



**Dietary
Guidelines
for Americans**





Food Pattern Modeling

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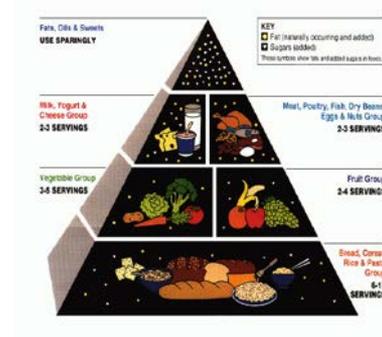
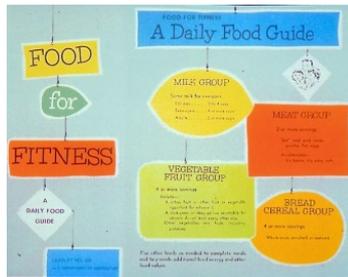
Purpose

Analysis approach to understand how changes to food group intakes might impact meeting nutrient needs across the U.S. population.





USDA Food Patterns



USDA Food Patterns

- Examples of food group amounts designed to promote health and meet nutrient needs.
 - Articulate the evidence on the relationship between diet and health.
 - Compared to Dietary Reference Intake nutrient recommendations
- Based on a range of typical American food choices
 - In nutrient dense forms of foods
- Adaptable to fit an individual's preferences

Healthy US-Style Pattern

Calorie Level of Pattern ^a	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
Food Group^b	Daily Amount^c of Food from Each Group (vegetables and protein foods subgroup amounts are per week)											
Fruits	1 c-eq	1 c-eq	1½ c-eq	1½ c-eq	1½ c-eq	2 c-eq	2 c-eq	2 c-eq	2 c-eq	2½ c-eq	2½ c-eq	2½ c-eq
Vegetables	1 c-eq	1½ c-eq	1½ c-eq	2 c-eq	2½ c-eq	2½ c-eq	3 c-eq	3 c-eq	3½ c-eq	3½ c-eq	4 c-eq	4 c-eq
Dark-green veg (c-eq/wk)	½	1	1	1½	1½	1½	2	2	2½	2½	2½	2½
Red/Orange veg (c-eq/wk)	2½	3	3	4	5½	5½	6	6	7	7	7½	7½
Beans and peas (c-eq/wk)	½	½	½	1	1½	1½	2	2	2½	2½	3	3
Starchy veg (c-eq/wk)	2	3½	3½	4	5	5	6	6	7	7	8	8
Other veg (c-eq/wk)	1½	2½	2½	3½	4	4	5	5	5½	5½	7	7
Grains	3 oz-eq	4 oz-eq	5 oz-eq	5 oz-eq	6 oz-eq	6 oz-eq	7 oz-eq	8 oz-eq	9 oz-eq	10 oz-eq	10 oz-eq	10 oz-eq
Whole grains ^d (oz-eq/day)	1½	2	2½	3	3	3	3½	4	4½	5	5	5
Refined grains (oz-eq/day)	1½	2	2½	2	3	3	3½	4	4½	5	5	5
Protein Foods	2 oz-eq	3 oz-eq	4 oz-eq	5 oz-eq	5 oz-eq	5½ oz-eq	6 oz-eq	6½ oz-eq	6½ oz-eq	7 oz-eq	7 oz-eq	7 oz-eq
Meats, poultry, eggs (oz-eq/wk)	10	14	19	23	23	26	28	31	31	33	33	33
Seafood (oz-eq/wk)	3	4	6	8	8	8	9	10	10	10	10	10
Nuts, seeds, soy products (oz-eq/wk)	2	2	3	4	4	5	5	5	5	6	6	6
Dairy	2 c-eq	2½ c-eq	2½ c-eq	3 c-eq	3 c-eq	3 c-eq	3 c-eq	3 c-eq	3 c-eq	3 c-eq	3 c-eq	3 c-eq
Oils	15 g	17 g	17 g	22 g	24 g	27 g	29 g	31 g	34 g	36 g	44 g	51 g
Limit on Calories for Other Uses^{e,f}												
Calories	150	100	110	130	170	270	280	350	380	400	470	610
% of Calories	15%	8%	8%	8%	9%	14%	13%	15%	15%	14%	16%	19%



Healthy US-Style Pattern

Calorie Level of Pattern ^a	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
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Vegetables	1 c-eq	1½ c-eq	1½ c-eq	2 c-eq	2½ c-eq	2½ c-eq	3 c-eq	3 c-eq	3½ c-eq	3½ c-eq	4 c-eq	4 c-eq
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Food Pattern Modeling



What is Food Pattern Modeling?

IT IS...

- Modification of the USDA Food Patterns food groups and assessment of the impacts on nutrients
- Way to answer questions about hypothetical changes in Dietary Guidelines food-based recommendations

IT IS NOT...

- Menu modeling, which specifies particular foods

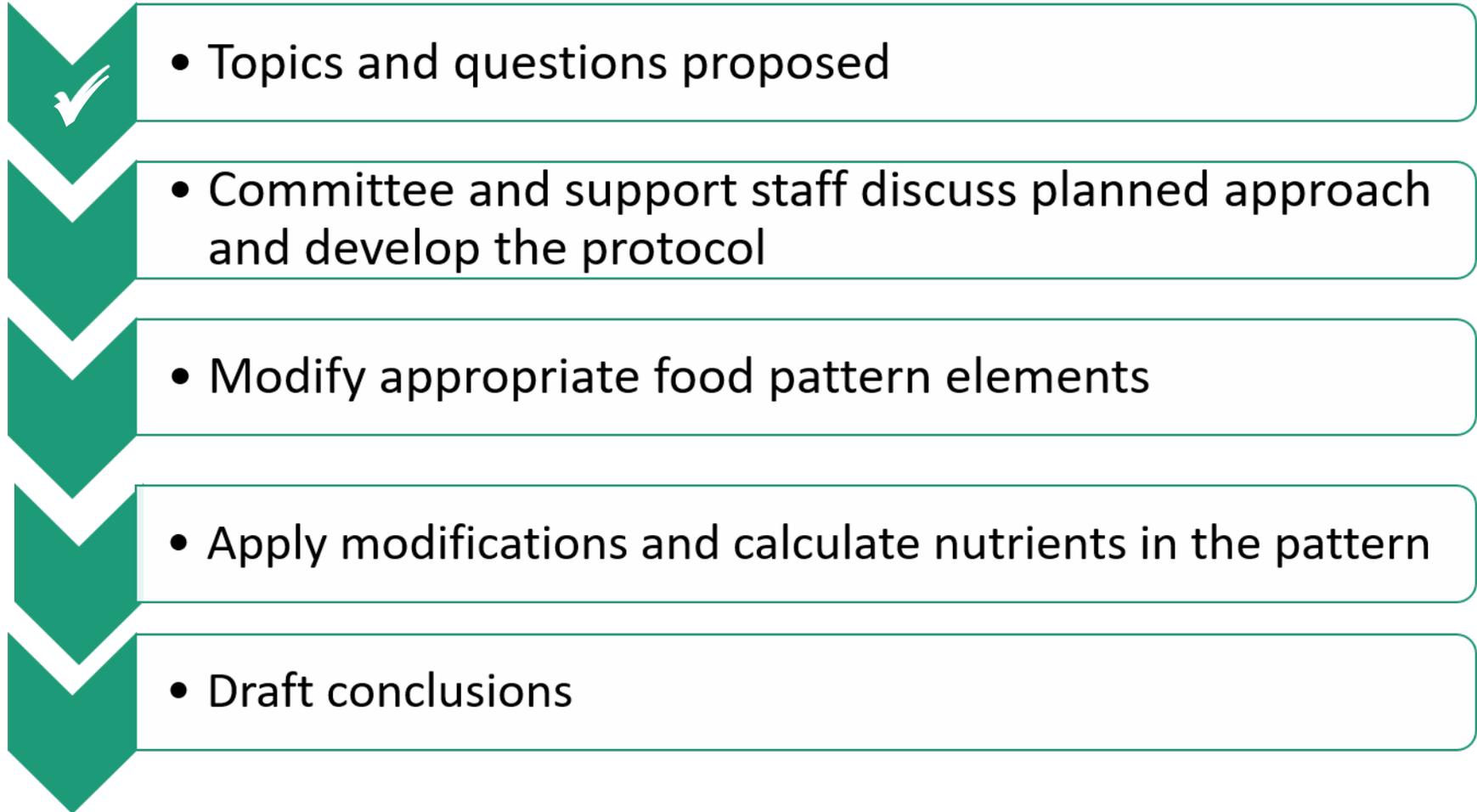
History of Food Pattern Modeling

Innovative approach to solve hypothetical questions

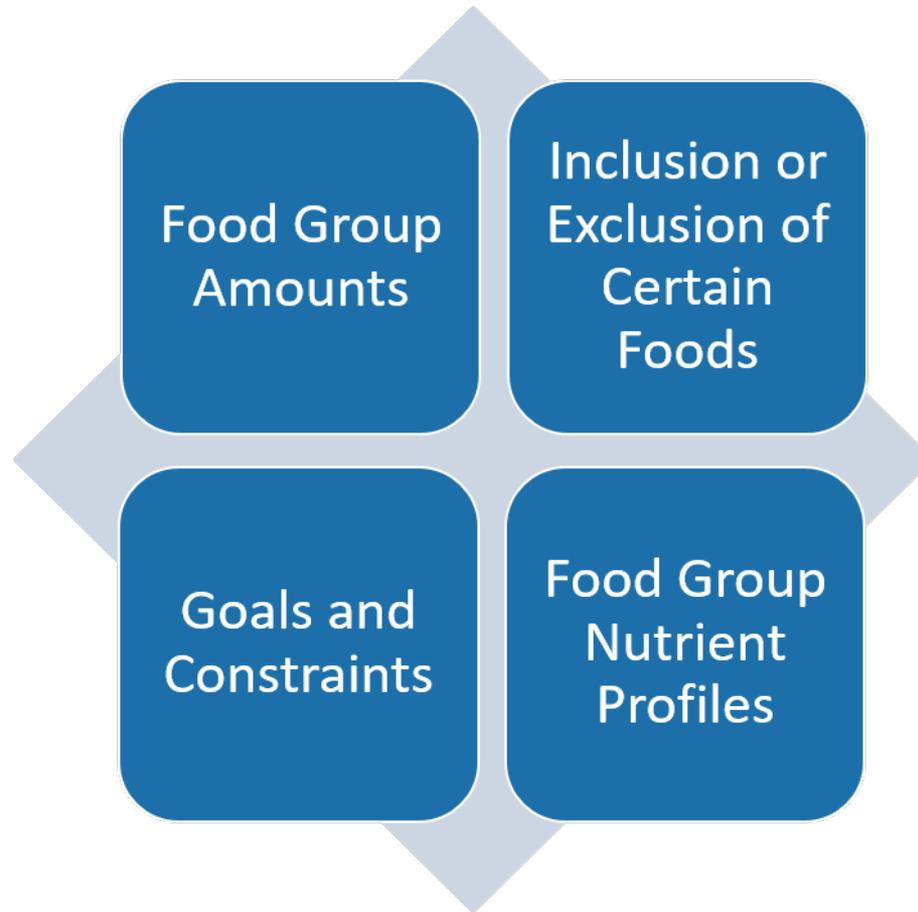
2005	Process developed to respond to hypothetical—“what if...”—questions posed by the Committee members to staff
2010	Increased capacity of method and questions that were developed by the Committee
2015 - present	Established approach available for the Committee to examine the evidence



Outline of Current Process



Food Pattern Modifiable Elements



Key Assumptions of Modeling

- Assumes population-based consumption patterns
 - Foods reported by Americans in nutrient dense forms
 - Articulates the evidence in a way that could be adopted by the American public
- Assumes compliance with all food intake recommendations
 - Does not predict the behaviors of individuals



Relevant Topics and Questions

- B-24: USDA Food Patterns be established based on the relationships identified
- Ages 2+: Are changes to the USDA Food Patterns needed based on the relationships identified
- The ability to meet nutrient recommendations for each stage of life through variations in USDA Food Patterns
- Is there evidence to support supplementation and/or consumption of fortified foods to meet nutrient adequacy for each stage of life
- The relationship between beverage consumption and achieving nutrient and food group recommendations during relevant stages of life
- The relationship between added sugars consumption at each stage of life and achieving nutrient and food group recommendations

Food Pattern Modeling Team

Federal scientists with advanced degrees in nutrition, statistics and epidemiology

TusaRebecca Pannucci, PhD, MPH, RD

- Kristin Koegel, MBA, RD
- Kevin Kuczynski, MS, RD
- Cheyenne Swanson, MS
- *Others*



Dietary
Guidelines
for Americans

Transparency in Food Pattern Modeling

DietaryGuidelines.gov

Follow Along

Protocols
developed

Modeling methods

Draft conclusions

The screenshot shows the top navigation bar of the Dietary Guidelines for Americans website. The logo 'DGA Dietary Guidelines for Americans' is on the left. On the right, there are links for 'GET INVOLVED >', 'CONTACT US', and 'FAQS'. Below the navigation bar is a blue header with links for 'Home', 'About', 'Current Dietary Guidelines', 'Work Under Way', 'Most Popular Questions', and 'Resources'. The main content area features a banner image of hands on a wooden table with the text 'Work Under Way'. Below the banner is a sub-header 'Topics and Questions to be Examined by the Committee' with social media icons for Facebook, Twitter, WhatsApp, and a plus sign. A legend below the sub-header shows four categories: 'Still to Come' (white square), 'Developing the Plan' (grey square), 'Implementing the Plan' (yellow triangle), and 'Draft Conclusion' (green circle). The main table is titled 'Dietary Patterns' and has two columns: 'Status' and 'All ages'. It lists 10 topics, each with a checkbox in the 'Status' column. The first 8 topics are under the 'All ages' category, and the last 2 are under the 'Pregnancy and lactation' category.

Home | About | Current Dietary Guidelines | Work Under Way | Most Popular Questions | Resources

Work Under Way

Home | Work Under Way | Review of the Science | Topics and Questions to be Examined by the Committee

Topics and Questions to be Examined by the Committee

Still to Come Developing the Plan Implementing the Plan Draft Conclusion

Dietary Patterns	
Status	All ages
<input type="checkbox"/>	1. What is the relationship between dietary patterns consumed at each stage of life and growth, size, body composition, and risk of overweight and obesity?
<input type="checkbox"/>	2. What is the relationship between dietary patterns consumed at each stage of life and risk of cardiovascular disease?
<input type="checkbox"/>	3. What is the relationship between dietary patterns consumed at each stage of life and risk of type 2 diabetes?
<input type="checkbox"/>	4. What is the relationship between dietary patterns consumed at each stage of life and risk of certain types of cancer?
<input type="checkbox"/>	5. What is the relationship between dietary patterns consumed at each stage of life and bone health?
<input type="checkbox"/>	6. What is the relationship between dietary patterns consumed at each stage of life and neurocognitive health?
<input type="checkbox"/>	7. What is the relationship between dietary patterns consumed at each stage of life and sarcopenia?
<input type="checkbox"/>	8. What is the relationship between dietary patterns consumed at each stage of life and all-cause mortality?
Pregnancy and lactation	
<input type="checkbox"/>	9. What is the relationship between dietary patterns consumed during pregnancy and risk of gestational diabetes?
<input type="checkbox"/>	10. What is the relationship between dietary patterns consumed during pregnancy and risk of hypertensive disorders during pregnancy?



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