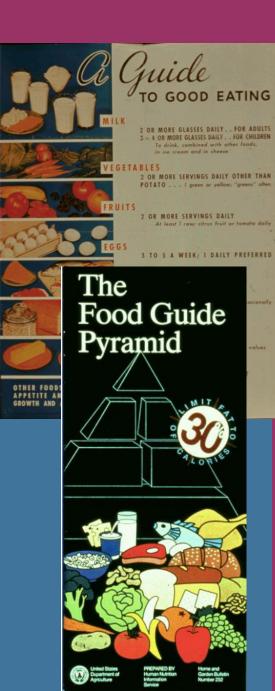
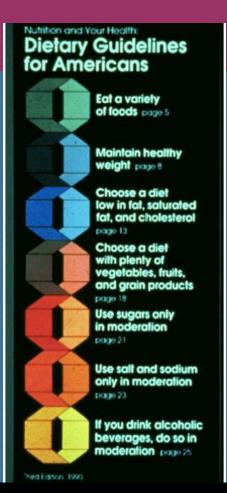
Dietary Guidelines for Americans

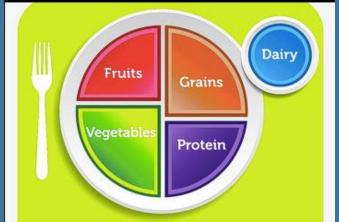
Anna Maria Siega-Riz, PhD Professor of Public Health Sciences and Obstetrics and Gynecology University of Virginia











Areas of Potential Public Policy Impact

U.S. Department of Health and Human Services

- Healthcare systems
 - Affordable Care Act
 - Medicaid and Medicare
- National Prevention strategy
- Grant funding for public health research and infrastructure
- Food and nutrition labeling
 - Nutrition Facts Label
 - Restaurant and vending labeling

U.S. Department of Agriculture

- Food, agriculture and farm policies, resources, and products
- Federal Food Assistance Programs:
 - National School Lunch Program
 - Child and Adult Care Food Program Nutrition
 - Supplemental Nutrition Assistance Program (SNAP)
 - Commodity Supplemental Food Program
 - Special Supplemental Nutrition Program for Women, Infants and Children (WIC)

DGAC Report: Introduction, Evidence Base and Overall Findings

From Advisory Report to Policy Document: Creating the *Dietary Guidelines for Americans*, 2015

DIETARY GUIDELINES PROCESS HHS/USDA JOINTLY DEVELOP AND RELEASE **POLICY IS** ADVISORY COMMITTEE REVIEWS SCIENCE DIETARY GUIDELINES FOR AMERICANS, 2015 POLICY DOCUMENT AND PRODUCES ADVISORY REPORT **PUT INTO PRACTICE** SPRING 2013-FAIL 2014 SPRING-FAIL 2015 **END OF 2015** WINTER 2015 WINTER 2015 The 2015 Dietary Guidelines Advisory Committee HHS/USDA health professionals Submits advisory Identifies topic areas Publish Committee's · Begin writing Release Dietary Translate Dietary and reviews current report* to Secretaries Guidelines Guidelines for advisory report scientific evidence of HHS and USDA Americans, 2015 Submit Guidelines Solicit public and Receives and considers Committee disbands Federal agency for scientific and reach the public public comments and policy review comment holds public meetings Drafts advisory report *The advisory report contains the Committee's scientific review and findings for HHS/USDA. Note: Timing is subject to change. It is not the Dietary Guidelines for Americans, 2015 or a draft of the Guidelines.

Available at www.DietaryGuidelines.gov

2015 Dietary Guidelines Advisory Committee

- Provides science-based recommendations to the Federal government on
 - How food, nutrition, and physical activity
 - Can promote the health of the U.S. population
 - Help reduce the burden from major chronic diseases and other lifestyle-related health problems
 - How best to accomplish these goals at individual and population levels
- Scientific report informs the Dietary Guidelines for Americans, 2015 policy document

Committee Members

- Chair- Barbara Millen, DrPH, RD, Millennium Prevention, Westwood, MA
- Co-Chair-Alice Lichtenstein, DSc, Tufts University, Boston, MA
- Members:
 - Steven Abrams, MD, Baylor College of Medicine, Houston, TX
 - Lucile Adams-Campbell, PhD, Georgetown University Medical Center, Washington, DC
 - Cheryl Anderson, PhD University of California, San Diego, CA
 - J. Thomas Brenna, PhD, Cornell University, Ithaca, NY
 - Wayne Campbell, PhD, Purdue University, West Lafayette, IN
 - Steven Clinton, MD, PhD, The Ohio State University, Columbus, OH
 - Frank Hu, MD, PhD, Harvard School of Public Health, Boston, MA
 - Miriam Nelson, PhD, Tufts University, Boston, MA
 - Marian Neuhouser, PhD, RD, Fred Hutchinson Cancer Research Center, Seattle, WA
 - Rafael Pérez-Escamilla, PhD, Yale School of Public Health, New Haven, CT
 - Anna Maria Siega-Riz, PhD, UNC-Chapel Hill, NC
 - Mary Story, PhD, RD, University of Minnesota, Minneapolis, MN/Duke University
- Consultants-Timothy Griffin, PhD, Tufts University; Michael Hamm, PhD, Michigan State University; Michael Perri, PhD, ABPP, University of Florida

2015 DGAC Themes

Core to the DGAC

Food, nutrient, and health-related recommendations

Themes

- Prevalent Nutrient and related Health Problems of Americans
 - Nutrition and Health Disparities
- Overall Dietary Patterns and Health Outcomes
- Strategies to improve dietary quality and health outcomes, especially overweight and obesity and chronic diseases
 - Individual and population levels
- Food Safety, Security and Sustainability now and for future generations
- Systems Approach

DGAC Report: Introduction, Evidence Base and Overall Findings

2015 DGAC Subcommittees

Science Review Subcommittee

SC₁

Food and
Nutrient
Intakes, and
Health:
Current Status
and Trends

Nutrients of concern
Food group intakes
Food sources
Eating behaviors
Dietary patterns
Health concerns
Food pattern modeling

SC₂

Dietary
Patterns,
Foods and
Nutrients, and
Health
Outcomes

Dietary patterns and health outcomes

Foods and nutrients and health outcomes

SC₃

Diet and Physical Activity Behavior Change

Eating out
Household food
insecurity
Food/menu label use
Mobile health
Acculturation

Self-monitoring

Screen time/sedentary behavior

Sleep patterns

SC 4

Food and
Physical
Activity
Environments

Settings:

Schools/afterschool Childcare Post-secondary Worksites

Other Topics: Food access

SC 5

Food Sustainability and Safety

<u>Food safety</u>:

Preventing foodborne illness Caffeine Aspartame

Other Topics

Dietary patterns and sustainability

Cross-cutting Topics of Public Health Importance

- Added Sugars
- Sodium
- Saturated Fat
- Physical Activity

Examining the Evidence

- NEL systematic reviews
- Existing reports
 - Existing high-quality evidence-based reports
 - Existing systematic reviews
 - Existing meta-analyses
- Data analyses
- Food pattern modeling analyses
- Public comments

www.DietaryGuidelines.gov Go to "Resources" and select "Data Analyses"

USDA NEL Process

Step 1: Topic identification and systematic review question development

Step 2: Literature search, screening, and selection

Step 3: Data extraction and risk of bias assessment

Step 4: Evidence synthesis

Step 5: Conclusion statements and grading the evidence

Step 6: Research recommendations and technical abstracts

DGAC Report: Introduction, Evidence Base and Overall Findings

Conclusion Statements and Grading the Evidence

 Conclusion statements: Overall summary statement worded as an answer to the question; tightly associated with the evidence

 Grading the evidence: Considers risk of bias, quantity, consistency, impact, and generalizability of the body of evidence

Grading the Evidence

Limited

Grade not

assignable

Strong	The conclusion statement is substantiated by a large, high quality, and/or
	consistent body of evidence that directly addresses the question. There is a high
	level of certainty that the conclusion is generalizable to the population of interest,
	and it is unlikely to change if new evidence emerges.

Moderate certainty is restricted by limitations in the evidence, such as the amount of evidence available, inconsistencies in findings, or methodological or generalizability concerns. If new evidence emerges, there could be modifications to the conclusion statement.

The conclusion statement is substantiated by insufficient evidence, and the level of certainty is seriously restricted by limitations in the evidence, such as the amount of evidence available, inconsistencies in findings, or methodological or generalizability concerns. If new evidence emerges, there could likely be modifications to the conclusion statement.

The conclusion statement is substantiated by sufficient evidence, but the level of

A conclusion statement cannot be drawn due to a lack of evidence, or the availability of evidence that has serious methodological concerns.

DGAC Report: Introduction, Evidence Base and Overall Findings

Implications and Recommendations

- Build on the conclusion statement to provide needed context
- Makes conclusion statements (the answer to the question) actionable
- Describes what the Committee advises the government to consider in developing public policy

Findings

Health Conditions: Evidence Base SC1

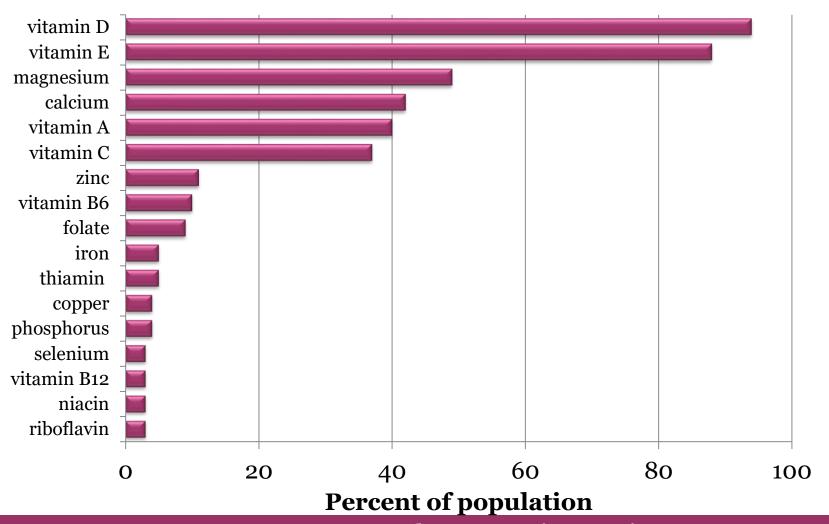
- The overall problem: high rates of preventable chronic diseases and overweight/obesity
- The solution: Need to shift the focus of healthcare and public health towards a greater emphasis on disease prevention and risk reduction through sound diet and lifestyle strategies

Overall Dietary Quality: Evidence Base SC1

- The gap: suboptimal dietary intake
 - Low in vegetables, fruit, whole grains
 - High in sodium, saturated fat, refined grains, added sugars, and calories

 The solution: Need to apply the best methods to improve dietary quality with sound interventions, services and product innovations.

Percent of population ages 2+ with usual intakes below EAR



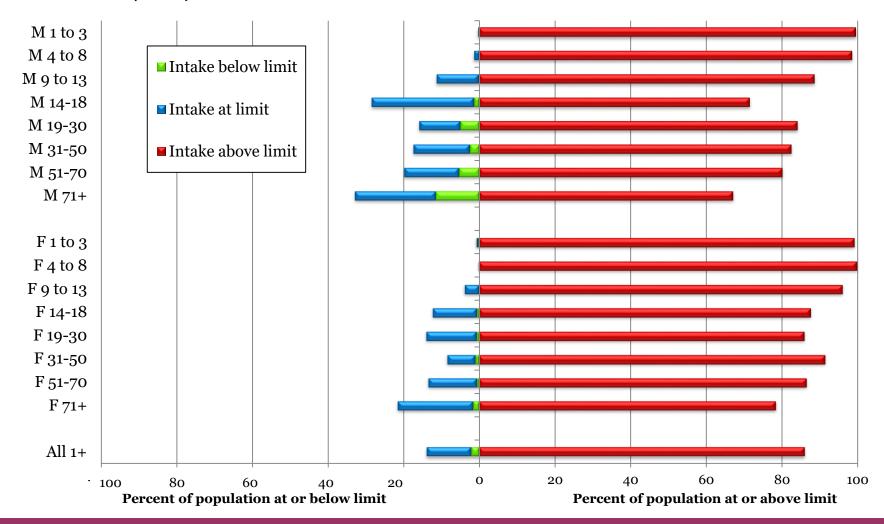
What We Eat in America, NHANES 2007-10

DGAC Report: Integration and Recommendations Overall Findings 2 and 3

Added Sugars

- Definition: Added sugars are sugars that are either added during the processing of foods, or are packaged as such, and include sugars (free, mono- and disaccharides), syrups, naturally occurring sugars that are isolated from a whole food and concentrated so that sugar is the primary component (e.g., fruit juice concentrates), and other caloric sweeteners.
- The current intake of added sugars is high at 268 calories or 13% of total calories/day for the total population, and 15-17% in older children, adolescents, and young adults.

Empty Calories*: Estimated percentage of persons below, at, or above limits



*Empty calories are the total of calories from solid fats + added sugars

NHANES 2007-10

Conclusions

- Added sugars, especially sugarsweetened beverages:
 - Strong evidence for an increased risk of
 - Excess body weight and obesity
 - Type 2 diabetes
 - Moderate evidence for an increased risk of:
 - Hypertension, stroke, and CHD; higher blood pressure and serum triglycerides
 - Dental caries

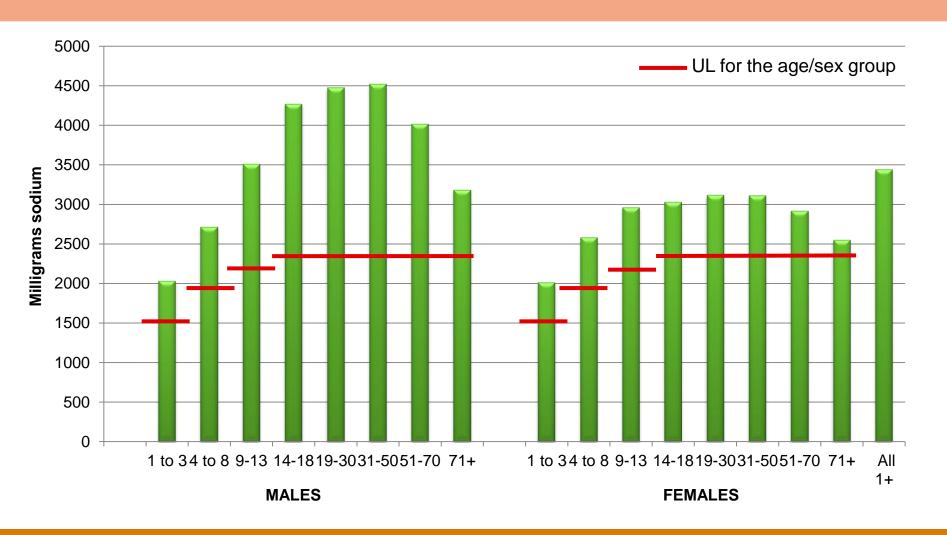
Conclusions

- Low-calorie sweeteners:
 - Moderate evidence for replacing sugarcontaining sweeteners with low-calorie sweeteners for reducing calorie intake, body weight, and adiposity in short duration studies
 - Limited and inconsistent evidence of an association between low-calorie sweeteners and long-term body weight control and risk of type 2 diabetes

Summary of Major Conclusions

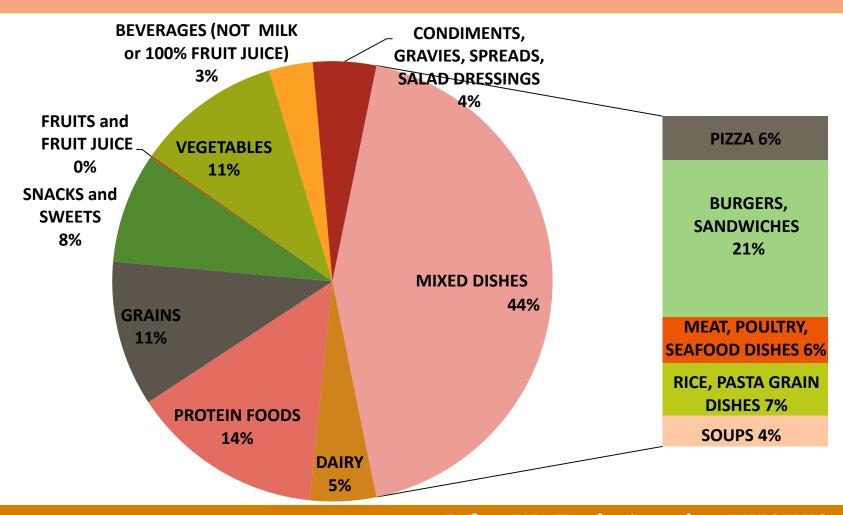
- Strong evidence: Replacing saturated fat with unsaturated fats, especially PUFAs, reduces LDL-cholesterol and CVD risk
- Strong evidence: Replacing saturated fat with overall carbohydrates does not lower CVD risk
- Limited evidence: Replacing saturated fat with MUFAs

Mean Daily Sodium Intake by Age/Sex Group



What We Eat in America, NHANES 2007-10

Food sources of sodium



What We Eat in America, NHANES 2009-10

Summary of Major Conclusions

- Strong evidence: Higher sodium intake and increased blood pressure
- Moderate evidence: Higher sodium intake and increased risk of CVD
 - Inconsistent and insufficient evidence for lowering sodium intakes below 2,300 mg/day
- Insufficient evidence: Potassium and blood pressure

Dietary Pattern Methodology

- Dietary patterns were defined as:
 - the quantities, proportions, variety or combinations of different foods and beverages in diets, and the frequency with which they are habitually consumed.

Dietary Pattern Methodologies

Selective Diets

People who meet/don't meet criteria

Indexes/ Scores

 Individuals' scores on quality and its components

Cluster Analysis

Groups of individuals and their diet patterns

Factor Analysis

 Factors explaining variation in individuals' scores

Hypothesis Testing

How do dietary patterns relate to health outcome?

Slide presented by Susan Krebs-Smith at the Second DGAC Public Meeting

Dietary Patterns and Health Outcomes: SC2

- Strong evidence:
 - CVD; weight loss among overweight and obese adults
- Moderate evidence:
 - T2D; colorectal cancer; postmenopausal breast cancer; and body weight – weight gain or incidence of overweight and obesity (adults)
- Limited evidence:
 - Premenopausal breast cancer; lung cancer; neural tube defects; depression (adults); age-related cognitive impairment; bone health (adults); and body weight (children)
- Grade not assignable:
 - Prostate cancer; depression (post-partum women; children);
 congenital heart defects; cleft lip/palate; and bone health (children)

Healthy Dietary Patterns: SC2 and SC5

- 2015 DGAC identified common features of a healthy dietary pattern:
 - High in vegetables, fruits, whole grains, low-fat dairy, seafood, legumes, and nuts
 - Moderate in alcohol
 - Lower in red and processed meats
 - Low in added sugars (not more than 10 percent of total energy)
 - Low in refined grains
- The DGAC also recommends that, as part of a healthy dietary pattern,
 - saturated fat not exceed 10% of total energy (emphasizing substitution of polyunsaturated fats for saturated fats
 - limiting sodium intake to not more than 2300 mg per day
 - Calories to meet energy needs and to achieve and maintain ideal body weight
- Healthy dietary patterns are causally linked to favorable health outcomes & associated with better environmental outcomes outcomes

Composition of 3 USDA Patterns at the 2000 calorie level

Food group	Healthy US-style	Healthy Vegetarian	Healthy Med-style
	Daily/weekly amounts		
Fruit	2 c	2 c	2 ½ c
Vegetables	2 ½ C	2 ½ c	2 ½ C
-Legumes	1 ½ c per wk	3 c per wk	1 ½ c per wk
Whole Grains	3 oz eq	3 oz eq	3 oz eq
Dairy	3 c	3 c	2 c
Protein Foods	5 ½ oz eq	3 ½ oz eq	6 ½ oz eq
Meat	12 ½ oz eq/wk		12 ½ oz eq/wk
Poultry	10 ½ oz eq/wk		10 ½ oz eq/wk
Seafood	8 oz eq/wk		15 oz eq/wk
Eggs	3 oz eq/wk	3 oz eq/wk	3 oz eq/wk
Nuts/seeds	4 oz eq/wk	7 oz eq/wk	4 oz eq/wk
Processed soy	½ oz eq/wk	8 oz eq/wk	½ oz eq/wk
Oils	27 g	27 g	27 g

DGAC Report: Integration and Recommendations Overall Findings 6-8

Nutrients in Patterns at the 2000 calorie level

Nutrient	Healthy US-style	Healthy Vegetarian	Healthy Med- style
	Percent of	of goal or limit 19-30 yo w	romen
Protein -%RDA	198%	155%	194%
Protein -%kcal	18%	14%	18%
Fat-%kcal	33%	34%	32%
Saturated fat - %kcal	8%	8%	8%
CHO-%RDA	197%	211%	199%
CHO-%kcal	51%	55%	52%
Fiber -% goal	`109%	126%	112%
Calcium-%RDA	127%	133%	100%
Iron-%RDA	93%	96%	95%
Vitamin D-%RDA	46%	37%	42%
Potassium-%AI	71%	70%	71%
Sodium-%UL	78%	61%	73%

DGAC Report: Integration and Recommendations Overall Findings 6-8

Major Findings

Individual Diet and Physical Activity Behavior Change

Individual
Level
Change

In order for policy recommendations to be fully implemented, motivating and facilitating behavioral change at the individual level is required.

These behaviors can also be supported by federal programs to alleviate the consequences of household food insecurity and promote retention of healthy eating habits by immigrants.

Behavior Change Strategies

A number of promising behavior change strategies can be used to favorably affect a range of health-related outcomes and to enhance the effectiveness of interventions. These include:

- -- reducing screen time
- -- reducing the frequency of eating out at fast food restaurants
- -- increasing frequency of family shared meals
- -- self-monitoring of diet and body weight
- -- effective food labeling to target healthy food choices

Major Findings

Food Environment and Settings

Multi-
Component
Interventions

The Committee's findings revealed the power of multicomponent interventions over single component interventions in schools, child care settings, and worksites for improving dietary intake and body weight status.

Environmental and Settings Strategies

Key strategies included increasing opportunities for physical activity, improving nutrition standards, point of purchase information, nutrition education, parent engagement, nutrition curriculum and environmental modifications

To reduce disparity gaps in low resource and underserved communities, more solution-oriented strategies need to be implemented and evaluated.

Major Findings

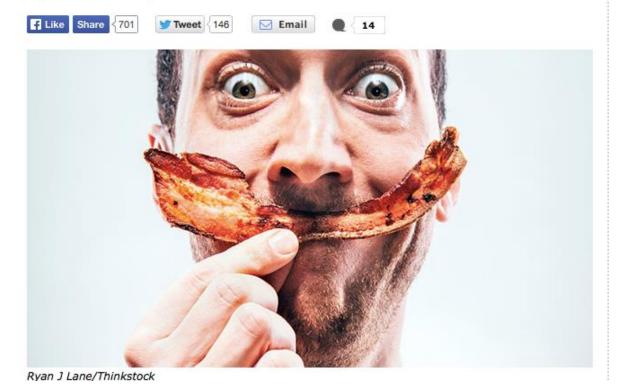
Food Sustainability and Safety

Caffeine/ Coffee	Moderate coffee consumption (3-5 cups/day) is not associated with increased risk of chronic diseases and can be incorporated into a healthy lifestyle. There is concern about high caffeine energy drinks in children and adolescents; however, evidence on the health effects of excessive caffeine intake in adults and children is limited. High-caffeine energy drinks and alcohol should not be consumed together.
Aspartame	At the level that the U.S. population consumes aspartame, it appears to be safe.

What Did the Media Pick UP?

Will Obama's Ag Chief Wimpify the 2015 Dietary Guidelines to Please Big Meat?

-By Maddie Oatman | Sat Mar. 14, 2015 6:00 AM EDT



What Did the Media Pick Up?

The latest turnabout took place last month, when the Dietary
Guidelines Advisory Committee declared that cholesterol and
certain fats—once considered the bane of a healthy diet—aren't so
bad after all. Coffee and alcohol in moderate doses are also OK,
according to the committee, whose recommendations will
contribute to the 2015 Dietary Guidelines for Americans to be
completed this year.

Policy Rider

 Current Senate Labor/HHS Appropriations language: □ □SEC. 230. None of the funds appropriated in this act may be used to issue, promulgate, or otherwise implement the 2015 Dietary Guidelines for Americans edition unless the information and guidelines in the report are solely nutritional and dietary in nature; and based only on a preponderance of nutritional and dietary scientific evidence and not extraneous information.



DIETARY GUIDELINES FOR AMERICANS 2015-2020



What did USDA and DHS include in the 2015 Policy?

- 1. Follow a healthy eating pattern across the lifespan. All food and beverage choices matter. Choose a healthy eating pattern at an appropriate calorie level to help achieve and maintain a healthy body weight, support nutrient adequacy, and reduce the risk of chronic disease.
- 2. Focus on variety, nutrient density, and amount. To meet nutrient needs within calorie limits, choose a variety of nutrient-dense foods across and within all food groups in recommended amounts.

What did USDA and DHS include in the 2015 Policy? Con't

- 3. Limit calories from added sugars and saturated fats and reduce sodium intake. Consume an eating pattern low in added sugars, saturated fats, and sodium. Cut back on foods and beverages higher in these components to amounts that fit within healthy eating patterns.
- 4. Shift to healthier food and beverage choices. Choose nutrient-dense foods and beverages across and within all food groups in place of less healthy choices. Consider cultural and personal preferences to make these shifts easier to accomplish and maintain.
- 5. Support healthy eating patterns for all. Everyone has a role in helping to create and support healthy eating patterns in multiple settings nationwide, from home to school to work to communities.

What was considered a healthy dietary pattern?

- A variety of vegetables from all of the subgroups—dark green, red and orange, legumes (beans and peas), starchy, and other
- Fruits, especially whole fruits
- Grains, at least half of which are whole grains
- Fat-free or low-fat dairy, including milk, yogurt, cheese, and/or fortified soy beverages
- A variety of protein foods, including seafood, lean meats and poultry, eggs, legumes (beans & peas), and nuts, seeds, and soy products
- Oils



What was considered a healthy dietary pattern?

A healthy eating pattern limits:

Saturated fats and trans fats, added sugars, and sodium.

- Consume less than 10 percent of calories per day from added sugars.
- Consume less than 10 percent of calories per day from saturated fats.
- Consume less than 2,300 milligrams (mg) per day of sodium.
- If alcohol is consumed, it should be consumed in moderation—up to one drink per day for women and up to two drinks per day for men—and only by adults of legal drinking age.

Sodium

Principles of Healthy Eating Patterns

- An eating pattern represents the totality of all foods and beverages consumed
 - It is more than the sum of its parts; the totality of what individuals habitually eat and drink act synergistically in relation to health.
- Nutritional needs should be met primarily from foods
 - Individuals should aim to meet their nutrient needs through healthy eating patterns that include foods in nutrient-dense forms.
- Healthy eating patterns are adaptable
 - Any eating pattern can be tailored to the individual's socio-cultural and personal preferences



Inside Healthy Eating Patterns Other components—Examples of content

Cholesterol

- Individuals should eat as little dietary cholesterol as possible while consuming a healthy eating pattern.
- The Healthy U.S.-Style
 Eating Pattern contains
 approximately 100 to 300 mg
 of cholesterol across the 12
 calorie levels.

- Much of the available evidence on caffeine focuses on coffee intake.
- Three to five 8-oz cups of coffee per day can be incorporated into healthy eating patterns.
- Individuals who do not consume caffeinated coffee or other caffeinated beverages are not encouraged to incorporate them into their eating pattern.

Caffaina

Creating and Supporting Healthy Choices

(From Figure 3-1)

The Social-Ecological Model can help health professionals understand how layers of influence intersect to shape a person's food and physical activity choices. The model below shows how various factors influence food and beverage intake, physical activity patterns, and ultimately health outcomes.



Division of Nutrition. Physical Activity, and Obesity. National Center for Chronic Disease Prevention and Health Promotion. Addressing Obesity Disparities: Social Ecological Model. Available http://www.cdc.gov/obesit y/health equity/addressin gtheissue.html. Accessed October 19, 2015. (2) Institute of Medicine. Preventing Childhood Obesity: Health in the Balance, Washington (DC): The National Academies Press; 2005, page 85. (3) Story M, Kaphingst KM, Robinson-O'Brien R, Glanz K. Creating healthy food and eating environments: Policy and environmental approaches. Annu Rev Public Health 2008; 29:253-272.

Data Source: Adapted from:

(1) Centers for Disease Control and Prevention.

Implementing the Guidelines through MyPlate (Figure 3-2)

MyPlate, MyWins



Find your healthy eating style

and maintain it for a lifetime. This means:

Everything you eat and drink over time matters.

The right mix can help you be healthier now and in the future.





Start with small changes

to make healthier choices you can enjoy.

Visit ChooseMyPlate.gov for more tips, tools, and information.

Resources

For more information: DietaryGuidelines.gov

COMING SOON:

Additional resources at health.gov and ChooseMyPlate.gov

Questions?



2015 DGAC OVERALL FINDINGS What the Evidence Base tells us:

- What foods and nutrients are over- and under-consumed and of public health concern
- The most prevalent, preventable diet- and lifestyle-related chronic diseases and other important health outcomes
- 3. Where population disparities exist in dietary quality, food security, and health profile characteristics
- How dietary patterns, that is overall habitual food and nutrient intake, relate to major chronic disease risks and other important health outcomes
- 5. How specific nutrients and food constituents impose particular population health risks and can be modified to reduce these risks
- 6. The common characteristics of healthy dietary patterns across diverse health outcomes

2015 DGAC OVERALL FINDINGS What the Evidence Base tells us (cont.):

- 6. Multiple, alternative, appealing dietary pattern <u>options</u> for consumer, health care professional and others' use in prevention and disease risk reduction programming
- 8. What intervention strategies work in the near and long-term to improve diet and physical activity and prevent and reduce disease risk at individual and population levels
- Effective settings and collaborative, multi-component approaches shown effective to achieve dietary behavior change and disease risk reduction
- 10. The convergence of research on dietary patterns to achieve health outcomes, food security, and environmental sustainability now and for future generations

2015 DGAC Food Pattern Modeling

Added sugars available in the USDA Food Patterns (Healthy U.S.-Style, Healthy Mediterranean-Style, and Vegetarian Patterns) in calories, teaspoons, and percent of total calories per day

CALORIE LEVEL	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200
	Empty calorie limits available for added sugars											
	(as	ssuming	g 45%	empty	calorie	s from	added s	sugars a	and 55%	6 from	solid fa	at)
Healthy U.Sstyle	68	50	50	54	77	122	126	158	171	180	212	275
Healthy Med-style	63	50	50	81	72	117	126	135	149	158	194	257
Vegetarian	77	77	81	81	81	131	131	158	158	158	185	234
Average	69	59	60	72	77	123	128	150	159	165	197	255
Average (tsp)	4.3	3.7	3.8	4.5	4.8	7.7	8.0	9.4	9.9	10.3	12.3	15.9
Healthy U.Sstyle	7%	4%	4%	3%	4%	6%	6%	7%	7%	6%	7%	9%
Healthy Med-style	6%	4%	4%	5%	4%	6%	6%	6%	6%	6%	6%	8%
Vegetarian	8%	6%	6%	5%	5%	7%	6%	7%	6%	6%	6%	7%
Average	7%	5%	4%	5%	4%	6%	6%	6%	6%	6%	7%	8%