



Figure S1. Estimated mean¹ (95% confidence intervals) of total dietary cholesterol intake for the U.S. adults 20 years of age or older, in NHANES survey cycles: 2001-2002 to 2013-2014

¹ Age and sex adjusted means of cholesterol intake by direct standardization to the 2000 US Census population

Table S1. Crude and adjusted* mean dietary cholesterol intake and cholesterol density (proportion of cholesterol of total calories) for the U.S. adults 20 years of age or older, NHANES survey cycles: 2001-2002 to 2013-2014

NHANES survey cycle	Mean intake (mg/day)		Density (mg/1000 kcal)	
	Crude	Adjusted	Crude	Adjusted
Overall	287 (284-291)	288 (285-292)	134 (133-136)	134 (133-136)
2001-2002	283 (275-291)	282 (275-289)	130 (126-133)	130 (126-133)
2003-2004	289 (276-302)	290 (277-302)	135 (130-139)	134 (129-139)
2005-2006	295 (286-303)	296 (288-304)	136 (133-139)	136 (133-139)
2007-2008	292 (280-304)	295 (283-307)	138 (134-142)	139 (135-142)
2009-2010	276 (267-285)	276 (268-285)	130 (126-135)	130 (125-134)
2011-2012	282 (275-289)	282 (276-289)	132 (128-136)	131 (127-136)
2013-2014	293 (285-301)	294 (285-303)	139 (136-142)	139 (136-142)
P-trend	0.895	0.977 ⁺	0.072	0.340 ⁺

* Adjusted mean intake was calculated by direct standardization to the 2000 US Census population, adjusted for age and sex.

⁺ Adjusted *p*-trend values were calculated from a survey weighted linear regression modeling survey cycle as ordinal variable, adjusted for race, age, and sex.

Table S2. Estimated means¹ (95% confidence intervals) at total dietary cholesterol intake for the U.S. adults 20 years of age or older, NHANES survey cycles: 2001-2002 to 2013-2014

	Overall	2001-02	2003-04	2005-06	2007-08	2009-10	2011-12	2013-14	p-trend*
N (unweighted)	34,741	4,744	4,448	4,520	5,419	5,762	4,801	5,047	
Overall	288	282	290	296	295	276	282	294	0.98
Sex									
Male	348	339	349	361	364	334	340	350	0.91
Female	232	229	235	236	231	223	228	242	0.72
Age group									
20-29	295	293	303	290	286	286	290	315	0.49
30-49	306	306	305	322	322	287	296	304	0.052
50-69	281	264	285	284	288	279	279	284	0.39
70+	232	219	228	245	229	219	229	250	0.13
Race									
NH White	282	278	282	292	292	268	274	284	0.56
NH Black	310	304	307	304	311	316	306	323	0.13
Mexican American	319	322	331	313	312	297	320	330	0.73
Other	275	251	279	290	276	260	270	288	0.43

¹ Age and sex adjusted means of cholesterol intake by direct standardization to the 2000 US Census population

* *p*-trend values were calculated from a survey weighted linear regression modeling survey cycle as ordinal variable, adjusted for race, age, and sex.

Table S3. Estimated total dietary cholesterol intake (mg/day) by food groups with meat subgroups for US adults aged ≥20 years in NHANES, 2013–2014.

	Milk ^a	Eggs	Meat					Grain products	Other	All	
			All meat	Red meat	Poultry	Processed meat	Seafood				Mixed dishes
Overall	33 (11.2)	74 (25.4)	123 (41.9)	24 (8.3)	34 (11.7)	15 (5.1)	15 (5.0)	36 (12.2)	51 (17.5)	12 (4.0)	293 (100)
Sex											
Male (ref.)	38 (11.0)	89 (25.6)	151 (43.3)	32 (9.4)	42 (12.2)	19 (5.6)	17 (4.9)	40 (11.5)	58 (16.7)	12 (3.5)	348 (100)
Female	28 (11.6) ⁺	61 (25.2)	97 (40.1) [*]	17 (6.9) ⁺	27 (11.0)	11 (4.6) ⁺	12 (5.1)	32 (13.2)	45 (18.5)	11 (4.7) ⁺	242 (100)
Age group											
20-29 (ref.)	34 (10.7)	81 (25.6)	131 (41.5)	28 (8.8)	42 (13.2)	15 (4.6)	13 (4.3)	37 (11.8)	59 (18.9)	10 (3.3)	315 (100)
30-49	33 (10.8)	71 (23.5)	132 (43.5) [*]	28 (9.2)	37 (12.3)	15 (5.1)	16 (5.3)	35 (11.7)	56 (18.6) [*]	11(3.6)	303 (100)
50-69	32 (11.2)	74 (26.3)	117 (41.3)	21 (7.3)	31 (11.0)	15 (5.4)	14 (5.1)	36 (12.7)	48 (17.0) ⁺	12 (4.2)	283 (100)
70+	35 (13.5)	74 (28.9)	100 (39.2)	19 (7.3)	22 (8.7)	14 (5.7)	13 (4.9)	34 (13.2)	32 (12.5) ⁺	15 (5.8) ⁺	255 (100)
Race											
NH White (ref.)	37 (13.2)	69 (24.4)	115 (40.8)	23 (8.2)	29 (10.2)	17 (5.9)	13 (4.5)	35 (12.4)	48 (17.1)	13 (4.5)	282 (100)
NH Black	22 (6.7) ⁺	78 (24.4)	166 (51.8) ⁺	28 (8.7)	57 (17.8) ⁺	16 (5.1)	27 (8.3) ⁺	45 (14.1)	44 (13.8)	11 (3.3) ⁺	320 (100)
Mexican American	24 (7.2) ⁺	102 (30.1) ⁺	111 (32.8) [*]	25 (7.5)	33 (9.9)	9 (2.7) ⁺	9 (2.6)	31 (9.2) [*]	91 (27) ⁺	10 (2.9)	338 (100)
Other	27 (9.4) ⁺	79 (27.2)	132 (45.3) [*]	26 (8.9)	41 (14.2) ⁺	10 (3.4) ⁺	18 (6.1) ⁺	35 (12.0)	44 (15.1)	9 (3.1)	292 (100)

^a Milk refers to Milk and Milk Products

^{*} $p < 0.05$, ⁺ $p < 0.01$ for percentage of dietary cholesterol intake comparison

Table S4. Food and nutrients intake of one-day dietary measures by dietary cholesterol intake quartiles for U.S. **men** aged ≥ 20 years in NHANES, 2013–2014.

	Overall	Q1	Q2	Q3	Q4	P-trend*
N (unweighted)	2414	612	596	603	603	
Cholesterol intake, mean(SE), mg/day	348 (7.7)	101 (2.1)	216 (1.4)	368 (3.2)	731 (18.1)	
Cholesterol intake, range, mg/day	(0, 2584)	(0, 160)	(161, 277)	(278, 476)	(477, 2584)	
Food intake, mean (SE), mg/day						
Milk and milk products	226 (10.8)	175 (12.5)	223 (16.4)	251 (20.7)	253 (19.9)	<0.001
Meat, Poultry, Fish & Mixtures	248 (7.6)	113 (6.2)	226 (8.8)	293 (13.0)	365 (18.7)	<0.001
Eggs	31 (1.4)	2 (0.9)	7 (2.1)	20 (1.9)	103 (5.0)	<0.001
Legumes, Nuts and Seeds	36 (2.1)	45 (5.0)	29 (3.9)	32 (3.8)	39 (4.1)	0.53
Grain products	373 (7.4)	307 (10.9)	363 (18.3)	396 (9.8)	426 (14.7)	<0.001
Fruits	147 (6.6)	160 (14.8)	128 (10.9)	139 (11.1)	165 (9.5)	0.63
Vegetables	180 (9.2)	137 (6.4)	174 (11.6)	179 (16.0)	231 (18.9)	<0.001
Fats, Oils & Salad Dressings	13 (0.9)	8 (1.0)	14 (1.9)	14 (1.6)	15 (1.7)	0.003
Nutrients intake, mean (SE)						
Protein, mean (SE), gm/day	98 (1.25)	58 (1.9)	87 (1.3)	108 (2.1)	141 (3.3)	<0.001
Carbohydrate, mean (SE), gm/day	287 (3.2)	240 (5.1)	280 (7.0)	302 (7.9)	327 (8.8)	<0.001
Dietary fiber, mean (SE), gm/day	19 (0.4)	17 (0.6)	19 (0.5)	19 (0.7)	21 (0.9)	0.004
Total fat, mean (SE), gm/day	95 (1.3)	59 (1.3)	86 (2.1)	103 (2.1)	134 (3.1)	<0.001
Total saturated fatty acids, mean (SE), gm/day	31 (0.5)	18 (0.4)	28 (0.8)	35 (0.9)	44 (1.0)	<0.001
Total monounsaturated fatty acids, mean (SE), gm/day	33 (0.4)	21 (0.5)	30 (0.7)	35 (0.7)	48 (1.1)	<0.001
Total polyunsaturated fatty acids, mean (SE), gm/day	22 (0.5)	15 (0.5)	20 (0.7)	23 (0.7)	30 (1.2)	<0.001
Vitamin C, mean (SE), mg/day	83 (2.4)	71 (5.1)	79 (4.1)	80 (5.6)	105 (6.9)	0.008
Vitamin D, mean (SE), mcg/day	6 (0.3)	3 (0.3)	5 (0.2)	6 (0.3)	8 (1.0)	<0.001
Calcium, mean (SE), mg/day	1086 (18.3)	759 (22.9)	1058 (28.3)	1169 (35.9)	1363 (33.8)	<0.001
Phosphorus, mean (SE), mg/day	1625 (17.9)	1096 (33.7)	1502 (28.4)	1753 (33.8)	2171 (48.4)	<0.001
Sodium, mean (SE), mg/day	4094 (53.3)	2694 (48.1)	3767 (76.0)	4496 (95.6)	5470 (123.8)	<0.001
Potassium, mean (SE), mg/day	3016 (36.0)	2317 (59.7)	2875 (64.4)	3126 (71.4)	3782 (64.1)	<0.001

* *p*-trend values were calculated from a survey weighted linear regression modeling cholesterol intake quartiles as ordinal variable

Table S5. Food and nutrients intake of one-day dietary measures by dietary cholesterol intake quartiles for U.S. **women** aged ≥ 20 years in NHANES, 2013–2014.

	Overall	Q1	Q2	Q3	Q4	P-trend*
N (unweighted)	2633	660	659	656	658	
Cholesterol intake, mean(SE), mg/day	242 (3.10)	69 (1.3)	149 (1.2)	255 (1.7)	519 (5.7)	
Cholesterol intake, range, mg/day	(0, 1944)	(0, 111)	(112, 191)	(192, 333)	(334, 1944)	
Food intake, mean (SE), mg/day						
Milk and milk products	172 (6.1)	139 (9.0)	171 (5.9)	197 (12.2)	184 (10.8)	0.002
Meat, Poultry, Fish & Mixtures	173 (5.3)	86 (6.0)	152 (8.6)	212 (10.2)	251 (15.1)	<0.001
Eggs	24 (1.5)	2 (0.7)	3 (0.7)	15 (1.6)	79 (4.9)	<0.001
Legumes, Nuts and Seeds	26 (1.2)	29 (2.5)	21 (3.1)	27 (2.8)	28 (3.0)	0.80
Grain products	284 (5.3)	222 (8.5)	300 (9.6)	315 (7.7)	302 (12.9)	<0.001
Fruits	141 (6.0)	136 (9.9)	143 (11.0)	139 (9.9)	147 (15.4)	0.65
Vegetables	167 (4.4)	141 (6.8)	165 (10.4)	165 (9.2)	200 (10.3)	0.001
Fats, Oils & Salad Dressings	11 (0.7)	9 (1.0)	10 (0.9)	14 (1.4)	13 (1.4)	0.002
Nutrients intake, mean (SE)						
Protein, mean (SE), gm/day	70 (0.8)	43 (1.1)	62 (1.1)	80 (0.8)	97 (2.6)	<0.001
Carbohydrate, mean (SE), gm/day	220 (3.0)	184 (5.1)	217 (4.4)	239 (3.8)	244 (9.3)	<0.001
Dietary fiber, mean (SE), gm/day	99 (1.7)	83 (2.8)	96 (2.5)	107 (2.3)	110 (5.4)	<0.001
Total fat, mean (SE), gm/day	15 (0.3)	14 (0.5)	15 (0.5)	16 (0.4)	16 (0.5)	<0.001
Total saturated fatty acids, mean (SE), gm/day	71 (0.7)	45 (1.6)	64 (1.8)	83 (2.1)	96 (2.9)	<0.001
Total monounsaturated fatty acids, mean (SE), gm/day	23 (0.2)	13 (0.4)	21 (0.5)	28 (0.8)	31 (1.0)	<0.001
Total polyunsaturated fatty acids, mean (SE), gm/day	25 (0.3)	16 (0.7)	21 (0.7)	28 (0.7)	34 (1.1)	0.007
Vitamin C, mean (SE), mg/day	17 (0.2)	12 (0.6)	15 (0.6)	19 (0.5)	22 (0.8)	<0.001
Vitamin D, mean (SE), mcg/day	75 (2.2)	66 (3.6)	78 (4.3)	70 (3.8)	86 (3.9)	<0.001
Calcium, mean (SE), mg/day	4 (0.1)	3 (0.2)	3 (0.2)	5 (0.3)	6 (0.3)	0.004
Phosphorus, mean (SE), mg/day	852 (10.9)	642 (22.7)	840 (20.1)	971 (22.9)	971 (34.1)	<0.001
Sodium, mean (SE), mg/day	1187 (12.2)	820 (21.7)	1101 (21.8)	1339 (12.9)	1526 (37.7)	<0.001
Potassium, mean (SE), mg/day	2997 (22.1)	2003 (43.7)	2818 (59.3)	3393 (52.0)	3869 (95.9)	<0.001

* *p*-trend values were calculated from a survey weighted linear regression modeling cholesterol intake quartiles as ordinal variable