

# Usual Nutrient Intakes of Americans

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 Washington, DC  
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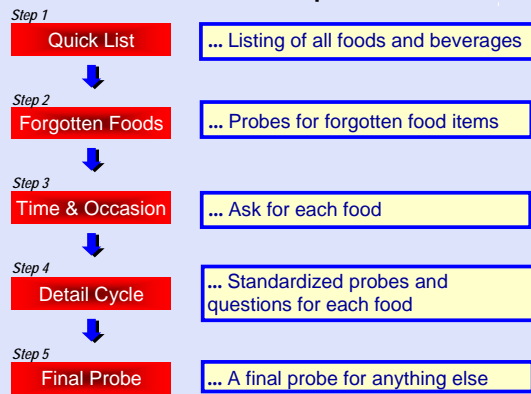
# NHANES Mobile Exam Center



## Objectives

- Dietary intake data from NHANES
- Usual nutrient intakes of Americans
- Assess dietary intakes in relation to the Dietary Reference Intakes

## USDA Automated Multiple-Pass Method



## Dietary Interview Component of NHANES

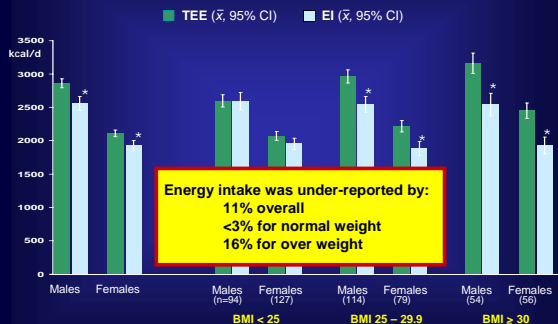
**Partnership:** Department of Health & Human Services  
 US Department of Agriculture

**Dietary Collection:** 2 days of dietary intake data

**Method:** USDA's Automated Multiple Pass Method

**Sample:** 5,000 individuals each year

## Results of AMPM Validation Study



\* Significant at <5%  
 Source: Moshfeh et al, AJCN 2008;88:324-32



- Adequacy of American diets for 24 nutrients based on Dietary Reference Intakes (DRIs)
- *What We Eat in America*, NHANES 2001-2002
- 8,940 individuals, 1 yr+ (excludes breast-fed children and pregnant/lactating females)
- Utilized the Software for Intake Distribution Estimation (C-SIDE) developed by Iowa State University

Table A12. Iron (mg): Usual Intakes from Food, 2001-2002, Compared to Estimated Average Requirements

	N	Mean	SE	Percentiles					EAR	% Less Than EAR		
				5	10	25	50	75			90	95
<b>Males and females:</b>												
1-3	798	11.0	0.23	5.9	6.8	8.4	10.5	13.0	15.7	17.7	3.0	<3*
4-8	920	13.7	0.39	8.9	9.8	11.3	13.3	15.6	18.0	19.6	4.1	<3*
<b>Males:</b>												
9-13	574	17.0	0.92	10.5	11.6	13.7	16.4	19.6	23.0	25.4	5.9	<3*
14-18	727	19.1	0.76	11.2	12.6	15.0	18.3	22.3	26.7	29.9	7.7	<3*
19-30	582	19.2	0.70	9.7	11.2	14.1	18.0	22.9	28.6	32.8	6.0	<3*
31-50	785	18.5	0.64	10.4	11.8	14.4	17.7	21.8	26.2	29.3	6.0	<3*
51-70	651	17.1	0.59	8.8	10.1	12.5	16.0	20.3	25.5	29.3	6.0	<3*
71+	302	15.5	0.45	8.1	9.4	11.7	14.7	18.4	22.7	25.9	6.0	<3*
19+	2380	18.0	0.42	9.5	10.8	13.5	17.0	21.5	26.5	30.2		<3*
<b>Females:</b>												
9-13	597	13.7	0.45	8.5	9.4	11.1	13.3	15.9	18.6	20.4	5.7	<3*
14-18	677	13.3	0.65	6.6	7.7	9.7	12.5	15.9	19.9	22.8	7.9	16
19-30	465	13.9	0.56	7.3	8.5	10.7	13.4	16.4	19.9	22.3	8.1	15
31-50	754	13.1	0.40	7.6	8.5	10.2	12.4	15.1	18.3	20.7	8.1	17
51-70	643	13.0	0.39	7.7	8.6	10.3	12.4	15.1	18.1	20.1	5.0	<3*
71+	405	12.3	0.41	7.2	8.0	9.5	11.5	14.2	17.5	20.0	5.0	<3*
19+	2267	13.1	0.30	7.4	8.3	10.2	12.5	15.3	18.6	21.0		10*
<b>All persons 1+</b>	8940	15.3	0.27									5*

## Why is usual intake important?

- Dietary recommendations are intended to be met over time and diet-health hypotheses are based on dietary intakes over the long term.
- It is the *usual* intake that is often of interest to policy makers and researchers to determine the proportion of the population at or below a certain level, standard, etc.

Table B19. Calcium (mg): Usual Intakes from Food, 2001-2002, Compared to Adequate Intakes

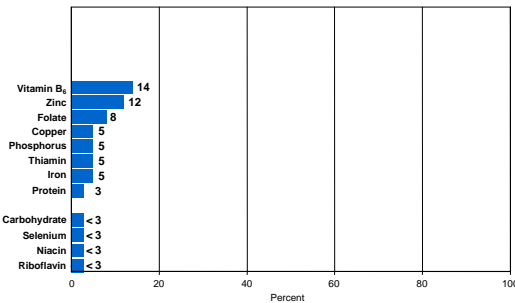
	N	Mean	SE	Percentiles					AI	% Greater Than AI	SE		
				5	10	25	50	75				90	95
<b>Males and females:</b>													
1-3	798	972	35.4	472	562	726	932	1172	1428	1602	500	94	1.5
4-8	920	960	28.7	551	626	760	929	1127	1332	1471	800	69	3.4
<b>Males:</b>													
9-13	574	1139	77.9	681	760	900	1086	1341	1584	1743	1300	28	10.5
14-18	727	1142	47.1	584	675	849	1094	1374	1658	1865	1300	31	5.3
19-30	582	1098	54.0	482	579	771	1034	1356	1701	1935	1000	53	4.6
31-50	785	1021	27.3	446	536	715	961	1261	1583	1802	1000	46	2.5
51-70	651	874	30.2	403	473	614	813	1066	1350	1551	1200	16	2.6
71+	302	817	33.2	376	445	580	771	1003	1248	1414	1200	12	2.5
19+	2380	984	22.7	423	508	678	914	1212	1544	1780			37*
<b>Females:</b>													
9-13	597	868	36.2	492	558	680	837	1020	1208	1332	1300	6	1.8
14-18	677	804	42.9	336	407	552	753	999	1264	1446	1300	9	2.3
19-30	465	784	36.0	373	444	579	755	956	1162	1298	1000	21	3.7
31-50	754	755	29.4	414	470	579	722	895	1080	1206	1000	15	3.1
51-70	643	701	18.9	327	384	498	661	861	1069	1210	1200	5	1.1
71+	405	666	23.8	329	382	481	613	796	1011	1167	1200	4	1.2
19+	2267	735	18.4	360	421	538	696	889	1100	1245			12*
<b>All persons 1+</b>	8940	892	16.7										30*

## Nutrients

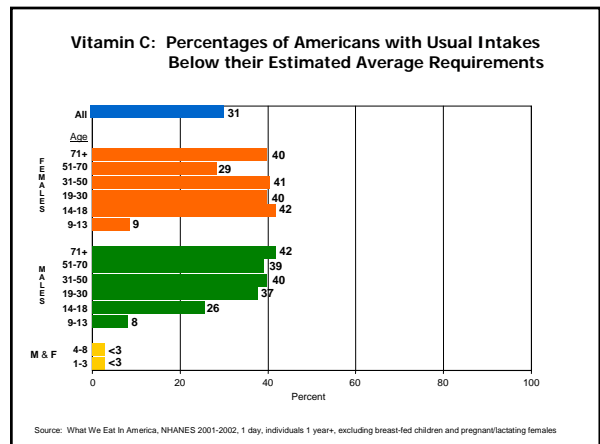
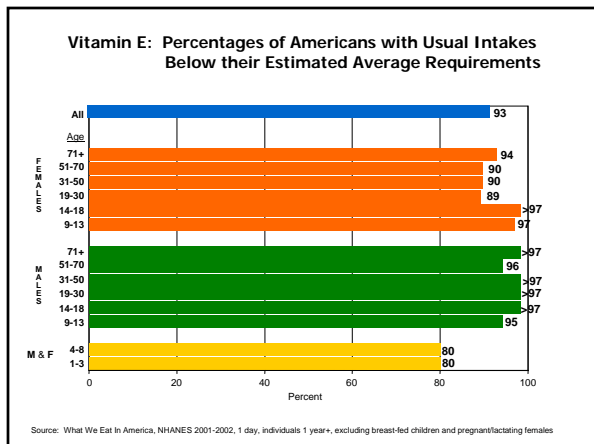
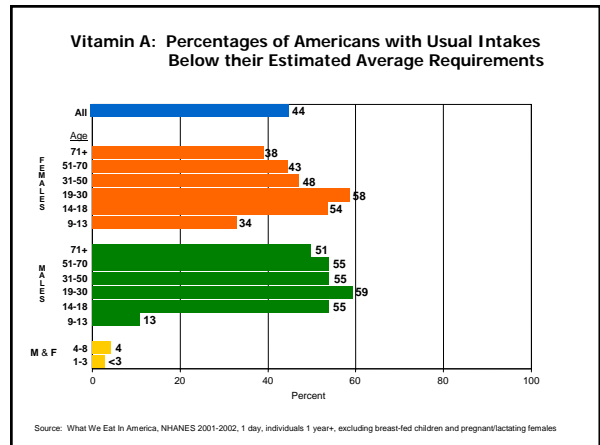
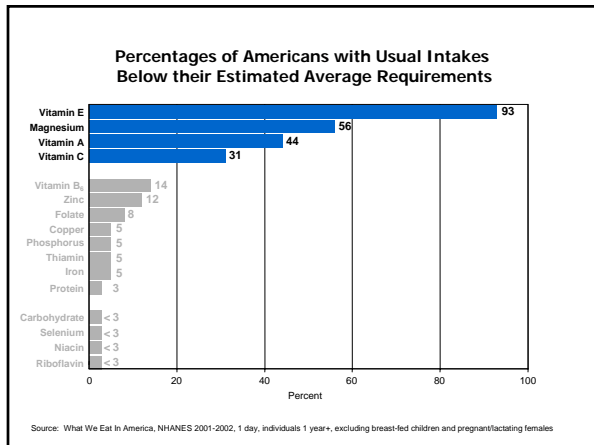
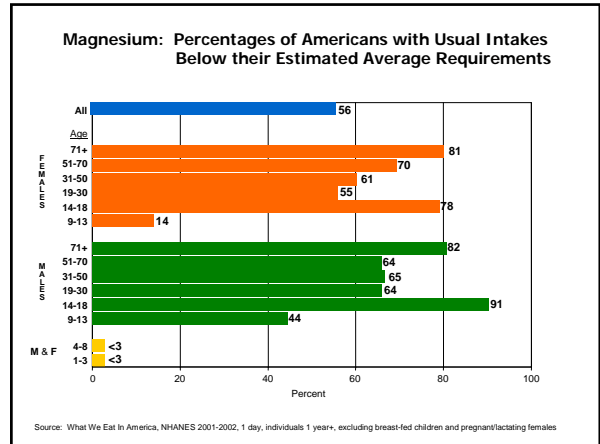
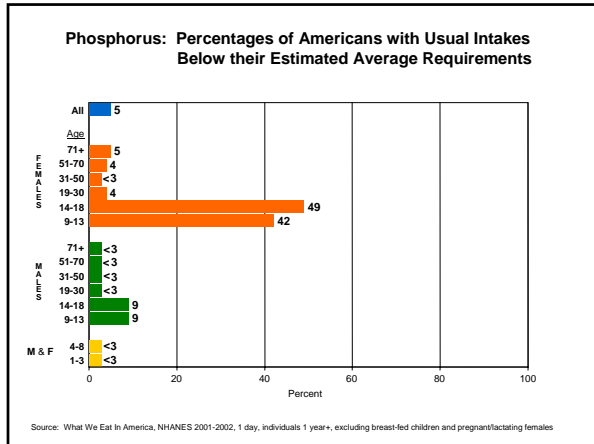
- ◆ **Estimated Average Requirements – EAR**
  - Carbohydrate
  - Protein
  - Folate
  - Niacin
  - Riboflavin
  - Thiamin
  - Vitamin A
  - Vitamin B<sub>6</sub>
  - Vitamin B<sub>12</sub>
  - Vitamin C
  - Vitamin E
  - Copper
  - Iron
  - Magnesium
  - Phosphorus
  - Selenium
  - Zinc
- ◆ **Adequate Intakes - AI**
  - Dietary Fiber
  - Linoleic Acid
  - Linolenic Acid
  - Vitamin K
  - Calcium
  - Potassium
  - Sodium

## Choline and Cholesterol

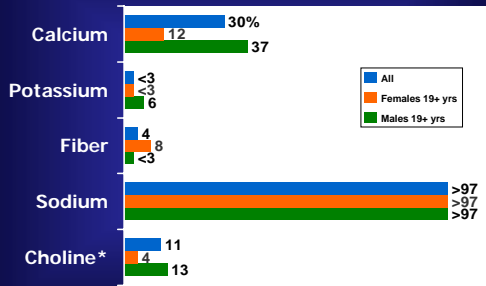
## Percentages of Americans with Usual Intakes Below their Estimated Average Requirements



Source: What We Eat in America, NHANES 2001-2002, 1 day, individuals 1 year+, excluding breast-fed children and pregnant/lactating females

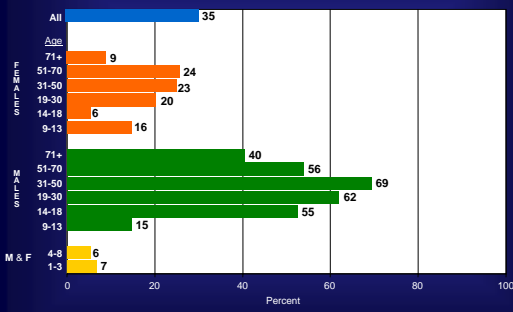


## Percentages of Americans with Usual Intakes At or Above their Adequate Intakes



Source: What We Eat in America, NHANES 2001-2002, 1 day, individuals 1 year+, excluding breast-fed children and pregnant/lactating females  
 \*For choline, What We Eat in America, NHANES 2005-2006, 1 day, individuals 1 year+, excluding breast-fed children and pregnant/lactating females

## Cholesterol: Percentages of Americans with Usual Intakes Above 300 mg



Source: What We Eat in America, NHANES 2003-2006, 1 day, individuals 1 year+, excluding breast-fed children and pregnant/lactating females

[www.ars.usda.gov/ba/bhnrc/fsrg](http://www.ars.usda.gov/ba/bhnrc/fsrg)

*Thank you*

