

2015 DGAC • MEETING 3
March 14, 2014

Subcommittee 1: Food and Nutrient Intakes and Health: Current Status and Trends

Marian Neuhouser
Steve Abrams
Cheryl Anderson
Mary Story

Alice H Lichtenstein

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Scope

Current status and trends in:

- Food group, food, and nutrient intake
- Eating behaviors
- Dietary patterns
- Diet-related chronic diseases, weight, and physical activity

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Invited Experts and Consultants

Invited Experts
Individuals invited by the SC to provide a presentation to inform the SC's work. Invited experts do not participate in decisions at the SC level.

Consultant SC Members
Individuals sought by the SC to fill a gap in knowledge. Consultants participate in decisions as a SC member but are not members of the full DGAC. Like DGAC members, consultants complete training and have been cleared through a formal process within the Department of HHS to assess their ability to serve ethically.

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Experts & Consultants

<u>Invited Experts</u>	<u>Consultants</u>
<ul style="list-style-type: none"> • Dr. Suzanne Murphy <ul style="list-style-type: none"> – University of Hawaii • Dr. Katherine Tucker <ul style="list-style-type: none"> – University of Massachusetts, Lowell • Dr. Rafael Perez-Escamilla <ul style="list-style-type: none"> – Yale University • Dr. Patrick Stover <ul style="list-style-type: none"> – Cornell University 	None

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Questions Addressed Today

1. Nutrients of Public Health Concern
Marian Neuhouser
2. Eating Behaviors—Status and Trends
Mary Story
3. Food Category Intakes and Food Sources of Energy
Cheryl Anderson
4. Prevalence of Health Concerns and Trends
Cheryl Anderson
5. Potential Issues of Overconsumption
Steve Abrams

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Nutrients of Public Health Concern

- What are current consumption patterns of nutrients from foods and beverages in the U.S. population?
- Of the nutrients that are over- or under-consumed, which present a substantial public health concern, including consumption over the UL?

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Nutrients of Public Health Concern

Three pronged approach

- (1) WWEIA (NHANES) 2007-2010
 - Nutrient intake distributions from food & beverage intakes by age/sex groups

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Nutrients of Public Health Concern

Three pronged approach

- (2) NHANES/CDC biomarker data where available
- (3) Functional status indicators including chronic disease outcomes

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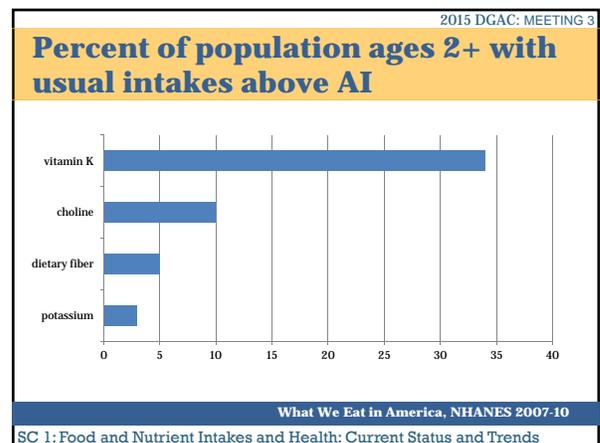
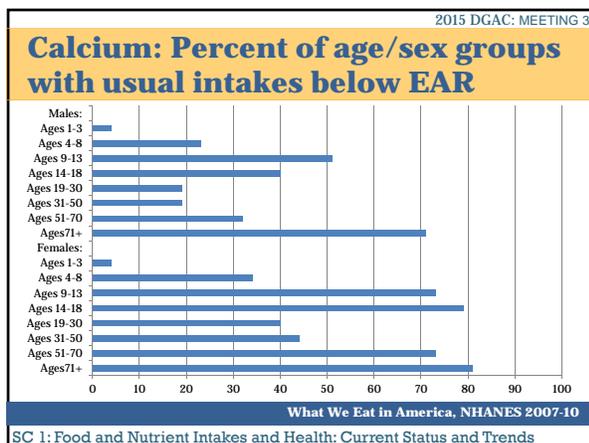
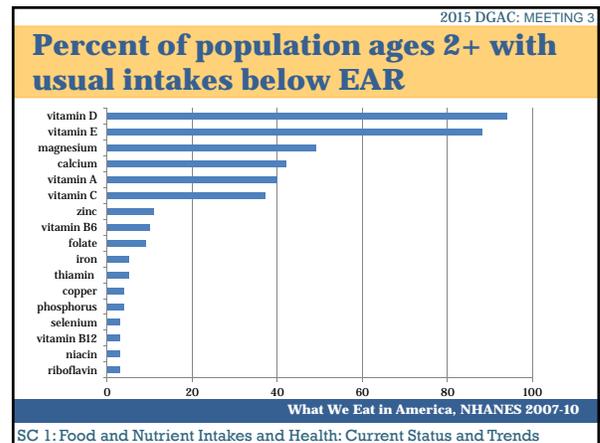
Nutrients of Public Health Concern

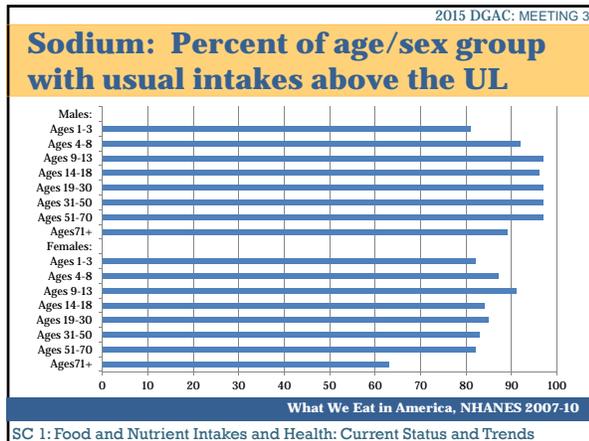
Three pronged approach

Shortfall and over-consumed nutrients:
From analysis of usual intake distributions

Nutrients of public health concern:
From analysis of usual intake distributions, biomarkers, functional indicators and related health conditions

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Nutrients of Public Health Concern Review of the Evidence

Nutrient	Indicator/health concern
Vitamin D	Bone health
Calcium	Bone health
Potassium	Blood pressure
Sodium (↑)	Blood pressure
Fiber	Gastrointestinal health
Iron (children, premenopausal females, pregnancy)	Iron deficiency

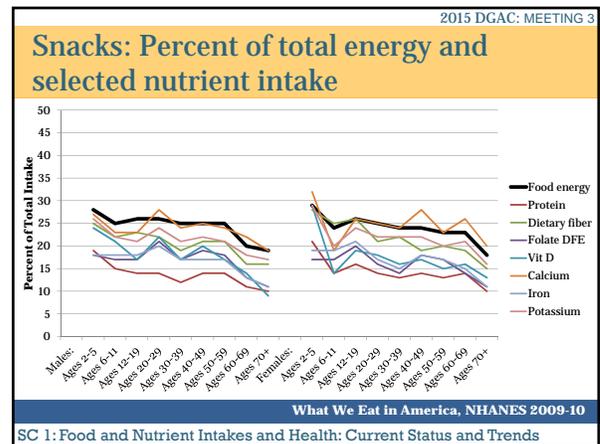
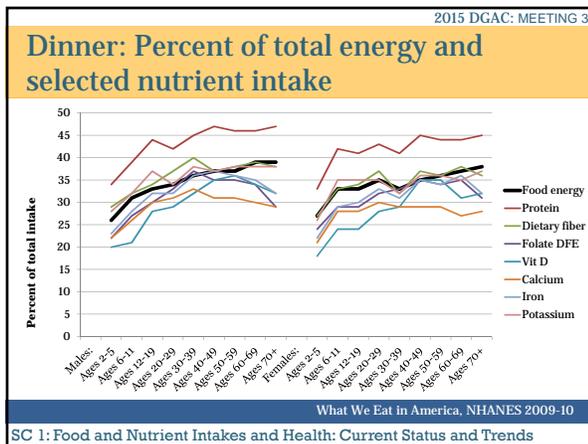
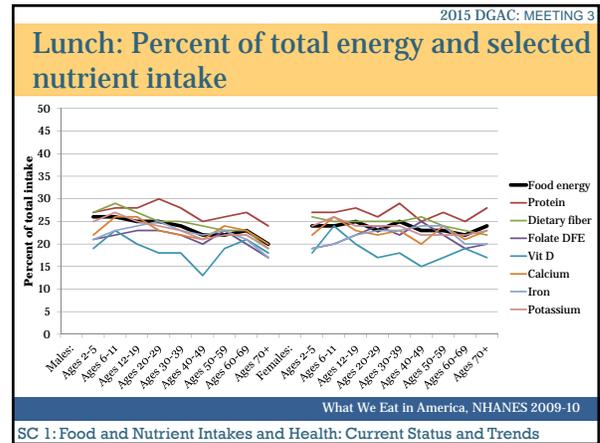
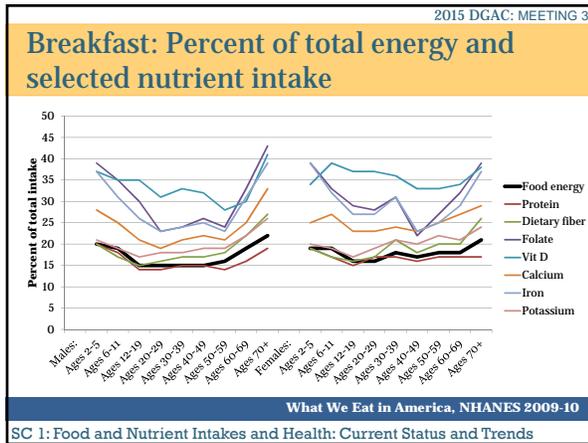
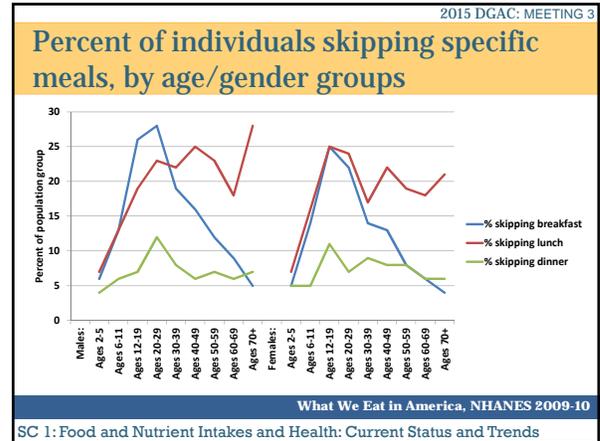
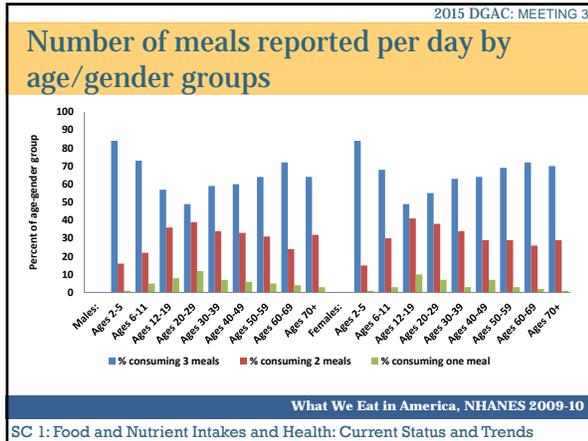
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- ### Nutrients of Public Health Concern Key Findings
- Nutrients of public health concern for the population ages 2+:
vitamin D, calcium, potassium, fiber
 - Nutrients of public health concern for some age/sex groups:
iron
 - Nutrients of public health concern for overconsumption
sodium
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- ### Nutrients of Public Health Concern
- What are current consumption patterns of nutrients from foods and beverages in the U.S. population?
 - Of the nutrients that are over- or under-consumed, which present a substantial public health concern, including consumption over the UL?
- Discussion**
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- ### Eating Behaviors-Status and Trends
- What is the current status for the following eating behaviors?
 - Number of daily eating occasions
 - Frequency of meal skipping
 - Diet quality by meal/snack
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- ### Eating Behaviors-Status and Trends
- Approach:
- Summary of existing WWEIA data tables, from:
 - NHANES 2009-10 for current status
 - NHANES 2003-04, 2005-06 and 2007-08 for trends
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Eating Behaviors-Status and Trends

Key Findings

- Eating 3 meals a day is the norm, but teens/young adults most likely to skip one or more meals—usually breakfast or lunch.
- Breakfast is relatively nutrient-dense compared to lunch or dinner. Snacks provide the lowest % of some key nutrients compared to % of energy.

Discussion

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Eating Behaviors-Status and Trends

- What is the current status of the following eating behaviors?
 - Number of daily eating occasions
 - Frequency of meal skipping
 - Diet quality by meal

Discussion

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Food Category Intakes

- What are the top foods contributing to energy intake in the U.S. population?
- What are current consumption patterns by food categories (foods as consumed) in the U.S. population?

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Food Category Intakes

Approach

- NHANES 2009-10 WWEIA Food Categories (n=150)
- Condensed into 9 major and 32 sub-categories
- Analyzed % of total intake of energy and nutrients.

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Food sources of energy—top sources as a % of total consumption

	%	Cum %
BURGERS and SANDWICHES	13.8	13.8
DESSERTS and SWEET SNACKS	8.5	22.3
SUGAR-SWEETENED BEVERAGES	6.5	28.8
RICE, PASTA, GRAIN-BASED MIXED DISHES	5.5	34.3
CHIPS, CRACKERS, and SAVORY SNACKS	4.6	38.9
PIZZA	4.3	43.2
MEAT, POULTRY, SEAFOOD MIXED DISHES	3.9	47.1
VEGETABLES (not Starchy)	3.8	51.0
ALCOHOLIC BEVERAGES	3.8	54.8
STARCHY VEGETABLES	3.8	58.6
YEAST BREADS AND TORTILLAS	3.8	62.4
HIGHER FAT MILK/YOGURT	3.5	65.8
BREAKFAST CEREALS AND BARS	3.5	69.3
POULTRY (Not Deli and Mixed Dishes)	3.3	72.6
CANDY AND SUGARS	3.1	75.6

What We Eat in America, NHANES 2009-10

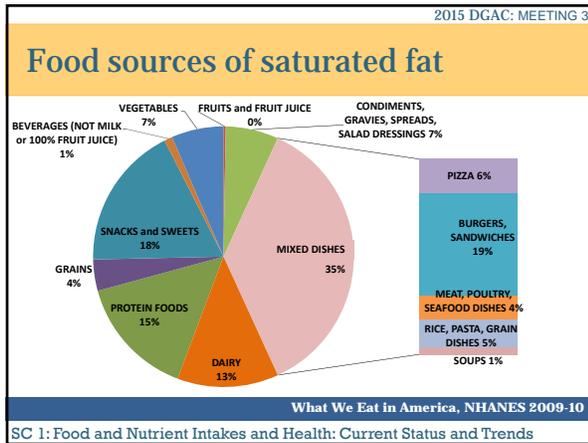
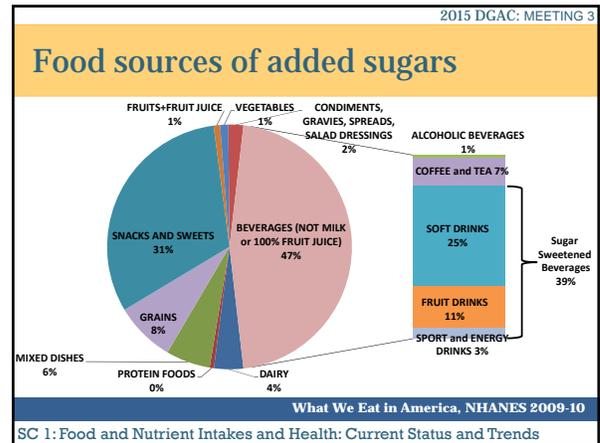
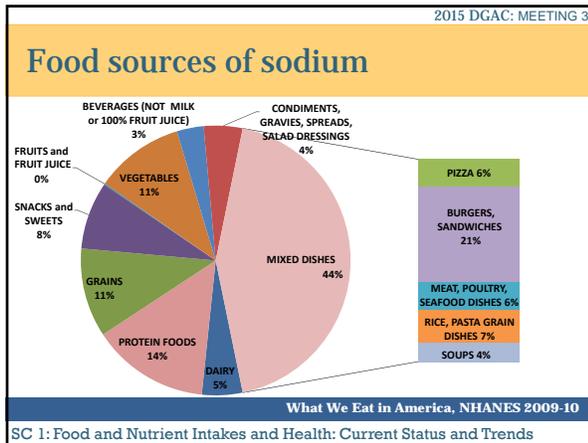
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Food sources of energy- Percent from major food categories

What We Eat in America, NHANES 2009-10

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Food Category Intakes Key Findings

Foods with highest contribution to energy intake: Burgers and sandwiches, desserts and sweet snacks, and sugar-sweetened beverages

Of the major categories

- Mixed dishes contribute the most energy, sodium, and saturated fat
- Beverages contribute the most added sugars

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Food Category Intakes

- What are the top foods contributing to energy intake in the U.S. population?
- What are current consumption patterns by food categories (foods as consumed) in the U.S. population?

Discussion

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Prevalence/Trends -Health Concerns

- What is the current prevalence of overweight/obesity in the U.S. population?
- What are the trends in prevalence of overweight/obesity in the U.S. population?

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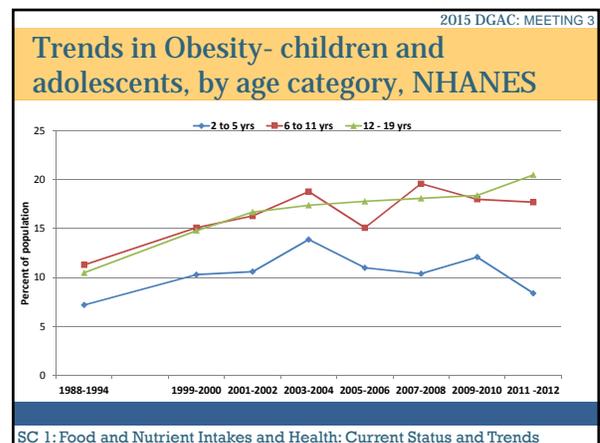
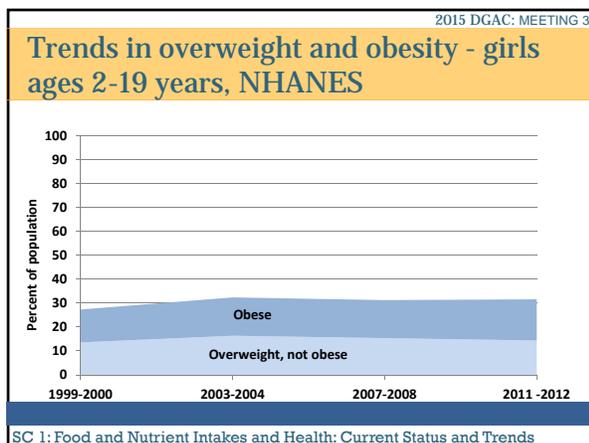
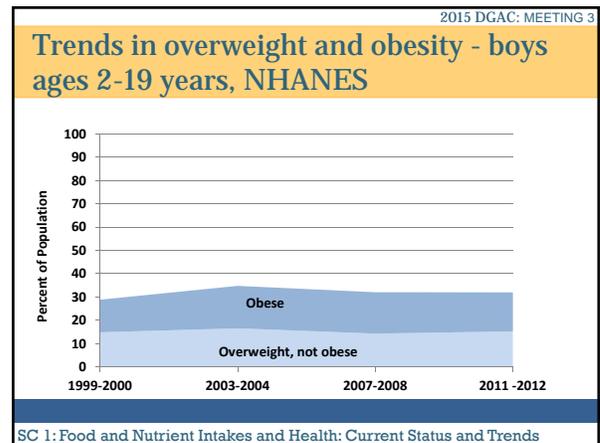
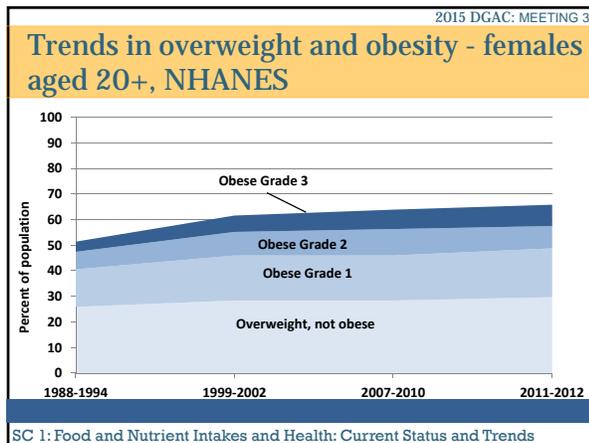
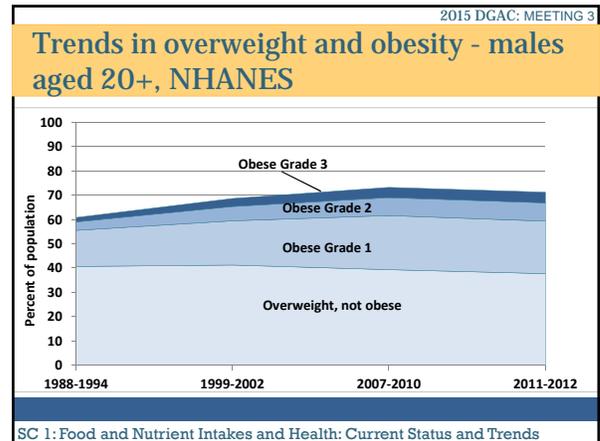
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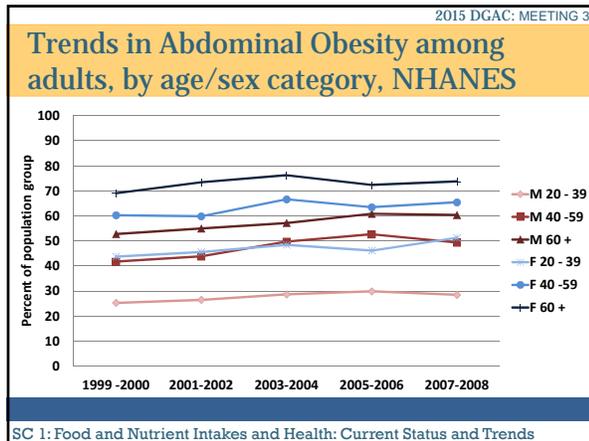
Prevalence/Trends -Health Concerns

Approach

- Summary of NHANES data tables from CDC website and published peer-reviewed articles by CDC authors:
 - 2011-12 for current status
 - Various survey years for trends including 1988-94 to 2011-12

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Prevalence/Trends -Health Concerns Key Findings

In adults:

- Prevalence of overweight (but not obese) remained stable from '88-'94 to '11-'12 at very high levels
- Prevalence of abdominal obesity differs by age/sex, highest prevalence in females 60+

In children:

- Prevalence overweight and obesity stable from '99-'00 to '11-'12
- Different patterns across the age categories

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Prevalence/Trends -Health Concerns

- What is the current prevalence of overweight/obesity in the U.S. population?
- What are the trends in prevalence of overweight/obesity in the U.S. population?

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Potential Issues of Overconsumption

- What are current consumption patterns of caffeine from foods and beverages in the U.S. population including during pregnancy?

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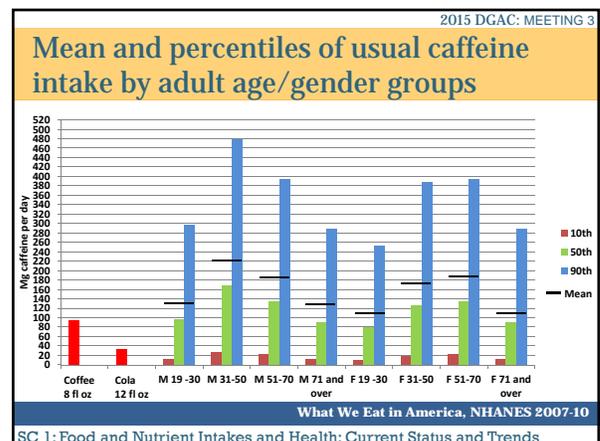
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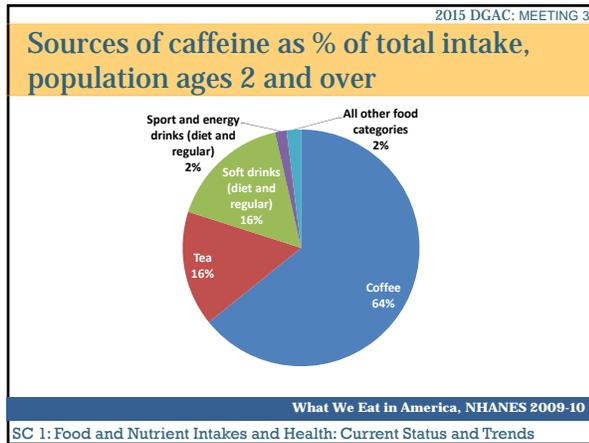
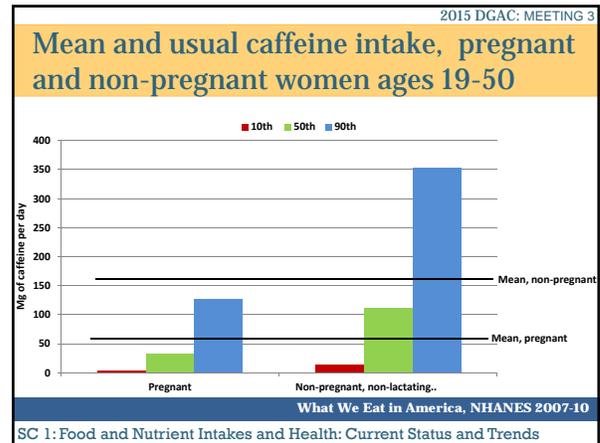
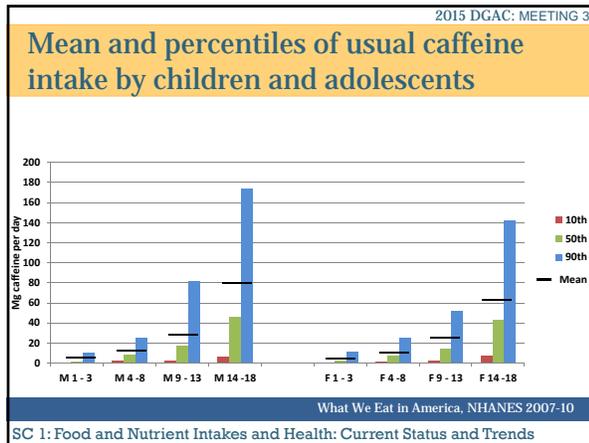
Potential Issues of Overconsumption

Approach

- Usual intake distributions for caffeine from NHANES data from 2007-2010.
- Assessment of caffeine sources from NHANES data from 2009-2010

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Potential Issues of Overconsumption Key Findings

Increased caffeine intake becomes common beginning in adolescence, associated with consumption of coffee, tea and soda.

Some adults over age 30 have intakes > 400 mg/day.

These data do not reflect caffeine-containing supplements and may not reflect any recent increase in energy drink consumption.

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Potential Issues of Overconsumption

- What is the level of caffeine intake derived from foods and beverages by age/gender groups in the U.S. population?
- What are the sources of caffeine from foods and beverages in the U.S. population?

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Next Steps: Questions to Address

1. Nutrient Intakes
 - From food + supplements
 - By race/ethnicity, acculturation, pregnancy
 - Additional nutrients (saturated fat)
2. Food Groups—intake patterns and trends
3. Food Categories
 - Food sources by age/gender
 - Food sources of nutrients of concern

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Next Steps: Questions to Address

4. Diet quality by food source and location
5. Patterns of beverage intake
6. Dietary patterns—adherence and trends
7. Chronic disease indicators—prevalence and trends
8. Overconsumption of micronutrients from foods and supplements (calcium, iron, folate)

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Next Steps: Questions to Address, cont'd.

9. USDA food patterns—adequacy and impact of potential changes in recommendations
10. Current levels of physical activity in youth, adults, and older adults

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Discussion

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