

2015 DGAC

## The DGAC Report: Background and Integration of Key Findings



Barbara Millen  
2015 DGAC Chair

### Speaker Disclosures

- **Currently (*bmillen@bu.edu*):**
  - Founder and President, Millennium Prevention, Inc.  
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  - Chairman, Boston Nutrition Foundation, Inc.
- **Formerly:**
  - Chairman, 2015 U.S. Dietary Guidelines Advisory Committee
  - Professor, Boston University School of Medicine (BUSM), Dept. Family Medicine & Div. Graduate Medical Sciences
  - Founding Chairman, Multidisciplinary Graduate Programs in Medical Nutrition Sciences (Boston Medical Center)
  - Director of Nutrition Research, The Framingham Study

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

Introduction to DGAC report

## 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: Integration and Recommendations

## 2015 DGAC Themes

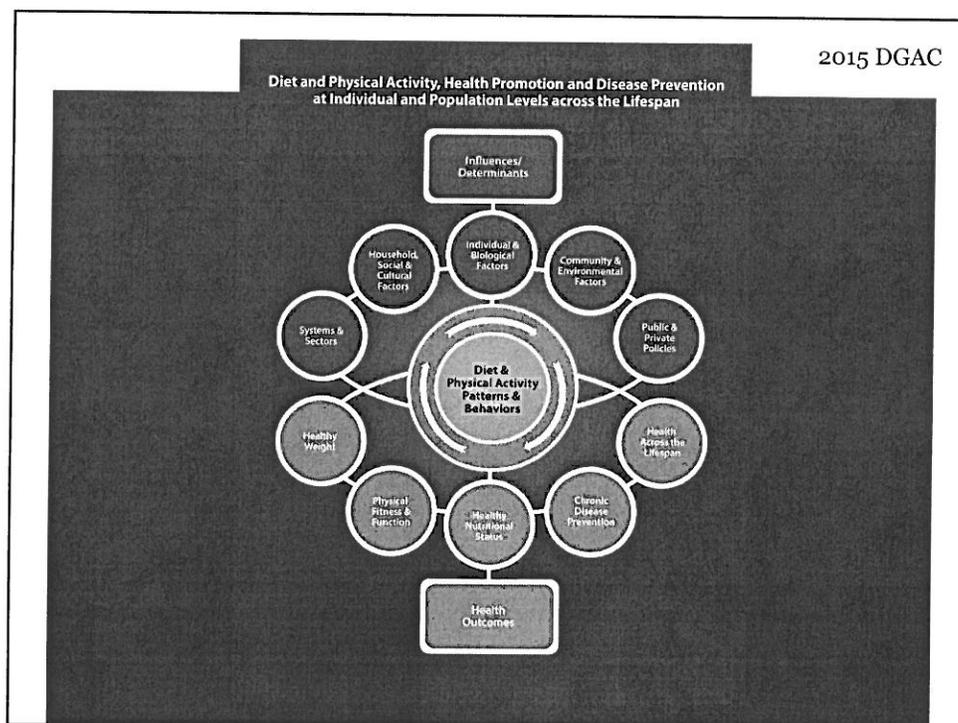
### Core to the DGAC

- 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 and Research-Driven Approach

Introduction to DGAC report



2015 DGAC Subcommittees				
Science Review Subcommittee				
SC 1	SC 2	SC 3	SC 4	SC 5
<b>Food and Nutrient Intakes, and Health: Current Status and Trends</b>	<b>Dietary Patterns, Foods and Nutrients, and Health Outcomes</b>	<b>Diet and Physical Activity Behavior Change</b>	<b>Food and Physical Activity Environments</b>	<b>Food Sustainability and Safety</b>
Nutrients of concern Food group intakes Food sources Eating behaviors Dietary patterns Health concerns Food pattern modeling	Dietary patterns and health outcomes  Foods and nutrients and health outcomes	Self-monitoring Eating out Household food insecurity Food/menu label use Mobile health Acculturation Screen time/sedentary behavior Sleep patterns	Settings: Schools/afterschool Childcare Post-secondary Worksites  Other Topics: Food access	Food safety: Preventing foodborne illness Caffeine Aspartame  Other Topics Dietary patterns and sustainability

## Cross-cutting Topics of Public Health Importance: Work Groups (WG)

- Added Sugars
- Sodium
- Saturated Fat
- Physical Activity

Introduction to DGAC report

**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](http://www.DietaryGuidelines.gov)  
Go to "Resources"  
and select "Data Analyses"

Introduction to DGAC report

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**2015 U.S. Dietary Guidelines Advisory Committee**

<b>Barbara Millen, DrPH, MPH, RD, FAIDA</b> Chair Millennium Prevention, Inc.	<b>Steven Clinton, MD, PhD</b> The Ohio State University
<b>Alice Lichtenstein, DSc, MS</b> Vice Chair Tufts University	<b>Frank Hu, MD, PhD, MPH</b> Harvard School of Public Health
<b>Steven Abrams, MD</b> Baylor College of Medicine	<b>Miriam (Mim) E. Nelson, PhD</b> Tufts University
<b>Luella Adams-Campbell, PhD</b> Georgetown University Medical Center	<b>Marian Neuhouser, PhD, RD</b> Fred Hutchinson Cancer Research Center
<b>Cheryl Anderson, PhD, MPH</b> University of California, San Diego	<b>Rafael Pérez-Escamilla, PhD</b> Yale School of Public Health
<b>J. Thomas Brenna, PhD</b> Cornell University	<b>Anna Maria Siega-Riz, PhD</b> The University of North Carolina at Chapel Hill
<b>Wayne Campbell, PhD</b> Purdue University	<b>Mary Story, PhD, RD</b> Duke University

Consultants: Timothy S. Griffin, PhD (Tufts); Michael W. Hamm, PhD (MSU); Michael G. Perri, PhD (U FL)

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**2015 Co-Executive Secretaries**

<b>Richard Olson, MD, MPH</b> Division of Prevention Science Office of Disease Prevention and Health Promotion HHS	<b>Colette Rihane, MS, RD</b> Office of Nutrition Guidance and Analysis Center for Nutrition Policy and Promotion USDA
<b>Kellie Casavale, PhD, RD</b> Division of Prevention Science Office of Disease Prevention and Health Promotion HHS	<b>Shanthy Bowman, PhD</b> <b>Co-Executive Secretary</b> Food Surveys Research Group Agricultural Research Service USDA

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## 2015 DGAC OVERALL FINDINGS

### What the Report's Evidence Base tells us

1. The most prevalent, preventable diet- and lifestyle-related chronic diseases and other important health outcomes
2. What foods and nutrients are over- and under-consumed and of public health concern
3. Where population disparities exist in dietary quality, food security, and health profile characteristics
4. How dietary patterns (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

DGAC Report: Introduction, Evidence Base and Overall Findings

## 2015 DGAC OVERALL FINDINGS

### What the Evidence Base tells us (cont.):

7. Multiple, alternative and appealing dietary pattern *options* 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
9. Settings and collaborative, multi-component approaches shown effective in achieving dietary behavior change and disease risk reduction
10. The convergence of research on dietary patterns shown to result in beneficial health outcomes and to be associated with food security and environmental sustainability now and for future generations.

DGAC Report: Introduction, Evidence Base and Overall Findings

## Key Themes SC1

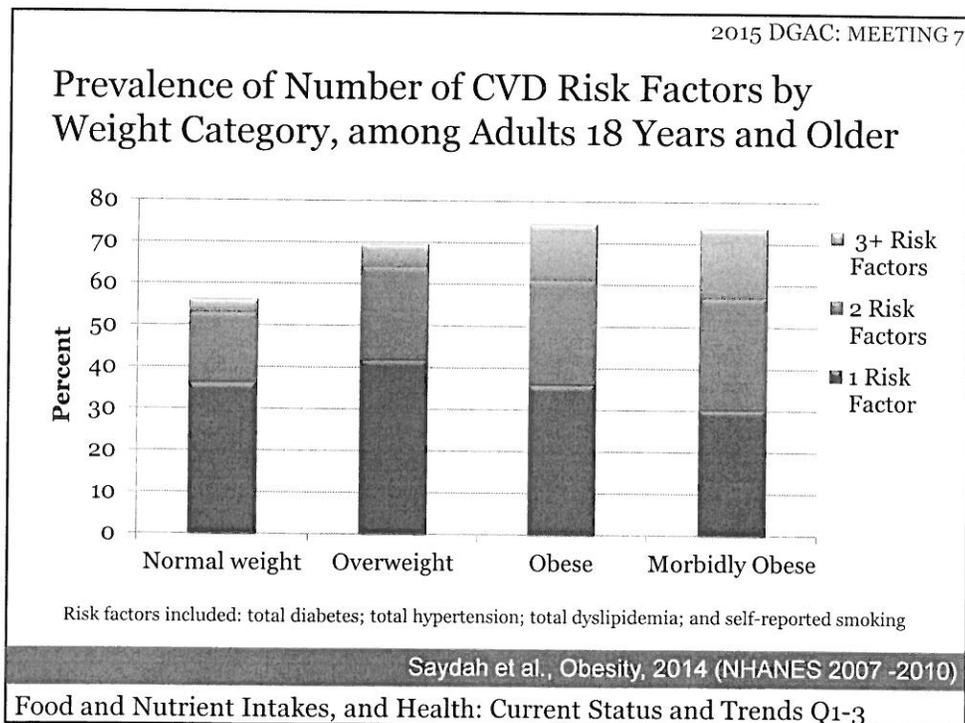
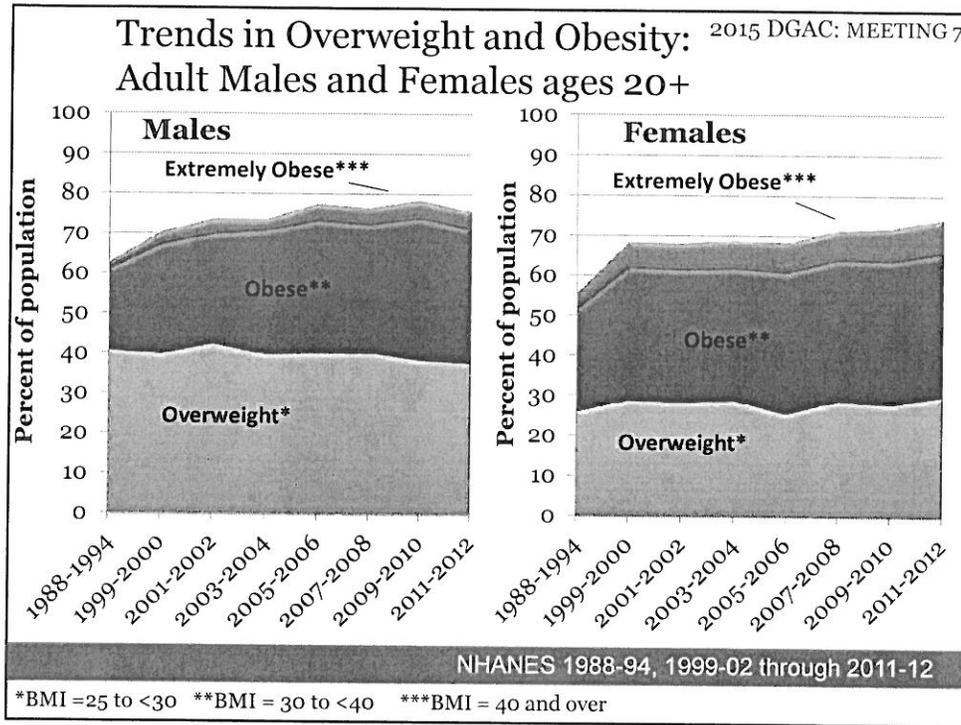
- **The problem:** high rates of diet-related chronic diseases and overweight/obesity
  - Focus in the United States has generally been on disease treatment rather than prevention
- **The gap:** suboptimal dietary patterns
  - Low in vegetables, fruit, whole grains
  - High in sodium, saturated fat, refined grains, added sugars, and calories

Integration of Findings Q 1-3

## Health Conditions : Evidence Base SC1

- **The overall problem:**
  - *preventable* chronic diseases, include high blood pressure, CVD, diabetes, and various forms of cancer affect 117M U.S. adults
  - two-thirds of adults and one in three children are overweight or obese
  - 50-75 percent of adults have one or more cardiometabolic risk factors; risks are rising in children and youth as overweight and obesity increase
  - other less common but important nutrition-related health outcomes are growing concerns

DGAC Report: Integration and Recommendations Overall Findings Q1-3



## Health Conditions: Overall SC1 conclusions

- At all ages, rates of chronic disease are linked to overweight and obesity.
- Adults have high rates of high blood pressure, CVD, diabetes, and various forms of cancer.
- Children and adolescents also have nutrition-related chronic diseases, including borderline high blood pressure and type 2 diabetes.
- Prevalence of osteoporosis and of low bone mass increases with age, particularly in post-menopausal women.
- Nutrition-related neurological and psychological conditions are a growing concern.
- Congenital anomalies are a relatively rare, but important pregnancy outcome.

Food and Nutrient Intakes, and Health: Current Status and Trends Q1-3

## Key Themes

- **The problem:** high rates of chronic disease and overweight/obesity
  - Focus in the United States has generally been on disease treatment rather than prevention
- **The gap:** suboptimal dietary intake
  - Low in vegetables, fruit, whole grains
  - High in sodium, saturated fat, refined grains, added sugars, and calories

Integration of Findings Q1-3

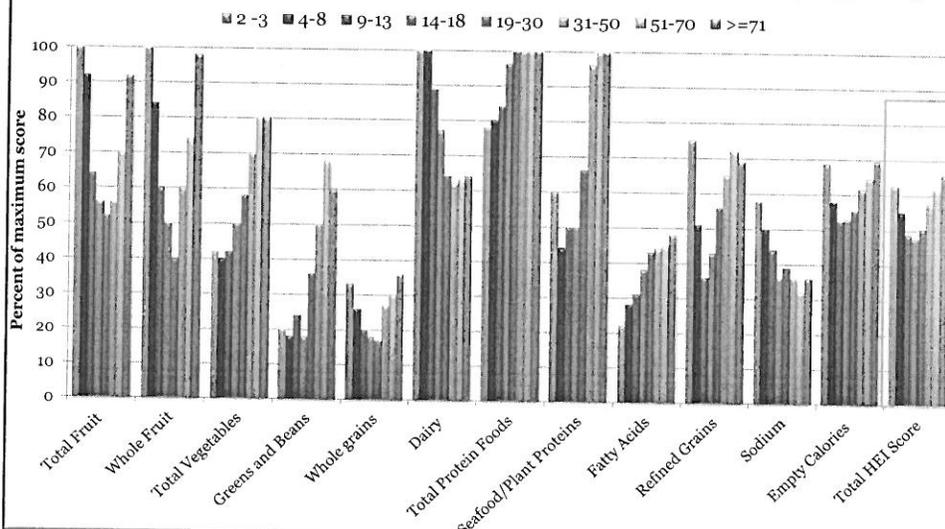
## Conclusions SC 1 Nutrient Intakes and Nutrients of Concern

- Based on intake data, together with nutritional biomarker and health outcomes data, identified nutrients that may pose a public health concern:
  - Vitamin D, calcium, potassium, and fiber are underconsumed across the entire US population.
  - Iron is underconsumed for adolescent and premenopausal females.
  - Sodium is overconsumed across the entire US population
  - Saturated fat is overconsumed and may pose the greatest risk to those > 50 years old.
- Based upon current population intake levels, cholesterol is not considered a nutrient of concern for overconsumption.

Food and Nutrient Intakes, and Health: Current Status and Trends Q1-3

2015 DGAC: MEETING 7

### Average HEI-2010 scores for Americans by age group



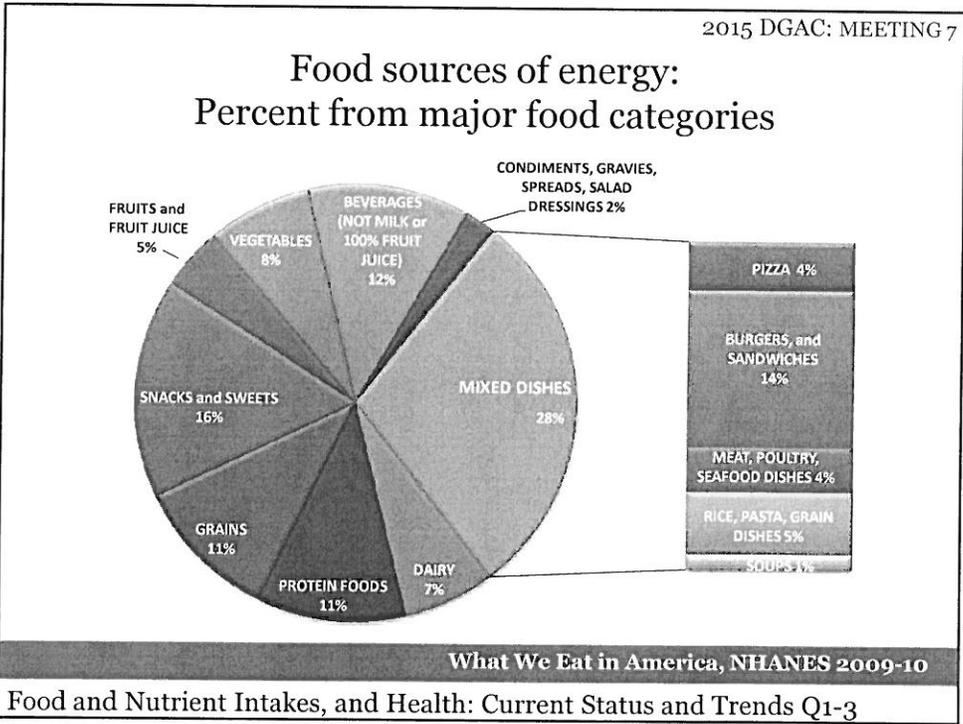
What We Eat in America, NHANES 2009-10

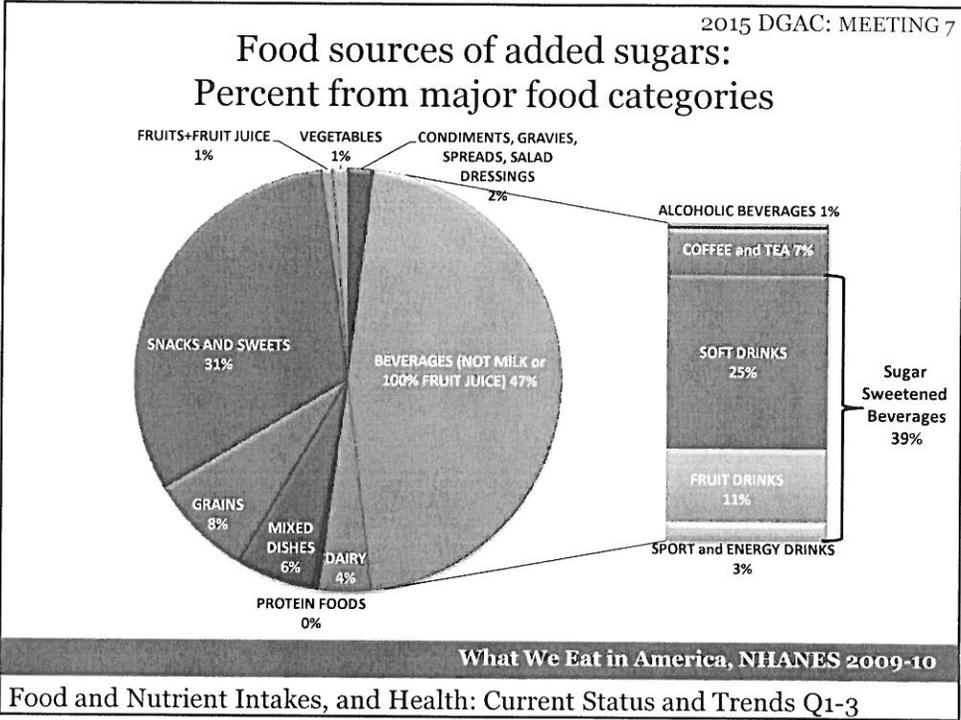
Food and Nutrient Intakes, and Health: Current Status and Trends Q1-3

## Dietary Patterns—U.S. population Intakes vs. Expert Standards

- Average HEI score in the U.S. population is 57 points out of a total of 100 points.
- The best component scores were for: total protein foods, seafood and plant proteins, dairy.
- The poorest component scores were for: whole grains, sodium, fatty acid ratio, greens and beans, and empty calories.

Food and Nutrient Intakes, and Health: Current Status and Trends Q1-3





### Conclusions Food Categories—sources of sodium, saturated fat, and added sugars

- Mixed dishes are the largest contributor to intake of sodium and saturated fat (SF) (**and calories**).
  - Within mixed dishes, the sub-category of burgers and sandwiches is the largest contributor for Na+ and SF
- Sodium is ubiquitous in the food supply and many food categories contribute to intake.
- Snacks and sweets are a major contributor to added sugars and saturated fat intake.
- Beverages supply almost half of added sugars intake.

## Overall Dietary Quality: Evidence Base SC1

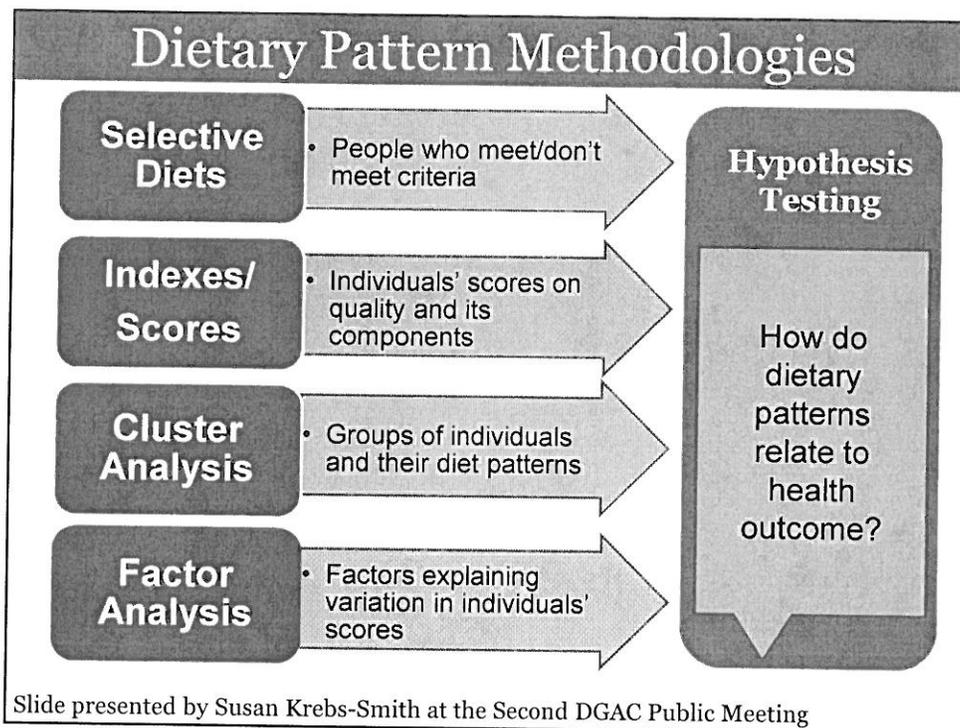
- **Solutions and Recommendations:**
  - Apply best evidence-based methods to improve dietary quality using sound interventions and services and product innovations
  - Increase under-consumed food groups and nutrients using nutrient-dense foods while maintaining energy balance, and decreasing saturated fat, sodium and added sugars

DGAC Report: Integration and Recommendations Overall Findings Q1-3

## Overall Dietary Quality: Evidence Base SC1

- Develop and implement sound strategies at individual and population level to improve intakes, particularly of ‘nutrients of public health concern’ (vitamin D, calcium, potassium, iron (in women of child-bearing age), sodium, and saturated fat
- Act across all sectors of food production, distribution and consumption and in public and private community settings to achieve healthy dietary patterns at individual and population levels

DGAC Report: Integration and Recommendations Overall Findings Q1-3



## Major Conclusions SC<sub>2</sub>

### Dietary Patterns & Health Outcome Links

- **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)

Dietary Patterns, Foods and Nutrients, and Health Outcomes Q4-6

## WG Major Conclusions: Sodium

- **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

Sodium Working Group

## WG Major Conclusions: Saturated Fat

- **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

Cross-Cutting Topics of Public Health Importance

2015 DGAC

## WG Major Conclusions: Added Sugars

- Added sugars, especially sugar-sweetened 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

## Healthy Dietary Pattern Recommendations:

### SC2

- 2015 DGAC identified common beneficial dietary pattern features across diverse health outcomes and recommends *healthy* dietary pattern options that:
  - Emphasize vegetables, fruits, whole grains, legumes and nuts and include low-fat dairy products and seafood
  - Limit saturated fat and sodium, refined grains and sugar-sweetened foods and beverages
  - Are lower in red and processed meats
  - Alcohol, if consumed, should be consumed in moderation (by adults only) and should not be consumed by identified subgroups

DGAC Report: Integration and Recommendations Overall Findings Q4-6

### Healthy Dietary Pattern Recommendations: SC2 and WGs

- In addition to recommending *healthy* dietary pattern options that:
  - Emphasize vegetables, fruits, whole grains, legumes and nuts and include low-fat dairy products and seafood
  - Limit saturated fat and sodium, refined grains and sugar-sweetened foods and beverages
  - Are lower in red and processed meats
  - Alcohol, if consumed, should be consumed in moderation (by adults only) and should not be consumed by identified subgroups

DGAC Report: Integration and Recommendations Overall Findings Q4-6

### Healthy Dietary Pattern Recommendations: SC2 and WGs

- The 2015 DGAC also recommends that, as part of a healthy dietary pattern,
  - saturated fat intake is less than 10% of total calories (emphasizing replacement of saturated fat with unsaturated fat, particularly polyunsaturated fats)
  - sodium intake is limited to less than 2300 mg per day
  - Added sugars are limited to 10% or less of total calories
  - Total calories meet energy needs in order to achieve and maintain ideal body weight
  - Previous cholesterol recommendation not be carried forward

DGAC Report: Integration and Recommendations Overall Findings Q4-6

## WG Summary: Physical Activity

- **Strong** evidence supports the importance of regular physical activity for health promotion and disease prevention in the U.S. population.
- Given the low physical activity participation rates in this country, it is critically important to identify proven strategies and approaches to increase population-level physical activity across the lifespan.

Physical Activity

## Dietary Patterns and Health Outcomes: Evidence Base SC1, SC2 & WGs

- **The solutions and recommendations:**
  - Develop prevention policies and programs that target all age groups across the life span
  - Shift the paradigm and focus in healthcare and public health towards a greater emphasis on disease prevention and risk reduction through sound diet and lifestyle strategies
  - Incentivize the provision of *personalized lifestyle and nutrition* interventions to combat obesity, overweight, chronic diseases and metabolic risks
  - Expand and integrate nutrition and lifestyle services for weight management in health care and other settings

DGAC Report: Integration and Recommendations Overall Findings Q1-6

## Health Conditions: Evidence Base SC1-3

- Use qualified professionals to deliver multidisciplinary interventions and medical nutrition therapy, as needed, to reduce chronic disease risks
- Complement health care and public health approaches with environmental strategies in retail, educational, social service, agricultural and other settings and sectors
- Address nutrition and lifestyle issues with evidence-based interventions in multiple settings
- Encourage multi-sector collaborations to achieve population health

DGAC Report: Integration and Recommendations Overall Findings Q1-6

### Composition of 3 USDA Patterns at the 2000 calorie level MODELING 2015 DGAC: MEETING 7

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 Q7

Nutrients in Patterns at the 2000 calorie level MODELING <sup>2015 DGAC: MEETING 7</sup>

Nutrient	Healthy US-style	Healthy Vegetarian	Healthy Med-style
Percent of goal or limit 19-30 yo women			
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	76%78%	61%	72%73%

DGAC Report: Integration and Recommendations Overall Findings Q7

## Healthy Dietary Patterns % Added Sugars

**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 <b>added sugars</b> (assuming 45% empty calories from added sugars and 55% from solid fat)												
Healthy U.S.-style	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.S.-style	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%

DGAC Report: Integration and Recommendations Overall Findings Q7

## Healthy Lifestyle Recommendations

### SC2-5

- Policies and interventions to promote health at individual and population levels should:
  - be bold, creative and evidence-based
  - bring together new 'partnerships across sectors, settings, and disciplines
  - build upon the evidence base of sound diet, physical activity and behavioral approaches
  - Be tailored to individuals and communities
    - biological and health needs
    - dietary preferences
    - cultural traditions
- Encourage and facilitate healthy dietary patterns and regular physical activity

DGAC Report: Integration and Recommendations Overall Findings Q8-9

## SC 5 Topics/Questions Addressed

### Sustainable Diets

- Dietary Patterns
  - Seafood
- } Modified NEL Systematic Review  
Data Analysis  
Existing Reports

### Food Safety

- Coffee and caffeine
  - Aspartame
  - Consumer behaviors
- } Systematic Reviews/Meta-Analyses  
Existing Reports  
Topic update from 2010 DGAC

Food Sustainability and Safety Q10

## SC5 Major Conclusions & Recommendations Sustainability

### Dietary Patterns and Sustainability

*A dietary pattern higher in plant-based foods, such as vegetables, fruits, whole grains, legumes, nuts, and seeds, and lower in animal-based foods is more health promoting and is associated with lesser environmental impact than is the current average U.S. diet.*

The U.S. population should be encouraged to move towards the dietary pattern noted above while decreasing overall total calories. This can be achieved through a variety of dietary patterns, including the Healthy U.S.-style Pattern, the Healthy Vegetarian Pattern, and the Healthy Mediterranean-style Pattern. Each of these patterns provides more plant-based foods and lower amounts of meat than are currently consumed by the U.S. population.

Food Sustainability and Safety Q 10

## Healthy Dietary Patterns: SC2 and SC5

- Healthy dietary patterns are causally linked to diverse, favorable health outcomes
- Healthy dietary patterns are associated with better environmental outcomes (including land, water and resource use)
- Opportunities exist to align these data in developing innovative consumer awareness and educational strategies to promote healthy dietary patterns at individual and population levels

DGAC Report: Integration and Recommendations Overall Findings Q4,10

2015 DGAC: MEETING 7  
December 15, 2014

## *Creating a Culture of Health*

### **DGAC Report: Integration & Recommendations**

#### **Key Components for a Culture of Health**

- Population health is a national priority
- Healthy 'lifestyle' resources are accessible, affordable & normative
- Health care and public health professionals take leadership roles in prevention; set new 'systems-wide' standards to promote health in patients, clients and staff; and offer/refer to sound nutrition and lifestyle behavior services and programs
- Health care and public health systems shift their paradigms towards a greater emphasis on prevention
- Initiatives and incentives are offered through public and private policies and settings (including health insurance, worksites and other settings) to emphasize personal health promotion, disease prevention and weight management
- Collaborations take place across societal sectors to promote population health
- Incentives are enacted to encourage initiatives, environmental and policy changes, improved food/beverage standards and products, and preventive services

DGAC Report: Integration and Recommendations

## Actions for Individuals, Families, and Households

- Take action to promote personal and household/family health
- Know and understand how to modify personal diet and physical activity to reduce individual and family/household health risks
- Achieve a healthy dietary pattern through healthy food and beverage choices rather than nutrient or dietary supplements
- Use available 'Dietary Guidelines for Americans' tools and other sound resources to initiate positive personal lifestyle changes to improve dietary and physical activity behaviors, including goal setting and self-monitoring

DGAC Report: Integration and Recommendations

## Actions for Communities and Populations

- Aim to make healthy lifestyles and prevention a national and local priority and reality
- Seek paradigm shifts in health care and public health toward a greater focus on prevention
- Establish healthy food environments (schools, worksites, early child care settings, etc.)
- Integrate food and agricultural systems with community health systems and other settings

DGAC Report: Integration and Recommendations

## Actions for Communities and Populations

- Support and expand access to healthy built environments and advocate wide community use
- Maintain strong support for Federal food and nutrition programs
- Recognize and place priority on moving toward a more sustainable diet consistent with the healthy dietary pattern options. Understand and promote that access to sufficient, nutritious, and safe foods are an essential element of food security for the U.S. population. A sustainable diet helps ensure this access for both the current population and future generations.

DGAC Report: Integration and Recommendations

## Contextual factor considerations - SC3

1. Provide continuous support of Federal programs to help alleviate the consequences of household food insecurity
2. Food and nutrition assistance programs should take into account the risk that immigrants have of giving up their healthier dietary habits soon after arriving in the United States
3. Provide all individuals living in the United States with the environments, knowledge, and tools needed to implement effective individual- or family-level behavioral change strategies to improve the quality of their diets and reduce sedentary behaviors

Individual Diet and Physical Activity Behavior Change Q8-9

## Healthy Lifestyle Recommendations

### SC2-5

- *Use successful methods of Individual behavior change* – evidence-based tools and effective strategies such as self-monitoring of diet and physical activity, reduced sedentary behavior and screen time and reduced frequency of ‘fast foods and referral to interventions implemented by nutrition professionals in individual or small group settings or comprehensive lifestyle interventions conducted by multidisciplinary teams of trained health professionals
- *Use sound population level approaches* – targeted environmental and policy changes and standards, collaboration across systems and sectors, use sound multi-pronged models as seen in day care, schools and corporate worksites, and engagement of parents and families, as appropriate

DGAC Report: Integration and Recommendations Overall Findings Q8-9

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## Model Intervention Strategies SC4

Examples of strategies identified in key settings – early care and education, schools, and worksites

- For obesity prevention, effective multi-component interventions incorporated both nutrition and physical activity using a variety of strategies, including:
  - Environmental policies to improve the availability and provision of healthy foods;
  - Increasing opportunities for physical activity;
  - Increased parent engagement (in day care and schools) and
  - Educational approaches (e.g., school curriculum, worksite wellness).
- For multi-component dietary interventions effective strategies include:
  - Nutrition education;
  - Parent engagement (in day care and schools); and
  - Environmental policies (e.g., nutrition standards, food service changes, point-of-purchase information)

Food Environment and Settings Q8-9