Shortfall Nutrients: What We Eat in America, NHANES

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Usual Intake Method

- What We Eat in America, NHANES 2005 - 2008
- N=17,124 individuals, age 1 year+
- Two 24-hour recalls: day 1 in-person, day 2 by phone
- NCI Method used for usual intake determination to assess nutrient intakes in relation to the DRI's
USDA Automated Multiple-Pass Method

Step 1
Quick List
... Listing of all foods and beverages

Step 2
Forgotten Foods
... Probes for forgotten food items

Step 3
Time & Occasion
... Ask for each food

Step 4
Detail Cycle
... Standardized probes and questions for each food

Step 5
Final Probe
... A final probe for anything else
Nutrients of Concern

potassium
dietary fiber
calcium
vitamin D

For specific population groups:
iron
folate
vitamin B12
Percentage of Americans with Usual Intakes Below their Estimated Average Requirements

Source: What We Eat In America, NHANES 2005-2008, individuals 1 year+, excluding breast-fed children and pregnant or lactating females except where noted, using NCI method for usual intake estimation
Distribution of Usual Daily Intakes of Vitamin D from Food/Beverages

Source: What We Eat In America, NHANES 2005-2008, individuals 1 year+, excluding breast-fed children and pregnant or lactating femalesexcept where noted, using NCI Method for usual intake estimation
Distribution of Usual Daily Intakes of Calcium from Food/Beverages

Source: What We Eat In America, NHANES 2005-2008, individuals 1 year+, excluding breast-fed children and pregnant or lactating females except where noted, using NCI Method for usual intake estimation.
Distribution of Usual Daily Intakes of Folate (DFE) from Food/Beverages

Source: What We Eat In America, NHANES 2005-2008, individuals 1 year+, excluding breast-fed children and pregnant or lactating females except where noted, using NCI Method for usual intake estimation.
Distribution of Usual Daily Intakes of Vitamin C from Food/Beverages

Source: What We Eat In America, NHANES 2005-2008, individuals 1 year+, excluding breast-fed children and pregnant or lactating females except where noted, using NCI Method for usual intake estimation.
Distribution of Usual Daily Intakes of Iron from Food/Beverages

Source: What We Eat In America, NHANES 2005-2008, individuals 1 year+, excluding breast-fed children and pregnant or lactating female except where noted, using NCI Method for usual intake estimation.
Distribution of Usual Daily Intakes of Potassium from Food/Beverages

Source: What We Eat In America, NHANES 2005-2008, individuals 1 year+, excluding breast-fed children and pregnant or lactating females except where noted, using NCI Method for usual intake estimation.
Total Daily Nutrient Intakes
2007-2008

Foods and Beverages
• 24hr dietary recall
• Collected using AMPM
• 65 nutrients/components

Dietary Supplements
• Same 24hr period
• Collected use and dose of vitamins, minerals, herbals, and antacids
• 33 nutrients/components
# 33 Nutrients/Components from Supplements

## Energy and Macronutrients
- Food energy
- Protein
- Carbohydrate
- Fat
- Sugars, total
- Dietary fiber
- Saturated fatty acids
- Monounsaturated fatty acids
- Polyunsaturated fatty acids
- Cholesterol

## Vitamins, Minerals, and Other Components
- Vitamin D
- Vitamin C
- Thiamin
- Riboflavin
- Niacin
- Vitamin B-6
- Choline, total
- Vitamin B-12
- Folic acid
- Folate (DFE)
- Vitamin K as phylloquinone
- Lycopene
- Lutein + zeaxanthin
- Caffeine
- Calcium
- Iron
- Magnesium
- Phosphorus
- Potassium
- Sodium
- Zinc
- Copper
- Selenium

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[ILSI North America]
Percentage of Americans Using Dietary Supplements on a Day

Source: NHANES 2007-2008, day 1, excluding pregnant or lactating females
Total Daily Intakes: Vitamin D

Source: What We Eat in America, NHANES 2007-2008, day 1, excluding pregnant or lactating females
Total Daily Intakes: Calcium

Source: What We Eat in America, NHANES 2007-2008, day 1, excluding pregnant or lactating females
Total Daily Intakes: Vitamin C

Source: What We Eat in America, NHANES 2007-2008, day 1, excluding pregnant or lactating females
Total Daily Intakes: Iron

Source: What We Eat in America, NHANES 2007-2008, day 1, excluding pregnant or lactating females
Total Daily Intakes: Iron (supplement users only)

Source: What We Eat in America, NHANES 2007-2008, day 1, excluding pregnant or lactating females
Table 37. Total Nutrient Intakes: Percent Reporting and Mean Amounts* of Vitamins and Minerals from Food* and Dietary Supplements*, by Gender and Age, in the United States, 2007-2008  (continued)

<table>
<thead>
<tr>
<th>Gender and age (years)</th>
<th>Percent reporting supplemental iron*</th>
<th>Sample Size</th>
<th>Food</th>
<th>Supplement</th>
<th>Food plus supplement</th>
<th>Supplemental Users*</th>
<th>Non-users*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% (SE)</td>
<td>mg (SE)</td>
<td>mg (SE)</td>
<td>mg (SE)</td>
<td>mg (SE)</td>
<td>mg (SE)</td>
<td>mg (SE)</td>
</tr>
<tr>
<td>Males:</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>20 - 39</td>
<td>8 (1.2)</td>
<td>860</td>
<td>17.9 (0.46)</td>
<td>1.7 (0.44)</td>
<td>19.5 (0.49)</td>
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<td></td>
</tr>
<tr>
<td>40 - 59</td>
<td>12 (1.6)</td>
<td>843</td>
<td>17.8 (0.68)</td>
<td>2.2 (0.41)</td>
<td>20.1 (0.73)</td>
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<tr>
<td>60 and over</td>
<td>17 (1.3)</td>
<td>850</td>
<td>16.2 (0.50)</td>
<td>3.2 (0.44)</td>
<td>19.4 (0.84)</td>
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<tr>
<td>20 and over</td>
<td>11 (1.0)</td>
<td>2002</td>
<td>17.5 (0.43)</td>
<td>2.2 (0.29)</td>
<td>19.7 (0.51)</td>
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<td></td>
</tr>
<tr>
<td>Females:</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>20 - 39</td>
<td>10 (2.5)</td>
<td>800</td>
<td>12.6 (0.26)</td>
<td>3.5 (0.58)</td>
<td>16.1 (0.72)</td>
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<tr>
<td>40 - 59</td>
<td>21 (2.6)</td>
<td>873</td>
<td>13.3 (0.65)</td>
<td>4.2 (0.59)</td>
<td>17.5 (0.97)</td>
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<tr>
<td>60 and over</td>
<td>23 (1.1)</td>
<td>988</td>
<td>12.7 (0.23)</td>
<td>6.2 (0.68)</td>
<td>18.9 (0.76)</td>
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<td>20 and over</td>
<td>20 (1.4)</td>
<td>2070</td>
<td>12.9 (0.33)</td>
<td>4.5 (0.31)</td>
<td>17.4 (0.59)</td>
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<tr>
<td>Males and females:</td>
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</tr>
<tr>
<td>2 - 5</td>
<td>12 (2.0)</td>
<td>832</td>
<td>11.0 (0.39)</td>
<td>2.1 (0.31)</td>
<td>13.0 (0.57)</td>
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<td>6 - 11</td>
<td>12 (2.1)</td>
<td>1121</td>
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<td>2.1 (0.37)</td>
<td>15.5 (0.56)</td>
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<tr>
<td>12 - 19</td>
<td>8 (1.3)</td>
<td>1130</td>
<td>15.2 (0.32)</td>
<td>1.4 (0.29)</td>
<td>16.6 (0.47)</td>
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<tr>
<td>2 and over</td>
<td>14 (1.0)</td>
<td>8421</td>
<td>14.7 (0.35)</td>
<td>3.0 (0.17)</td>
<td>17.7 (0.37)</td>
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</table>

www.ars.usda.gov/ba/bhnrc/fsrg
Total Daily Intakes: Potassium

Source: What We Eat in America, NHANES 2007-2008, day 1, excluding pregnant or lactating females
Most Americans had inadequate dietary intakes of vitamins D and E.

The prevalence of inadequacy was also high for magnesium, calcium, vitamins A and C with one-half to one-third, respectively, of the population having inadequate dietary intakes.

For some nutrients, dietary intakes were inadequate only for certain groups:
- Vitamin B6—adult females
- Folate—adult and pregnant females
- Phosphorus—teen girls
- Zinc—adults 70 yrs+ and teen girls 14-18 yrs
- Iron—pregnant females

Most Americans had adequate dietary intakes for thiamin, vitamin B12, niacin, riboflavin, phosphorus, iron, copper, selenium, protein, and carbohydrate.

Both nutrient intakes from food/beverages and dietary supplements are important.