

State of the American Diet

Jill Reedy, PhD, MPH, RD
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Objectives

- ▶ Insights into the American Diet
- ▶ Methods and examples
- ▶ Recent developments



Objectives

- ▶ Insights into the American Diet



How is the US population eating relative to dietary recommendations?

- ▶ Identify the proportion of the population above or below recommendations of food groups based on usual intake distributions
- ▶ <http://riskfactor.cancer.gov/diet/usualintakes/pop/>



What is the US population eating relative to dietary recommendations?

- ▶ Identify what foods contribute to energy and food group intake using as-eaten food categories
- ▶ http://riskfactor.cancer.gov/diet/foodsources/food_groups/



Unique aspects of 2010 Dietary Guidelines

- ▶ Framed recommendations in reference to population intakes (Chapters 2-4)
 - ▶ Food and nutrients to **increase**
 - ▶ Food and food components to **reduce**
- ▶ Addressed food access and the food environment (Chapter 6)
 - ▶ Identify targets for changes

How is the population eating relative to dietary recommendations?

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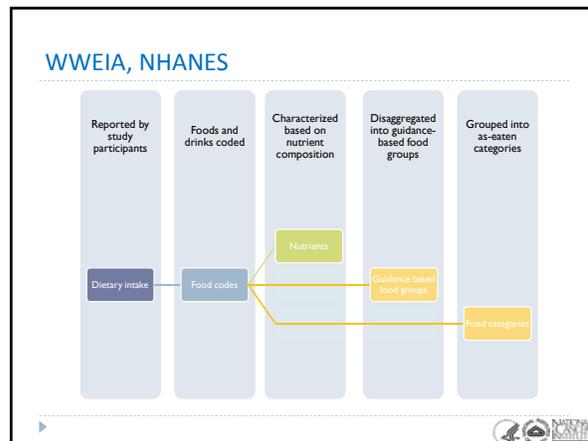


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Objectives

- ▶ Insights into the American Diet
- ▶ Methods and examples
 - ▶ Data: What We Eat In America, National Health and Examination Survey (WWEIA, NHANES)
 - ▶ How we eat: usual intake distributions
 - ▶ What we eat: top food sources



Nutrients: Food and Nutrient Database for Dietary Studies

Energy
Protein
Potassium

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Guidance-Based Food Groups: MyPyramid Equivalents Database (MPED) and Food Patterns Equivalents Database (FPED)

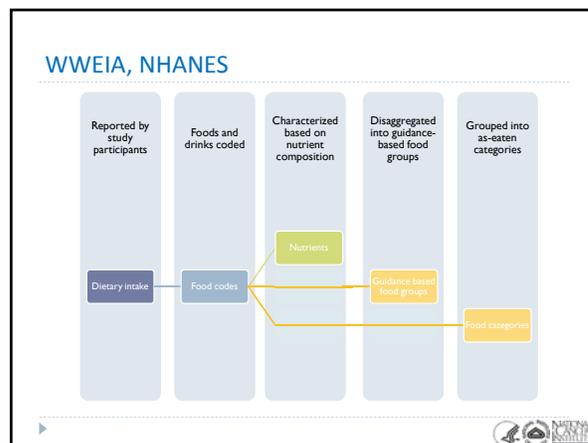
Whole Grains
Added Sugars

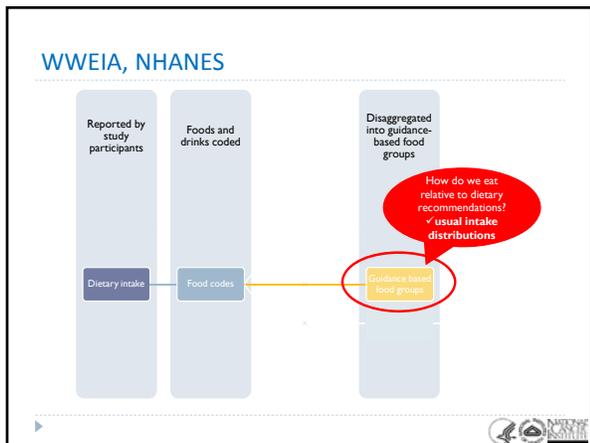
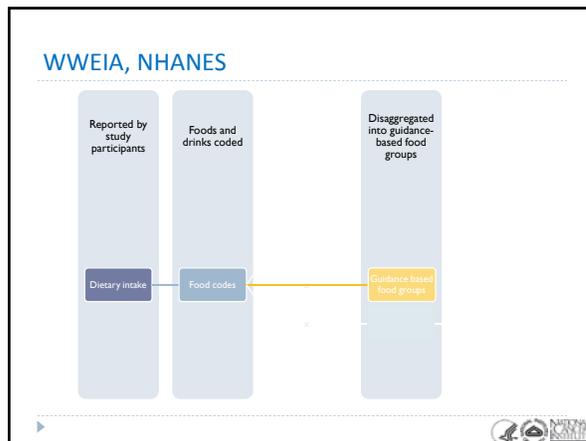
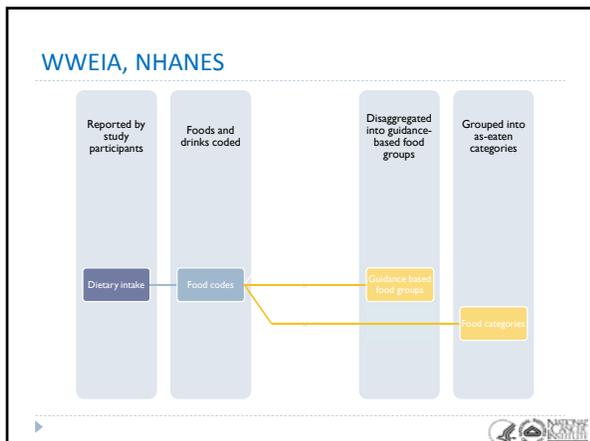
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Food categories: NCI Food Categories; WWEIA Food Categories

Cereal
Skim milk

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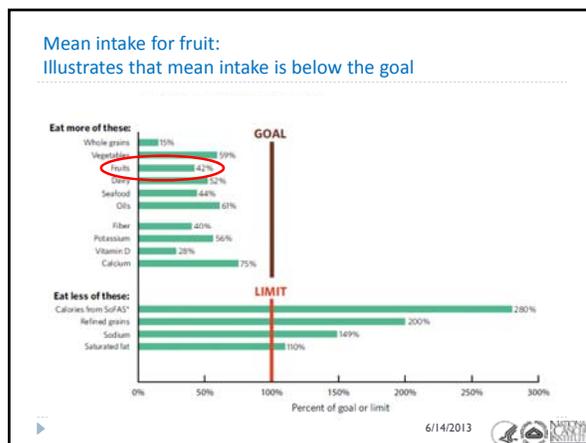


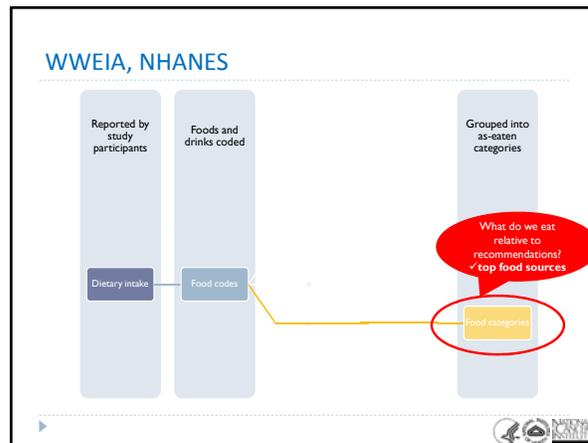
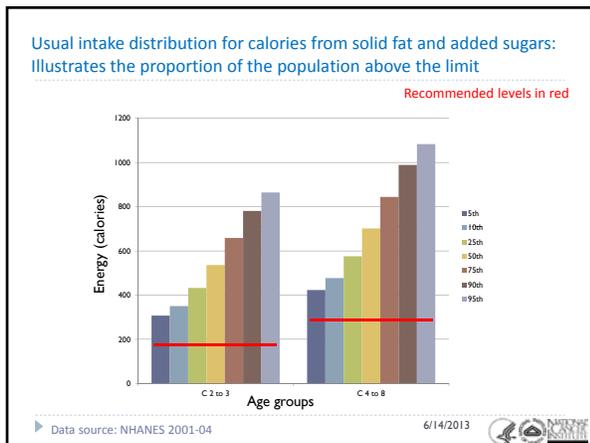
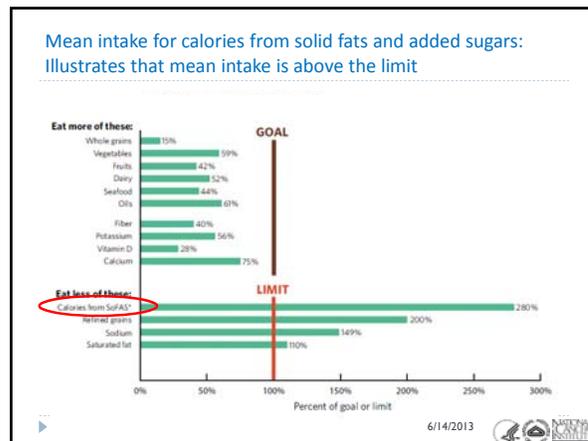
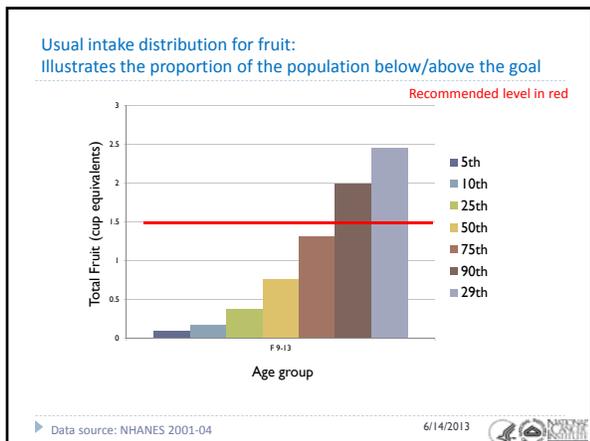
How is the US population eating relative to dietary recommendations?

- ▶ Identify the proportion of the population above or below recommendations of food groups based on usual intake
- ▶ Estimate usual intake and usual intake distributions
 - ▶ Individuals do not eat the same thing day-to-day, week-to-week, or season-to-season, so a 24-hour recall provides only a "snapshot" of time. Thus, the NCI method was developed to estimate usual intake, or the "long-run average" daily intake of a food. The concept of "usual intake" is important because recommendations are intended to be met over time.

<http://riskfactor.cancer.gov/diet/usualintakes/>

- ### Usual Intake Distributions
- Tables for US Population, 2001-04
- ▶ Citrus, melon, berries
 - ▶ Other fruit
 - ▶ Total fruit
 - ▶ Dark green vegetables
 - ▶ Orange vegetables
 - ▶ Legumes
 - ▶ Potatoes
 - ▶ Other starchy vegetables
 - ▶ Tomatoes
 - ▶ Other vegetables
 - ▶ Total vegetables
 - ▶ Whole grains
 - ▶ Non-whole grains
 - ▶ Total grains
 - ▶ Oils
 - ▶ Discretionary solid fat
 - ▶ Added sugars
 - ▶ Milk
 - ▶ Yogurt
 - ▶ Cheese
 - ▶ Total milk, yogurt, cheese
 - ▶ Meat
 - ▶ Frankfurters, sausage, luncheon meats
 - ▶ Poultry
 - ▶ Fish high in omega-3 fatty acids
 - ▶ Fish low in omega-3 fatty acids
 - ▶ Eggs
 - ▶ Soybean products
 - ▶ Nuts and seeds
 - ▶ Total meat and meat alternates
 - ▶ Alcohol
 - ▶ And more...
- Tables available at: riskfactor.cancer.gov/diet/usualintakes/pop/ 6/14/2013





What is the US population eating relative to dietary recommendations?

- Identify what foods contribute to energy and food group intake
- Estimate top food sources using food categories
 - Food codes representing similar foods were combined into mutually exclusive food categories to provide an indication of the contribution of foods as-eaten to the intake of the dietary component being studied. NCI's 97 food categories were used for 2010; USDA now has a new standardized system with 150 food categories.
 - Rankings depend in part on how ubiquitously the specific food is consumed. Foods that are the richest sources are not necessarily the major contributors. Because some foods are commonly consumed in the population they result in a significant contribution to the total intake.

http://riskfactor.cancer.gov/diet/foodsources/food_groups/

Data source: NHANES 2001-04

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NCI Food Categories; WWEIA Food Categories

Figure 1. List of specific foods, based on groupings that have been used in 2005-2010 National Health and Nutrition Examination Survey. "Food codes" are the codes used in the NHANES survey to identify specific foods. "Food categories" are the codes used in the NCI Food Categories system. "Food categories" are the codes used in the WWEIA Food Categories system. "Food categories" are the codes used in the NCI Food Categories system. "Food categories" are the codes used in the WWEIA Food Categories system.

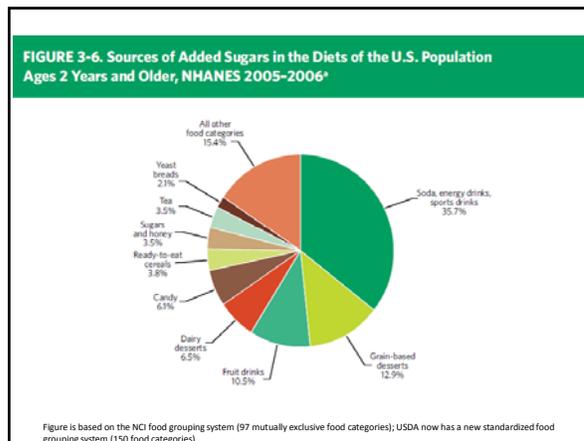
Data source: NHANES 2001-04

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Top Food Sources Tables for US Population, 2003-04

- ▶ Total fruit
- ▶ Fruit juice
- ▶ Dark green vegetables
- ▶ Orange vegetables
- ▶ Legumes
- ▶ Starchy vegetables
- ▶ Other vegetables
- ▶ Whole grains
- ▶ Non-whole grains
- ▶ Oils
- ▶ Solid fats
- ▶ **Added sugars**
- ▶ Milk
- ▶ Cheese
- ▶ Meat
- ▶ Poultry
- ▶ Fish
- ▶ Eggs
- ▶ Soybean products
- ▶ Nuts and seeds
- ▶ And more...

Tables available at: riskfactor.cancer.gov/diet/foodsources 6/14/2013



Unique aspects of 2010 Dietary Guidelines

- ▶ Framed recommendations in reference to population intakes (Chapters 2-4)
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Objectives

- ▶ Insights into the American Diet
- ▶ Methods and examples
- ▶ Recent developments
 - ▶ Specific population groups
 - ▶ Dietary patterns
 - ▶ Broader context

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Specific population groups

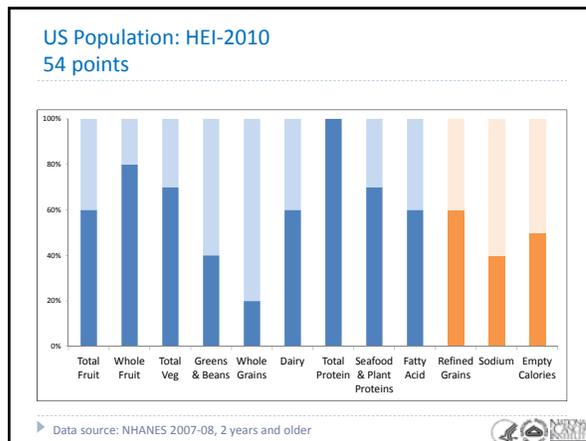
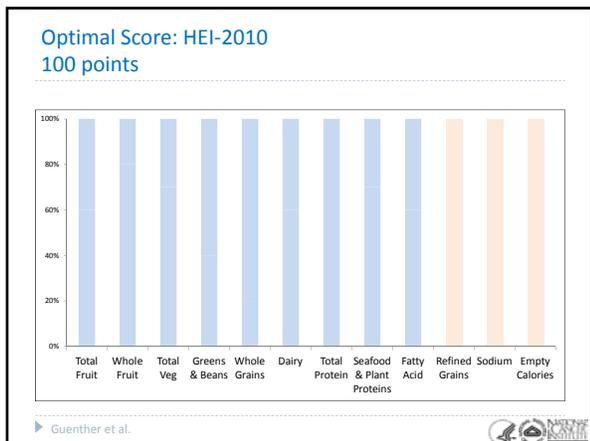
- ▶ Diets of the American population fare poorly in relation to dietary guidance
- ▶ Some subgroups fare more poorly than others
 - ▶ Disparities in diet in relation to income and race/ethnicity are pronounced in the US
 - ▶ Usual intake distributions by income and race/ethnicity
Kirkpatrick SI, et al.
 - ▶ Top food sources by income and race/ethnicity
Kirkpatrick SI, et al.

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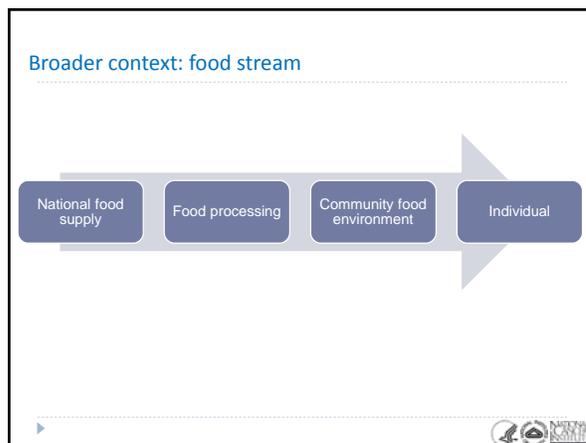
Dietary patterns

- ▶ Multidimensionality of diet
 - ▶ Eat foods, not nutrients
- ▶ Healthy Eating Index-2010
 - ▶ Reflects conformance with the 2010 Dietary Guidelines
 - ▶ Standards developed on a density basis
 - ▶ Relevant for individual-level diets as well as community- and macro-food environments

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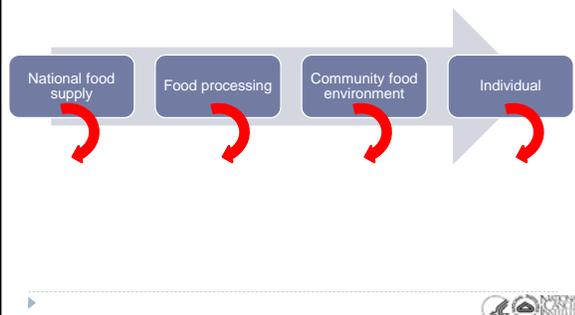
- ### Dietary patterns
- ▶ HEI-2010 scores: at the individual level
 - ▶ For the US population
Guenther PM, et al.
 - ▶ Usual intake distributions
Guenther PM, et al.



- ### Broader context
- ▶ HEI scores: at the community and macro-levels
 - ▶ Fast-food restaurants
Kirkpatrick SI, et al.
 - ▶ US food supply from 1970-2010
Miller PE, et al.



Broader context: food stream, food system, sustainability



Summary

- ▶ Insights into the American diet
 - ▶ Provide directionality for guidance-based food group recommendations
 - ▶ Identify targets for changes in the marketplace and food environment
 - ▶ Examine differences and similarities between population groups
 - ▶ Investigate dietary patterns at the individual level, and at other levels of the food stream
- ▶ Measures and methods can be adapted depending on questions of interest
- ▶ New questions, methods, and perspectives will contribute to the 2015 Dietary Guidelines

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