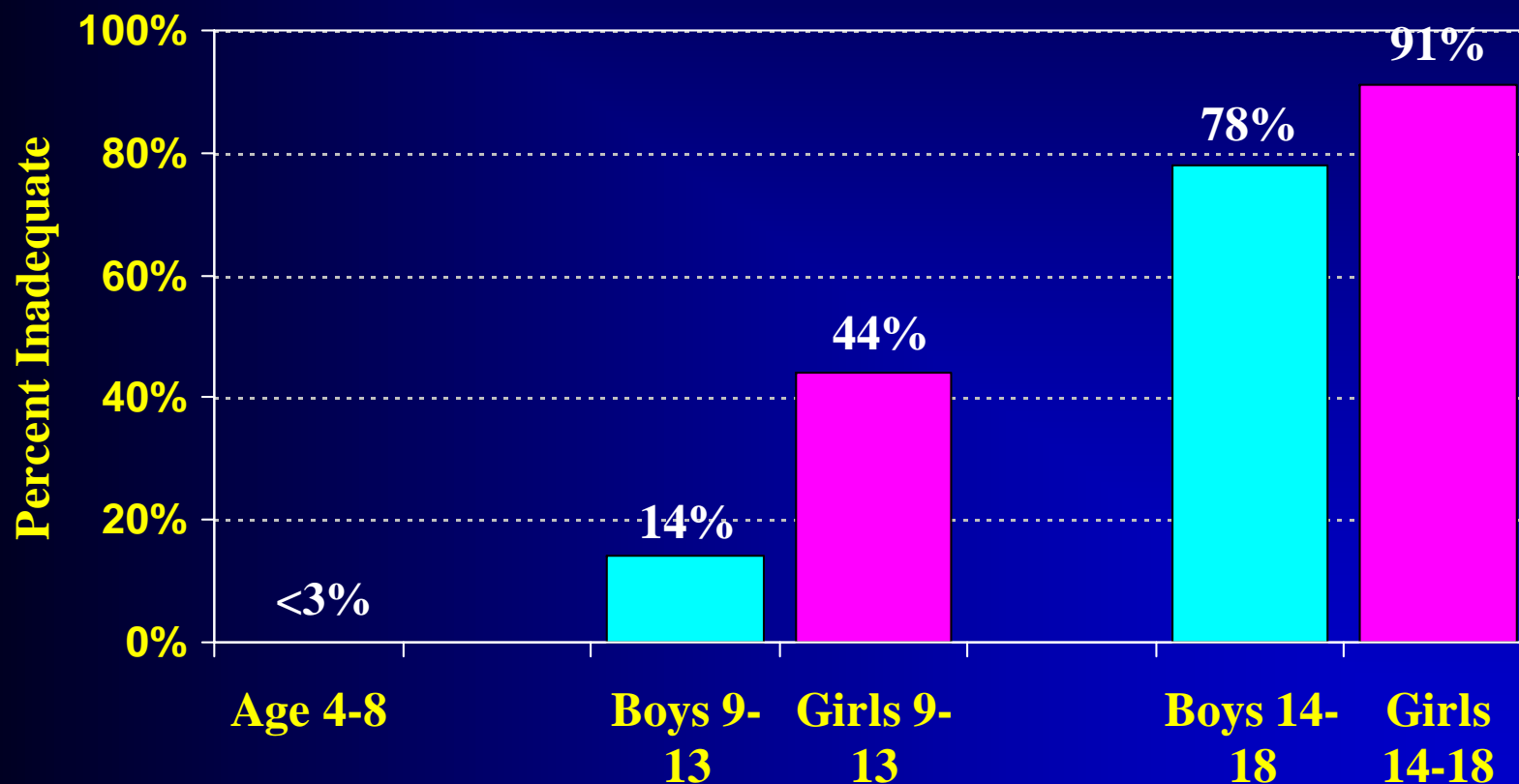
Percent of School-Aged Children With Inadequate Usual Intake of Magnesium



Percent Inadequate
How are children doing?
2001-2002

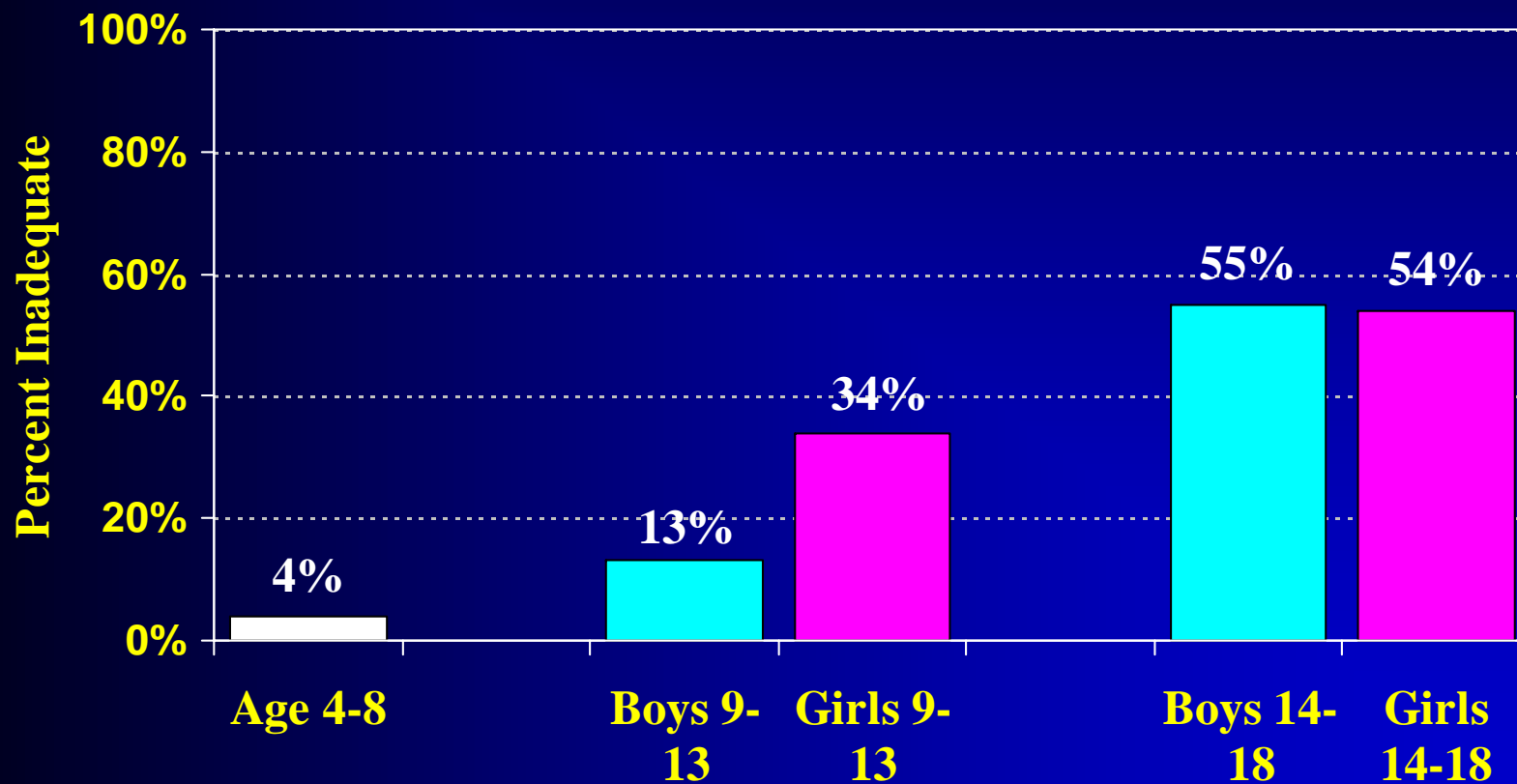
Percent Inadequate: Magnesium 2001-2002

Percent of School-Aged Children With Inadequate Usual Intake of Magnesium



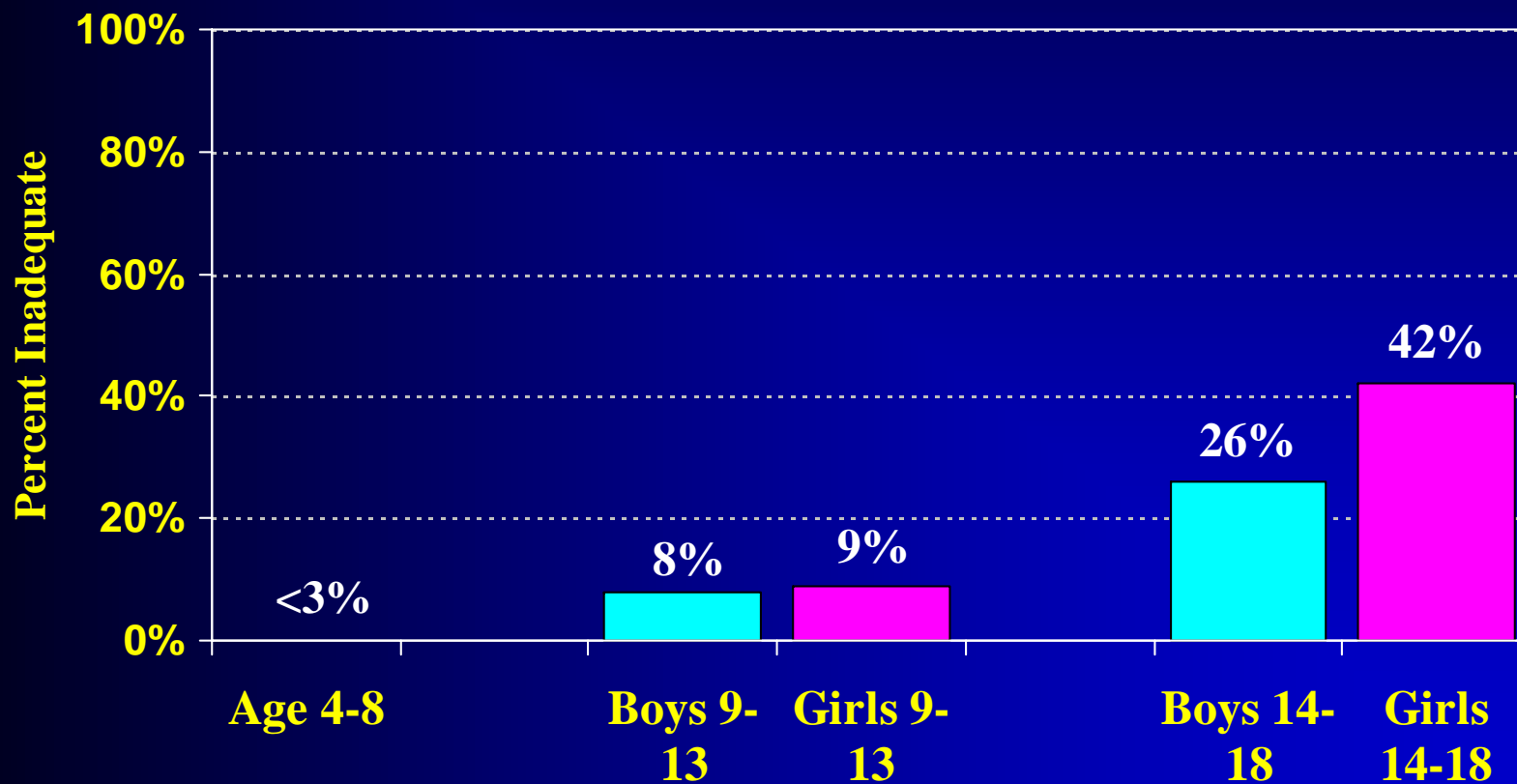
Percent Inadequate: Vitamin A 2001-2002

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



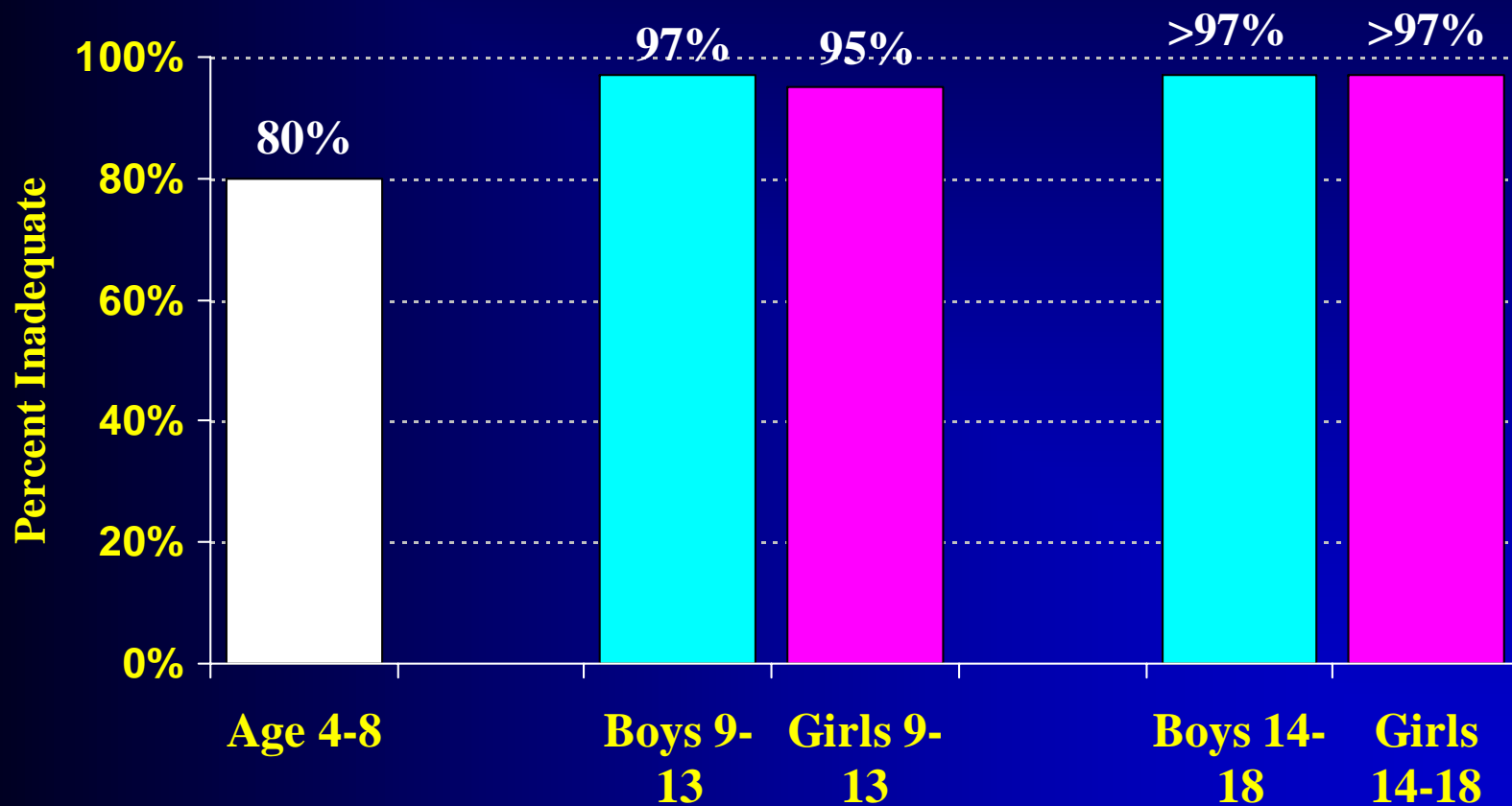
Percent Inadequate: Vitamin C 2001-2002

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



Percent Inadequate: Vitamin E 2001-2002

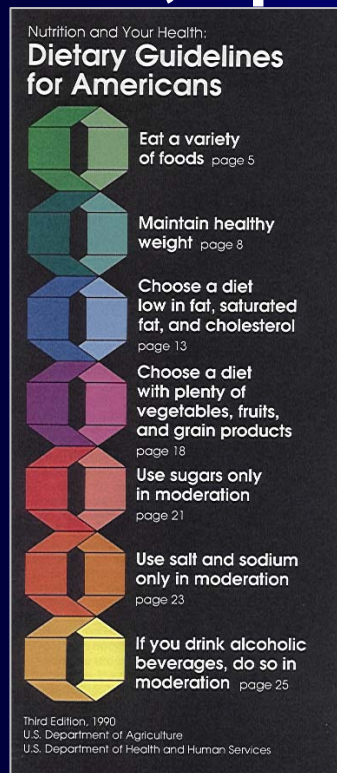
Percent of School-Aged Children With Inadequate Usual Intake of Vitamin E



Why is Change Needed?

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

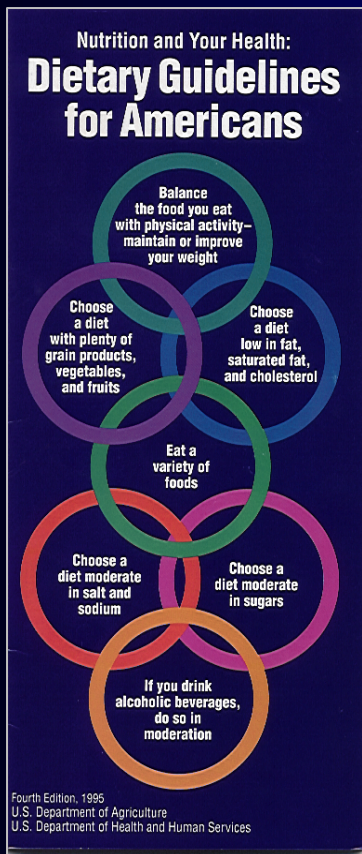
- First issued in 1980 by USDA and DHHS
- By law, updated every 5 years



- 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)

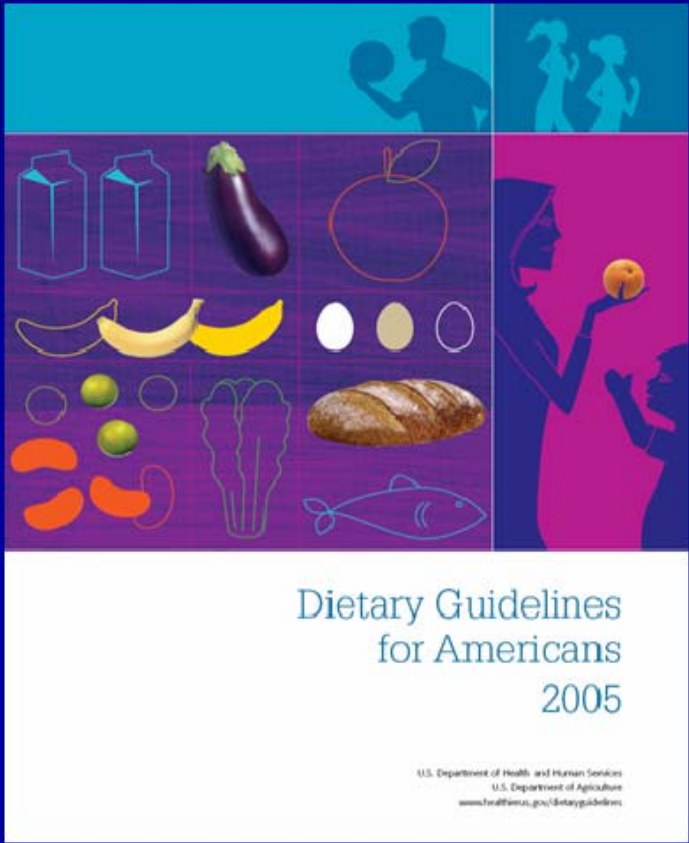
Why is Change Needed?

The New Dietary Guidelines for Americans (DGAs)



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

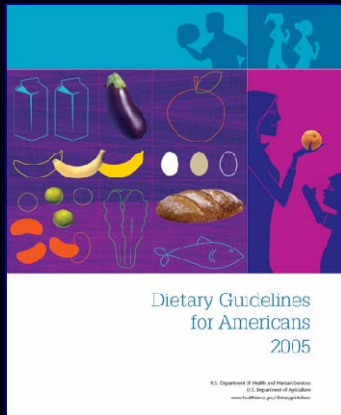
2005 DGAs
10 years
newer;
Reflect
the DRIs



Why is Change Needed?

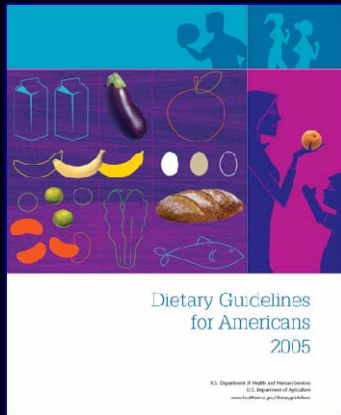
The 2005 Dietary Guidelines for Americans (DGAs)

- **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



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



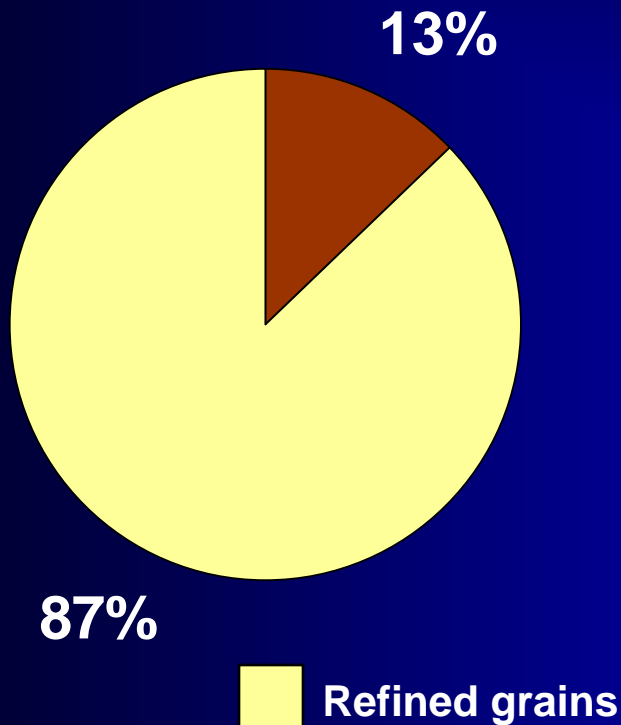
Basic premises of the Dietary Guidelines...

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

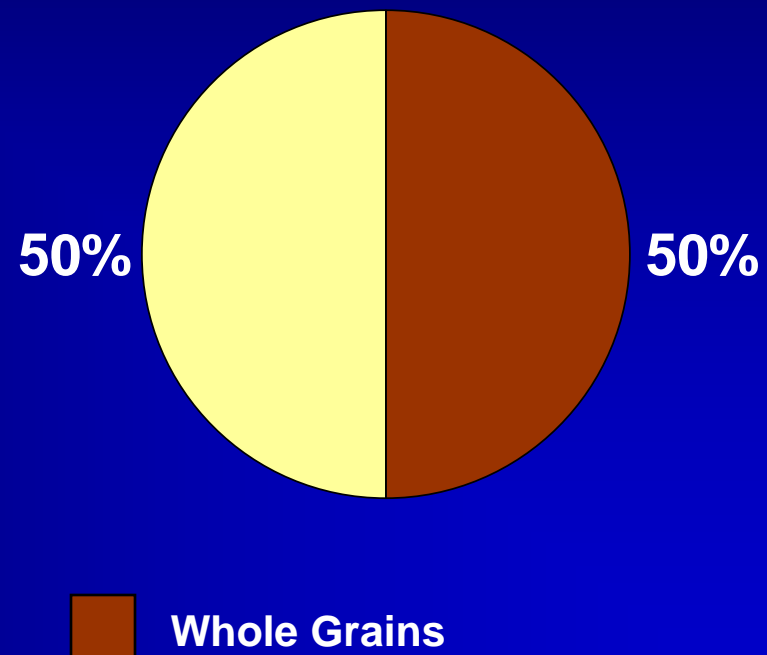
“...nutrient needs should be met primarily through consuming foods.”

Grain Recommendations Compared to Consumption

Consumed*

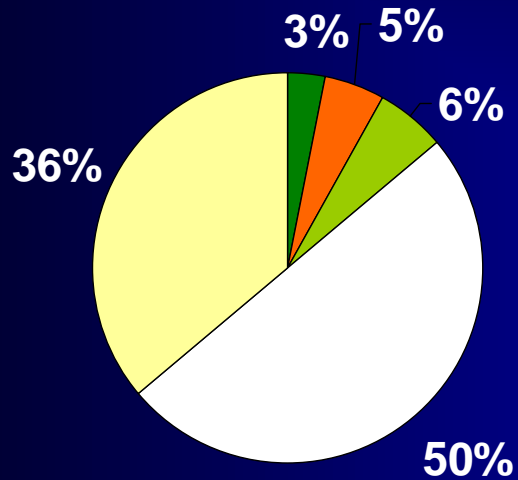


Recommended

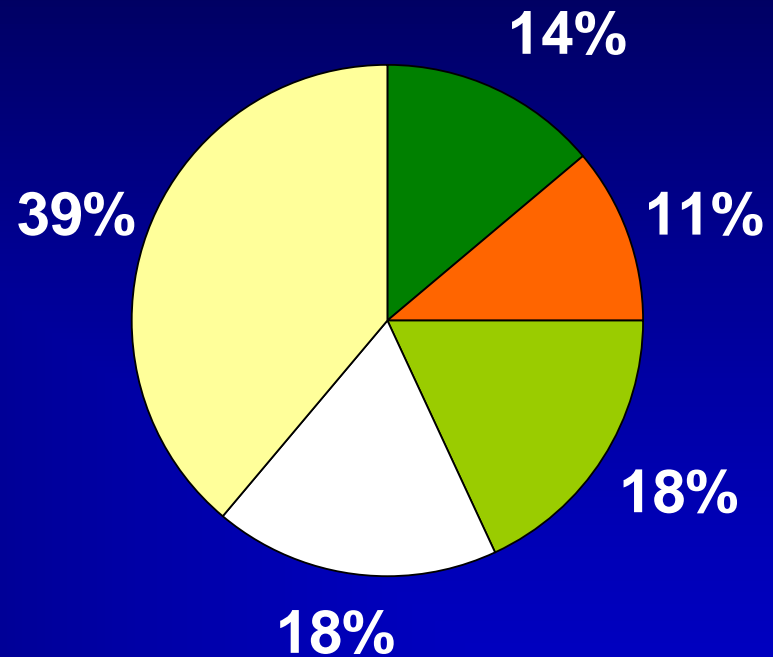


Vegetable Recommendations Compared to Consumption

Consumed*

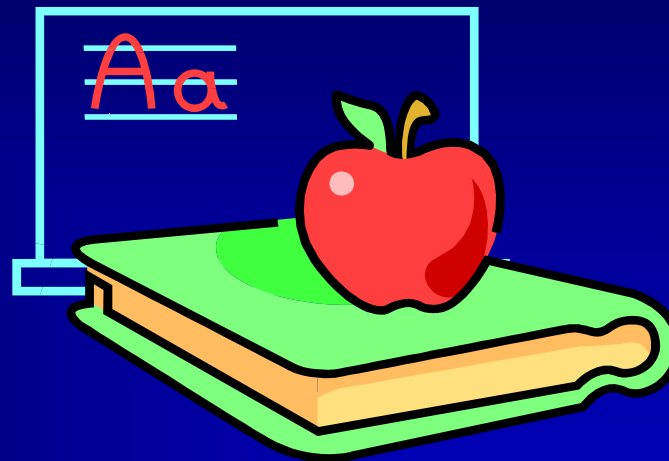


Recommended

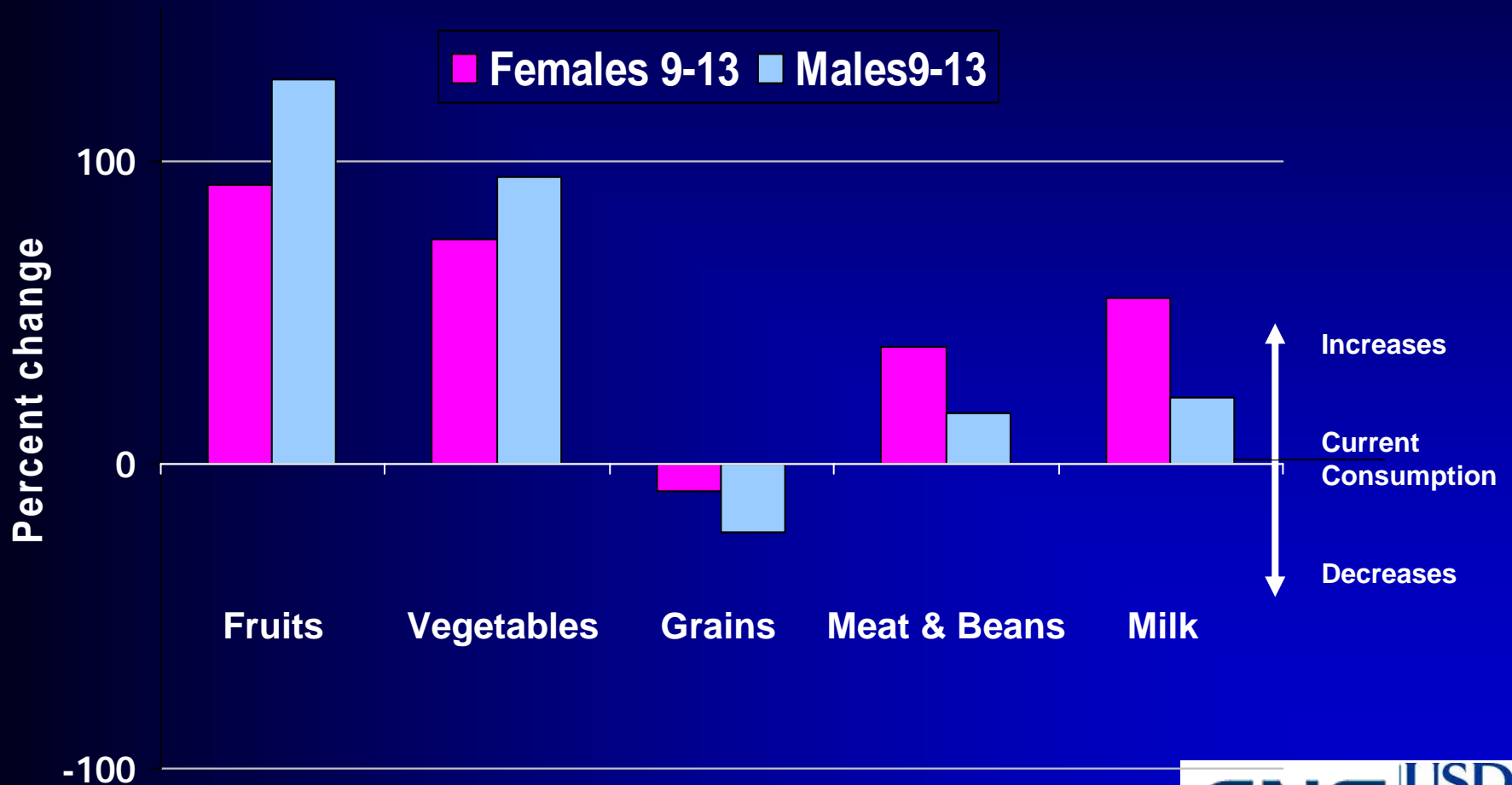


Nutrients of Concern for Children

- Calcium
- Potassium
- Fiber
- Magnesium
- Vitamin E



MyPyramid Recommendations Compared to Consumption*



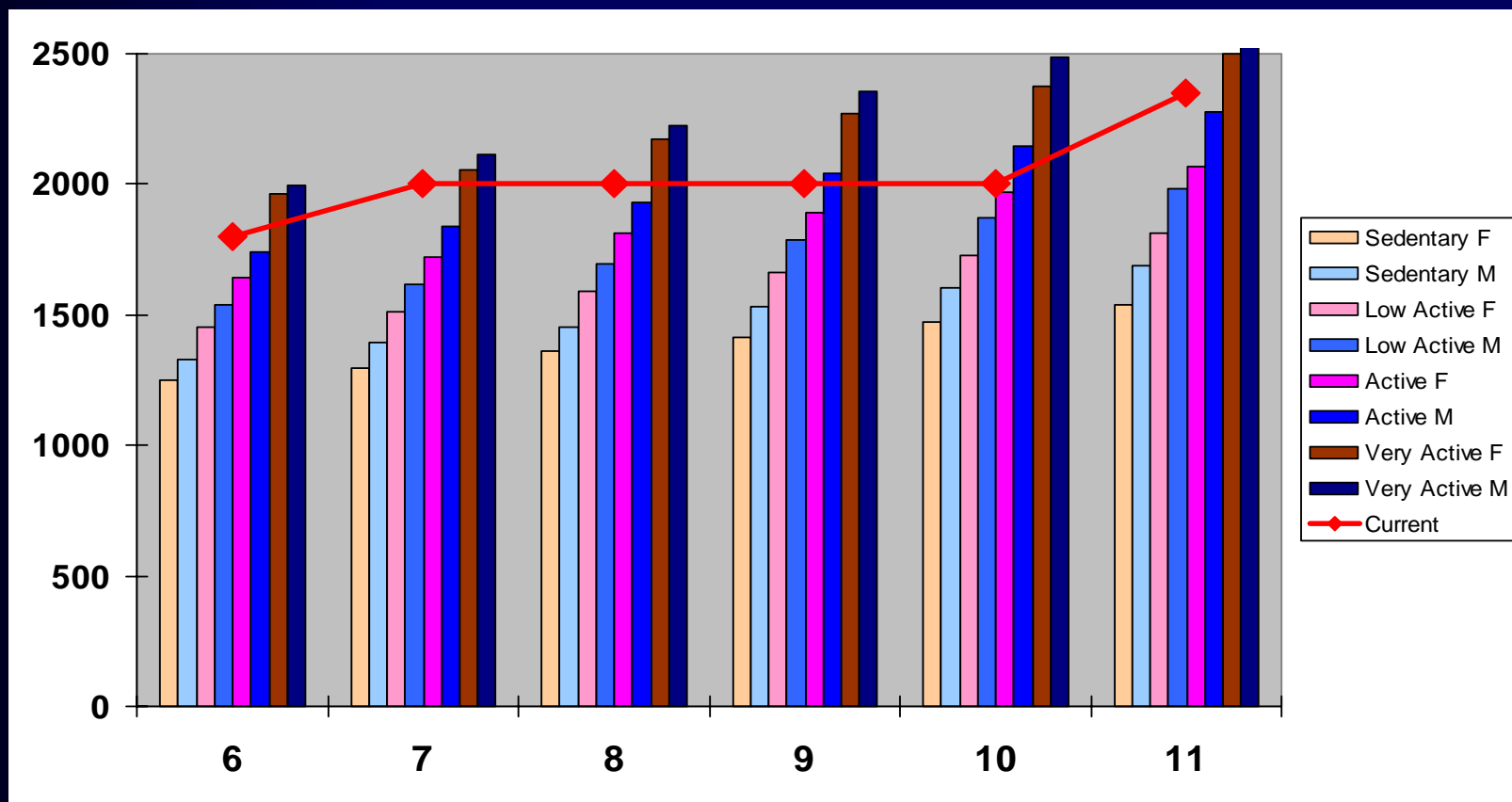
Specific Questions: NSLP/SBP Calories

- 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.

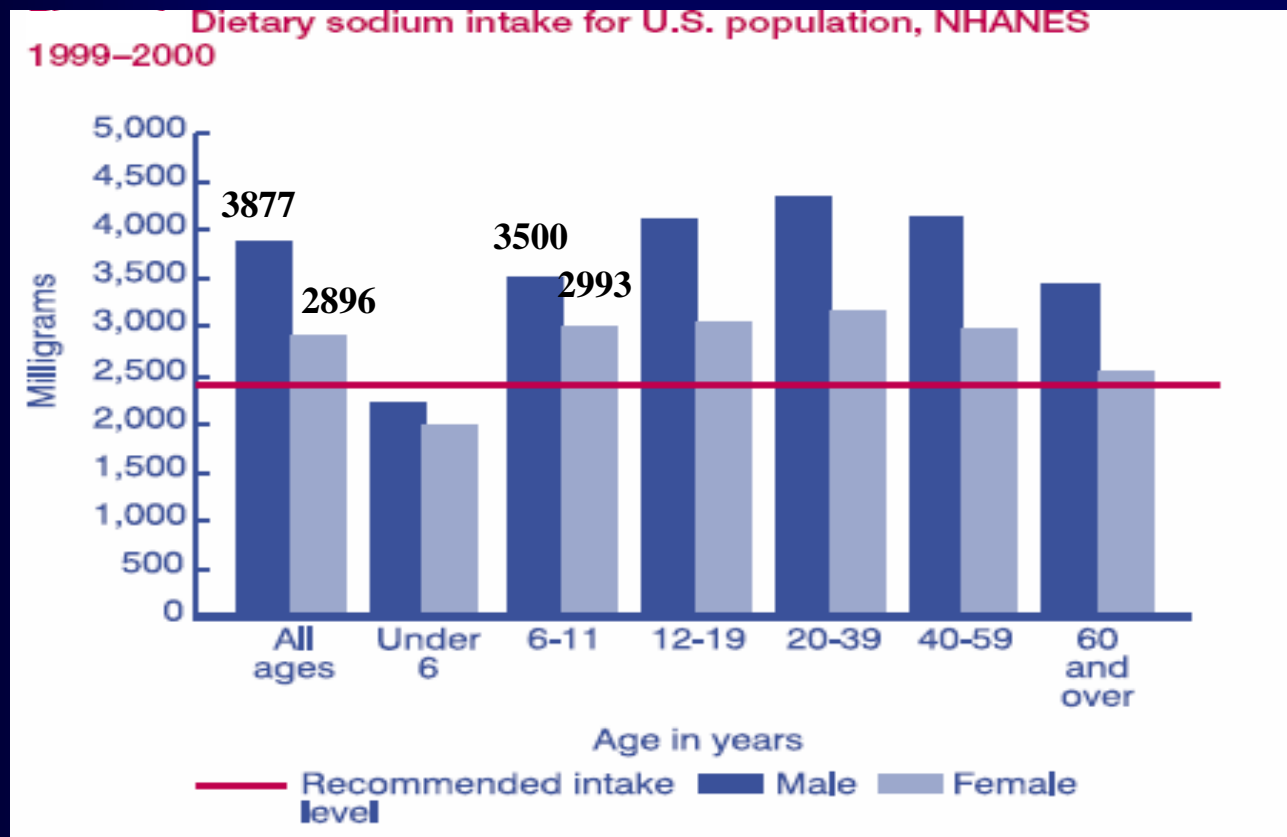
Current Basis for NSLP/SBP Calories



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:

44 <http://www.cdc.gov/nchs/data/nhanes/databriefs/calories.pdf>

Specific Questions: NSLP/SBP *Trans* Fats

- **Should a maximum level 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 will be added to the nutrition facts panel of food products in January, 2006
 - Challenge in minimizing planning & monitoring requirements while following DGA

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
 - X **6 to 8 g of fiber at breakfast**
 - X **7 to 11 g at lunch**depending on the age group being served

Specific Questions: NSLP/SBP

- **Which nutrients should be regulated?**
 - Three of the “nutrients of concern” for children in the 2005 DGA are not on the nutrition facts panel
 - magnesium
 - potassium
 - vitamin E
 - Challenge:
 - determining which nutrients are the best “proxies” for overall diet quality among school children
 - how to reliably estimate the content of nutrients not on the nutrition facts panel of school foods

FNS Program Considerations Beyond the DGA

- Reducing the prevalence of inadequate and excessive nutrient intakes among participants (DRI)
 - including reducing excess calories that contribute to overweight and obesity
- Foods are readily acceptable, widely available and commonly consumed; take into account cultural food preferences; and provide incentives for program participation
- Program design must facilitate good management and integrity
- *And in the non-school programs...* Foods are available in forms suitable for low-income persons who may have limited transportation, storage, and cooking facilities

