

Dietary Intake and Quality of Women and Children in the US

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Guideline 1. Follow a healthy dietary pattern at every life stage

At every life stage—infancy, toddlerhood, childhood, adolescence, adulthood, pregnancy, lactation, and older adulthood—it is never too early or too late to eat healthfully.

- **For about the first 6 months of life**
 - Exclusively feed infants human milk (fortified infant formula when human milk unavailable)
 - Provide infants with supplemental vitamin D beginning soon after birth
- **At about 6 months**
 - Introduce nutrient-dense complementary foods
 - Introduce potentially allergenic foods along with other complementary foods
 - Include foods rich in iron and zinc, particularly for infants fed human milk
- **From 12 months through older adulthood**
 - Follow a healthy dietary pattern across the lifespan to meet nutrient needs, help achieve a healthy body weight, and reduce the risk of chronic disease

Guideline 2. Customize and enjoy nutrient-dense food and beverage choices to reflect personal preferences, cultural traditions, and budgetary considerations.

- A healthy dietary pattern can benefit all individuals regardless of age, race, or ethnicity, or current health status.
- The *Dietary Guidelines* provides a framework intended to be customized to individual needs and preferences
 - Including the foodways of the diverse cultures in the United States

3. Focus on meeting food group needs with nutrient-dense foods and beverages, and stay within calorie limits

The core elements that make up a healthy dietary pattern include:

- Vegetables of all types
 - dark green, red/orange, beans, peas, lentils, starchy and other vegetables
- Fruits, especially whole fruit
- Grains
 - at least half of which are whole grain
- Dairy
 - fat-free or low-fat milk, yogurt, cheese, and fortified soy beverages and alternatives
- Protein foods
 - lean meats, poultry, eggs, seafood, beans, peas, lentils, nuts, seeds, and soy products
- Oils
 - vegetable oils and oils in food, such as seafood and nuts

Guideline 4. Limit foods and beverages higher in added sugars, saturated fat, and sodium, and limit alcoholic beverages.

A small amount of added sugars, saturated fat, or sodium can be added to nutrient-dense foods and beverages to help meet food group recommendations, but foods and beverages high in these components should be limited. Limits are:

- Added sugars
 - < 10 percent of calories per day starting at age 2
 - Avoid foods and beverages with added sugars for those younger than age 2
- Saturated fat
 - <10 percent of calories per day starting at age 2
- Sodium
 - < 2,300 milligrams per day
- Alcoholic beverages
 - ≤ 2 drinks or less per day for men, ≤ 1 drink or less in a day for women
 - Drinking less is better for health than drinking more
 - Some adults who should not drink alcohol, such as women who are pregnant

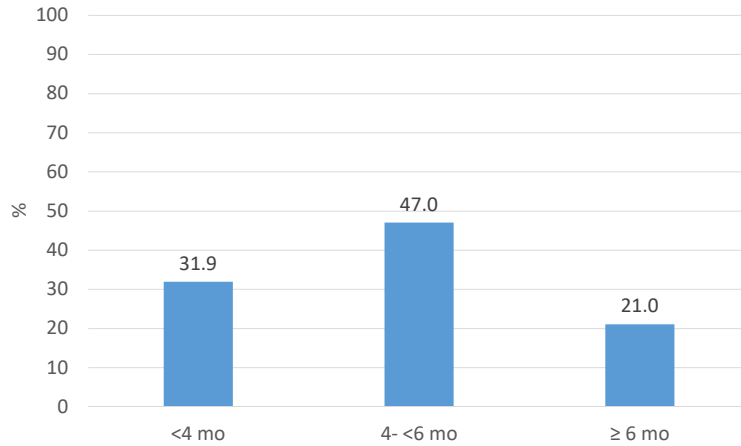


Dietary Intakes Birth to 24 months



Analytic Results

Timing of introduction of complementary foods and beverages

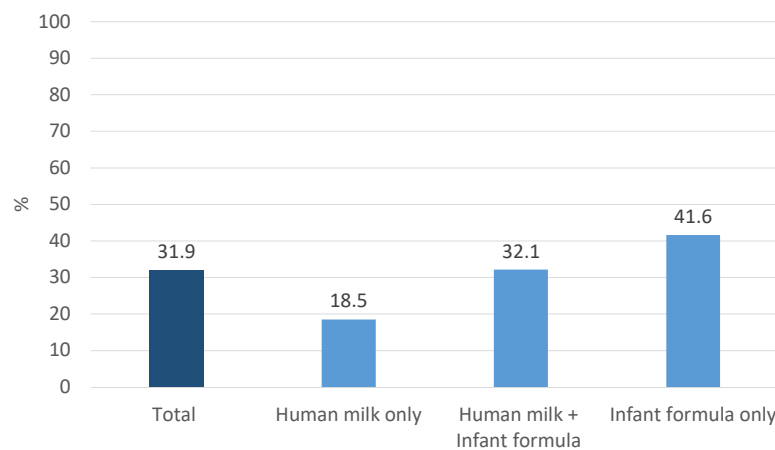


National Survey of Children's Health, 2016-2018

2020 Dietary Guidelines Advisory Committee: Meeting 5

Analytic Results

Introduction to complementary foods and beverages <4mo, by milk source at 4 mo



National Survey of Children's Health, 2016-2018

2020 Dietary Guidelines Advisory Committee: Meeting 5

Figure 2-2

Current Intakes: Ages 12 Through 23 Months

Average Daily Food Group Intakes Compared to Recommended Intake Ranges

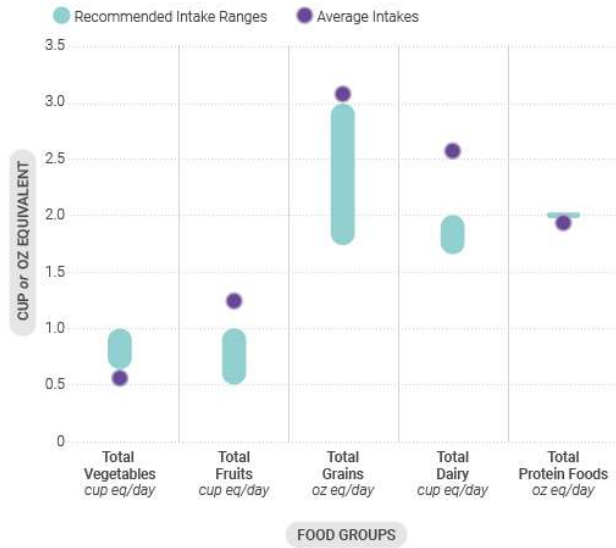
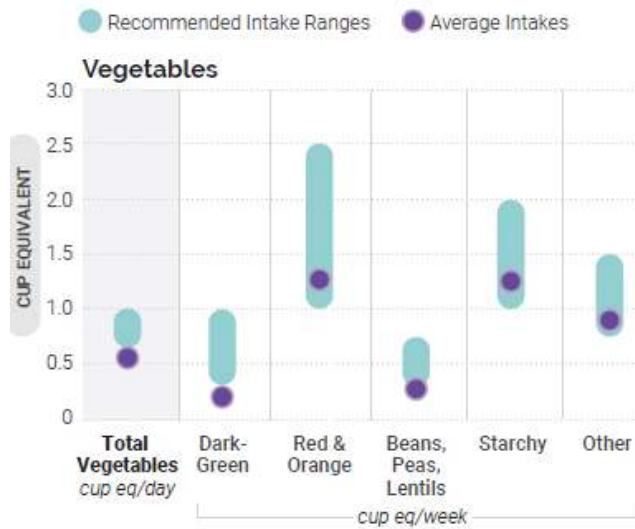
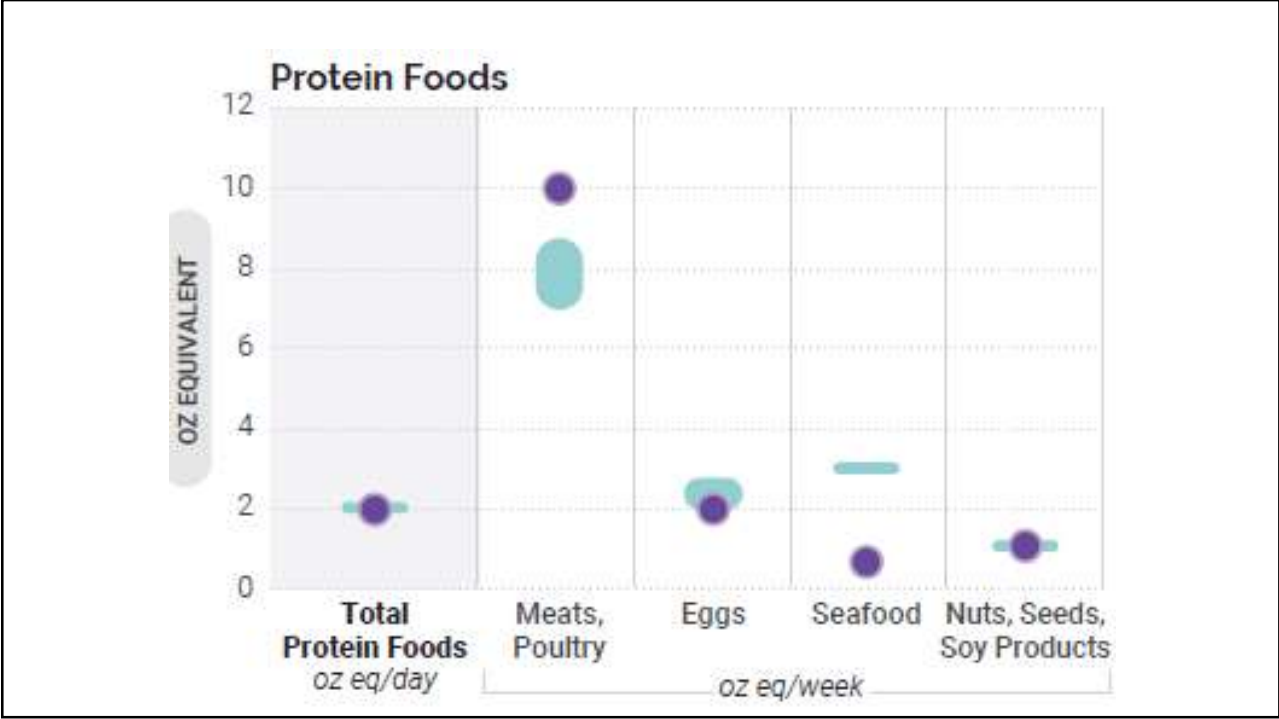


Figure 2-3

Average Intakes of Subgroups Compared to Recommended Intake Ranges: Ages 12 Through 23 Months





Dietary Intakes Ages 2 to 18



Analytic Results: Dietary Patterns Over Time and By Age

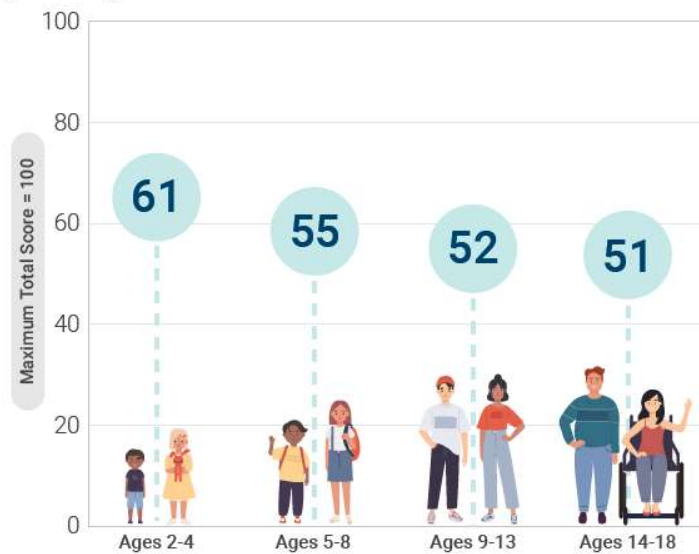
How Healthy Is the American Diet?



2020 Dietary Guidelines Advisory Committee: Meeting 4

Figure 3-1

Healthy Eating Index Scores Across Childhood and Adolescence



Data Source: Analysis of What We Eat in America, NHANES 2015-2016, ages 2 through 18, day 1 dietary intake, weighted.

Table 3-1
Healthy U.S.-Style Dietary Pattern for Children Ages 2 Through 8, With Daily or Weekly Amounts From Food Groups, Subgroups, and Components

CALORIE LEVEL OF PATTERN ^a	1,000	1,200	1,400	1,600	1,800	2,000
FOOD GROUP OR SUBGROUP ^b	Daily Amount of Food From Each Group (Vegetable and protein foods subgroup amounts are per week.)					
Vegetables (cup eq/day)	1	1 ½	1 ½	2	2 ½	2 ½
	Vegetable Subgroups in Weekly Amounts					
Dark-Green Vegetables (cup eq/wk)	½	1	1	1 ½	1 ½	1 ½
Red and Orange Vegetables (cup eq/wk)	2 ½	3	3	4	5 ½	5 ½
Beans, Peas, Lentils (cup eq/wk)	½	½	½	1	1 ½	1 ½
Starchy Vegetables (cup eq/wk)	2	3 ½	3 ½	4	5	5
Other Vegetables (cup eq/wk)	1 ½	2 ½	2 ½	3 ½	4	4
Fruits (cup eq/day)	1	1	1 ½	1 ½	1 ½	2
Grains (ounce eq/day)	3	4	5	5	6	6
Whole Grains (ounce eq/day)	1 ½	2	2 ½	3	3	3
Refined Grains (ounce eq/day)	1 ½	2	2 ½	2	3	3
Dairy (cup eq/day)	2	2 ½	2 ½	2 ½	2 ½	2 ½
Protein Foods (ounce eq/day)	2	3	4	5	5	5 ½
	Protein Foods Subgroups in Weekly Amounts					
Meats, Poultry, Eggs (ounce eq/wk)	10	14	19	23	23	26
Seafood (ounce eq/wk) ^c	2-3 ^d	4	6	8	8	8
Nuts, Seeds, Soy Products (ounce eq/wk)	2	2	3	4	4	5
Oils (grams/day)	15	17	17	22	22	24
Limit on Calories for Other Uses (kcal/day) ^e	130	80	90	150	190	280
Limit on Calories for Other Uses (%/day)	13%	7%	6%	9%	10%	14%

Figure 3-2
Current Intakes: Ages 2 Through 4

Average Daily Food Group Intakes Compared to Recommended Intake Ranges

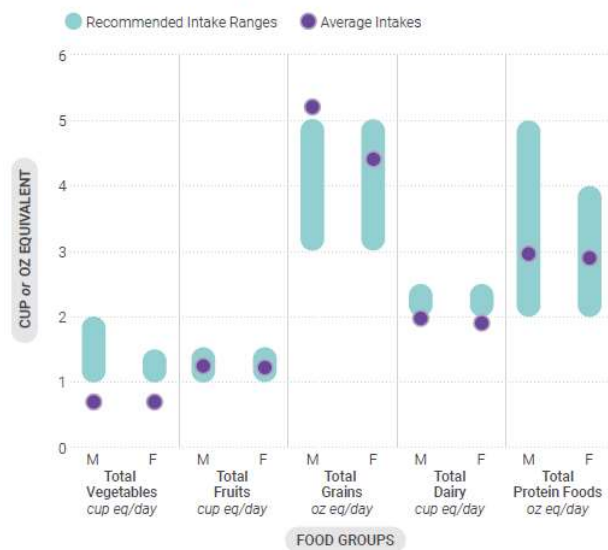
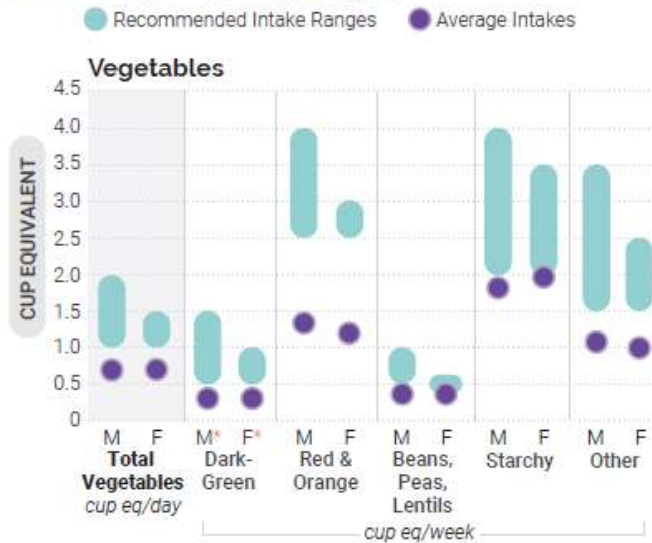
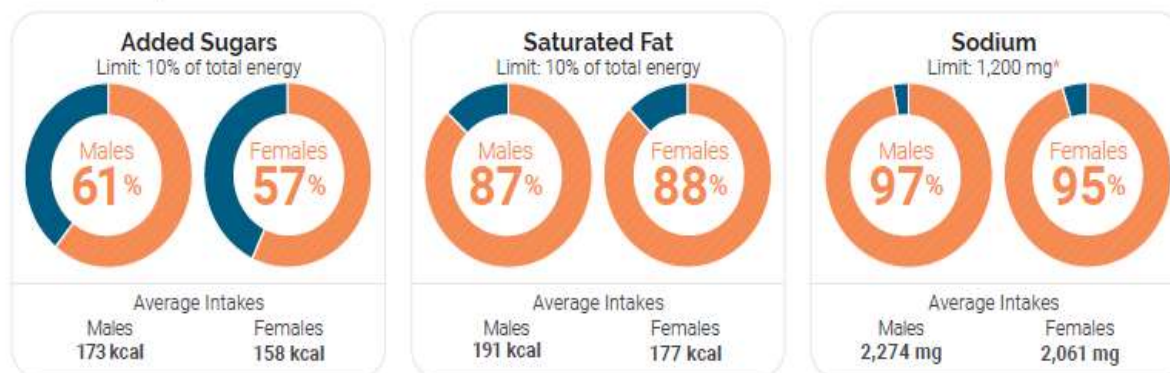


Figure 3-3
Average Intakes of Subgroups Compared to Recommended
Intake Ranges: Ages 2 Through 4



Percent Exceeding Limits of Added Sugars, Saturated Fat, and Sodium

● Exceeding Limit ● Within Recommended Limit



*NOTE: Children ages 2 through 3 should reduce sodium intake if above 1,200 mg/d and those age 4 should reduce intake if above 1,500 mg/d.

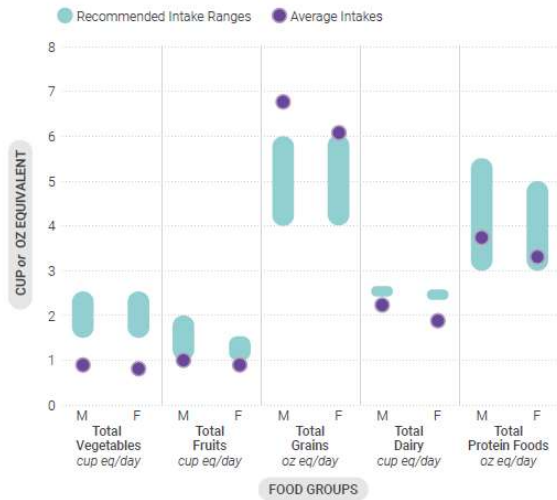
Data Sources: Average Intakes and HEI-2015 Scores: Analysis of What We Eat in America, NHANES 2015-2016, day 1 dietary intake data, weighted. Recommended Intake Ranges: Healthy U.S.-Style Dietary Patterns (see Appendix 3). Percent Exceeding Limits: What We Eat in America, NHANES 2013-2016, 2 days dietary intake data, weighted.

Current Intakes

Figure 3-4

Current Intakes: Ages 5 Through 8

Average Daily Food Group Intakes Compared to Recommended Intake Ranges

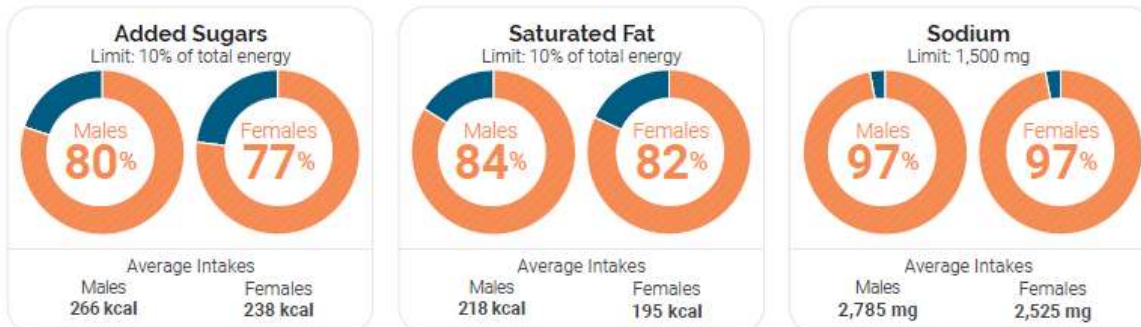


Healthy Eating Index Score (on a scale of 0-100)



Percent Exceeding Limits of Added Sugars, Saturated Fat, and Sodium

● Exceeding Limit ● Within Recommended Limit



Data Sources: Average Intakes and HEI-2015 Scores: Analysis of What We Eat in America, NHANES 2015-2016, day 1 dietary intake data, weighted. Recommended Intake Ranges: Healthy U.S.-Style Dietary Patterns (see [Appendix 3](#)). Percent Exceeding Limits: What We Eat in America, NHANES 2013-2016, 2 days dietary intake data, weighted.

Children and Adolescents Ages 9 Through 13

In the late childhood and early adolescence stage, females require about 1,400 to 2,200 calories per day and males require about 1,600 to 2,600 calories per day.

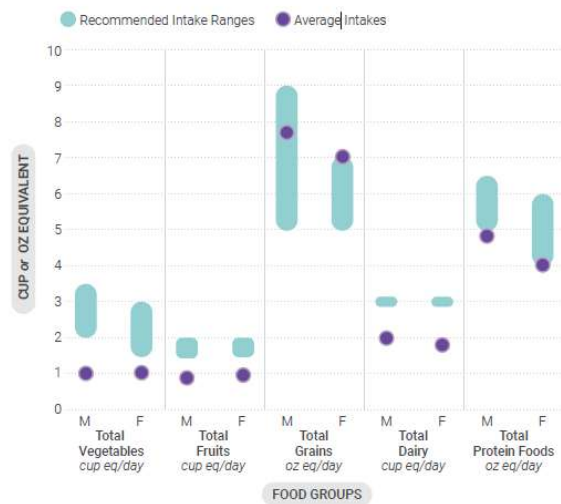
Table 3-2
Healthy U.S.-Style Dietary Pattern for Children and Adolescents Ages 9 Through 13,
 With Daily or Weekly Amounts From Food Groups, Subgroups, and Components

CALORIE LEVEL OF PATTERN ^a	1,400	1,600	1,800	2,000	2,200	2,400	2,600
FOOD GROUP OR SUBGROUP^b	Daily Amount of Food From Each Group (Vegetable and protein foods subgroup amounts are per week.)						
Vegetables (cup eq/day)	1 ½	2	2 ½	2 ½	3	3	3 ½
	Vegetable Subgroups in Weekly Amounts						
Dark-Green Vegetables (cup eq/wk)	1	1 ½	1 ½	1 ½	2	2	2 ½
Red & Orange Vegetables (cup eq/wk)	3	4	5 ½	5 ½	6	6	7
Beans, Peas, Lentils (cup eq/wk)	½	1	1 ½	1 ½	2	2	2 ½
Starchy Vegetables (cup eq/wk)	3 ½	4	5	5	6	6	7
Other Vegetables (cup eq/wk)	2 ½	3 ½	4	4	5	5	5 ½
Fruits (cup eq/day)	1 ½	1 ½	1 ½	2	2	2	2
Grains (ounce eq/day)	5	5	6	6	7	8	9
Whole Grains (ounce eq/day)	2 ½	3	3	3	3 ½	4	4 ½
Refined Grains (ounce eq/day)	2 ½	2	3	3	3 ½	4	4 ½
Dairy (cup eq/day)	3	3	3	3	3	3	3
Protein Foods (ounce eq/day)	4	5	5	5 ½	6	6 ½	6 ½
	Protein Foods Subgroups in Weekly Amounts						
Meats, Poultry, Eggs (ounce eq/wk)	19	23	23	26	28	31	31
Seafood (ounce eq/wk) ^c	6	8	8	8	9	10	10
Nuts, Seeds, Soy Products (ounce eq/wk)	3	4	4	5	5	5	5
Oils (grams/day)	17	22	24	27	29	31	34
Limit on Calories for Other Uses (kcal/day) ^d	50	100	140	240	250	320	350
Limit on Calories for Other Uses (%/day)	4%	6%	8%	12%	11%	13%	13%

Figure 3-6

Current Intakes: Ages 9 Through 13

Average Daily Food Group Intakes Compared to Recommended Intake Ranges



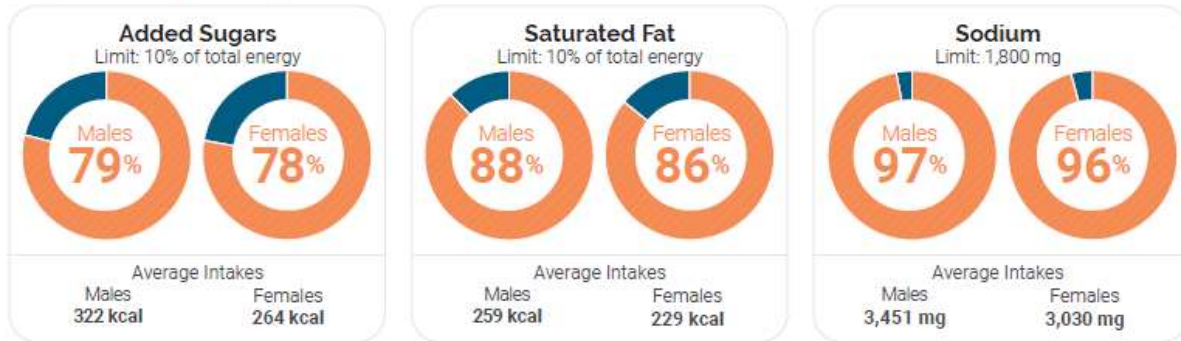
Healthy Eating Index Score
(on a scale of 0-100)

52



Percent Exceeding Limits of Added Sugars, Saturated Fat, and Sodium

● Exceeding Limit ● Within Recommended Limit



Data Sources: Average Intake and HEI-2015 Scores: Analysis of What We Eat in America, NHANES 2015-2016, day 1 dietary intake data, weighted. Recommended Intake Ranges: Healthy U.S.-Style Dietary Patterns (see [Appendix 3](#)). Percent Exceeding Limits: What We Eat in America, NHANES 2013-2016, 2 days dietary intake data, weighted.

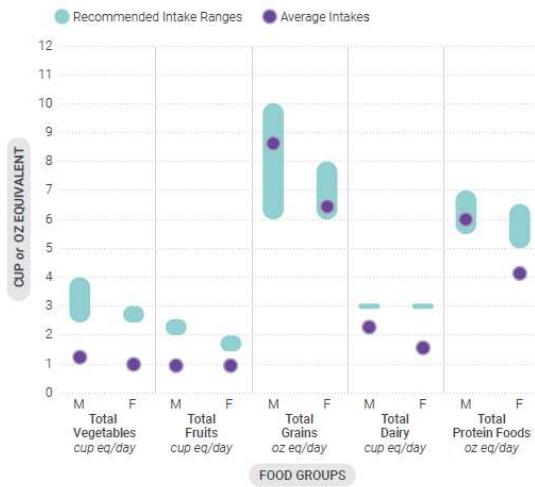
Table 3-3
Healthy U.S.-Style Dietary Pattern for Adolescents Ages 14 Through 18, With Daily or Weekly Amounts From Food Groups, Subgroups, and Components

CALORIE LEVEL OF PATTERN ^a	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,200
FOOD GROUP OR SUBGROUP ^b	Daily Amount of Food From Each Group (Vegetable and protein foods subgroup amounts are per week.)							
Vegetables (cup eq/day)	2 ½	2 ½	3	3	3 ½	3 ½	4	4
	Vegetable Subgroups in Weekly Amounts							
Dark-Green Vegetables (cup eq/wk)	1 ½	1 ½	2	2	2 ½	2 ½	2 ½	2 ½
Red and Orange Vegetables (cup eq/wk)	5 ½	5 ½	6	6	7	7	7 ½	7 ½
Beans, Peas, Lentils (cup eq/wk)	1 ½	1 ½	2	2	2 ½	2 ½	3	3
Starchy Vegetables (cup eq/wk)	5	5	6	6	7	7	8	8
Other Vegetables (cup eq/wk)	4	4	5	5	5 ½	5 ½	7	7
Fruits (cup eq/day)	1 ½	2	2	2	2	2 ½	2 ½	2 ½
Grains (ounce eq/day)	6	6	7	8	9	10	10	10
Whole Grains (ounce eq/day)	3	3	3 ½	4	4 ½	5	5	5
Refined Grains (ounce eq/day)	3	3	3 ½	4	4 ½	5	5	5
Dairy (cup eq/day)	3	3	3	3	3	3	3	3
Protein Foods (ounce eq/day)	5	5 ½	6	6 ½	6 ½	7	7	7
	Protein Foods Subgroups in Weekly Amounts							
Meats, Poultry, Eggs (ounce eq/wk)	23	26	28	31	31	33	33	33
Seafood (ounce eq/wk)	8	8	9	10	10	10	10	10
Nuts, Seeds, Soy Products (ounce eq/wk)	4	5	5	5	5	6	6	6
Oils (grams/day)	24	27	29	31	34	36	44	51
Limit on Calories for Other Uses (kcal/day) ^c	140	240	250	320	350	370	440	580
Limit on Calories for Other Uses (%/day)	8%	12%	11%	13%	13%	13%	15%	18%

Figure 3-8

Current Intakes: Ages 14 Through 18

Average Daily Food Group Intakes Compared to Recommended Intake Ranges



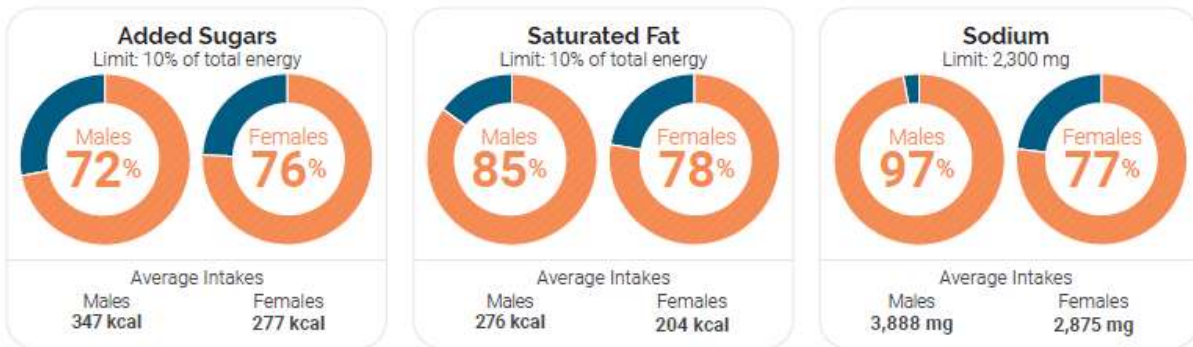
Healthy Eating Index Score (on a scale of 0-100)

51



Percent Exceeding Limits of Added Sugars, Saturated Fat, and Sodium

● Exceeding Limit ● Within Recommended Limit



Data Sources: Average Intake and HEI-2015 Scores: Analysis of What We Eat in America, NHANES 2015-2016, day 1 dietary intake data, weighted. Recommended Intake Ranges: Healthy U.S.-Style Dietary Patterns (see Appendix 3). Percent Exceeding Limits: What We Eat in America, NHANES 2013-2016, 2 days dietary intake data, weighted.



Average Food Group Intakes Changes Over Time

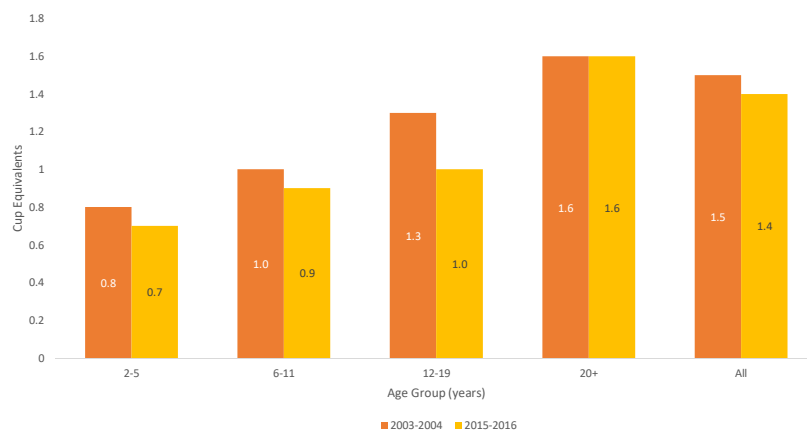
2003-2004 to 2015-2016



Bowman SA, Clemens JC, Friday JE, Schroeder N, Shimizu M, LaCombrP, and Moshfegh AJ.
Food Patterns Equivalents Intakes by Americans: What We Eat in America, NHANES 2003-2004 and 2015-2016.
Food Surveys Research Group. Dietary Data Brief No. 20, November 2018.

No Significant Change in Vegetable Intakes Between 2003-2004 and 2015-2016

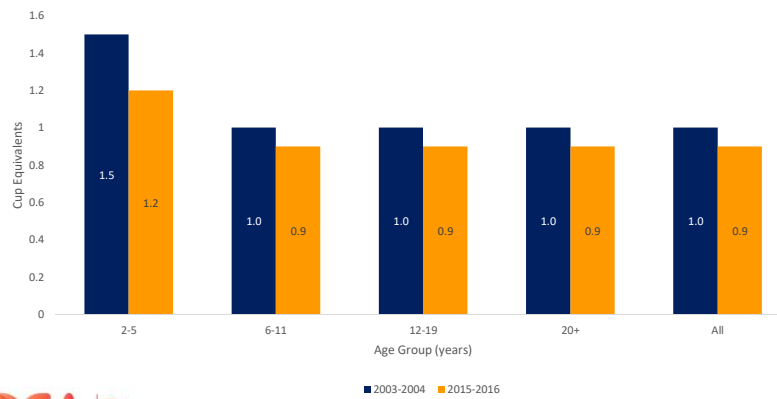
Estimated Mean Intakes of Total Vegetables per Day by Age
WWEIA, NHANES 2003-2004 and 2015-2016



DATA SOURCE: What We Eat in America, NHANES 2003-2004 and 2015-2016, day 1, individuals 2+ years
Bowman SA, et al. Food Surveys Research Group. Dietary Data Brief No. 20, November 2018.

No Significant Change in Fruit Intakes Between 2003-2004 and 2015-2016

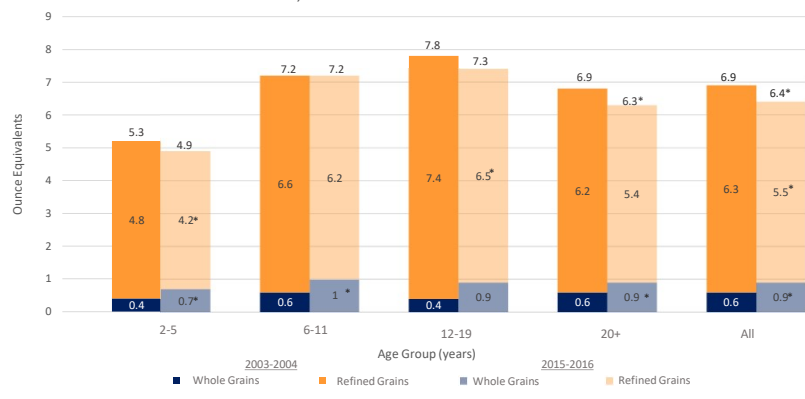
Estimated Mean Intakes of Total Fruits per Day by Age
NHANES, NES 2003-2004 and 2015-2016



DATA SOURCE: What We Eat in America, NHANES 2003-2004 and 2015-2016, day 1, individuals 2+ years
Bowman SA, et al. Food Surveys Research Group. Dietary Data Brief No. 20, November 2018.

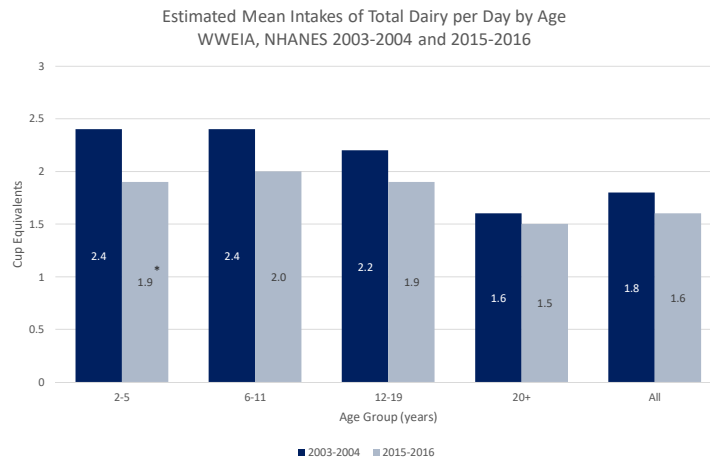
Whole Grain Intakes Increased & Refined Grain Intakes Decreased between 2003-2004 and 2015-2016

Estimated Mean Intake of Refined and Whole Grains per Day by Age
WWEIA, NHANES 2003-2004 and 2015-2016



*Significantly different from 2003-2004 ($p < 0.01$)
DATA SOURCE: What We Eat in America, NHANES 2003-2004 and 2015-2016, day 1, individuals 2+ years
Bowman SA, et al. Food Surveys Research Group. Dietary Data Brief No. 20, November 2018.

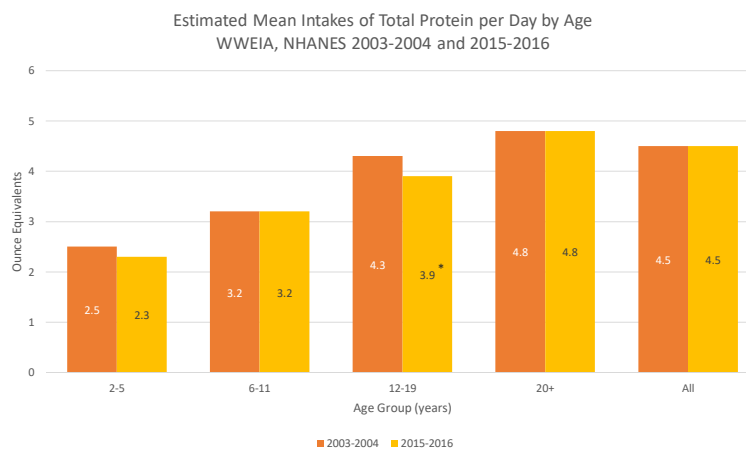
Young Children Significantly Reduced Total Dairy Intakes Between 2003-2004 and 2015-2016



*Significantly different from 2003-2004 ($p < 0.01$)

DATA SOURCE: What We Eat in America, NHANES 2003-2004 and 2015-2016, day 1, individuals 2+ years
Bowman SA, et al. Food Surveys Research Group. Dietary Data Brief No. 20, November 2018.

Adolescents Significantly Reduced Total Protein Intakes Between 2003-2004 and 2015-2016

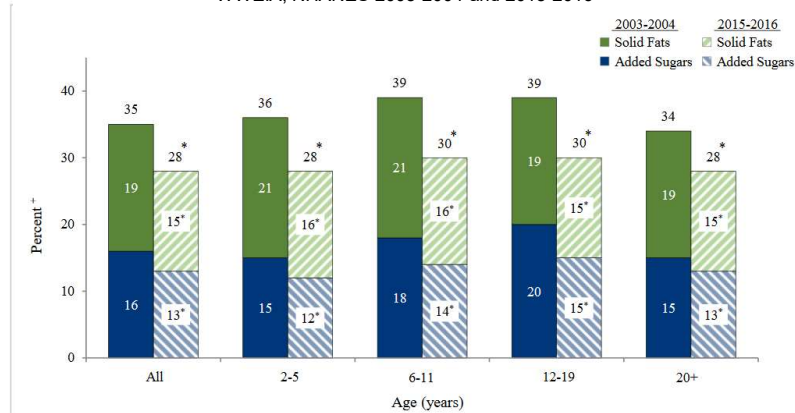


*Significantly different from 2003-2004 ($p < 0.01$)

DATA SOURCE: What We Eat in America, NHANES 2003-2004 and 2015-2016, day 1, individuals 2+ years
Bowman SA, et al. Food Surveys Research Group. Dietary Data Brief No. 20, November 2018.

Percent of Calories from Solid Fats and Added Sugars Decreased Between 2003-2004 and 2015-2016

Estimated mean intakes of calories from solid fats and added sugars as percent of total calories per day, by age
WWEIA, NHANES 2003-2004 and 2015-2016



*Significantly different from 2003-2004 ($p < 0.01$)

*Percentages rounded to integers. Total percentages of calories from solid fats and added sugars are shown above the respective bar charts.

DATA SOURCE: What We Eat in America, NHANES 2003-2004 and 2015-2016, day 1, individuals 2+ years
Bowman SA, et al. Food Surveys Research Group. Dietary Data Brief No. 20, November 2018.

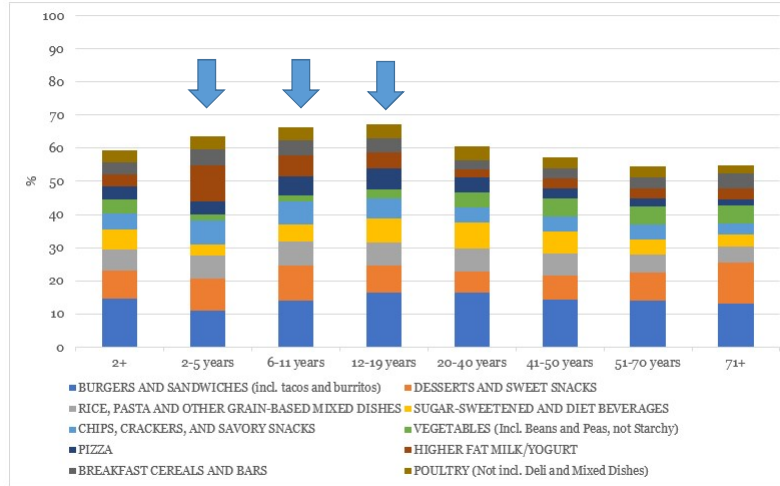


Food Category Sources of Energy and Food Groups



Analytic Results: Food Category Sources of Energy

Figure 2: Males and Females - Distribution of energy intake (percentages) across top 10 sub-categories

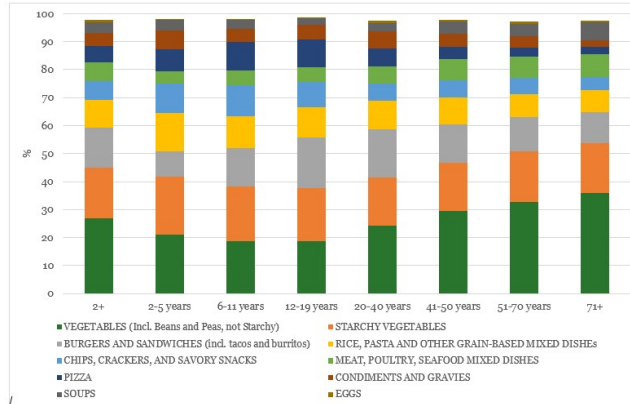


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Analytic Results Summary: Food Group Intakes Across Life Stages - vegetables

Figure 2. 2: Males and Females – Distribution of total vegetables intake (percentages) across top 10 sub-categories



Mean vegetable intakes increase with age.

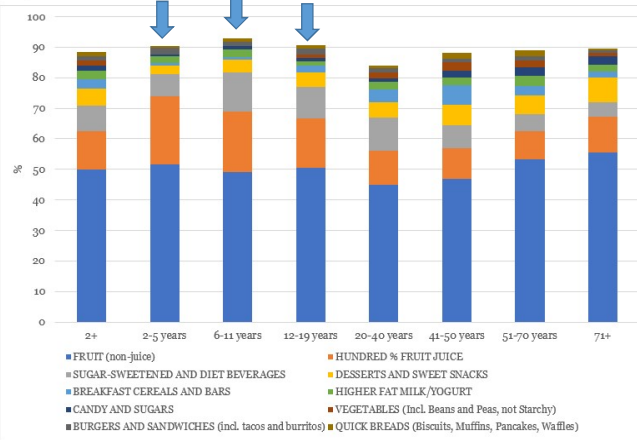
Less than 50% of vegetables are consumed as vegetables alone.

Chips, crackers and savory snacks as well as pizza are a larger source of vegetables for children than for adults or older adults.

2020 Dietary Guidelines Advisory Committee: Meeting 4

Analytic Results Summary: Food Group Intakes Across Life Stages - fruits

Figure 1. 2: Males and Females - Distribution of total fruits intake (percentages) across top 10 sub-categories

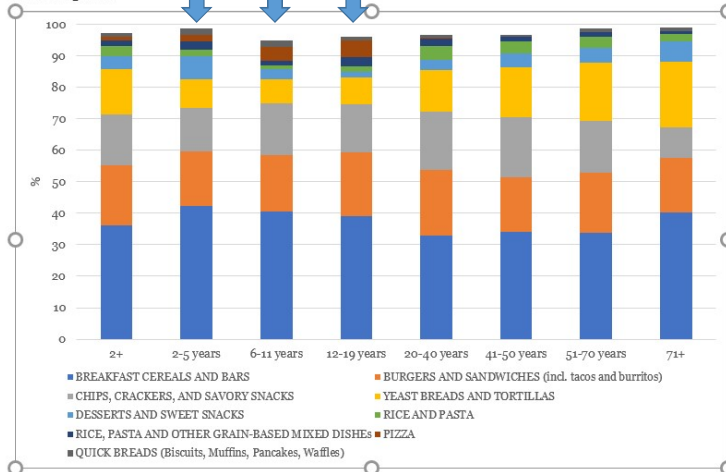


- Mean fruit intake decreased after age 5 and stays similar across age groups.
- 100% fruit juice intakes decrease after adolescence.

2020 Dietary Guidelines Advisory Committee: Meeting 4

Analytic Results Summary: Food Group Intakes Across Life Stages – whole grains

Figure 4. 2: Males and Females - Distribution of total whole grains intake (percentages) across top 10 sub-categories

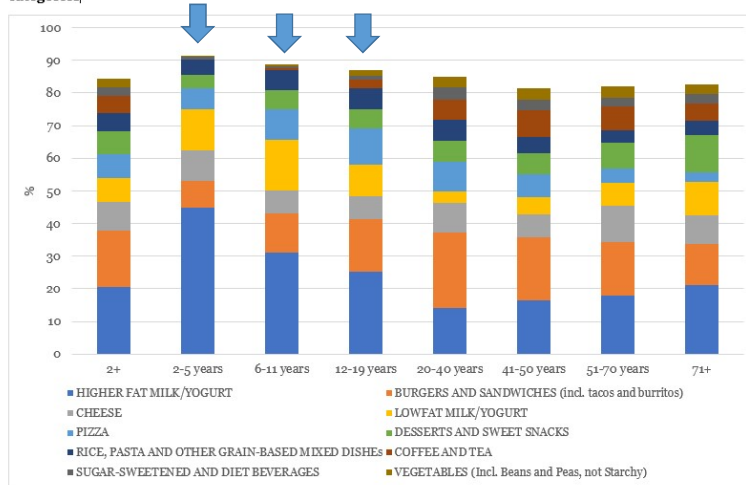


- Intakes of whole grains is ~1oz eq across life stages, and fall well below recommended intakes.
- Breakfast bars and cereals are main sources, followed by sandwiches/burgers and chips, crackers, and savory snacks

2020 Dietary Guidelines Advisory Committee: Meeting 4

Analytic Results Summary: Food Group Intakes Across Life Stages – dairy

Figure 9. 2: Males and Females - Distribution of total dairy intake (percentages) across top 10 sub-categories

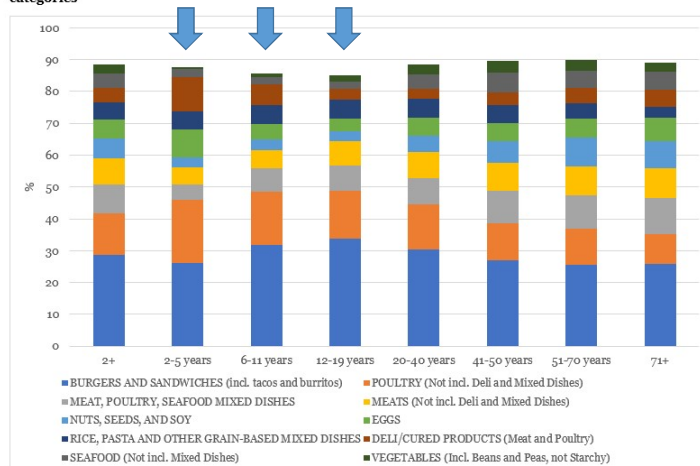


- Dairy intakes decrease across life stages.
- Food category sources shift from higher fat milk/yogurt among young children to burgers and sandwiches among young to middle aged adults.

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Analytic Results Summary: Food Group Intakes Across Life Stages – protein foods

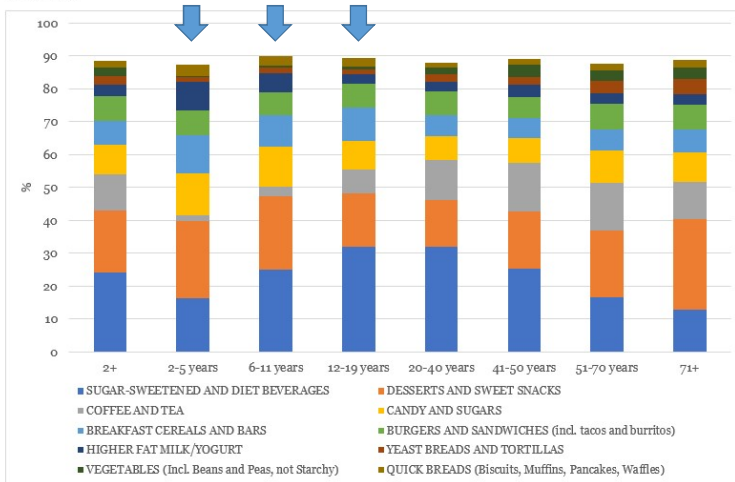
Figure 6. 2: Males and Females - Distribution of total protein intake (percentages) across top 10 sub-categories



- Mean total protein foods intakes is generally within recommended ranges, though among older adults intakes fall below recommended amounts.
- For older children and younger adults, burgers and sandwiches is a main food category source.

Analytic Results Summary: Food Group Intakes Across Life Stages – added sugars

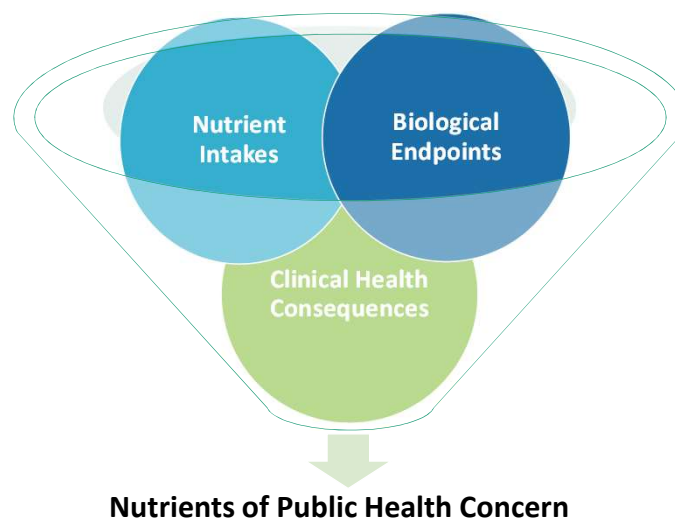
Figure 14. 2: Males and Females - Distribution of added sugars intake (percentages) across top 10 sub-categories



- Mean intakes of added sugars are highest in adolescents and early adulthood.
- Food category sources change across life stages.
- Desserts and sweet snacks are a larger contributor for young children and older adults.
- Sweetened beverages is highest among those ages 6-50 yrs.

2020 Dietary Guidelines Advisory Committee: Meeting 4

Analytic Framework: Three Pronged Approach



2020 Dietary Guidelines Advisory Committee: Meeting 2

Definitions

- **Underconsumed nutrient/food component:**
 - A food component that is underconsumed by 5% or more of the population or in specific groups relative to the EAR, AI, or other quantitative authoritative recommendations from the diet alone
- **Overconsumed nutrient/food component:**
 - A food component that is consumed in potential excess of the UL, CDRR, or other quantitative authoritative recommendations by 5% or more of the population or in specific groups from the diet alone
- **Nutrient/food component of public health concern:**
 - Underconsumed and overconsumed nutrients or food components with supporting evidence through biochemical indices or functional status indicators, if available, plus evidence that the inadequacy or excess is directly related to a specific health condition, indicating public health significance
- **Nutrient/food component that poses special challenges:**
 - Nutrients or food components that pose special challenges in identifying at risk groups or for which dietary guidance to meet recommended intake levels was challenging to develop

Analytic Results: Nutrient Intakes Food and Beverages

Total Nutrient Intakes (including dietary supplements)

>10% of women taking the nutrient containing supplement, have inadequate intakes of:

• Folate	22%
• Vitamin C	19%
• Vitamin D	38%
• Calcium	17%
• Magnesium	51%
• Zinc	17%
• Vit B6	15%
• Thiamin	11%

2020 Dietary Guidelines Advisory Committee: *Meeting 5*

Nutrients of Public Health Concern: Pregnancy and Lactation

Pregnancy/and Lactation

- Iron (P)
- Folate/folic acid (P)
- Iodine
- Choline
- Magnesium (P?)

All Women

- Vitamin D
- Calcium
- Fiber
- Potassium
- Sodium
- Saturated fat
- Added sugars

Analytic Results Summary: 6<12 mo Percent of infants with nutrient intakes <EAR or > UL

*Dietary intakes include human milk and/or infant formula and CFB;
excludes dietary supplements*

Nutrient	HM	FMF	All Infants
		% below EAR	
Protein	27%	<3%	7%
Iron	77%	7%	19%
Zinc	54%	<3%	10%
		% above UL	
Iron	<3%	<3%	<3%
Zinc	3%	77%	64%

Nutrients of Public Health Concern, B24
2020 Dietary Guidelines Advisory Committee: Meeting 5

2020 Dietary Guidelines for Americans



https://www.dietaryguidelines.gov/sites/default/files/2020-12/Dietary_Guidelines_for_Americans_2020-2025.pdf

<https://www.dietaryguidelines.gov/2020-advisory-committee-report>

Online only material not included in the report available online

