MyPyramid
Food Guidance System
Background and Update

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History of USDA’s Food Guidance

Food Intake Patterns

• Basis for all of MyPyramid’s advice
• Identify what and how much to eat
• Designed to meet DRI and DGA recommendations
  – 12 patterns for varying population groups and energy needs
  – Amounts to be met on average over time, not each day

Developing MyPyramid’s Food Intake Patterns

1. Determine nutrient goals and calorie needs for population groups

Determine Calorie Needs

Estimated Energy Requirements* for males

*From the National Academy of Sciences, Institute of Medicine Dietary Reference Intakes Macronutrient Report
Developing MyPyramid's Food Intake Patterns

1. Determine calorie needs and nutrient goals for population groups
2. Establish food groups
3. Calculate nutrient profiles for each food group

Nutrient Profiles

Answers the question: What nutrients can be expected from consuming a given amount of each food group?
For example: What is the vitamin A content of a typical dark green vegetable?

Cooked Spinach 943 µg per cup
Cooked Broccoli 153 µg per cup

Nutrient Profiles

Calculate consumption of each dark green vegetable:

Percent of total dark green vegetable consumption

Cooked Spinach 15%
Cooked Broccoli 16%
All other DGV 19%

Nutrient Profiles

• Profiles calculated for all nutrients in each food group and subgroup.
• Calculations are based on "nutrient-dense forms" of each food—lean or lowfat, with no added sugar.

Developing MyPyramid’s Food Intake Patterns

1. Determine calorie needs and nutrient goals for population groups
2. Establish food groups
3. Calculate nutrient profiles for each food group
4. Determine recommended amounts from each food group

Constructing Intake Patterns

• Establish initial amount from each food group
• Compare resulting nutrient content to nutritional goals
• Change amounts from food groups stepwise
  – Identify groups or subgroups that are the most feasible nutrient sources
  – Check amounts recommended against typical consumption
• Remaining calories after nutrient needs met identified as “discretionary calories”
Intake pattern - 2000 calories

Grains 6 ounce equivalents (> 3 oz whole)
Fruits 2 cups
Vegetables 2½ cups
– Dark green 3 cups per week
– Orange 2 cups per week
– Dry beans & peas 3 cups per week
– Starchy 3 cups per week
– Other 6½ cups per week
Meat & Beans 5½ ounce equivalents
Milk 3 cups
Oils Allowance 27 grams (6 tsp)
Disc Cal Allowance 267 calories

Milk Group Nutrient Profile

Development process
- Identify “item clusters”

Current work—Updating MyPyramid Intake Patterns

- In process—preliminary results only at this time
- Update will be complete in time for your consideration and potential use

Current work—Updating MyPyramid Intake Patterns

- Milk Group—Develop nutrient profile
- Vegetable Group—Refine and update nutrient profiles and reassess subgroups
- Update all nutrient profiles with current nutrient and consumption data
- Develop tiers within each food group, based on SoFAAS content

What is an “item cluster”?

First, foods are disaggregated into ingredients:

What is an “item cluster”?

Then, ingredients are aggregated into clusters:
Milk Group Consumption

<table>
<thead>
<tr>
<th>Females</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-13</td>
<td>10%</td>
</tr>
<tr>
<td>14-18</td>
<td>20%</td>
</tr>
<tr>
<td>19-29</td>
<td>30%</td>
</tr>
<tr>
<td>30-50</td>
<td>40%</td>
</tr>
<tr>
<td>51-70</td>
<td>50%</td>
</tr>
<tr>
<td>71+</td>
<td>60%</td>
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</tbody>
</table>

NHANES 2003-2004

Milk Group Nutrient Profile

Developed 65 item clusters:
- Unflavored and flavored milks
- Milk in soups, sauces, etc
- Yogurts
- Natural and processed cheeses
- Cheese in pizza, Mexican dishes, casseroles, etc.
- Ice creams
- Soymilk

Milk Group Consumption

- Reduced fat milk: 17.7%
- Whole milk: 12.2%
- Fat-free milk: 6.9%
- Lowfat milk: 4.3%
- Reduced-fat flavored milk: 1.7%
- Whole flavored milk: 1.6%
- Milk in casseroles and mixed dishes: 1.4%
- Milk shakes and smoothies: 1.0%
- Lattes and coffee drinks: 1.0%

Milk Group Nutrient Profile

Development process
- Identify item clusters
- Calculate consumption of each
- Choose representative food for each
- Calculate nutrient profile

Milk Group Nutrient Profile

Current work:
- Select a fat-free or lowfat, no-added sugars version of milk, yogurt, or cheese to represent each item cluster
- Calculate a consumption-weighted nutrient profile for the milk group
**Vegetable Group Nutrient Profiles**

Development process
- Identify expanded item clusters
- Calculate consumption of each
- Choose representative food for each
- Calculate nutrient profile
- Reassess subgroup assignments

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**Tiers in Each Food Group**

A systematic approach to assigning foods to a specific area within a MyPyramid food group

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**Vegetable Group Nutrient Profiles**

<table>
<thead>
<tr>
<th>Original Item clusters (N=45)</th>
<th>Expanded Item clusters (N=99)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peppers</td>
<td>Sweet red, sweet green, hot red, hot green</td>
</tr>
<tr>
<td>Green beans</td>
<td>Green beans, snow peas, asparagus, okra, artichokes</td>
</tr>
<tr>
<td>Boiled potatoes</td>
<td>Boiled potatoes, French fries, potato chips, home fries</td>
</tr>
</tbody>
</table>

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**Tiers in Each Food Group**

Why?
- Operationalize discretionary calories
- Identify foods with high SoFAAS and high consumption
- Provide guidance for within food group choices

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**Current work:**
- Calculate a consumption-weighted nutrient profile for each vegetable subgroup
- Identify potential changes in subgroups and/or subgroup assignments
  - To facilitate meeting nutrient goals
  - To better define foods in each subgroup
Tiers in Each Food Group

Development process:
- Select foods primarily in a single food group
- Calculate calories from SoFAAS
- Identify and test potential cutoffs for each tier
- Select final cutoffs and recommended consumption limits for upper tiers

Preliminary Results—Consumption from each Tier

<table>
<thead>
<tr>
<th>Group</th>
<th>Tier 1</th>
<th>Tier 2</th>
<th>Tier 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>18%</td>
<td>47%</td>
<td>32%</td>
</tr>
<tr>
<td>Fruit</td>
<td>94%</td>
<td>2%</td>
<td>4%</td>
</tr>
<tr>
<td>Vegetables</td>
<td>62%</td>
<td>21%</td>
<td>16%</td>
</tr>
<tr>
<td>Meat &amp; Beans</td>
<td>29%</td>
<td>41%</td>
<td>28%</td>
</tr>
<tr>
<td>Grains</td>
<td>45% Whole</td>
<td>48%</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>67% Non-whole</td>
<td>20%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Potential applications:
- Target specific food groups and food choices for educational messaging
- Provide feedback to consumers on their diet quality and specific advice for improvement
- Determine how food choices by tier influence overall diet quality
- Monitor changes over time by food group

Current work—Updating MyPyramid Intake Patterns
- Milk Group nutrient profile
- Vegetable Group nutrient profiles and subgroups
- Update nutrient profiles for all groups
- Develop tiers within each food group

Questions?