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Canadian Health Measures Survey: Cycle 2 Data Tables



2009 to 2011



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Canadian Health Measures Survey: Cycle 2 Data Tables

2009 to 2011

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- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 true zero or a value rounded to zero
- 0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- p preliminary
- r revised
- x suppressed to meet the confidentiality requirements of the *Statistics Act*
- E use with caution
- F too unreliable to be published
- * significantly different from reference category ($p < 0.05$)

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Introduction

The Canadian Health Measures Survey (CHMS) is the most extensive national survey on physical health measures ever conducted in the country. Data collection consists of two main steps, a personal interview at the respondent's household followed later by a visit to the CHMS mobile clinic where physical measurements and blood and urine samples are taken. Indoor air samples are also taken from the home to measure for a number of airborne substances.

The CHMS captures a broad portrait of the health of Canadians by gathering baseline data on a variety of topics, including cardiovascular health, nutritional status, chronic diseases and physical activity, as well as exposure to infectious diseases and environmental contaminants. The survey collects health information that can't be otherwise captured, or that may be inaccurately reported, through self-report questionnaires or health care records.

The CHMS is conducted by Statistics Canada in partnership with Health Canada and the Public Health Agency of Canada.

During CHMS cycle 2, physical measurements were collected in 18 sites across Canada from 6,395 people representing the Canadian population aged 3 to 79. Collection sites were located in seven provinces: Newfoundland and Labrador, Nova Scotia, Quebec, Ontario, Manitoba, Alberta and British Columbia. Collection started in August 2009 and continued until November 2011. Data are representative at the national level.

This publication is part of the release of CHMS data that began on September 20, 2012. Tables will be added to the publication at the time of future releases (planned for November 21, 2012 and April 17, 2013).

In addition to the data tables, each release of data is also accompanied by a user guide, data dictionaries, derived variable documentation, and analytical articles.

Many of the data tables for cycle 2 have the same or similar content to the data tables for cycle 1. Appendix 1 provides a concordance table for the two cycles.

For additional information about the CHMS:

Toll-free number:	1-800-263-1136
E-mail:	infostats@statcan.gc.ca
Telecommunication device for the hearing impaired:	1-866-753-7083
Statistics Canada website:	www.statcan.gc.ca

Statistical tables

Table 1
Average resting diastolic blood pressure, by age and sex, household population, Canada, 2009 to 2011

	Average resting diastolic blood pressure											
	Mean		5th percentile			10th percentile			25th percentile			
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
millimetres of mercury (mmHg)												
Both sexes												
Age 6 to 11	61	61	62	49	48	51	52	51	53	56	55	57
Age 12 to 19	62	60	63	50	48	53	53	51	55	57	55	58
Age 20 to 39	69	67	70	55	54	57	58	57	59	62	61	63
Age 40 to 59	74	73	76	59	56	62	62	60	64	67	66	69
Age 60 to 79	72	71	73	57	55	59	60	58	61	66	64	67
Age 6 to 79	70	69	71	54	54	55	57	57	58	62	61	63
Males												
Age 6 to 11	61	60	62	48	46	50	50	48	53	56	54	57
Age 12 to 19	62	60	64	50	46	54	52	49	55	57	54	59
Age 20 to 39	70	69	72	57	55	60	59	58	61	64	62	65
Age 40 to 59	77	75	79	63	61	66	66	65	67	70	68	71
Age 60 to 79	73	72	74	58	56	59	60	57	62	66	65	68
Age 6 to 79	71	70	72	55	53	56	58	57	59	64	63	65
Females												
Age 6 to 11	62	61	63	51	49	53	53	52	54	56	55	57
Age 12 to 19	62	60	63	51	49	53	54	53	55	57	56	58
Age 20 to 39	67	65	69	53	50	56	57	56	58	60	59	62
Age 40 to 59	71	69	73	56	53	60	60	57	62	65	63	66
Age 60 to 79	71	70	72	56	53	59	59	57	61	65	63	67
Age 6 to 79	68	67	69	54	54	55	56	56	57	61	60	62

	Average resting diastolic blood pressure											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
millimetres of mercury (mmHg)												
Both sexes												
Age 6 to 11	60	59	61	65	64	66	71	70	72	74	72	77
Age 12 to 19	61	60	62	65	64	67	70	68	73	73	70	77
Age 20 to 39	67	66	68	73	71	74	79	76	83	85	80	90
Age 40 to 59	73	71	74	79	77	82	87	84	89	90	86	93
Age 60 to 79	71	70	71	77	76	78	83	81	85	86	84	89
Age 6 to 79	68	68	69	75	74	76	82	80	85	87	85	89
Males												
Age 6 to 11	59	58	60	65	63	66	70	68	72	75	71	79
Age 12 to 19	61	59	63	66	64	68	70	67	73	74	70	78
Age 20 to 39	69	68	70	75	73	78	82	76	88	86	81	91
Age 40 to 59	75	74	77	82	80	84	89	86	92	93	84	101
Age 60 to 79	72	71	74	78	77	80	84	82	86	87	85	89
Age 6 to 79	70	69	71	77	76	79	85	82	88	89	86	91
Females												
Age 6 to 11	61	60	62	66	65	67	72	71	73	74	72	77
Age 12 to 19	61	60	62	65	63	66	71	68	73	73	70	76
Age 20 to 39	65	64	66	70	69	72	76	74	79	83	77	89
Age 40 to 59	70	67	72	76	74	78	82	79	85	87	83	90
Age 60 to 79	69	68	71	75	74	77	81	79	84	85	81	89
Age 6 to 79	67	65	68	73	72	74	79	78	81	84	82	86

Note(s): Total household population aged 6 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 2
Average resting systolic blood pressure, by age and sex, household population, Canada, 2009 to 2011

	Average resting systolic blood pressure											
	Mean			5th percentile			10th percentile			25th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
millimetres of mercury (mmHg)												
Both sexes												
Age 6 to 11	94	94	95	82	81	83	84	83	85	88	88	89
Age 12 to 19	98	97	99	86	84	87	88	87	89	92	91	93
Age 20 to 39	105	103	107	87	85	90	91	90	92	97	95	98
Age 40 to 59	113	111	116	92	88	96	96	94	99	103	100	106
Age 60 to 79	124	122	125	99	98	100	103	101	104	111	109	114
Age 6 to 79	110	108	111	88	87	88	91	91	92	98	97	99
Males												
Age 6 to 11	94	93	95	82	80	83	84	83	85	88	87	89
Age 12 to 19	100	99	101	87	84	89	89	88	90	93	92	94
Age 20 to 39	109	106	111	92	90	94	94	90	99	101	99	103
Age 40 to 59	116	114	119	97	94	99	101	97	104	107	105	109
Age 60 to 79	122	120	125	99	97	100	102	100	104	111	108	114
Age 6 to 79	112	110	113	89	88	90	93	92	94	101	100	102
Females												
Age 6 to 11	95	94	96	83	81	84	84	82	86	89	88	90
Age 12 to 19	96	95	97	84	83	86	87	86	88	91	90	92
Age 20 to 39	101	100	102	85	83	88	88	86	91	93	91	96
Age 40 to 59	110	107	113	89	85	93	93	88	98	100	96	103
Age 60 to 79	125	124	127	100	97	102	103	100	105	112	109	115
Age 6 to 79	108	106	109	87	85	88	90	89	91	96	95	97

	Average resting systolic blood pressure											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
millimetres of mercury (mmHg)												
Both sexes												
Age 6 to 11	93	92	94	99	98	99	104	102	107	109	105	113
Age 12 to 19	97	96	98	102	101	104	108	106	111	112	110	114
Age 20 to 39	103	101	105	111	108	114	119	116	122	126	119	132
Age 40 to 59	112	109	114	121	119	124	131	129	134	139	134	144
Age 60 to 79	121	120	123	133	131	136	146	143	149	157	149	165
Age 6 to 79	107	105	108	118	116	120	131	128	133	138	135	140
Males												
Age 6 to 11	92	91	93	98	96	99	105	101	109	111	106	115
Age 12 to 19	99	97	101	104	102	106	111	109	113	114	112	116
Age 20 to 39	107	105	110	115	112	118	121	117	126	129	119	138
Age 40 to 59	114	111	117	122	120	125	134	128	140	140	131	149
Age 60 to 79	119	117	122	131	126	135	143	139	146	152	148	155
Age 6 to 79	110	107	112	119	117	121	131	127	135	139	135	143
Females												
Age 6 to 11	94	93	95	99	98	101	104	102	106	108	105	110
Age 12 to 19	96	95	97	100	99	102	105	103	107	108	105	111
Age 20 to 39	99	98	101	105	103	107	113	110	117	123	114	131
Age 40 to 59	109	105	113	117	114	121	128	124	131	133	127	138
Age 60 to 79	124	123	126	134	132	136	147	142	152	163	153	173
Age 6 to 79	103	102	105	116	114	117	130	127	132	137	134	140

Note(s): Total household population aged 6 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 3
Average resting heart rate, by age and sex, household population, Canada, 2009 to 2011

	Average resting heart rate											
	Mean		5th percentile			10th percentile			25th percentile			
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
beats per minute (bpm)												
Both sexes												
Age 6 to 11	81	79	82	63	62	64	65	64	67	71	69	73
Age 12 to 19	74	72	76	54	53	56	58	55	60	66	64	67
Age 20 to 39	69	68	70	52	50	55	56	55	58	62	60	63
Age 40 to 59	67	66	68	53	51	55	56	55	57	60	60	61
Age 60 to 79	66	65	67	49	48	50	52	51	54	58	57	59
Age 6 to 79	69	69	70	52	51	53	56	55	57	61	60	62
Males												
Age 6 to 11	79	76	81	62	61	64	64	62	65	69	66	72
Age 12 to 19	73	70	75	53	51	55	55	53	57	63	60	66
Age 20 to 39	67	66	69	53	50	55	56	54	58	60	58	62
Age 40 to 59	67	65	68	53	52	54	55	54	56	59	59	60
Age 60 to 79	64	63	65	48	47	49	50	49	51	56	54	58
Age 6 to 79	68	67	69	52	51	53	55	54	56	60	59	61
Females												
Age 6 to 11	83	81	84	64	62	66	68	65	71	75	73	77
Age 12 to 19	75	74	77	59	54	63	62	60	64	68	66	70
Age 20 to 39	71	69	72	51	47	56	58	55	61	63	61	66
Age 40 to 59	68	67	69	54	50	58	58	56	59	61	60	63
Age 60 to 79	68	67	69	51	47	54	56	54	57	60	58	62
Age 6 to 79	71	70	71	54	51	57	58	57	59	63	62	64

	Average resting heart rate											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
beats per minute (bpm)												
Both sexes												
Age 6 to 11	80	77	82	87	86	89	95	92	98	103	96	109
Age 12 to 19	73	71	74	81	78	83	89	87	92	93	88	98
Age 20 to 39	68	67	70	76	74	77	80	78	83	85	83	86
Age 40 to 59	66	64	67	72	71	73	79	77	81	85	82	88
Age 60 to 79	65	64	66	72	70	73	79	77	82	85	83	88
Age 6 to 79	68	67	68	75	74	76	83	82	85	88	87	90
Males												
Age 6 to 11	76	73	79	86	81	90	92	88	96	99	88	109
Age 12 to 19	71	69	74	79	76	82	89	84	94	97	86	108
Age 20 to 39	65	63	68	74	71	77	80	77	82	84	82	86
Age 40 to 59	64	63	66	72	69	74	80	75	84	86	81	91
Age 60 to 79	63	61	64	69	68	70	76	73	80	86	80	92
Age 6 to 79	66	65	67	74	73	76	83	80	85	88	85	90
Females												
Age 6 to 11	82	81	83	89	87	91	97	91	102	104	98	110
Age 12 to 19	74	71	76	82	79	84	89	87	92	92	91	94
Age 20 to 39	71	70	72	77	75	79	81	78	85	85	83	88
Age 40 to 59	67	65	69	72	71	74	78	75	80	82	79	86
Age 60 to 79	67	66	68	74	72	76	82	79	85	85	83	88
Age 6 to 79	70	69	71	76	75	77	84	83	85	88	87	90

Note(s): Total household population aged 6 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 4
Distribution of the household population by blood pressure norms, by age and sex, Canada, 2009 to 2011

	Blood pressure norms								
	Within the acceptable range			Acceptable, but at the high end of the acceptable range			Above the acceptable range		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To
	percent								
Both sexes									
Age 18 to 39	94.7	89.4	97.4	F	.	.	F	.	.
Age 40 to 59	82.4	77.1	86.7	9.6	7.0	12.9	6.5 ^E	3.9	10.6
Age 60 to 79	67.0	62.8	71.0	17.9	14.5	21.9	10.6	8.2	13.5
Age 18 to 79	84.0	80.5	86.9	9.0	7.3	11.1	5.4	3.8	7.5
Males									
Age 18 to 39	91.7	81.9	96.4	F	.	.	F	.	.
Age 40 to 59	75.8	67.8	82.3	11.3 ^E	7.6	16.5	10.5 ^E	5.5	19.2
Age 60 to 79	69.3	61.9	75.7	17.4	12.4	23.7	9.7 ^E	6.6	14.1
Age 18 to 79	80.7	75.0	85.4	10.5	7.6	14.5	6.9^E	4.2	11.3
Females									
Age 18 to 39	97.7	95.7	98.8	F	.	.	F	.	.
Age 40 to 59	89.1	83.1	93.1	7.7 ^E	4.3	13.6	F	.	.
Age 60 to 79	65.0	60.8	69.0	18.4	13.4	24.8	11.3 ^E	7.7	16.5
Age 18 to 79	87.2	85.0	89.1	7.6	6.0	9.5	3.8^E	2.7	5.5

	Blood pressure norms								
	Moderately high			High			Very high		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To
	percent								
Both sexes									
Age 18 to 39	X	.	.	X	.	.	0.0	0.0	0.0
Age 40 to 59	F	.	.	X	.	.	0.0	0.0	0.0
Age 60 to 79	3.9 ^E	2.4	6.4	X	.	.	0.0	0.0	0.0
Age 18 to 79	1.1^E	0.7	1.7	X	.	.	0.0	0.0	0.0
Males									
Age 18 to 39	X	.	.	X	.	.	0.0	0.0	0.0
Age 40 to 59	X	.	.	X	.	.	0.0	0.0	0.0
Age 60 to 79	3.1 ^E	1.9	5.0	X	.	.	0.0	0.0	0.0
Age 18 to 79	0.9^E	0.5	1.6	X	.	.	0.0	0.0	0.0
Females									
Age 18 to 39	X	.	.	X	.	.	0.0	0.0	0.0
Age 40 to 59	X	.	.	X	.	.	0.0	0.0	0.0
Age 60 to 79	4.6 ^E	2.3	9.3	X	.	.	0.0	0.0	0.0
Age 18 to 79	1.3^E	0.7	2.3	X	.	.	0.0	0.0	0.0

Note(s): The norms used in this table can be found in D. Abbott, N. Campbell, P. Carruthers-Czyzewski, A. Chockalingam, M. David, G. Dunkley, E. Ellis, J.G. Fodor, D. McKay, V.R. Ramsden, 1994, "Guidelines for measurement of blood pressure, follow-up, and lifestyle counselling", Canadian Journal of Public Health, Vol. 85 (suppl 2), p. S29-S35. Total household population aged 18 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*)

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 5
Household population who self-reported taking hypertension medication or had a hypertensive blood pressure measurement by age and sex, Canada, 2009 to 2011

	Taking hypertension medication or measured hypertension			Not taking hypertension medication and no measured hypertension		
	Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To
percent						
Both sexes						
Age 6 to 11	2.7 ^E	1.6	4.6	97.3	95.4	98.4
Age 12 to 19	X	.	.	99.5	98.8	99.8
Age 20 to 39	3.6 ^E	2.0	6.2	96.4	93.8	98.0
Age 40 to 59	21.7	16.6	27.8	78.3	72.2	83.4
Age 60 to 79	52.4	47.7	57.1	47.6	42.9	52.3
Age 6 to 79	18.0	15.8	20.4	82.0	79.6	84.2
Males						
Age 6 to 11	3.2 ^E	1.7	5.9	96.8	94.1	98.3
Age 12 to 19	X	.	.	99.3	97.8	99.8
Age 20 to 39	3.2 ^E	1.6	6.2	96.8	93.8	98.4
Age 40 to 59	28.6	20.4	38.6	71.4	61.4	79.6
Age 60 to 79	57.7	51.7	63.4	42.3	36.6	48.3
Age 6 to 79	20.8	17.0	25.2	79.2	74.8	83.0
Females						
Age 6 to 11	F	.	.	97.8	95.3	99.0
Age 12 to 19	X	.	.	99.8	99.0	100.0
Age 20 to 39	F	.	.	96.0	91.1	98.3
Age 40 to 59	14.6	10.3	20.4	85.4	79.6	89.7
Age 60 to 79	47.6	41.0	54.3	52.4	45.7	59.0
Age 6 to 79	15.1	12.9	17.6	84.9	82.4	87.1

Note(s): Measured hypertension is characterized by a systolic or diastolic blood pressure \geq 95th percentile for 6 to 17 year olds (2004, "National High Blood Pressure Education Program Working Group on High Blood Pressure in Children and Adolescents. The fourth report on the diagnosis, evaluation, and treatment of high blood pressure in children and adolescents", *Pediatrics*, Vol. 114(2 Suppl. 4th report), pp. 555-76). Measured hypertension is characterized by a systolic blood pressure \geq 140 bpm or a diastolic blood pressure \geq 90 bpm for 18 to 79 year olds (Chobanian AV, Bakris GL, Black HR, et al., 2003, "Seventh report on the Joint National Committee on the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure", *Hypertension*, 42(6) pp. 1206-52). Total household population aged 6 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 6
Total grip strength of the household population, by age and sex, Canada, 2009 to 2011

	Total grip strength											
	Mean			5th percentile			10th percentile			25th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
kilograms												
Both sexes												
Age 6 to 11	26	25	27	12	11	13	15	13	16	19	18	20
Age 12 to 19	58	56	60	31	29	33	35	33	38	42	40	45
Age 20 to 39	73	70	75	40	35	46	45	43	47	52	50	55
Age 40 to 59	71	68	73	41	39	43	44	43	46	52	49	54
Age 60 to 79	60	58	62	31	28	34	35	33	37	43	42	45
Age 6 to 79	65	63	67	26	25	28	34	33	36	46	45	48
Males												
Age 6 to 11	27	25	28	12	10	14	16	13	19	20	17	22
Age 12 to 19	68	65	71	30	27	34	36	29	42	51	43	58
Age 20 to 39	92	89	95	68	59	76	72	67	77	84	80	88
Age 40 to 59	88	84	92	58	46	69	66	56	75	77	71	82
Age 60 to 79	77	74	80	53	48	58	57	53	60	65	62	68
Age 6 to 79	81	78	83	27	26	29	45	42	48	69	66	73
Females												
Age 6 to 11	25	24	26	12	10	14	14	12	17	19	18	20
Age 12 to 19	47	46	49	32	30	34	35	34	36	39	37	41
Age 20 to 39	53	51	56	35	28	42	41	36	45	47	45	48
Age 40 to 59	53	51	55	36	32	40	41	39	43	46	44	47
Age 60 to 79	45	43	46	29	22	35	31	30	33	37	36	39
Age 6 to 79	49	48	50	25	24	27	32	30	33	42	40	43

	Total grip strength											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
kilograms												
Both sexes												
Age 6 to 11	25	24	25	31	29	32	37	35	39	42	39	46
Age 12 to 19	54	51	57	71	67	74	86	82	89	92	90	94
Age 20 to 39	69	65	74	93	89	96	104	99	110	111	106	116
Age 40 to 59	65	60	69	88	84	92	103	98	108	110	105	115
Age 60 to 79	56	53	58	75	72	78	90	87	94	97	94	99
Age 6 to 79	60	57	62	84	81	86	98	95	102	107	104	110
Males												
Age 6 to 11	25	24	26	31	29	34	39	35	43	44	39	48
Age 12 to 19	70	66	73	83	80	87	92	90	94	100	96	104
Age 20 to 39	93	89	96	100	95	105	111	106	116	118	113	124
Age 40 to 59	88	84	92	100	97	103	110	105	115	116	112	120
Age 60 to 79	76	72	79	88	84	91	97	94	100	103	99	107
Age 6 to 79	84	81	86	96	93	99	107	105	110	113	110	117
Females												
Age 6 to 11	24	22	25	30	28	31	35	33	36	38	36	40
Age 12 to 19	46	44	49	54	53	56	59	58	61	63	59	66
Age 20 to 39	52	50	54	59	56	62	67	62	72	73	65	80
Age 40 to 59	53	50	55	59	57	61	65	62	67	69	65	72
Age 60 to 79	44	42	46	51	49	52	56	53	59	60	55	65
Age 6 to 79	49	48	51	56	55	58	63	61	66	68	63	72

Note(s): Total household population aged 6 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 7
Distribution of the household population by grip strength norms, by age and sex, Canada, 2009 to 2011

	Grip strength norms								
	Needs improvement			Fair			Good		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To
	percent								
Both sexes									
Age 15 to 19	45.9	36.4	55.7	22.2	16.6	29.0	19.9	14.5	26.7
Age 20 to 39	32.8	26.3	40.0	29.6	24.1	35.9	17.9	13.6	23.2
Age 40 to 59	24.8	18.4	32.6	18.5	14.6	23.2	21.0	17.3	25.4
Age 60 to 69	28.0	21.3	35.9	19.7	16.2	23.7	14.0	10.8	18.1
Age 15 to 69	30.1	25.2	35.4	23.1	20.6	25.9	18.8	16.7	21.0
Males									
Age 15 to 19	52.4	38.1	66.3	25.0 ^E	15.7	37.5	12.9 ^E	7.2	22.0
Age 20 to 39	23.7	18.4	29.8	33.2	25.7	41.7	22.5	17.1	29.1
Age 40 to 59	26.2 ^E	16.5	38.8	18.0	12.7	24.8	22.2	15.4	30.9
Age 60 to 69	31.9	23.5	41.6	23.9	18.2	30.7	15.6	11.6	20.5
Age 15 to 69	28.3	22.2	35.4	25.1	22.0	28.6	20.6	16.7	25.0
Females									
Age 15 to 19	39.1	32.1	46.5	19.1	14.4	25.0	27.3	21.4	34.1
Age 20 to 39	42.0	32.8	51.8	26.1	19.1	34.4	13.3 ^E	8.4	20.4
Age 40 to 59	23.5	17.2	31.2	19.1	13.9	25.7	19.9	15.3	25.5
Age 60 to 69	24.3	18.1	31.8	15.7	12.6	19.2	12.6	8.8	17.7
Age 15 to 69	31.7	27.3	36.5	21.1	17.3	25.5	17.0	14.2	20.1

	Grip strength norms					
	Very good			Excellent		
	Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To
	percent					
Both sexes						
Age 15 to 19	8.7 ^E	6.0	12.4	3.4 ^E	2.0	5.7
Age 20 to 39	12.8	9.0	17.8	6.9 ^E	3.8	12.0
Age 40 to 59	20.4	15.9	25.8	15.2	11.4	19.9
Age 60 to 69	21.9	18.8	25.3	16.4	11.6	22.6
Age 15 to 69	16.8	13.6	20.6	11.3	8.1	15.4
Males						
Age 15 to 19	6.6 ^E	3.8	11.2	3.1 ^E	1.5	6.1
Age 20 to 39	13.3 ^E	7.5	22.5	7.3 ^E	4.6	11.5
Age 40 to 59	12.5	8.9	17.2	21.2	15.6	28.0
Age 60 to 69	17.4	12.7	23.3	11.3 ^E	7.4	16.8
Age 15 to 69	13.0	9.4	17.6	13.0	9.9	16.9
Females						
Age 15 to 19	10.8 ^E	7.2	16.1	F	.	.
Age 20 to 39	12.2	8.5	17.3	F	.	.
Age 40 to 59	28.3	20.8	37.2	9.2 ^E	6.2	13.5
Age 60 to 69	26.2	21.0	32.1	21.2 ^E	14.5	29.9
Age 15 to 69	20.6	16.4	25.5	9.5^E	6.0	14.9

Note(s): The norms used in this table can be found in Canadian Society for Exercise Physiology, 2004, *The Canadian Physical Activity, Fitness and Lifestyle Approach (CPAFLA)*, 3rd edition, Ottawa. Total household population aged 15 to 69, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 8
Number of partial curl-ups completed by the household population, by age and sex, Canada, 2009 to 2011

	Number of partial curl-ups											
	Mean		5th percentile		10th percentile		25th percentile					
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
	number											
Both sexes												
Age 8 to 11	11	10	13	0†	0	0	0‡	0	0	F	.	.
Age 12 to 19	19	18	20	0‡	-3	3	7 ^E	3	10	14	13	16
Age 20 to 39	15	14	16	0†	0	0	0‡	0	0	F	.	.
Age 40 to 59	10	8	11	0†	0	0	0†	0	0	0‡	0	0
Age 60 to 69	4	4	5	0†	0	0	0†	0	0	0†	0	0
Age 8 to 69	12	12	13	0†	0	0	0†	0	0	0†	0	0
Males												
Age 8 to 11	11	10	13	0†	0	0	0‡	0	0	F	.	.
Age 12 to 19	21	20	22	7 ^E	4	11	12	9	15	19	16	22
Age 20 to 39	19	17	20	0†	0	0	0‡	-6	6	13	10	15
Age 40 to 59	13	11	15	0†	0	0	0‡	0	0	0‡	-2	2
Age 60 to 69	7	5	8	0†	0	0	0†	0	0	0†	0	0
Age 8 to 69	15	14	16	0†	0	0	0‡	0	0	F	.	.
Females												
Age 8 to 11	12	10	13	0†	0	0	0†	0	0	F	.	.
Age 12 to 19	17	16	19	0‡	-1	1	F	.	.	12	9	14
Age 20 to 39	11	10	13	0†	0	0	0†	0	0	0†	0	0
Age 40 to 59	7	5	8	0†	0	0	0†	0	0	0†	0	0
Age 60 to 69	2 ^E	1	3	0†	0	0	0†	0	0	0†	0	0
Age 8 to 69	9	9	10	0†	0	0	0†	0	0	0‡	0	0

	Number of partial curl-ups											
	50th percentile		75th percentile		90th percentile		95th percentile					
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
	number											
Both sexes												
Age 8 to 11	10	8	12	19	16	21	25†	24	26	25†	25	25
Age 12 to 19	23	22	24	25†	25	25	25†	25	25	25†	25	25
Age 20 to 39	18	16	20	25†	25	25	25†	25	25	25†	25	25
Age 40 to 59	F	.	.	22	20	25	25	24	25	25	25	25
Age 60 to 69	0† ^E	0	0	F	.	.	24	21	26	25†	25	25
Age 8 to 69	12	11	13	24	24	24	25	25	25	25	25	25
Males												
Age 8 to 11	10 ^E	6	13	18	14	22	25†	24	26	25†	25	25
Age 12 to 19	24	23	24	25†	25	25	25†	25	25	25†	25	25
Age 20 to 39	24	21	27	25†	25	25	25†	25	25	25†	25	25
Age 40 to 59	14 ^E	9	19	24	24	25	25	25	25	25	25	25
Age 60 to 69	0† ^E	0	0	13 ^E	6	20	25†	24	26	25†	25	25
Age 8 to 69	19	16	22	24	24	24	25	25	25	25	25	25
Females												
Age 8 to 11	10	8	12	19	16	23	25†	24	26	25†	25	25
Age 12 to 19	19	16	23	25†	25	25	25†	25	25	25†	25	25
Age 20 to 39	10	7	13	22	19	24	25†	25	25	25†	25	25
Age 40 to 59	0† ^E	0	0	14 ^E	8	19	25†	23	27	25†	25	25
Age 60 to 69	0†	0	0	0†	0	0	F	.	.	23 ^E	11	36
Age 8 to 69	F	.	.	19	18	21	25†	25	25	25	25	25

† noise introduced in order to calculate estimate

‡ coefficient of variation could not be calculated, use confidence interval as quality measure

Note(s): Total household population aged 8 to 69, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 9
Distribution of the household population by partial curl-up norms, by age and sex, Canada, 2009 to 2011

	Partial curl-up norms								
	Needs improvement			Fair			Good		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To
	percent								
Both sexes									
Age 15 to 19	19.2	13.5	26.5	13.5	9.8	18.3	8.7 E	4.8	15.3
Age 20 to 39	27.8	23.4	32.7	13.1	9.1	18.5	9.8 E	6.7	14.1
Age 40 to 59	51.7	44.9	58.5	5.6 E	3.4	8.9	10.4	7.8	13.7
Age 60 to 69	77.9	75.2	80.3	2.5 E	1.3	4.7	3.9 E	2.5	6.0
Age 15 to 69	43.2	40.0	46.4	8.7	7.2	10.5	9.1	7.6	11.0
Males									
Age 15 to 19	F	.	.	9.8 E	5.1	18.0	F	.	.
Age 20 to 39	18.1	13.7	23.4	11.5 E	7.0	18.2	F	.	.
Age 40 to 59	36.1	28.0	45.1	8.6 E	4.8	14.9	8.8 E	5.8	13.2
Age 60 to 69	69.0	62.6	74.8	F	.	.	4.9 E	2.7	8.4
Age 15 to 69	31.7	27.1	36.6	9.0	6.4	12.6	7.1 E	4.8	10.2
Females									
Age 15 to 19	24.2	17.5	32.5	17.7	12.9	23.8	F	.	.
Age 20 to 39	37.3	30.3	44.9	14.7 E	8.5	24.2	13.7	9.5	19.4
Age 40 to 59	66.3	57.4	74.2	F	.	.	11.9 E	7.5	18.2
Age 60 to 69	86.9	80.3	91.6	X	.	.	F	.	.
Age 15 to 69	54.4	51.0	57.8	8.4	6.1	11.6	11.2	8.3	14.9

	Partial curl-up norms					
	Very good			Excellent		
	Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To
	percent					
Both sexes						
Age 15 to 19	12.7	8.9	17.8	45.9	38.7	53.2
Age 20 to 39	15.1	11.8	19.2	34.2	30.0	38.7
Age 40 to 59	12.0	8.4	17.0	20.3	16.1	25.2
Age 60 to 69	6.4	4.9	8.2	9.4	6.8	12.8
Age 15 to 69	12.5	10.1	15.4	26.4	24.0	28.9
Males						
Age 15 to 19	13.4 E	7.8	22.1	53.7	42.0	65.1
Age 20 to 39	15.0	10.4	21.1	49.8	40.3	59.3
Age 40 to 59	16.2 E	10.6	23.8	30.3	23.4	38.3
Age 60 to 69	9.1 E	5.5	14.6	14.3 E	9.4	21.1
Age 15 to 69	14.5	11.3	18.4	37.8	32.5	43.4
Females						
Age 15 to 19	11.9 E	7.6	18.3	37.2	28.3	47.1
Age 20 to 39	15.3	10.9	21.0	19.0	14.9	24.0
Age 40 to 59	8.2 E	5.0	13.1	10.9 E	6.4	18.0
Age 60 to 69	3.6 E	2.0	6.6	F	.	.
Age 15 to 69	10.6	8.1	13.8	15.3	12.8	18.3

Note(s): The norms used in this table can be found in Canadian Society for Exercise Physiology, 2004, *The Canadian Physical Activity, Fitness and Lifestyle Approach (CPAFLA)*, 3rd edition, Ottawa. Total household population aged 15 to 69, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 10
Distribution of the household population by back fitness norms, by age and sex, Canada, 2009 to 2011

	Back fitness norms								
	Needs improvement			Fair			Good		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To
	percent								
Both sexes									
Age 15 to 19	6.1 ^E	3.9	9.3	12.7	9.3	17.1	19.8	16.1	24.1
Age 20 to 39	12.5	9.1	16.9	16.9	12.4	22.6	23.4	17.7	30.2
Age 40 to 59	23.6	18.3	29.9	23.2	18.2	29.1	20.0	16.1	24.5
Age 60 to 69	32.2	25.2	40.0	33.3	28.2	38.8	12.6	9.9	15.8
Age 15 to 69	19.3	16.2	22.9	21.5	18.3	25.1	20.1	17.2	23.3
Males									
Age 15 to 19	F	.	.	12.7 ^E	6.8	22.7	25.1	19.0	32.3
Age 20 to 39	8.9 ^E	5.1	15.1	15.5 ^E	9.0	25.5	30.1	20.7	41.5
Age 40 to 59	18.2 ^E	11.6	27.4	20.0	15.6	25.2	22.2	17.2	28.1
Age 60 to 69	31.2	23.0	40.8	31.0	25.3	37.3	17.3	13.2	22.4
Age 15 to 69	15.5	11.6	20.4	19.3	16.0	23.1	24.6	19.7	30.4
Females									
Age 15 to 19	7.6 ^E	3.9	14.5	12.7 ^E	7.5	20.8	14.4 ^E	9.5	21.2
Age 20 to 39	16.2	11.7	21.9	18.4 ^E	12.6	25.9	16.5 ^E	11.1	23.8
Age 40 to 59	29.0	22.6	36.4	26.4	18.9	35.6	17.8	12.8	24.1
Age 60 to 69	33.1	23.4	44.6	35.4	28.1	43.4	8.2 ^E	5.5	11.9
Age 15 to 69	23.2	19.3	27.8	23.7	19.2	29.0	15.5	12.9	18.7

	Back fitness norms					
	Very good			Excellent		
	Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To
	percent					
Both sexes						
Age 15 to 19	46.8	40.5	53.3	14.5	11.3	18.5
Age 20 to 39	34.7	29.5	40.3	12.5	10.2	15.1
Age 40 to 59	22.9	18.1	28.4	10.4	7.7	13.9
Age 60 to 69	16.8	12.4	22.2	5.2 ^E	3.4	7.8
Age 15 to 69	28.3	25.3	31.6	10.7	9.4	12.3
Males						
Age 15 to 19	46.8	38.0	55.8	10.9 ^E	7.2	16.1
Age 20 to 39	33.4	26.4	41.3	12.1 ^E	6.9	20.2
Age 40 to 59	25.0	20.5	30.0	14.7 ^E	9.9	21.2
Age 60 to 69	14.4	10.2	20.0	6.1 ^E	3.8	9.5
Age 15 to 69	28.5	24.4	32.9	12.2	9.3	15.8
Females						
Age 15 to 19	46.9	36.5	57.6	18.4	14.1	23.6
Age 20 to 39	36.1	28.9	44.0	12.9	9.7	16.9
Age 40 to 59	20.8 ^E	14.1	29.5	6.1 ^E	3.3	10.8
Age 60 to 69	18.9	13.6	25.7	F	.	.
Age 15 to 69	28.2	24.9	31.7	9.3	7.7	11.2

Note(s): The norms used in this table can be found in Canadian Society for Exercise Physiology, 2004, *The Canadian Physical Activity, Fitness and Lifestyle Approach (CPAFLA)*, 3rd edition, Ottawa. Total household population aged 15 to 69, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 11
Sit and reach measure completed by the household population, by age and sex, Canada, 2009 to 2011

	Sit and reach measure											
	Mean			5th percentile			10th percentile			25th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
centimetres												
Both sexes												
Age 6 to 11	25.9	25.1	26.6	11.9	9.9	13.8	15.7	14.2	17.3	20.5	19.3	21.6
Age 12 to 19	25.7	24.4	27.0	7.5	5.5	9.5	11.2	9.5	12.9	16.8	14.6	18.9
Age 20 to 39	26.1	24.3	28.0	F	.	.	8.1 ^E	4.2	11.9	18.8	15.0	22.6
Age 40 to 59	25.5	24.4	26.6	8.9	7.4	10.3	11.8	10.2	13.3	18.5	17.2	19.8
Age 60 to 69	21.5	20.4	22.6	3.3 ^E	1.0	5.6	6.5	4.2	8.8	13.7	12.2	15.2
Age 6 to 69	25.3	24.4	26.1	6.3	5.1	7.6	10.3	9.0	11.6	17.8	16.6	18.9
Males												
Age 6 to 11	24.0	23.1	24.8	11.4	9.2	13.6	15.2	13.3	17.1	19.3	17.9	20.7
Age 12 to 19	21.6	19.4	23.7	4.3 ^E	2.5	6.2	8.2	5.6	10.9	13.9	12.0	15.8
Age 20 to 39	22.4	19.6	25.3	0.0 ^{††}	-3.8	3.8	F	.	.	13.9	9.0	18.8
Age 40 to 59	23.0	21.9	24.1	5.9 ^E	2.6	9.3	9.6	7.8	11.4	16.2	14.9	17.5
Age 60 to 69	17.0	16.1	17.9	0.0 ^{††}	-0.7	0.7	3.3 ^E	1.1	5.6	9.4	6.9	11.9
Age 6 to 69	22.0	20.9	23.0	3.2^E	1.7	4.7	7.0	5.2	8.7	14.3	13.3	15.3
Females												
Age 6 to 11	27.9	26.8	29.0	11.8	7.8	15.8	16.6	13.1	20.2	23.2	21.7	24.7
Age 12 to 19	30.1	28.6	31.5	14.2	12.9	15.5	15.9	14.4	17.4	23.9	21.7	26.1
Age 20 to 39	29.9	28.4	31.4	11.1 ^E	6.0	16.2	15.6	12.5	18.7	23.8	20.3	27.2
Age 40 to 59	27.9	26.3	29.5	10.9	7.1	14.8	15.0	13.1	16.9	20.9	18.3	23.6
Age 60 to 69	26.1	24.7	27.6	8.7	6.6	10.8	12.2	10.6	13.8	20.4	18.4	22.3
Age 6 to 69	28.6	27.7	29.4	11.1	9.0	13.1	15.0	14.1	15.9	22.2	20.5	23.9
Sit and reach measure												
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
centimetres												
Both sexes												
Age 6 to 11	26.5	25.6	27.4	31.6	30.7	32.4	35.2	33.9	36.4	37.5	35.9	39.1
Age 12 to 19	26.1	24.3	27.9	34.1	32.7	35.4	39.0	37.2	40.8	43.0	41.1	44.9
Age 20 to 39	27.3	25.3	29.3	34.5	33.2	35.9	41.3	38.8	43.8	43.4	42.7	44.1
Age 40 to 59	25.9	24.6	27.2	32.7	31.3	34.0	37.7	36.7	38.7	41.3	39.0	43.6
Age 60 to 69	21.9	20.5	23.4	28.5	26.9	30.1	36.1	34.5	37.6	39.1	36.8	41.3
Age 6 to 69	26.1	25.4	26.9	33.0	32.2	33.8	38.5	37.6	39.3	42.3	41.6	43.1
Males												
Age 6 to 11	24.0	22.7	25.3	29.3	28.0	30.6	33.3	31.4	35.1	35.4	33.5	37.3
Age 12 to 19	21.3	19.3	23.2	28.7	25.8	31.6	34.7	31.4	38.1	38.0	33.5	42.4
Age 20 to 39	24.0	20.3	27.8	31.2	28.1	34.2	37.1	33.6	40.7	41.0	36.5	45.4
Age 40 to 59	23.3	21.1	25.6	30.7	28.7	32.6	34.7	33.4	36.0	36.6	35.0	38.3
Age 60 to 69	16.4	14.7	18.1	23.9	21.8	25.9	29.9	27.6	32.1	33.2	30.1	36.3
Age 6 to 69	22.4	21.0	23.8	29.9	28.5	31.4	35.0	33.9	36.1	38.0	36.2	39.7
Females												
Age 6 to 11	29.4	28.1	30.6	33.2	32.3	34.1	36.4	35.1	37.7	39.1	37.1	41.0
Age 12 to 19	31.0	29.0	33.1	37.0	34.9	39.1	42.0	39.4	44.5	44.3	42.5	46.1
Age 20 to 39	30.7	28.5	32.9	37.0	35.2	38.8	43.1	41.8	44.4	44.4	43.1	45.7
Age 40 to 59	27.4	25.1	29.7	35.1	32.6	37.6	39.9	36.7	43.2	42.6	40.5	44.7
Age 60 to 69	26.2	24.9	27.5	32.8	29.1	36.5	37.8	35.7	39.8	41.9	39.4	44.3
Age 6 to 69	29.0	27.8	30.1	35.5	34.5	36.6	41.5	39.9	43.1	43.6	42.7	44.5

† noise introduced in order to calculate estimate

‡ coefficient of variation could not be calculated, use confidence interval as quality measure

Note(s): Total household population aged 6 to 69, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 12
Distribution of the household population by sit and reach norms, by age and sex, Canada, 2009 to 2011

	Sit and reach norms								
	Needs improvement			Fair			Good		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To
	percent								
Both sexes									
Age 15 to 19	46.1	38.8	53.5	17.2	13.1	22.2	14.0	11.4	17.2
Age 20 to 39	41.8	33.7	50.5	18.7	14.3	24.1	16.0 ^E	11.0	22.7
Age 40 to 59	29.2	24.5	34.3	24.6	20.3	29.5	13.6	10.7	17.1
Age 60 to 69	36.1	31.0	41.5	20.0	16.4	24.3	17.2	13.6	21.5
Age 15 to 69	36.4	32.8	40.2	21.1	18.9	23.4	15.1	12.2	18.4
Males									
Age 15 to 19	53.1	41.8	64.0	14.7 ^E	9.9	21.4	13.2	9.6	18.0
Age 20 to 39	47.9	37.8	58.2	18.3	13.5	24.3	14.8 ^E	9.0	23.4
Age 40 to 59	24.6	20.8	28.7	27.1	21.0	34.2	13.8	10.5	18.1
Age 60 to 69	41.7	34.6	49.2	19.6 ^E	12.9	28.5	15.8	11.5	21.3
Age 15 to 69	38.4	34.2	42.9	21.6	18.8	24.6	14.4	11.8	17.6
Females									
Age 15 to 19	38.6	31.0	46.8	19.7	15.2	25.2	14.9	10.4	20.8
Age 20 to 39	35.6	26.1	46.4	19.1	13.2	26.8	17.3 ^E	11.3	25.4
Age 40 to 59	33.6	26.3	41.9	22.1	17.4	27.7	13.3	9.3	18.8
Age 60 to 69	30.3	24.9	36.4	20.5	16.8	24.8	18.7	13.6	25.1
Age 15 to 69	34.3	29.5	39.5	20.6	17.8	23.6	15.7	12.0	20.2

	Sit and reach norms					
	Very good			Excellent		
	Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To
	percent					
Both sexes						
Age 15 to 19	13.3	9.6	18.2	9.4 ^E	5.9	14.8
Age 20 to 39	11.5	8.6	15.4	11.9	8.9	15.8
Age 40 to 59	19.9	15.2	25.6	12.8	9.8	16.5
Age 60 to 69	11.9	9.6	14.7	14.8	10.8	19.8
Age 15 to 69	15.0	12.7	17.7	12.4	10.6	14.5
Males						
Age 15 to 19	12.1 ^E	7.4	19.2	F	.	.
Age 20 to 39	11.2 ^E	7.4	16.5	7.8 ^E	4.2	14.2
Age 40 to 59	23.6 ^E	16.2	33.0	10.9 ^E	6.6	17.6
Age 60 to 69	16.2	11.6	22.2	6.7	4.8	9.2
Age 15 to 69	16.8	13.3	20.9	8.8	6.8	11.3
Females						
Age 15 to 19	14.6 ^E	8.6	23.7	12.1 ^E	6.4	21.8
Age 20 to 39	11.9 ^E	8.0	17.4	16.1	11.4	22.2
Age 40 to 59	16.4	11.3	23.0	14.5 ^E	10.0	20.8
Age 60 to 69	7.4 ^E	5.0	10.8	23.1 ^E	15.7	32.5
Age 15 to 69	13.3	10.6	16.6	16.1	13.1	19.6

Note(s): The norms used in this table can be found in Canadian Society for Exercise Physiology, 2004, *The Canadian Physical Activity, Fitness and Lifestyle Approach (CPAFLA)*, 3rd edition, Ottawa. Total household population aged 15 to 69, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 13
Distribution of the household population by musculoskeletal fitness norms, by age and sex, Canada, 2009 to 2011

	Musculoskeletal fitness norms								
	Needs Improvement			Fair			Good		
	Estimate	Confidence Interval		Estimate	Confidence Interval		Estimate	Confidence Interval	
		From	To		From	To		From	To
	Percent								
Both sexes									
Age 15 to 19	13.4	11.0	16.2	41.5	35.1	48.2	32.1	26.4	38.5
Age 20 to 39	14.7	10.8	19.7	31.2	27.3	35.4	34.8	29.7	40.3
Age 40 to 59	15.5 ^E	10.6	22.3	25.3	21.2	29.9	34.3	29.3	39.6
Age 60 to 69	19.7 ^E	13.5	27.8	32.0	27.1	37.4	29.2	25.0	33.7
Age 15 to 69	15.7	12.7	19.2	29.8	26.8	33.0	33.5	30.4	36.8
Males									
Age 15 to 19	8.8 ^E	5.6	13.7	48.4	41.1	55.7	32.3	25.1	40.3
Age 20 to 39	9.0 ^E	4.8	16.1	30.1	25.3	35.3	35.9	28.5	44.1
Age 40 to 59	12.2 ^E	6.4	22.1	22.9	16.8	30.3	34.4	28.2	41.1
Age 60 to 69	21.2 ^E	14.6	29.9	34.2	27.2	42.0	29.4	23.4	36.1
Age 15 to 69	12.0	8.4	16.9	29.4	26.3	32.7	34.1	29.8	38.6
Females									
Age 15 to 19	18.2	13.8	23.6	34.3	24.5	45.6	32.0	23.6	41.7
Age 20 to 39	20.5	16.1	25.8	32.4	26.5	38.8	33.6	28.1	39.6
Age 40 to 59	18.9 ^E	12.6	27.3	27.6	23.2	32.6	34.1	26.7	42.5
Age 60 to 69	18.2 ^E	11.8	27.1	29.9	24.6	35.8	29.0	22.3	36.8
Age 15 to 69	19.3	15.8	23.4	30.3	26.8	34.1	33.0	28.1	38.3

	Musculoskeletal fitness norms					
	Very good			Excellent		
	Estimate	Confidence Interval		Estimate	Confidence Interval	
		From	To		From	To
	Percent					
Both sexes						
Age 15 to 19	11.3	8.0	15.8	1.7 ^E	1.0	2.9
Age 20 to 39	16.7	12.6	21.9	2.5 ^E	1.3	4.9
Age 40 to 59	19.6	15.6	24.3	5.3 ^E	3.7	7.6
Age 60 to 69	16.6	13.4	20.4	F	.	.
Age 15 to 69	17.4	14.6	20.6	3.6	2.5	5.1
Males						
Age 15 to 19	8.2 ^E	4.6	14.5	X	.	.
Age 20 to 39	22.3	15.5	31.0	2.7 ^E	1.5	4.9
Age 40 to 59	22.1	17.2	28.0	8.5 ^E	5.2	13.6
Age 60 to 69	11.3 ^E	7.7	16.2	F	.	.
Age 15 to 69	19.4	15.6	23.9	5.1^E	3.4	7.7
Females						
Age 15 to 19	14.5 ^E	8.9	22.8	X	.	.
Age 20 to 39	11.1 ^E	7.6	15.9	F	.	.
Age 40 to 59	17.2 ^E	11.7	24.4	F	.	.
Age 60 to 69	21.6	16.7	27.5	X	.	.
Age 15 to 69	15.4	12.6	18.6	F	.	.

Note(s): The norms used in this table can be found in Canadian Society for Exercise Physiology, 2004, *The Canadian Physical Activity, Fitness and Lifestyle Approach (CPAFLA)*, 3rd edition, Ottawa. Total household population aged 15 to 69, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 14
Distribution of the household population by aerobic fitness norms, by age and sex, Canada, 2009 to 2011

	Aerobic fitness norms								
	Needs improvement			Fair			Good		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To
	percent								
Both sexes									
Age 15 to 19	7.4 ^E	4.4	12.3	18.2	15.8	20.8	38.9	32.5	45.6
Age 20 to 39	14.7	10.4	20.2	24.6	20.6	29.1	40.7	31.8	50.2
Age 40 to 59	20.0 ^E	12.8	29.9	32.0	27.7	36.7	24.9	20.6	29.7
Age 60 to 69	45.1	39.0	51.3	32.9	27.0	39.4	16.6	12.1	22.3
Age 15 to 69	19.4	14.9	25.0	27.9	25.8	30.1	31.5	26.9	36.5
Males									
Age 15 to 19	F	.	.	24.4	18.3	31.8	30.0 ^E	19.2	43.5
Age 20 to 39	16.1 ^E	10.5	23.9	32.0	25.8	38.8	30.2	20.9	41.4
Age 40 to 59	18.6 ^E	10.8	30.0	22.4	16.2	30.3	30.0	23.9	36.8
Age 60 to 69	34.2	25.0	44.7	27.6 ^E	18.7	38.8	28.1	21.0	36.3
Age 15 to 69	18.1	12.6	25.3	27.1	24.2	30.1	29.9	24.4	36.0
Females									
Age 15 to 19	6.8 ^E	3.3	13.2	11.4 ^E	7.7	16.5	48.4	37.2	59.8
Age 20 to 39	13.0 ^E	8.0	20.7	16.3 ^E	11.0	23.6	52.5	40.2	64.5
Age 40 to 59	21.4 ^E	13.6	32.0	41.3	34.7	48.3	20.0	13.9	28.0
Age 60 to 69	54.3	45.3	63.1	37.3	29.5	45.8	7.0 ^E	3.5	13.2
Age 15 to 69	20.8	15.8	26.9	28.8	24.8	33.2	33.2	27.0	40.1

	Aerobic fitness norms					
	Very good			Excellent		
	Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To
	percent					
Both sexes						
Age 15 to 19	25.2	19.7	31.6	10.4 ^E	6.8	15.7
Age 20 to 39	13.1	9.9	17.1	7.0 ^E	3.4	13.6
Age 40 to 59	18.8	14.0	24.7	4.3 ^E	2.7	6.8
Age 60 to 69	4.7 ^E	2.9	7.5	X	.	.
Age 15 to 69	15.6	13.3	18.3	5.5^E	3.8	7.9
Males						
Age 15 to 19	25.2 ^E	17.2	35.3	12.4 ^E	7.8	19.2
Age 20 to 39	15.0	10.5	20.9	F	.	.
Age 40 to 59	22.4	17.0	29.0	6.6 ^E	3.6	11.7
Age 60 to 69	8.8 ^E	5.3	14.3	X	.	.
Age 15 to 69	18.3	15.1	21.9	6.7^E	4.5	9.9
Females						
Age 15 to 19	25.2	17.4	34.9	8.3 ^E	4.8	13.8
Age 20 to 39	11.0 ^E	6.8	17.2	F	.	.
Age 40 to 59	15.2 ^E	10.3	22.1	F	.	.
Age 60 to 69	X	.	.	X	.	.
Age 15 to 69	12.9	10.3	15.9	4.3^E	2.2	8.2

Note(s): The norms used in this table can be found in Canadian Society for Exercise Physiology, 2004, *The Canadian Physical Activity, Fitness and Lifestyle Approach (CPAFLA)*, 3rd edition, Ottawa. Total household population aged 15 to 69, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 15
Mean predicted maximal aerobic power of the household population, by age and sex, Canada, 2009 to 2011

	Mean maximal oxygen consumption											
	Mean			5th percentile			10th percentile			25th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
millilitres per kilogram per minute												
Both sexes												
Age 8 to 11	50.4	50.2	50.7	45.2	44.8	45.5	45.7	45.4	46.0	47.0	46.0	48.0
Age 12 to 19	47.8	47.5	48.0	38.2	36.8	39.6	40.2	39.5	41.0	43.2	42.8	43.7
Age 20 to 39	41.4	40.5	42.4	32.4	31.4	33.4	33.6	32.9	34.4	36.8	36.0	37.7
Age 40 to 59	32.7	31.4	33.9	22.6	21.4	23.8	24.3	22.4	26.2	28.9	27.5	30.4
Age 60 to 69	25.1	24.6	25.6	18.6	17.6	19.7	19.4	18.9	19.8	21.1	20.6	21.6
Age 8 to 69	38.0	37.3	38.6	22.4	21.7	23.2	25.5	23.9	27.1	30.8	29.9	31.7
Males												
Age 8 to 11	50.8	50.3	51.4	45.0	44.3	45.7	45.6	45.1	46.1	46.9	45.1	48.7
Age 12 to 19	50.7	49.9	51.4	41.2	37.1	45.3	43.6	41.6	45.6	46.9	45.6	48.2
Age 20 to 39	43.7	42.1	45.3	32.9	31.6	34.1	34.0	32.2	35.7	39.5	36.2	42.7
Age 40 to 59	35.3	33.5	37.2	24.2	22.0	26.4	26.7	24.2	29.2	30.2	28.3	32.2
Age 60 to 69	26.5	25.4	27.5	X	.	.	19.4	18.6	20.1	21.5	19.5	23.5
Age 8 to 69	40.5	39.3	41.6	24.2	22.3	26.1	27.7	26.1	29.3	32.7	31.0	34.3
Females												
Age 8 to 11	50.1	49.6	50.5	45.2	44.8	45.5	45.8	45.6	46.1	47.0	45.8	48.3
Age 12 to 19	44.9	44.1	45.6	37.4	35.4	39.4	39.0	37.7	40.3	41.1	40.2	42.0
Age 20 to 39	38.8	38.0	39.7	31.5	30.2	32.9	33.1	32.0	34.3	36.1	35.2	36.9
Age 40 to 59	30.1	29.3	30.9	21.3	19.2	23.4	23.0	21.5	24.6	27.0	24.7	29.3
Age 60 to 69	24.0	23.2	24.8	18.5	17.5	19.5	19.4	18.6	20.2	21.0	20.2	21.8
Age 8 to 69	35.5	34.9	36.0	21.4	20.7	22.1	23.4	22.4	24.3	29.6	28.9	30.4

	Mean maximal oxygen consumption											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
millilitres per kilogram per minute												
Both sexes												
Age 8 to 11	50.2	49.9	50.6	54.0	51.2	56.8	55.9	55.8	56.1	56.3	56.1	56.4
Age 12 to 19	47.6	47.2	48.0	52.5	51.9	53.1	54.9	54.3	55.5	56.1	54.5	57.8
Age 20 to 39	40.4	39.6	41.2	45.7	43.7	47.8	50.2	49.4	51.0	51.3	49.2	53.4
Age 40 to 59	31.9	30.8	33.0	36.8	35.0	38.7	41.3	38.7	43.8	44.6	42.8	46.4
Age 60 to 69	23.8	22.8	24.9	28.7	28.1	29.3	30.6	29.8	31.3	33.5	29.6	37.4
Age 8 to 69	37.8	36.9	38.7	45.0	44.1	45.8	50.4	49.8	51.0	53.6	52.6	54.6
Males												
Age 8 to 11	50.6	50.1	51.1	54.8	53.9	55.6	56.0	55.9	56.2	56.3	56.1	56.5
Age 12 to 19	51.8	51.0	52.6	54.2	53.2	55.1	55.9	54.1	57.7	59.5	57.6	61.5
Age 20 to 39	43.9	42.1	45.8	49.1	47.4	50.8	51.0	49.1	52.9	54.2	50.3	58.1
Age 40 to 59	34.4	30.4	38.4	39.8	38.3	41.3	44.6	42.5	46.6	46.1	43.9	48.4
Age 60 to 69	26.8	25.2	28.3	29.8	29.2	30.5	33.6	28.9	38.2	X	.	.
Age 8 to 69	40.9	39.2	42.5	47.8	46.2	49.5	52.3	51.2	53.5	55.1	54.2	55.9
Females												
Age 8 to 11	49.9	49.6	50.3	51.2	50.2	52.2	55.8	55.1	56.4	56.3	56.0	56.6
Age 12 to 19	43.9	43.3	44.5	48.0	47.3	48.7	52.7	50.9	54.5	54.2	53.4	55.0
Age 20 to 39	38.4	37.6	39.3	40.7	39.7	41.6	45.0	40.5	49.6	49.5	44.7	54.4
Age 40 to 59	30.1	29.4	30.8	33.4	32.4	34.5	35.9	35.2	36.7	36.8	36.2	37.5
Age 60 to 69	23.0	22.2	23.8	27.9	26.1	29.6	29.3	28.5	30.1	30.1	28.5	31.6
Age 8 to 69	35.4	34.7	36.2	40.7	40.1	41.3	47.8	46.4	49.3	50.4	49.8	51.0

Note(s): Total household population aged 8 to 69, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*). Equation for predicted maximal aerobic power has not been validated for children aged 8 to 14 years.

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 16
Measured neck circumference, by age and sex, household population aged 3 to 19, Canada, 2009 to 2011

	Measured neck circumference											
	Mean			5th percentile			10th percentile			25th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
centimetres												
Both sexes												
Age 3 to 5	24.6	24.4	24.9	21.9	21.4	22.4	22.5	22.2	22.7	23.4	23.2	23.6
Age 6 to 11	27.5	27.3	27.8	24.2	24.0	24.5	24.8	24.5	25.1	25.8	25.5	26.1
Age 12 to 19	32.8	32.4	33.3	27.9	27.2	28.6	28.5	28.0	28.9	30.2	29.8	30.5
Age 3 to 19	29.8	29.5	30.0	23.5	23.4	23.6	24.3	24.2	24.5	26.3	26.0	26.5
Age 6 to 19	30.8	30.5	31.0	25.1	24.9	25.3	25.9	25.6	26.2	27.7	27.4	28.0
Males												
Age 6 to 11	28.1	27.7	28.5	24.8	24.1	25.5	25.3	24.8	25.7	26.1	25.4	26.8
Age 12 to 19	34.7	34.0	35.3	28.1	26.1	30.1	29.8	28.1	31.4	32.6	31.6	33.6
Age 6 to 19	32.1	31.7	32.5	25.5	25.0	26.0	26.1	25.7	26.5	28.0	27.6	28.5
Females												
Age 6 to 11	27.0	26.8	27.1	23.9	23.6	24.3	24.4	24.1	24.7	25.4	25.2	25.6
Age 12 to 19	31.0	30.5	31.4	27.9	27.4	28.4	28.2	27.8	28.5	29.3	28.9	29.7
Age 6 to 19	29.4	29.1	29.7	24.6	24.3	24.9	25.4	25.2	25.6	27.4	27.3	27.6

	Measured neck circumference											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
centimetres												
Both sexes												
Age 3 to 5	24.4	24.2	24.6	25.7	25.2	26.2	26.9	26.1	27.8	27.6	27.0	28.2
Age 6 to 11	27.3	26.9	27.6	28.8	28.5	29.1	30.6	29.7	31.4	31.8	31.4	32.1
Age 12 to 19	32.5	31.8	33.1	35.2	34.7	35.7	37.5	37.0	38.0	39.1	38.0	40.2
Age 3 to 19	29.1	28.8	29.5	32.6	32.1	33.0	35.7	35.2	36.2	37.5	37.0	38.1
Age 6 to 19	30.2	29.8	30.5	33.5	32.8	34.1	36.2	35.6	36.8	38.0	37.4	38.6
Males												
Age 6 to 11	27.8	27.4	28.1	29.4	28.8	30.1	31.6	30.6	32.5	32.2	30.7	33.7
Age 12 to 19	34.9	34.2	35.5	36.8	36.0	37.5	38.8	37.7	39.8	40.9	39.4	42.3
Age 6 to 19	32.1	31.3	33.0	35.4	35.0	35.9	37.7	37.1	38.4	39.2	37.7	40.7
Females												
Age 6 to 11	26.8	26.6	27.1	28.2	28.0	28.4	29.3	28.8	29.9	30.6	29.3	31.9
Age 12 to 19	30.6	30.1	31.0	32.0	31.3	32.7	33.8	33.1	34.5	34.8	34.1	35.5
Age 6 to 19	29.3	28.9	29.7	31.2	30.7	31.7	33.0	32.2	33.8	34.2	33.3	35.1

Note(s): Total household population aged 3 to 19, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*). The sample size for 3 to 5 year olds produces reliable national estimates for both sexes combined only.

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 17
Measured waist circumference of the household population - World Health Organization (WHO) protocol, by age and sex, Canada, 2009 to 2011

	Measured waist circumference											
	Mean		5th percentile			10th percentile			25th percentile			
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
centimetres												
Both sexes												
Age 3 to 5	51.3	50.6	51.9	45.1	44.5	45.6	46.1	45.5	46.8	48.4	47.6	49.1
Age 6 to 11	60.5	59.8	61.3	49.2	47.7	50.7	50.6	49.3	51.8	53.9	52.8	55.0
Age 12 to 19	74.6	73.0	76.2	58.8	56.2	61.4	61.2	59.6	62.8	66.4	64.8	67.9
Age 20 to 39	85.7	83.6	87.7	66.5	64.6	68.3	69.9	68.1	71.7	75.4	73.4	77.5
Age 40 to 59	93.8	92.1	95.6	71.5	69.1	74.0	75.9	73.9	77.8	83.2	81.0	85.4
Age 60 to 79	97.4	95.6	99.2	72.8	70.1	75.5	77.5	74.8	80.1	86.5	84.1	89.0
Age 3 to 79	86.3	84.9	87.6	54.7	53.8	55.6	62.8	61.5	64.0	73.5	71.9	75.1
Age 6 to 79	87.5	86.1	88.9	59.9	58.6	61.3	66.4	65.5	67.3	75.2	74.0	76.4
Males												
Age 6 to 11	61.8	60.8	62.8	50.3	48.7	51.9	51.9	50.0	53.9	55.1	53.7	56.6
Age 12 to 19	76.3	74.3	78.2	56.2	52.9	59.5	60.9	56.0	65.7	67.8	65.7	69.9
Age 20 to 39	88.9	86.2	91.6	71.3	70.4	72.1	72.8	70.7	74.8	79.0	76.2	81.8
Age 40 to 59	97.8	95.6	99.9	78.5	75.1	81.8	83.3	80.5	86.1	88.7	86.9	90.4
Age 60 to 79	103.3	100.7	106.0	82.5	79.3	85.7	86.3	83.0	89.7	93.9	90.7	97.2
Age 6 to 79	90.9	89.3	92.5	59.4	57.5	61.3	68.9	67.8	70.0	79.4	77.8	81.1
Females												
Age 6 to 11	59.2	58.4	59.9	48.3	46.9	49.6	50.1	48.8	51.4	52.8	51.6	54.0
Age 12 to 19	72.8	70.8	74.9	60.2	58.6	61.8	61.3	60.4	62.3	65.0	63.2	66.7
Age 20 to 39	82.3	79.9	84.7	64.8	62.9	66.7	66.5	64.7	68.3	71.5	69.0	73.9
Age 40 to 59	89.9	87.4	92.3	69.3	66.6	72.1	71.6	68.5	74.7	78.5	76.5	80.5
Age 60 to 79	91.9	89.7	94.1	70.0	66.9	73.2	73.6	71.3	75.8	79.7	77.7	81.6
Age 6 to 79	84.0	82.6	85.5	60.3	58.9	61.7	64.6	63.4	65.7	72.1	70.7	73.5

	Measured waist circumference											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
centimetres												
Both sexes												
Age 3 to 5	50.5	49.9	51.1	53.1	51.9	54.4	57.2	55.7	58.8	58.8	55.8	61.7
Age 6 to 11	58.1	56.9	59.2	65.4	64.5	66.3	72.5	69.8	75.3	77.9	73.9	81.8
Age 12 to 19	72.3	70.9	73.8	80.5	77.4	83.5	90.2	84.6	95.8	101.1	95.8	106.5
Age 20 to 39	83.4	81.3	85.6	94.1	91.8	96.3	104.5	98.0	111.0	113.6	109.3	118.0
Age 40 to 59	92.4	90.4	94.4	101.9	99.1	104.8	113.7	110.1	117.3	120.0	116.2	123.7
Age 60 to 79	97.4	95.1	99.6	106.9	103.9	109.8	118.0	115.0	121.0	125.2	121.3	129.2
Age 3 to 79	86.0	84.2	87.9	98.1	96.4	99.7	110.3	107.5	113.1	117.5	115.6	119.4
Age 6 to 79	86.8	85.2	88.4	98.6	96.9	100.2	110.5	107.7	113.3	118.0	116.1	119.9
Males												
Age 6 to 11	58.9	57.4	60.4	66.6	64.9	68.3	75.5	71.2	79.7	81.1	70.1	92.2
Age 12 to 19	73.7	71.7	75.6	83.3	79.5	87.0	96.7	88.8	104.5	102.7	99.2	106.2
Age 20 to 39	87.2	83.8	90.5	95.9	92.9	99.0	107.3	100.3	114.3	113.6	108.2	118.9
Age 40 to 59	95.9	93.6	98.2	104.7	100.5	108.9	114.0	109.1	118.9	119.9	114.7	125.2
Age 60 to 79	101.5	98.3	104.6	111.6	108.4	114.7	122.0	117.8	126.1	126.6	122.2	131.0
Age 6 to 79	91.1	89.3	92.8	101.8	99.3	104.4	113.1	109.9	116.2	118.9	115.5	122.3
Females												
Age 6 to 11	57.1	55.6	58.6	63.9	62.9	65.0	70.3	68.6	71.9	74.6	70.7	78.5
Age 12 to 19	70.2	67.7	72.7	77.7	73.8	81.7	87.1	82.7	91.6	94.2	88.0	100.5
Age 20 to 39	78.1	74.5	81.7	89.9	85.8	93.9	100.8	92.8	108.8	114.9	105.0	124.7
Age 40 to 59	86.8	83.6	90.1	98.0	94.4	101.6	111.5	107.4	115.6	119.9	114.2	125.6
Age 60 to 79	91.4	88.6	94.2	99.7	97.4	102.1	111.6	107.3	115.9	119.2	113.7	124.7
Age 6 to 79	81.5	79.4	83.6	94.4	92.4	96.3	107.2	101.8	112.7	115.7	111.8	119.6

Note(s): Total household population aged 3 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*). The sample size for 3 to 5 year olds produces reliable national estimates for both sexes combined only.

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 18
Measured waist circumference of the household population - National Institutes of Health (NIH) protocol, by age and sex, Canada, 2009 to 2011

	Measured waist circumference											
	Mean		5th percentile			10th percentile			25th percentile			
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
centimetres												
Both sexes												
Age 3 to 5	51.7	51.0	52.4	45.4	44.8	46.1	46.4	45.6	47.1	48.4	47.4	49.5
Age 6 to 11	61.7	60.9	62.5	49.9	48.3	51.5	51.5	50.5	52.5	54.7	53.7	55.8
Age 12 to 19	76.8	75.1	78.4	59.8	57.2	62.5	63.1	61.1	65.1	68.4	67.0	69.9
Age 20 to 39	87.7	85.7	89.7	68.6	66.9	70.3	71.7	70.1	73.3	77.7	76.3	79.1
Age 40 to 59	95.2	93.5	97.0	73.4	70.3	76.6	78.8	76.6	81.1	85.5	83.6	87.3
Age 60 to 79	98.3	96.6	100.1	75.0	72.0	77.9	79.5	77.1	81.9	88.1	85.6	90.6
Age 3 to 79	87.8	86.5	89.1	55.3	54.4	56.2	64.5	63.3	65.7	75.9	74.6	77.2
Age 6 to 79	89.1	87.7	90.4	61.4	60.1	62.7	68.1	67.1	69.0	77.4	76.3	78.6
Males												
Age 6 to 11	62.8	61.8	63.8	50.8	49.3	52.3	51.8	50.1	53.5	55.3	54.0	56.6
Age 12 to 19	77.7	75.6	79.8	57.1	53.4	60.9	62.3	57.6	67.0	69.0	66.9	71.2
Age 20 to 39	90.3	87.5	93.1	72.1	70.7	73.4	74.2	71.4	77.0	80.7	77.8	83.6
Age 40 to 59	98.3	96.2	100.4	80.5	78.2	82.8	84.2	81.5	86.9	89.5	87.9	91.1
Age 60 to 79	103.4	100.7	106.0	82.6	80.3	85.0	86.8	83.8	89.8	94.0	90.6	97.3
Age 6 to 79	91.8	90.2	93.4	60.9	59.0	62.8	69.9	68.6	71.2	80.8	79.5	82.1
Females												
Age 6 to 11	60.6	59.8	61.4	48.9	47.4	50.4	51.2	49.6	52.7	54.0	52.8	55.3
Age 12 to 19	75.8	73.7	77.9	61.6	59.9	63.4	63.2	61.3	65.1	67.8	66.4	69.2
Age 20 to 39	85.0	82.7	87.3	66.9	64.8	69.0	68.8	66.8	70.7	73.9	71.7	76.1
Age 40 to 59	92.0	89.6	94.5	71.4	69.1	73.8	74.4	71.1	77.7	80.6	78.6	82.7
Age 60 to 79	93.8	91.7	95.8	71.9	68.9	75.0	76.1	73.7	78.4	83.1	80.2	85.9
Age 6 to 79	86.3	84.9	87.8	61.7	60.4	62.9	67.0	65.6	68.3	74.5	72.9	76.0

	Measured waist circumference											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
centimetres												
Both sexes												
Age 3 to 5	50.8	50.1	51.4	54.0	52.9	55.0	57.6	55.9	59.3	60.1	56.1	64.2
Age 6 to 11	59.3	58.0	60.6	67.0	65.9	68.2	74.1	70.7	77.6	79.6	75.1	84.1
Age 12 to 19	74.5	72.8	76.1	82.9	79.8	86.0	92.6	86.7	98.6	104.0	99.1	108.9
Age 20 to 39	85.4	83.5	87.4	96.1	93.7	98.5	106.1	100.3	111.9	117.2	110.8	123.7
Age 40 to 59	93.6	92.2	95.1	103.0	100.6	105.4	113.3	109.5	117.1	120.9	116.1	125.7
Age 60 to 79	98.1	95.8	100.5	107.4	104.7	110.2	118.9	115.5	122.3	124.4	120.8	127.9
Age 3 to 79	87.8	86.2	89.4	99.4	97.7	101.1	111.0	108.4	113.5	119.3	117.1	121.5
Age 6 to 79	88.6	87.1	90.1	99.6	97.8	101.4	111.2	108.8	113.6	119.4	117.5	121.2
Males												
Age 6 to 11	59.6	57.8	61.5	68.4	66.8	70.1	77.7	73.0	82.5	82.0	69.6	94.3
Age 12 to 19	75.2	73.3	77.1	84.9	81.4	88.4	99.5	90.0	109.1	106.0	102.1	109.9
Age 20 to 39	88.4	85.3	91.4	96.9	93.7	100.2	108.1	101.0	115.2	117.2	108.8	125.7
Age 40 to 59	96.5	93.9	99.2	104.7	101.4	108.1	113.5	107.4	119.6	119.4	114.0	124.8
Age 60 to 79	101.8	99.4	104.1	112.3	108.6	116.1	120.4	117.4	123.5	125.0	118.9	131.2
Age 6 to 79	92.1	90.5	93.7	102.4	100.4	104.5	112.8	109.4	116.2	119.8	117.5	122.1
Females												
Age 6 to 11	58.7	56.9	60.5	65.5	64.5	66.4	72.3	70.4	74.2	77.1	73.8	80.5
Age 12 to 19	73.5	71.0	76.0	81.3	77.7	85.0	89.6	85.5	93.6	97.6	90.2	104.9
Age 20 to 39	81.4	78.0	84.9	92.8	88.6	97.0	104.5	96.9	112.0	116.7	107.5	126.0
Age 40 to 59	88.9	85.7	92.1	99.4	96.3	102.5	112.0	107.7	116.3	123.3	115.4	131.2
Age 60 to 79	92.8	90.5	95.1	101.8	99.0	104.6	112.5	107.4	117.6	122.9	117.7	128.2
Age 6 to 79	84.7	82.9	86.6	96.3	93.7	99.0	108.9	105.1	112.7	117.8	113.3	122.3

Note(s): Total household population aged 3 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*). The sample size for 3 to 5 year olds produces reliable national estimates for both sexes combined only.

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 19
Measured hip circumference, by age and sex, household population, Canada, 2009 to 2011

	Measured hip circumference											
	Mean			5th percentile			10th percentile			25th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
	centimetres											
Both sexes												
Age 3 to 5	59.1	58.4	59.8	51.9	51.0	52.8	53.3	52.6	53.9	55.3	54.6	56.1
Age 6 to 11	73.1	72.4	73.9	59.7	58.3	61.1	61.6	60.1	63.1	66.2	65.0	67.3
Age 12 to 19	94.2	92.6	95.8	76.9	72.8	81.1	81.4	78.2	84.6	87.8	86.0	89.6
Age 20 to 39	102.1	100.5	103.7	87.9	85.3	90.5	90.4	88.8	92.0	94.9	93.5	96.3
Age 40 to 59	104.4	103.1	105.7	89.9	88.2	91.6	91.9	90.0	93.8	97.4	96.2	98.6
Age 60 to 79	105.1	103.8	106.4	90.2	88.4	91.9	92.9	91.1	94.7	98.1	97.1	99.1
Age 3 to 79	99.1	98.2	100.0	66.5	65.6	67.5	80.6	79.3	81.9	92.6	91.5	93.7
Age 6 to 79	100.5	99.5	101.5	75.4	73.9	77.0	84.9	83.5	86.3	93.5	92.5	94.5
Males												
Age 6 to 11	73.4	72.6	74.2	59.9	57.5	62.4	61.9	59.8	64.1	66.4	64.8	67.9
Age 12 to 19	93.5	91.4	95.6	73.5	66.3	80.6	78.7	73.1	84.2	87.5	85.0	90.0
Age 20 to 39	102.0	100.0	103.9	88.9	86.6	91.2	91.0	88.4	93.6	95.4	94.0	96.9
Age 40 to 59	102.6	101.2	104.0	89.8	87.5	92.1	91.4	88.6	94.2	96.9	95.3	98.6
Age 60 to 79	103.9	102.2	105.5	91.2	89.8	92.7	93.9	92.2	95.5	98.0	96.4	99.6
Age 6 to 79	99.4	98.4	100.5	73.5	71.3	75.6	85.5	83.9	87.1	93.8	92.8	94.8
Females												
Age 6 to 11	72.9	71.8	74.0	59.5	57.8	61.2	61.2	59.7	62.7	66.0	64.0	68.0
Age 12 to 19	95.0	92.7	97.2	79.8	76.6	83.0	82.5	80.6	84.4	88.4	86.3	90.6
Age 20 to 39	102.3	100.3	104.3	85.8	81.3	90.3	89.9	88.5	91.2	93.9	91.8	96.0
Age 40 to 59	106.3	104.2	108.3	89.9	86.7	93.2	92.4	90.1	94.7	97.6	95.3	99.9
Age 60 to 79	106.2	104.4	108.0	88.2	85.0	91.5	91.9	89.4	94.3	98.6	97.1	100.0
Age 6 to 79	101.6	100.4	102.7	77.0	75.7	78.3	84.8	82.7	86.8	93.2	92.0	94.4

	Measured hip circumference											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
	centimetres											
Both sexes												
Age 3 to 5	58.2	57.1	59.3	62.0	60.7	63.3	66.1	64.6	67.5	67.5	65.9	69.0
Age 6 to 11	71.7	70.8	72.7	79.1	78.1	80.0	85.2	83.7	86.7	90.8	88.3	93.3
Age 12 to 19	92.8	91.3	94.3	100.7	98.6	102.8	108.3	104.7	111.9	115.2	110.1	120.3
Age 20 to 39	100.4	98.3	102.4	107.9	106.6	109.2	115.4	110.8	120.0	122.9	119.3	126.4
Age 40 to 59	102.5	101.3	103.6	108.8	106.0	111.6	119.1	117.0	121.2	124.8	120.2	129.3
Age 60 to 79	103.8	102.6	105.0	110.4	108.9	111.9	118.4	115.9	120.9	125.0	119.6	130.4
Age 3 to 79	100.1	98.9	101.3	107.2	106.1	108.3	115.7	113.3	118.1	122.8	120.7	124.9
Age 6 to 79	100.7	99.5	101.8	107.4	106.4	108.5	116.4	114.1	118.8	122.9	121.0	124.9
Males												
Age 6 to 11	71.6	70.5	72.6	79.1	77.2	80.9	85.9	82.5	89.3	91.3	89.0	93.5
Age 12 to 19	91.8	90.0	93.6	100.5	98.0	102.9	108.3	103.2	113.5	115.3	109.3	121.3
Age 20 to 39	101.1	98.8	103.4	107.4	105.5	109.4	112.3	106.7	118.0	120.1	113.2	126.9
Age 40 to 59	102.0	100.6	103.5	106.7	104.4	108.9	113.5	109.3	117.7	117.6	114.0	121.2
Age 60 to 79	102.7	101.2	104.1	108.7	106.7	110.7	113.6	111.6	115.6	119.8	113.9	125.7
Age 6 to 79	100.3	98.9	101.8	106.4	105.1	107.7	112.3	109.4	115.2	117.4	114.3	120.5
Females												
Age 6 to 11	72.0	70.2	73.8	79.0	78.0	80.1	85.1	84.0	86.2	88.2	84.1	92.3
Age 12 to 19	93.9	91.8	96.1	100.9	97.2	104.7	108.0	103.4	112.5	114.1	106.9	121.2
Age 20 to 39	99.7	96.6	102.7	108.0	105.6	110.3	118.9	112.4	125.5	126.0	119.4	132.6
Age 40 to 59	102.9	101.4	104.4	113.0	109.1	116.9	123.5	120.3	126.6	133.8	124.9	142.6
Age 60 to 79	105.0	103.2	106.9	112.3	109.9	114.7	120.3	116.8	123.8	127.5	119.7	135.2
Age 6 to 79	100.9	99.7	102.2	108.4	106.6	110.3	119.8	117.3	122.3	127.0	122.2	131.7

Note(s): Total household population aged 3 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*). The sample size for 3 to 5 year olds produces reliable national estimates for both sexes combined only.

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 20
Measured waist-to-hip ratio, by age and sex, household population, Canada, 2009 to 2011

	Measured waist-to-hip ratio											
	Mean			5th percentile			10th percentile			25th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
	ratio											
Both sexes												
Age 3 to 5	0.88	0.87	0.88	0.78	0.76	0.80	0.81	0.79	0.83	0.84	0.82	0.85
Age 6 to 11	0.84	0.84	0.85	0.76	0.75	0.76	0.77	0.76	0.77	0.80	0.79	0.81
Age 12 to 19	0.81	0.81	0.82	0.72	0.71	0.73	0.74	0.73	0.75	0.77	0.76	0.78
Age 20 to 39	0.86	0.85	0.86	0.73	0.72	0.74	0.75	0.74	0.76	0.80	0.79	0.81
Age 40 to 59	0.91	0.90	0.92	0.77	0.75	0.79	0.80	0.79	0.81	0.85	0.84	0.86
Age 60 to 79	0.93	0.93	0.94	0.78	0.76	0.79	0.81	0.80	0.83	0.86	0.85	0.87
Age 3 to 79	0.88	0.88	0.89	0.74	0.74	0.75	0.77	0.76	0.77	0.82	0.81	0.82
Age 6 to 79	0.88	0.88	0.89	0.74	0.74	0.75	0.77	0.76	0.77	0.81	0.81	0.82
Males												
Age 6 to 11	0.85	0.84	0.86	0.77	0.76	0.78	0.78	0.77	0.80	0.81	0.80	0.83
Age 12 to 19	0.83	0.82	0.84	0.75	0.74	0.76	0.76	0.75	0.77	0.79	0.78	0.79
Age 20 to 39	0.88	0.87	0.89	0.76	0.74	0.79	0.79	0.76	0.82	0.83	0.82	0.85
Age 40 to 59	0.96	0.95	0.97	0.85	0.83	0.88	0.87	0.86	0.89	0.91	0.89	0.92
Age 60 to 79	0.99	0.98	1.01	0.87	0.86	0.89	0.90	0.88	0.91	0.94	0.92	0.95
Age 6 to 79	0.92	0.91	0.93	0.78	0.77	0.78	0.80	0.79	0.81	0.85	0.84	0.86
Females												
Age 6 to 11	0.83	0.83	0.84	0.74	0.72	0.76	0.76	0.75	0.77	0.79	0.78	0.79
Age 12 to 19	0.80	0.79	0.81	0.70	0.69	0.72	0.72	0.71	0.73	0.75	0.74	0.76
Age 20 to 39	0.83	0.82	0.84	0.72	0.71	0.73	0.74	0.72	0.75	0.76	0.75	0.78
Age 40 to 59	0.86	0.86	0.87	0.74	0.71	0.76	0.77	0.75	0.79	0.81	0.80	0.82
Age 60 to 79	0.88	0.87	0.89	0.76	0.74	0.78	0.78	0.76	0.80	0.83	0.82	0.84
Age 6 to 79	0.85	0.84	0.85	0.73	0.72	0.74	0.75	0.74	0.76	0.79	0.78	0.80

	Measured waist-to-hip ratio											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
	ratio											
Both sexes												
Age 3 to 5	0.87	0.86	0.88	0.90	0.90	0.91	0.93	0.92	0.94	0.96	0.93	0.99
Age 6 to 11	0.83	0.83	0.84	0.87	0.86	0.87	0.91	0.90	0.92	0.93	0.91	0.96
Age 12 to 19	0.80	0.80	0.81	0.84	0.83	0.85	0.89	0.87	0.91	0.93	0.91	0.94
Age 20 to 39	0.85	0.84	0.86	0.90	0.89	0.92	0.95	0.94	0.97	0.98	0.95	1.00
Age 40 to 59	0.91	0.89	0.92	0.96	0.95	0.97	1.00	0.99	1.01	1.03	1.02	1.05
Age 60 to 79	0.93	0.92	0.94	0.99	0.98	1.01	1.05	1.04	1.06	1.08	1.06	1.10
Age 3 to 79	0.87	0.87	0.88	0.94	0.93	0.94	0.99	0.98	1.00	1.03	1.01	1.04
Age 6 to 79	0.87	0.87	0.88	0.94	0.93	0.95	0.99	0.99	1.00	1.03	1.02	1.04
Males												
Age 6 to 11	0.84	0.83	0.86	0.87	0.85	0.89	0.92	0.90	0.94	0.94	0.88	1.00
Age 12 to 19	0.82	0.81	0.83	0.85	0.84	0.86	0.91	0.89	0.93	0.94	0.91	0.96
Age 20 to 39	0.87	0.86	0.89	0.92	0.91	0.94	0.97	0.94	1.00	1.00	0.97	1.02
Age 40 to 59	0.95	0.94	0.96	0.99	0.98	1.00	1.03	1.01	1.05	1.06	1.02	1.10
Age 60 to 79	0.99	0.97	1.00	1.04	1.03	1.05	1.08	1.06	1.09	1.10	1.08	1.11
Age 6 to 79	0.91	0.90	0.92	0.97	0.96	0.99	1.02	1.01	1.04	1.06	1.04	1.07
Females												
Age 6 to 11	0.82	0.81	0.83	0.86	0.85	0.87	0.90	0.89	0.91	0.92	0.90	0.94
Age 12 to 19	0.78	0.77	0.79	0.83	0.81	0.85	0.88	0.86	0.90	0.91	0.88	0.93
Age 20 to 39	0.81	0.80	0.82	0.88	0.86	0.89	0.92	0.90	0.94	0.95	0.93	0.97
Age 40 to 59	0.86	0.85	0.87	0.90	0.89	0.91	0.95	0.93	0.96	0.97	0.95	1.00
Age 60 to 79	0.87	0.86	0.88	0.93	0.91	0.94	0.97	0.96	0.98	1.00	0.98	1.01
Age 6 to 79	0.84	0.83	0.85	0.89	0.88	0.90	0.94	0.93	0.95	0.97	0.96	0.98

Note(s): Total household population aged 3 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*). The sample size for 3 to 5 year olds produces reliable national estimates for both sexes combined only.
Source(s): Canadian Health Measures Survey, Cycle 2.

Table 21

Distribution of the household population with a body mass index less than 30 kg/m², by the sum of the five skinfolds, by age and sex, Canada, 2009 to 2011

	Sum of five skinfolds											
	Mean			5th percentile			10th percentile			25th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
millimetres												
Both sexes												
Age 3 to 5	37.5	36.0	39.0	25.7	24.3	27.0	27.2	26.2	28.2	30.2	29.5	30.9
Age 6 to 11	51.5	49.5	53.4	24.8	23.8	25.8	27.1	25.9	28.4	32.1	31.1	33.2
Age 12 to 19	59.5	57.4	61.7	26.3	24.4	28.3	29.5	28.1	31.0	37.5	34.7	40.2
Age 20 to 39	68.8	64.4	73.1	28.9	26.7	31.1	32.9	29.5	36.2	47.0	40.4	53.6
Age 40 to 59	77.4	73.8	80.9	36.4	31.8	40.9	41.9	38.9	44.8	57.6	53.8	61.4
Age 60 to 79	74.9	71.7	78.1	36.5	33.3	39.8	43.9	39.9	47.9	55.6	52.1	59.2
Age 3 to 79	68.1	66.2	70.0	28.7	28.1	29.2	32.5	31.5	33.5	44.6	42.9	46.4
Age 6 to 79	69.5	67.6	71.5	29.0	28.4	29.5	33.5	32.3	34.6	47.1	44.8	49.3
Males												
Age 6 to 11	50.8	47.7	53.9	23.7	22.4	25.0	25.7	24.6	26.9	29.7	27.9	31.6
Age 12 to 19	48.3	45.7	51.0	24.8	22.6	27.0	26.3	24.5	28.2	31.5	29.8	33.2
Age 20 to 39	56.3	51.2	61.5	28.7	23.9	33.5	29.6	27.3	31.8	36.2	30.7	41.8
Age 40 to 59	62.3	58.1	66.6	31.9	25.7	38.1	37.5	32.7	42.4	46.5	39.6	53.4
Age 60 to 79	60.3	57.8	62.7	33.4	27.7	39.1	38.5	35.1	42.0	48.2	44.9	51.4
Age 6 to 79	57.1	55.1	59.1	27.2	25.9	28.5	29.6	28.3	30.8	38.4	36.4	40.4
Females												
Age 6 to 11	52.2	50.0	54.3	26.7	24.4	29.0	29.4	27.7	31.1	34.5	32.3	36.7
Age 12 to 19	71.5	68.5	74.5	36.0	31.8	40.2	41.4	36.6	46.2	52.1	48.8	55.5
Age 20 to 39	81.5	76.4	86.5	40.1	30.6	49.6	50.9	43.8	58.1	62.9	57.3	68.5
Age 40 to 59	91.8	86.9	96.8	51.9	46.1	57.7	56.3	46.2	66.4	75.9	71.5	80.2
Age 60 to 79	88.0	82.8	93.1	49.4	39.2	59.6	57.0	51.4	62.7	71.0	62.9	79.0
Age 6 to 79	81.9	79.4	84.4	36.4	33.0	39.8	45.1	42.3	48.0	61.9	60.2	63.7

	Sum of five skinfolds											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
millimetres												
Both sexes												
Age 3 to 5	35.1	33.6	36.6	41.1	39.2	43.0	48.0	44.1	51.8	59.0	46.2	71.7
Age 6 to 11	42.5	39.3	45.7	65.0	58.4	71.5	89.8	81.2	98.3	107.5	97.0	117.9
Age 12 to 19	53.9	51.4	56.4	76.4	71.8	81.0	98.8	91.5	106.2	113.4	105.4	121.4
Age 20 to 39	67.4	63.1	71.6	87.4	81.2	93.5	108.1	100.3	115.8	123.5	113.5	133.5
Age 40 to 59	75.3	71.6	78.9	97.7	90.6	104.7	111.1	102.1	120.1	125.1	115.9	134.4
Age 60 to 79	71.9	68.0	75.8	91.1	84.6	97.7	113.3	106.7	119.9	120.9	117.0	124.9
Age 3 to 79	65.2	62.7	67.7	87.3	83.7	90.8	107.9	103.8	112.0	119.9	114.4	125.3
Age 6 to 79	67.0	64.7	69.3	88.8	85.2	92.5	108.6	104.3	112.9	120.9	115.6	126.2
Males												
Age 6 to 11	38.8	35.2	42.4	65.2	55.0	75.5	95.3	80.8	109.9	109.0	91.7	126.4
Age 12 to 19	39.8	37.5	42.2	60.2	54.9	65.5	77.9	70.3	85.4	98.5	88.0	109.0
Age 20 to 39	53.9	45.6	62.3	70.2	64.9	75.6	87.3	74.9	99.7	99.2	87.0	111.5
Age 40 to 59	62.4	58.3	66.6	73.1	67.6	78.6	89.3	79.9	98.6	99.0	89.7	108.3
Age 60 to 79	58.8	54.3	63.4	72.3	67.5	77.1	84.8	81.3	88.3	88.6	82.7	94.5
Age 6 to 79	55.3	52.2	58.4	70.8	68.4	73.2	86.7	82.1	91.3	99.4	94.0	104.9
Females												
Age 6 to 11	45.3	42.2	48.5	63.7	57.5	69.9	84.6	77.2	92.0	97.1	90.4	103.8
Age 12 to 19	67.1	62.6	71.6	87.4	81.6	93.1	109.7	98.6	120.9	118.8	108.6	129.0
Age 20 to 39	76.1	70.5	81.7	99.2	89.8	108.5	120.8	108.9	132.7	126.2	122.1	130.3
Age 40 to 59	91.8	85.6	98.0	107.5	100.8	114.2	123.7	113.6	133.7	130.8	124.0	137.5
Age 60 to 79	85.9	79.1	92.7	106.4	101.2	111.5	120.1	115.3	124.9	126.8	118.6	135.0
Age 6 to 79	80.6	77.4	83.8	102.0	97.6	106.3	119.2	113.6	124.8	128.1	125.1	131.2

Note(s): Total household population aged 3 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*). The sample size for 3 to 5 year olds produces reliable national estimates for both sexes combined only.

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 22
Measured standing height, by age and sex, household population, Canada, 2009 to 2011

	Measured standing height											
	Mean			5th percentile			10th percentile			25th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
centimetres												
Both sexes												
Age 3 to 5	106.45	105.49	107.41	93.74	91.38	96.10	96.08	94.88	97.28	100.98	99.63	102.34
Age 6 to 11	134.84	133.64	136.03	117.16	115.05	119.26	119.78	118.41	121.15	125.75	123.54	127.97
Age 12 to 19	166.24	164.71	167.77	147.81	142.29	153.32	152.45	150.03	154.87	159.10	157.24	160.96
Age 20 to 39	170.35	169.18	171.53	155.08	152.79	157.38	157.91	156.02	159.80	162.42	160.76	164.09
Age 40 to 59	168.27	167.39	169.15	154.16	152.36	155.96	156.44	155.13	157.75	161.55	160.35	162.74
Age 60 to 79	165.32	164.79	165.86	150.57	149.00	152.15	152.90	151.93	153.88	158.87	158.11	159.63
Age 3 to 79	163.73	163.11	164.36	124.79	122.69	126.88	145.99	144.31	147.67	158.42	157.59	159.24
Age 6 to 79	165.77	165.11	166.43	139.96	137.89	142.02	151.58	150.40	152.76	159.25	158.44	160.06
Males												
Age 6 to 11	134.58	133.25	135.92	118.47	116.14	120.80	120.16	118.66	121.65	125.83	122.61	129.04
Age 12 to 19	170.62	168.35	172.90	145.74	134.78	156.70	152.87	144.70	161.03	164.79	160.96	168.61
Age 20 to 39	177.70	176.52	178.87	165.76	163.61	167.92	168.00	165.69	170.30	173.67	171.68	175.67
Age 40 to 59	174.66	173.61	175.71	163.83	162.49	165.17	166.15	164.09	168.22	169.59	168.44	170.74
Age 60 to 79	172.61	171.61	173.61	162.02	161.00	163.04	163.38	161.72	165.04	167.72	165.90	169.54
Age 6 to 79	171.83	171.24	172.42	138.74	136.47	141.01	160.18	158.44	161.92	168.39	167.42	169.36
Females												
Age 6 to 11	135.11	133.18	137.04	115.96	112.02	119.90	119.42	117.13	121.72	125.39	122.35	128.44
Age 12 to 19	161.68	159.99	163.36	150.12	146.54	153.69	152.38	149.85	154.91	157.09	154.71	159.48
Age 20 to 39	162.98	161.42	164.53	153.26	150.76	155.75	155.13	152.81	157.45	158.69	157.03	160.35
Age 40 to 59	161.83	160.78	162.88	151.02	147.91	154.13	154.07	152.19	155.95	157.38	156.30	158.46
Age 60 to 79	158.68	158.19	159.17	147.82	146.20	149.44	150.59	149.02	152.15	154.06	152.85	155.27
Age 6 to 79	159.73	158.86	160.60	142.45	139.46	145.44	150.10	148.52	151.67	155.85	154.91	156.79

	Measured standing height											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
centimetres												
Both sexes												
Age 3 to 5	106.99	105.49	108.50	111.54	109.70	113.38	116.24	114.43	118.05	120.17	117.17	123.17
Age 6 to 11	135.08	133.61	136.56	143.58	141.94	145.23	150.58	148.74	152.42	154.31	152.71	155.91
Age 12 to 19	165.62	164.42	166.83	174.51	172.98	176.04	180.18	178.64	181.72	183.08	180.41	185.75
Age 20 to 39	170.33	169.00	171.66	178.79	177.65	179.93	182.81	181.80	183.83	185.50	184.53	186.47
Age 40 to 59	168.23	167.33	169.14	174.90	173.44	176.36	180.71	179.46	181.96	183.51	182.21	184.80
Age 60 to 79	164.78	163.59	165.96	172.84	171.55	174.12	178.07	176.94	179.19	180.85	180.01	181.69
Age 3 to 79	166.05	165.11	166.98	174.70	173.78	175.62	180.56	179.86	181.26	183.53	182.95	184.10
Age 6 to 79	166.65	165.66	167.64	175.02	174.14	175.90	180.73	179.97	181.49	183.58	183.01	184.15
Males												
Age 6 to 11	134.86	132.56	137.16	142.50	140.86	144.14	150.06	146.99	153.14	152.81	150.45	155.17
Age 12 to 19	173.46	171.72	175.21	178.14	176.11	180.16	182.85	180.23	185.47	186.03	184.10	187.97
Age 20 to 39	178.71	177.39	180.04	181.89	181.03	182.74	185.50	184.51	186.48	187.69	184.80	190.79
Age 40 to 59	174.29	172.66	175.92	179.53	178.41	180.66	183.50	182.18	184.82	185.10	183.38	186.83
Age 60 to 79	172.88	171.57	174.19	177.12	176.01	178.23	180.94	180.10	181.79	183.16	181.75	184.58
Age 6 to 79	174.51	173.54	175.48	179.73	179.33	180.14	183.58	183.00	184.16	185.68	185.00	186.36
Females												
Age 6 to 11	135.18	133.19	137.16	144.54	142.34	146.74	152.14	148.91	155.37	155.36	153.19	157.53
Age 12 to 19	162.09	160.68	163.50	165.79	164.18	167.40	171.04	168.36	173.72	173.62	169.96	177.29
Age 20 to 39	162.86	161.18	164.54	167.94	165.22	170.66	171.20	169.17	173.22	173.22	171.66	174.79
Age 40 to 59	161.74	160.46	163.01	166.30	164.79	167.82	170.23	168.35	172.12	173.53	171.50	175.55
Age 60 to 79	159.06	158.71	159.41	162.58	161.58	163.57	166.93	165.46	168.40	168.98	167.38	170.58
Age 6 to 79	160.86	160.09	161.63	165.39	164.21	166.57	170.24	169.17	171.32	172.81	171.56	174.06

Note(s): Total household population aged 3 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*). The sample size for 3 to 5 year olds produces reliable national estimates for both sexes combined only.

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 23
Measured weight, by age and sex, household population, Canada, 2009 to 2011

	Measured weight											
	Mean			5th percentile			10th percentile			25th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
kilograms												
Both sexes												
Age 3 to 5	18.7	18.2	19.2	13.9	13.1	14.7	14.4	14.0	14.8	16.1	15.5	16.7
Age 6 to 11	33.4	32.5	34.2	20.7	19.6	21.8	21.9	20.9	22.8	25.5	24.7	26.4
Age 12 to 19	62.7	60.3	65.2	38.4	32.4	44.4	43.0	39.6	46.3	51.2	48.9	53.4
Age 20 to 39	75.6	72.5	78.7	51.1	49.5	52.6	54.9	53.5	56.4	61.6	59.0	64.3
Age 40 to 59	79.7	77.7	81.7	54.2	51.4	57.0	58.6	56.4	60.7	64.8	61.9	67.7
Age 60 to 79	78.0	76.0	80.1	51.6	48.7	54.4	57.2	54.7	59.6	66.5	63.9	69.2
Age 3 to 79	71.1	69.4	72.8	25.5	24.7	26.4	41.0	39.5	42.6	58.2	56.8	59.6
Age 6 to 79	73.0	71.2	74.7	35.2	33.6	36.9	47.7	45.6	49.8	59.8	58.4	61.2
Males												
Age 6 to 11	33.9	32.9	34.9	21.1	19.8	22.3	22.9	20.9	24.8	25.8	24.6	27.0
Age 12 to 19	66.2	63.0	69.4	32.6	26.1	39.1	40.9	32.6	49.3	55.3	50.4	60.3
Age 20 to 39	82.5	79.1	85.9	60.0	57.6	62.4	63.0	59.4	66.7	70.4	68.6	72.2
Age 40 to 59	85.9	83.3	88.6	61.2	57.9	64.5	64.9	60.3	69.6	75.0	72.6	77.5
Age 60 to 79	85.7	82.5	89.0	61.8	56.8	66.7	67.5	63.2	71.8	74.7	71.7	77.7
Age 6 to 79	78.8	76.8	80.8	33.7	31.7	35.6	52.6	49.2	56.1	67.9	65.6	70.2
Females												
Age 6 to 11	32.8	31.7	34.0	19.9	18.6	21.3	21.4	20.6	22.2	24.9	23.1	26.7
Age 12 to 19	59.1	56.0	62.3	41.2	38.0	44.3	43.3	41.9	44.7	49.3	46.8	51.8
Age 20 to 39	68.7	65.0	72.4	48.8	44.9	52.7	51.2	49.6	52.8	56.5	54.5	58.5
Age 40 to 59	73.4	70.7	76.1	50.8	46.9	54.6	54.4	51.4	57.3	60.0	58.1	61.9
Age 60 to 79	71.0	68.7	73.4	48.4	45.1	51.6	52.1	49.0	55.1	60.2	57.7	62.7
Age 6 to 79	67.2	65.3	69.0	37.0	35.4	38.5	44.9	41.8	48.0	55.8	54.4	57.3

	Measured weight											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
kilograms												
Both sexes												
Age 3 to 5	18.1	17.5	18.7	20.4	19.4	21.4	23.4	22.8	24.1	24.5	23.0	26.0
Age 6 to 11	31.2	29.8	32.6	39.3	37.8	40.8	46.2	44.0	48.4	53.6	49.2	58.1
Age 12 to 19	60.2	58.3	62.0	71.6	67.8	75.5	85.3	79.3	91.2	95.9	88.6	103.1
Age 20 to 39	72.9	70.3	75.5	86.9	83.0	90.7	101.6	93.3	110.0	110.7	102.9	118.4
Age 40 to 59	77.7	75.3	80.1	91.9	90.0	93.8	104.1	100.7	107.6	111.0	105.0	117.0
Age 60 to 79	76.2	74.2	78.1	87.6	84.1	91.0	102.0	98.1	105.9	108.8	103.1	114.4
Age 3 to 79	71.2	69.3	73.0	85.6	82.8	88.4	99.3	95.0	103.6	108.4	103.9	113.0
Age 6 to 79	72.1	70.2	74.1	86.4	83.7	89.1	100.1	95.8	104.4	108.7	104.1	113.4
Males												
Age 6 to 11	31.3	29.9	32.8	40.1	37.6	42.6	46.3	41.9	50.7	55.7	51.1	60.3
Age 12 to 19	63.6	61.1	66.1	76.9	71.6	82.2	93.1	83.9	102.3	105.0	94.5	115.5
Age 20 to 39	80.9	76.4	85.4	91.4	87.4	95.4	103.1	93.3	112.9	115.1	105.8	124.4
Age 40 to 59	84.0	80.3	87.6	95.0	91.6	98.4	105.5	100.1	111.0	111.0	102.5	119.6
Age 60 to 79	83.0	79.6	86.5	95.0	91.1	98.8	107.1	102.4	111.7	115.2	108.3	122.0
Age 6 to 79	79.5	77.1	82.0	92.0	89.5	94.6	104.0	100.0	108.1	111.3	105.6	117.1
Females												
Age 6 to 11	30.8	28.9	32.8	38.6	37.1	40.1	45.9	43.7	48.2	50.8	45.7	55.9
Age 12 to 19	56.9	54.3	59.5	65.1	60.0	70.1	77.3	71.3	83.2	86.7	77.7	95.7
Age 20 to 39	64.1	59.8	68.5	76.1	72.5	79.8	94.4	82.6	106.3	107.1	97.0	117.2
Age 40 to 59	68.4	64.2	72.6	82.7	77.4	88.1	98.0	91.9	104.1	109.8	99.3	120.2
Age 60 to 79	69.7	67.6	71.8	78.9	75.6	82.2	89.4	82.5	96.3	101.0	93.8	108.2
Age 6 to 79	64.4	61.8	66.9	76.6	74.4	78.8	92.8	88.6	97.0	104.9	98.6	111.3

Note(s): Total household population aged 3 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*). The sample size for 3 to 5 year olds produces reliable national estimates for both sexes combined only.

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 24
Measured body mass index of the household population, by age and sex, Canada, 2009 to 2011

	Measured body mass index											
	Mean			5th percentile			10th percentile			25th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
kilograms per metre squared												
Both sexes												
Age 3 to 5	16.37	16.11	16.62	14.08	13.76	14.39	14.42	14.14	14.70	15.21	15.02	15.40
Age 6 to 11	17.98	17.70	18.25	14.00	13.67	14.33	14.56	14.05	15.08	15.59	15.21	15.98
Age 12 to 19	22.43	21.78	23.09	16.21	15.32	17.10	17.19	16.47	17.91	19.11	18.73	19.50
Age 20 to 39	25.87	25.09	26.65	19.03	18.62	19.45	20.00	19.00	21.01	22.08	21.39	22.77
Age 40 to 59	28.00	27.37	28.63	20.80	20.24	21.36	21.88	21.09	22.68	23.95	23.45	24.45
Age 60 to 79	28.44	27.76	29.12	20.56	19.76	21.36	22.36	21.57	23.14	24.65	23.92	25.39
Age 3 to 79	25.77	25.29	26.24	16.19	15.95	16.42	18.10	17.85	18.35	21.59	21.19	21.99
Age 6 to 79	26.10	25.61	26.59	17.21	16.94	17.47	19.05	18.84	19.27	22.07	21.59	22.55
Males												
Age 6 to 11	18.34	17.94	18.74	14.12	13.45	14.78	14.84	14.13	15.54	15.79	15.41	16.16
Age 12 to 19	22.38	21.55	23.21	15.35	14.06	16.64	16.78	15.55	18.02	19.10	18.57	19.63
Age 20 to 39	26.11	25.09	27.13	19.41	18.45	20.37	20.90	19.41	22.38	22.68	21.84	23.52
Age 40 to 59	28.08	27.32	28.84	21.82	20.62	23.02	22.83	21.84	23.82	25.00	24.24	25.76
Age 60 to 79	28.70	27.79	29.62	21.72	20.40	23.05	23.25	22.34	24.17	25.39	24.22	26.56
Age 6 to 79	26.22	25.63	26.81	17.14	16.70	17.59	19.33	18.94	19.73	22.68	22.10	23.25
Females												
Age 6 to 11	17.59	17.33	17.85	13.87	13.37	14.38	14.42	14.07	14.76	15.36	14.97	15.76
Age 12 to 19	22.49	21.58	23.40	16.59	16.06	17.11	17.55	16.75	18.36	19.15	18.53	19.78
Age 20 to 39	25.62	24.68	26.56	18.83	18.44	19.22	19.27	18.26	20.28	21.52	20.96	22.08
Age 40 to 59	27.92	26.97	28.87	19.94	18.52	21.37	21.42	20.58	22.25	23.44	22.88	24.01
Age 60 to 79	28.19	27.32	29.07	19.74	18.54	20.94	21.63	20.77	22.49	24.30	23.77	24.83
Age 6 to 79	25.98	25.43	26.53	17.23	16.98	17.49	18.86	18.66	19.05	21.55	21.13	21.96

	Measured body mass index											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
kilograms per metre squared												
Both sexes												
Age 3 to 5	15.98	15.74	16.22	17.25	16.99	17.52	18.52	17.94	19.10	19.56	18.30	20.81
Age 6 to 11	17.20	16.81	17.58	19.59	19.06	20.11	22.82	21.94	23.71	24.46	22.82	26.09
Age 12 to 19	21.43	20.93	21.92	24.39	23.30	25.49	29.07	27.10	31.03	32.53	30.82	34.25
Age 20 to 39	24.85	23.94	25.77	28.61	27.50	29.71	33.28	30.85	35.71	36.50	33.78	39.22
Age 40 to 59	27.24	26.46	28.02	30.64	29.72	31.57	35.50	34.18	36.81	38.82	37.07	40.57
Age 60 to 79	27.70	27.04	28.36	31.46	30.88	32.04	35.14	33.61	36.67	38.65	35.52	41.77
Age 3 to 79	25.16	24.53	25.79	29.07	28.16	29.97	33.59	32.32	34.86	36.96	35.76	38.16
Age 6 to 79	25.40	24.78	26.03	29.39	28.51	30.26	33.75	32.38	35.12	37.10	35.86	38.35
Males												
Age 6 to 11	17.28	16.84	17.71	19.88	18.81	20.94	23.51	22.04	24.99	25.44	22.22	28.66
Age 12 to 19	21.23	20.71	21.74	24.56	23.11	26.02	28.84	25.88	31.80	33.17	31.12	35.22
Age 20 to 39	25.48	24.42	26.54	28.80	27.52	30.08	31.87	28.93	34.82	35.78	32.71	38.86
Age 40 to 59	27.71	27.04	28.38	30.64	29.61	31.67	33.75	31.28	36.21	36.36	34.31	38.42
Age 60 to 79	28.08	27.15	29.02	31.58	30.58	32.58	34.87	33.18	36.55	37.40	34.81	39.98
Age 6 to 79	25.99	25.48	26.50	29.68	28.73	30.63	33.11	31.60	34.62	35.82	34.32	37.33
Females												
Age 6 to 11	17.07	16.50	17.63	19.09	18.66	19.53	21.45	20.49	22.41	23.17	22.01	24.33
Age 12 to 19	21.78	20.91	22.65	24.28	23.04	25.53	29.31	26.43	32.18	31.42	29.22	33.62
Age 20 to 39	23.96	22.68	25.24	27.99	26.47	29.52	34.32	30.91	37.73	39.13	35.63	42.63
Age 40 to 59	26.46	25.20	27.72	30.81	29.05	32.58	37.09	35.32	38.86	40.10	36.80	43.39
Age 60 to 79	27.20	26.32	28.08	31.13	30.12	32.15	35.43	32.93	37.93	40.64	36.64	44.64
Age 6 to 79	24.63	23.83	25.42	29.02	28.05	30.00	35.24	33.70	36.78	39.19	37.33	41.04

Note(s): Total household population aged 3 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*). The sample size for 3 to 5 year olds produces reliable national estimates for both sexes combined only.

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 25
Distribution of the household population aged 5 to 18, by body mass index norms based on direct measures—World Health Organization (WHO) system, by age and sex, Canada, 2009 to 2011

	Body mass index norms based on direct measures—World Health Organization (WHO) system											
	Thinness			Normal			Overweight			Obese		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
	percent											
Both sexes												
Age 5 to 11	F	.	.	65.5	61.7	69.2	19.7	16.4	23.4	13.1	10.5	16.3
Age 12 to 18	F	.	.	67.2	61.0	72.9	19.5	14.9	25.1	11.0	7.9	15.2
Age 5 to 18	2.0^E	1.0	3.8	66.5	62.9	69.9	19.6	16.3	23.3	12.0	10.0	14.3
Males												
Age 5 to 11	X	.	.	59.0	51.9	65.7	19.8	14.8	26.0	19.5	15.5	24.1
Age 12 to 18	F	.	.	64.7	55.2	73.1	19.7 ^E	13.1	28.4	11.5 ^E	7.7	16.9
Age 5 to 18	F	.	.	62.0	55.9	67.8	19.7	15.1	25.4	15.2	12.7	18.1
Females												
Age 5 to 11	X	.	.	72.6	69.8	75.2	19.6	16.1	23.6	6.3 ^E	4.1	9.8
Age 12 to 18	X	.	.	69.9	60.7	77.8	19.3	13.9	26.0	10.5 ^E	6.9	15.6
Age 5 to 18	0.9^E	0.5	1.4	71.1	65.3	76.3	19.4	15.2	24.4	8.6	6.4	11.5

Note(s): De Onis M, Onyango AW, Borghi E, Siyam A, Nishida C, Siekmann J. Development of a WHO growth reference for schoolaged children and adolescents. Bulletin of the World Health Organization 2007;85:660-7. www.who.int/childgrowth/en. Total household population aged 5 to 18, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*). World Health Organization (WHO).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 26
Distribution of the household population aged 3 to 17, by body mass index norms based on direct measures—Center for Disease Control (CDC) system, by age and sex, Canada, 2009 to 2011

	Body mass index norms based on direct measures— Center for Disease Control (CDC) system											
	Underweight			Normal weight			Overweight			Obese		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
	percent											
Both sexes												
Age 3 to 5	2.5 ^E	1.4	4.5	65.5	60.3	70.4	17.5 ^E	12.0	24.9	14.4 ^E	9.7	21.0
Age 6 to 11	4.3 ^E	2.1	8.6	70.5	64.7	75.8	12.4	10.0	15.3	12.7	9.8	16.4
Age 12 to 17	5.6 ^E	3.2	9.7	68.7	60.7	75.6	15.5	11.2	21.0	10.3	7.4	14.0
Age 3 to 17	4.5^E	2.9	7.0	68.8	65.0	72.4	14.7	12.2	17.6	12.0	10.1	14.2
Age 6 to 17	5.0^E	3.1	7.9	69.5	64.9	73.8	14.1	11.3	17.4	11.4	9.7	13.4
Males												
Age 6 to 11	F	.	.	66.4	57.4	74.2	11.3	8.1	15.4	18.4	13.9	23.8
Age 12 to 17	F	.	.	67.8	58.6	75.8	12.9 ^E	8.1	20.1	10.8	7.7	15.0
Age 6 to 17	6.4^E	3.9	10.4	67.1	61.8	72.0	12.2	9.1	16.1	14.3	11.6	17.4
Females												
Age 6 to 11	4.7 ^E	2.6	8.3	75.0	70.0	79.4	13.7	10.7	17.3	6.7 ^E	4.2	10.5
Age 12 to 17	X	.	.	69.6	58.0	79.3	18.3 ^E	12.1	26.7	9.6 ^E	6.0	15.1
Age 6 to 17	3.5^E	1.9	6.4	72.1	65.4	78.0	16.1	12.2	21.0	8.3	5.9	11.4

Note(s): The norms used in this table can be found in National Center for Health Statistics, 2000, *Clinical Growth Charts*, Department of Health and Human Services, Public Health Service, Center for Disease Control, Hyattsville, MD. <http://www.cdc.gov/nchs/about/major/nhanes/growthcharts/clinicalcharts.htm> (accessed Dec. 19, 2006). Total household population aged 3 to 17, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*). The sample size for 3 to 5 year olds produces reliable national estimates for both sexes combined only. Center for Disease Control (CDC).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 27
Distribution of the household population aged 3 to 17, by body mass index norms based on direct measures—Cole system, by age and sex, Canada, 2009 to 2011

	Body mass index norms based on direct measures—Cole system								
	Neither overweight or obese			Overweight			Obese		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To
	percent								
Both sexes									
Age 3 to 5	79.5	72.4	85.2	14.2 ^E	9.9	20.2	6.2 ^E	3.5	10.9
Age 6 to 11	76.9	72.3	80.9	15.1	12.3	18.2	8.1	5.7	11.3
Age 12 to 17	73.1	66.2	79.1	18.0	13.8	23.1	8.9	6.3	12.3
Age 3 to 17	75.7	71.9	79.2	16.2	13.3	19.6	8.1	6.5	10.0
Age 6 to 17	74.9	70.9	78.4	16.6	13.8	20.0	8.5	6.8	10.5
Males									
Age 6 to 11	74.0	66.3	80.4	15.4	10.9	21.1	10.7 ^E	7.1	15.7
Age 12 to 17	74.7	65.5	82.1	16.6 ^E	11.2	23.8	8.7 ^E	6.1	12.5
Age 6 to 17	74.4	67.7	80.1	16.0	11.9	21.3	9.6	7.3	12.6
Females									
Age 6 to 11	80.0	76.4	83.2	14.7	11.5	18.7	5.3 ^E	2.9	9.3
Age 12 to 17	71.4	60.3	80.4	19.6 ^E	13.0	28.4	9.0 ^E	5.6	14.1
Age 6 to 17	75.4	69.5	80.5	17.3	13.2	22.4	7.3	5.1	10.3

Note(s): The norms used in this table can be found in T.J. Cole, M.C. Bellizzi, K.M. Flegal & W.H. Dietz, 2000, "Establishing a Standard Definition for Child Overweight and Obesity Worldwide. International survey," *The BMJ*, Vol. 320, p. 1240-1243. Total household population aged 3 to 17, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*). The sample size for 3 to 5 year olds produces reliable national estimates for both sexes combined only.

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 28

Distribution of the household population aged 18 to 79, by body mass index norms based on direct measures, by age and sex, Canada, 2009 to 2011

	Body mass index norms based on direct measures								
	Underweight			Normal Weight			Overweight		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To
	percent								
Both sexes									
Age 18 to 39	3.1 ^E	2.0	4.8	49.7	43.2	56.2	28.5	24.1	33.3
Age 40 to 59	0.9 ^E	0.5	1.5	32.3	27.3	37.8	37.4	31.1	44.1
Age 60 to 79	F	.	.	25.6	19.9	32.2	38.8	34.0	43.9
Age 18 to 79	2.0	1.4	2.7	37.6	33.1	42.3	34.2	30.9	37.7
Males									
Age 18 to 39	X	.	.	44.6	37.3	52.1	33.7	27.5	40.6
Age 40 to 59	X	.	.	24.0	18.3	30.7	44.6	35.0	54.7
Age 60 to 79	X	.	.	21.2	14.8	29.4	42.6	33.8	51.8
Age 18 to 79	F	.	.	31.6	27.4	36.0	39.9	35.7	44.3
Females									
Age 18 to 39	3.8 ^E	2.4	5.9	55.0	44.9	64.7	23.0	16.5	31.2
Age 40 to 59	1.4 ^E	0.7	2.7	40.7	32.7	49.3	30.1	24.4	36.4
Age 60 to 79	F	.	.	29.6	22.8	37.5	35.4	30.0	41.3
Age 18 to 79	2.6	1.9	3.7	43.7	37.6	50.0	28.6	24.1	33.5

	Body mass index norms based on direct measures								
	Obese, class I			Obese, class II			Obese, class III		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To
	percent								
Both sexes									
Age 18 to 39	11.3	8.5	14.9	4.7 ^E	2.8	8.1	2.7 ^E	1.5	4.6
Age 40 to 59	17.2	14.0	21.0	8.1 ^E	5.2	12.5	4.1 ^E	2.8	6.0
Age 60 to 79	23.1	20.4	26.1	6.0	4.5	7.8	4.6 ^E	2.8	7.5
Age 18 to 79	16.2	14.0	18.7	6.3	4.6	8.8	3.6	2.8	4.8
Males									
Age 18 to 39	13.3	9.6	18.0	F	.	.	F	.	.
Age 40 to 59	22.6	18.5	27.3	F	.	.	F	.	.
Age 60 to 79	25.7	20.1	32.1	6.6 ^E	4.4	9.7	3.3 ^E	1.7	6.4
Age 18 to 79	19.5	16.9	22.5	5.5^E	3.0	9.9	2.2^E	1.2	4.0
Females									
Age 18 to 39	9.2 ^E	6.2	13.5	5.4 ^E	3.0	9.4	F	.	.
Age 40 to 59	11.9 ^E	7.3	18.7	9.9 ^E	6.3	15.5	6.0 ^E	3.7	9.6
Age 60 to 79	20.8	15.8	26.9	5.4	3.8	7.6	5.8 ^E	3.3	10.0
Age 18 to 79	12.9	9.8	16.7	7.2	5.2	9.9	5.0^E	3.5	7.3

Note(s): The norms used in this table can be found in Health Canada, 2003, "Description of the Canadian Guidelines for Body Weight Classification in Adults," *Canadian Guidelines for Body Weight Classification in Adults*, Health Canada Catalogue no. H49-179/2003E, p. 9-12. http://www.hc-sc.gc.ca/fn-an/nutrition/weights-poids/guide-ld-adult/weight_book_tc-livres_des_poids_tm-eng.php (accessed Dec. 19, 2006). Total household population aged 18 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 29
Ratio of the best forced expiratory volume in one second to forced vital capacity (FEV₁/ FVC), by age and sex, household population, Canada, 2009 to 2011

	Best FEV ₁ / FVC ratio											
	Mean			5th percentile			10th percentile			25th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
ratio												
Both sexes												
Age 6 to 11	0.850	0.842	0.859	0.742	0.710	0.773	0.766	0.746	0.786	0.812	0.803	0.821
Age 12 to 19	0.843	0.835	0.852	0.719	0.695	0.743	0.754	0.727	0.781	0.806	0.795	0.817
Age 20 to 39	0.802	0.790	0.813	0.686	0.648	0.725	0.721	0.696	0.746	0.763	0.752	0.774
Age 40 to 59	0.768	0.762	0.775	0.663	0.629	0.697	0.698	0.684	0.711	0.742	0.732	0.751
Age 60 to 79	0.741	0.736	0.746	0.581	0.544	0.618	0.657	0.648	0.667	0.712	0.702	0.721
Age 6 to 79	0.788	0.782	0.793	0.667	0.651	0.683	0.703	0.694	0.713	0.749	0.742	0.756
Males												
Age 6 to 11	0.836	0.823	0.849	0.725	0.677	0.774	0.744	0.718	0.770	0.798	0.782	0.815
Age 12 to 19	0.823	0.812	0.835	0.677	0.629	0.724	0.723	0.686	0.759	0.791	0.775	0.807
Age 20 to 39	0.796	0.784	0.808	0.691	0.658	0.724	0.718	0.693	0.742	0.756	0.741	0.772
Age 40 to 59	0.767	0.758	0.775	0.658	0.619	0.698	0.691	0.670	0.712	0.736	0.718	0.753
Age 60 to 79	0.735	0.729	0.741	0.570	0.536	0.603	0.649	0.616	0.681	0.707	0.696	0.718
Age 6 to 79	0.782	0.776	0.788	0.661	0.642	0.680	0.698	0.684	0.712	0.742	0.734	0.751
Females												
Age 6 to 11	0.865	0.857	0.873	0.762	0.742	0.782	0.794	0.779	0.809	0.839	0.833	0.845
Age 12 to 19	0.864	0.854	0.874	0.745	0.710	0.780	0.787	0.766	0.807	0.824	0.815	0.832
Age 20 to 39	0.808	0.793	0.822	0.670	0.605	0.735	0.729	0.686	0.772	0.772	0.755	0.790
Age 40 to 59	0.770	0.762	0.778	0.671	0.621	0.721	0.703	0.683	0.723	0.745	0.736	0.754
Age 60 to 79	0.746	0.735	0.757	0.594	0.537	0.652	0.663	0.647	0.679	0.719	0.707	0.731
Age 6 to 79	0.793	0.787	0.800	0.670	0.645	0.695	0.708	0.696	0.719	0.754	0.749	0.759

	Best FEV ₁ / FVC ratio											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
ratio												
Both sexes												
Age 6 to 11	0.857	0.851	0.863	0.890	0.881	0.899	0.926	0.910	0.941	0.942	0.929	0.955
Age 12 to 19	0.848	0.840	0.855	0.889	0.876	0.902	0.931	0.920	0.942	0.950	0.939	0.962
Age 20 to 39	0.806	0.793	0.818	0.842	0.834	0.850	0.880	0.865	0.895	0.907	0.880	0.935
Age 40 to 59	0.775	0.767	0.782	0.803	0.798	0.808	0.828	0.823	0.832	0.841	0.828	0.854
Age 60 to 79	0.753	0.749	0.757	0.787	0.776	0.798	0.814	0.803	0.824	0.836	0.824	0.848
Age 6 to 79	0.791	0.786	0.795	0.830	0.826	0.835	0.875	0.866	0.885	0.903	0.892	0.914
Males												
Age 6 to 11	0.839	0.823	0.855	0.879	0.869	0.889	0.907	0.887	0.926	0.936	0.922	0.950
Age 12 to 19	0.831	0.821	0.841	0.872	0.855	0.889	0.903	0.894	0.912	0.931	0.908	0.954
Age 20 to 39	0.800	0.785	0.815	0.837	0.825	0.849	0.871	0.855	0.887	0.907	0.871	0.944
Age 40 to 59	0.772	0.760	0.784	0.803	0.794	0.812	0.828	0.823	0.832	0.839	0.827	0.851
Age 60 to 79	0.748	0.741	0.755	0.777	0.768	0.786	0.807	0.797	0.817	0.818	0.806	0.830
Age 6 to 79	0.786	0.780	0.792	0.825	0.819	0.831	0.865	0.854	0.875	0.894	0.879	0.909
Females												
Age 6 to 11	0.868	0.861	0.876	0.896	0.887	0.906	0.934	0.920	0.948	0.952	0.931	0.973
Age 12 to 19	0.863	0.851	0.875	0.909	0.890	0.928	0.946	0.931	0.961	0.961	0.946	0.976
Age 20 to 39	0.814	0.800	0.828	0.845	0.834	0.856	0.885	0.870	0.899	0.908	0.879	0.937
Age 40 to 59	0.776	0.766	0.786	0.803	0.798	0.808	0.823	0.813	0.834	0.848	0.828	0.868
Age 60 to 79	0.757	0.748	0.766	0.798	0.785	0.811	0.824	0.805	0.843	0.839	0.821	0.857
Age 6 to 79	0.795	0.790	0.800	0.836	0.828	0.843	0.882	0.873	0.890	0.912	0.896	0.927

Note(s): Total household population aged 6 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 30
Best forced expiratory volume in one second (FEV₁) of the household population, by age and sex, Canada, 2009 to 2011

	Best forced expiratory volume in one second (FEV ₁)											
	Mean			5th percentile			10th percentile			25th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
litres												
Both sexes												
Age 6 to 11	1.84	1.77	1.90	1.18	1.09	1.27	1.31	1.23	1.39	1.51	1.42	1.59
Age 12 to 19	3.45	3.35	3.56	2.23	2.09	2.37	2.46	2.32	2.60	2.83	2.72	2.95
Age 20 to 39	3.64	3.54	3.74	2.37	2.19	2.54	2.61	2.42	2.80	3.00	2.85	3.15
Age 40 to 59	3.09	3.01	3.17	1.91	1.73	2.10	2.17	2.00	2.35	2.55	2.46	2.65
Age 60 to 79	2.44	2.39	2.49	1.44	1.36	1.52	1.66	1.60	1.73	1.95	1.86	2.03
Age 6 to 79	3.10	3.04	3.17	1.68	1.61	1.74	1.90	1.82	1.97	2.43	2.34	2.51
Males												
Age 6 to 11	1.86	1.77	1.95	1.18	0.98	1.37	1.31	1.18	1.45	1.53	1.41	1.65
Age 12 to 19	3.81	3.67	3.95	2.11	1.75	2.46	2.50	2.16	2.84	3.14	2.89	3.39
Age 20 to 39	4.22	4.10	4.33	3.12	2.92	3.33	3.44	3.24	3.65	3.77	3.59	3.95
Age 40 to 59	3.58	3.48	3.68	2.53	2.28	2.78	2.76	2.54	2.97	3.17	2.97	3.36
Age 60 to 79	2.89	2.82	2.97	1.87	1.75	1.98	2.11	1.95	2.26	2.44	2.33	2.56
Age 6 to 79	3.57	3.50	3.65	1.84	1.77	1.91	2.31	2.24	2.38	2.97	2.86	3.09
Females												
Age 6 to 11	1.80	1.74	1.87	1.19	1.14	1.24	1.30	1.22	1.38	1.47	1.40	1.54
Age 12 to 19	3.09	2.96	3.21	2.29	2.17	2.42	2.45	2.29	2.60	2.73	2.56	2.89
Age 20 to 39	3.06	2.93	3.19	2.29	2.20	2.37	2.37	2.17	2.56	2.72	2.54	2.90
Age 40 to 59	2.61	2.52	2.70	1.85	1.77	1.92	1.95	1.76	2.14	2.28	2.15	2.42
Age 60 to 79	2.05	1.99	2.10	1.23	1.07	1.38	1.49	1.43	1.56	1.78	1.74	1.82
Age 6 to 79	2.64	2.57	2.71	1.57	1.51	1.63	1.80	1.75	1.85	2.21	2.12	2.29

	Best forced expiratory volume in one second (FEV ₁)											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
litres												
Both sexes												
Age 6 to 11	1.79	1.72	1.87	2.10	2.03	2.17	2.48	2.31	2.65	2.69	2.53	2.86
Age 12 to 19	3.33	3.23	3.42	4.00	3.80	4.20	4.64	4.44	4.84	5.04	4.74	5.34
Age 20 to 39	3.60	3.46	3.75	4.16	3.98	4.35	4.79	4.70	4.87	5.05	4.93	5.17
Age 40 to 59	3.01	2.87	3.16	3.61	3.51	3.71	4.10	3.97	4.22	4.32	4.20	4.43
Age 60 to 79	2.36	2.30	2.42	2.86	2.80	2.93	3.40	3.31	3.49	3.66	3.57	3.75
Age 6 to 79	3.03	2.94	3.12	3.75	3.64	3.86	4.31	4.20	4.43	4.73	4.65	4.80
Males												
Age 6 to 11	1.82	1.73	1.91	2.11	2.03	2.19	2.51	2.22	2.79	2.80	2.53	3.07
Age 12 to 19	3.86	3.65	4.08	4.51	4.28	4.74	5.01	4.71	5.31	5.37	5.06	5.68
Age 20 to 39	4.15	3.96	4.35	4.70	4.60	4.80	5.05	4.93	5.16	5.32	5.07	5.57
Age 40 to 59	3.60	3.49	3.71	3.98	3.84	4.11	4.32	4.20	4.44	4.55	4.45	4.66
Age 60 to 79	2.88	2.80	2.96	3.33	3.26	3.40	3.68	3.60	3.75	3.91	3.77	4.05
Age 6 to 79	3.64	3.55	3.72	4.17	4.05	4.28	4.73	4.65	4.80	5.01	4.87	5.15
Females												
Age 6 to 11	1.77	1.67	1.86	2.07	1.96	2.17	2.43	2.25	2.61	2.59	2.53	2.65
Age 12 to 19	3.08	2.95	3.22	3.42	3.29	3.56	3.72	3.58	3.85	3.90	3.73	4.07
Age 20 to 39	3.03	2.88	3.19	3.41	3.24	3.58	3.80	3.59	4.01	3.99	3.80	4.18
Age 40 to 59	2.61	2.51	2.70	2.90	2.79	3.01	3.22	3.06	3.38	3.47	3.31	3.63
Age 60 to 79	2.05	1.96	2.15	2.36	2.29	2.43	2.60	2.48	2.71	2.78	2.64	2.91
Age 6 to 79	2.65	2.56	2.74	3.09	2.99	3.18	3.49	3.37	3.62	3.73	3.58	3.87

Note(s): Total household population aged 6 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 31
Best forced vital capacity (FVC) in the household population, by age and sex, Canada, 2009 to 2011

	Best forced vital capacity (FVC)											
	Mean			5th percentile			10th percentile			25th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
litres												
Both sexes												
Age 6 to 11	2.17	2.08	2.25	1.35	1.23	1.46	1.53	1.43	1.63	1.77	1.66	1.88
Age 12 to 19	4.12	3.98	4.26	2.61	2.46	2.75	2.87	2.72	3.02	3.34	3.18	3.51
Age 20 to 39	4.56	4.41	4.71	2.88	2.54	3.22	3.35	3.08	3.61	3.74	3.54	3.93
Age 40 to 59	4.03	3.91	4.14	2.60	2.36	2.84	2.91	2.70	3.12	3.31	3.20	3.43
Age 60 to 79	3.29	3.22	3.36	2.04	1.96	2.13	2.24	2.14	2.35	2.61	2.52	2.71
Age 6 to 79	3.95	3.86	4.04	2.14	2.07	2.21	2.47	2.39	2.55	3.13	3.04	3.23
Males												
Age 6 to 11	2.24	2.11	2.36	1.40	1.15	1.65	1.58	1.39	1.76	1.83	1.66	2.00
Age 12 to 19	4.65	4.45	4.84	2.62	2.20	3.03	3.00	2.66	3.34	3.75	3.46	4.04
Age 20 to 39	5.30	5.15	5.45	3.81	3.44	4.18	4.29	4.02	4.56	4.78	4.57	5.00
Age 40 to 59	4.68	4.54	4.83	3.41	3.25	3.56	3.59	3.20	3.98	4.13	3.89	4.37
Age 60 to 79	3.93	3.84	4.02	2.69	2.57	2.80	2.91	2.74	3.08	3.39	3.23	3.56
Age 6 to 79	4.58	4.47	4.68	2.39	2.27	2.50	3.03	2.88	3.18	3.89	3.78	4.00
Females												
Age 6 to 11	2.09	2.01	2.18	1.35	1.27	1.42	1.51	1.43	1.59	1.70	1.60	1.81
Age 12 to 19	3.59	3.44	3.73	2.61	2.45	2.76	2.81	2.63	2.99	3.12	2.91	3.33
Age 20 to 39	3.81	3.63	3.99	2.70	2.48	2.92	2.88	2.55	3.22	3.43	3.24	3.62
Age 40 to 59	3.39	3.28	3.50	2.38	2.24	2.53	2.61	2.35	2.87	3.05	2.93	3.17
Age 60 to 79	2.73	2.65	2.81	1.90	1.75	2.05	2.08	1.98	2.17	2.35	2.25	2.44
Age 6 to 79	3.33	3.24	3.42	2.01	1.92	2.09	2.32	2.26	2.38	2.80	2.67	2.92

	Best forced vital capacity (FVC)											
	50th percentile			75th percentile			90th percentile			95th percentile		
	Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval		Estimate	Confidence interval	
		From	To		From	To		From	To		From	To
litres												
Both sexes												
Age 6 to 11	2.13	2.00	2.26	2.50	2.39	2.60	2.90	2.76	3.04	3.10	2.99	3.21
Age 12 to 19	3.91	3.77	4.05	4.80	4.59	5.02	5.69	5.40	5.98	6.03	5.84	6.22
Age 20 to 39	4.50	4.34	4.66	5.38	5.19	5.56	5.93	5.75	6.11	6.33	6.08	6.59
Age 40 to 59	3.91	3.74	4.07	4.74	4.54	4.94	5.30	5.15	5.46	5.64	5.51	5.77
Age 60 to 79	3.17	3.09	3.24	3.88	3.79	3.97	4.50	4.35	4.65	4.97	4.85	5.09
Age 6 to 79	3.87	3.75	3.98	4.77	4.65	4.89	5.52	5.42	5.63	5.91	5.78	6.05
Males												
Age 6 to 11	2.23	2.06	2.39	2.58	2.45	2.71	3.00	2.79	3.20	3.16	2.94	3.38
Age 12 to 19	4.79	4.49	5.09	5.54	5.27	5.82	6.03	5.85	6.21	6.39	6.19	6.60
Age 20 to 39	5.36	5.15	5.57	5.80	5.63	5.97	6.33	6.07	6.58	6.70	6.56	6.84
Age 40 to 59	4.72	4.50	4.95	5.18	5.04	5.32	5.64	5.50	5.78	5.90	5.58	6.22
Age 60 to 79	3.92	3.81	4.04	4.43	4.34	4.51	4.97	4.89	5.06	5.20	5.09	5.32
Age 6 to 79	4.72	4.57	4.86	5.38	5.26	5.50	5.92	5.78	6.05	6.25	6.07	6.43
Females												
Age 6 to 11	2.02	1.88	2.17	2.42	2.31	2.52	2.80	2.63	2.97	2.99	2.87	3.10
Age 12 to 19	3.55	3.38	3.73	3.98	3.83	4.13	4.41	4.23	4.58	4.62	4.45	4.79
Age 20 to 39	3.79	3.57	4.01	4.20	4.04	4.37	4.56	4.38	4.75	4.92	4.51	5.33
Age 40 to 59	3.35	3.22	3.48	3.74	3.58	3.90	4.15	3.99	4.31	4.39	4.22	4.55
Age 60 to 79	2.70	2.59	2.81	3.09	3.02	3.17	3.46	3.27	3.65	3.63	3.45	3.81
Age 6 to 79	3.36	3.25	3.46	3.86	3.73	3.99	4.31	4.17	4.45	4.55	4.45	4.66

Note(s): Total household population aged 6 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Table 32
Chronic obstructive pulmonary disease (COPD) in the household population aged 35 to 79, by age and sex,
Canada, 2009 to 2011

	Chronic Obstructive Pulmonary Disease (COPD)					
	Measured airflow obstruction consistent with COPD			Absence of COPD based on measured airflow		
	Estimate	Confidence interval		Estimate	Confidence interval	
		To	From		To	From
percent						
Both sexes						
Age 35 to 59	9.9	7.3	13.5	90.1	86.5	92.7
Age 60 to 79	18.7	15.9	21.9	81.3	78.1	84.1
Age 35 to 79	12.5	10.5	14.9	87.5	85.1	89.5
Males						
Age 35 to 59	11.5 ^E	7.5	17.2	88.5	82.8	92.5
Age 60 to 79	20.7	16.4	25.8	79.3	74.2	83.6
Age 35 to 79	14.1	11.0	17.9	85.9	82.1	89.0
Females						
Age 35 to 59	8.4 ^E	5.5	12.6	91.6	87.4	94.5
Age 60 to 79	17.0	14.1	20.3	83.0	79.7	85.9
Age 35 to 79	11.0	8.6	14.0	89.0	86.0	91.4

Note(s): Airflow obstruction consistent with COPD is characterized by a forced expiratory volume in one second (FEV₁), forced vital capacity (FVC) ratio of less than 70% of the predicted value based on age, sex, height and racial background. Total household population aged 35 to 79, except those meeting the exclusion criteria (see the *Canadian Health Measures Survey (CHMS) Data User Guide: Cycle 2*).

Source(s): Canadian Health Measures Survey, Cycle 2.

Appendix I

Concordance Table

CHMS Concordance Table for Cycles 1 and 2

Comparability Between Cycles	Cycle 1 Table #	Cycle 1 Table Topic	Cycle 2 Table #	Cycle 2 Table Topic
Comparable	1	Average resting diastolic blood pressure	1	Average resting diastolic blood pressure
Comparable	2	Average resting systolic blood pressure	2	Average resting systolic blood pressure
Comparable	3	Average resting heart rate	3	Average resting heart rate
Comparable	4	Blood pressure norms	4	Blood pressure norms
Hypertensive measurement replaces self-reported diagnosis of hypertension in cycle 2	5	Self-reported being diagnosed with hypertension or taking hypertension medication	5	Self-reported taking hypertension medication or had a hypertensive blood pressure measurement
Comparable	6	Total grip strength	6	Total grip strength
Comparable	7	Grip strength norms	7	Grip strength norms
6 to 7 year olds excl. from cycle 2 (quality concerns)	8	Number of partial curl-ups completed	8	Number of partial curl-ups completed
Comparable	9	Partial curl-up norms	9	Partial curl-up norms
Comparable	10	Back fitness norms	10	Back fitness norms
Comparable	11	Sit and reach measure completed	11	Sit and reach measure completed
Comparable	12	Sit and reach norms	12	Sit and reach norms
Comparable	13	Musculoskeletal fitness norms	13	Musculoskeletal fitness norms
Comparable	14	Aerobic fitness norms	14	Aerobic fitness norms
Comparable + 3 to 5 year olds added	15	Measured waist circumference - World Health Organization (WHO) protocol	17	Measured waist circumference - World Health Organization (WHO) protocol
New in cycle 2			16	Measured neck circumference
Comparable + 3 to 5 year olds added	16	Measured hip circumference	19	Measured hip circumference
New in cycle 2			18	Measured waist circumference - National Institutes of Health (NIH) protocol
Comparable + 3 to 5 year olds added	17	Measured waist-to-hip ratio	20	Measured waist-to-hip ratio
Table not produced for cycle 2	18	Body mass index less than 30 kg/m, by the average ² biceps skinfold		
Table not produced for cycle 2	19	Body mass index less than 30 kg/m, by the average ² triceps skinfold		
Table not produced for cycle 2	20	Body mass index less than 30 kg/m, by the average ² subscapular skinfold		
Table not produced for cycle 2	21	Body mass index less than 30 kg/m, by average ² iliac crest skinfold		
Table not produced for cycle 2	22	Body mass index less than 30 kg/m, by the average ² medial calf skinfold		
Comparable + 3 to 5 year olds added	23	Body mass index less than 30 kg/m, by the sum of the ² five skinfolds	21	Body mass index less than 30 kg/m, by the sum of the ² five skinfolds

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CHMS Concordance Table for Cycles 1 and 2

Comparability Between Cycles	Cycle 1 Table #	Cycle 1 Table Topic	Cycle 2 Table #	Cycle 2 Table Topic
Table not produced for cycle 2	24	Self-reported weight		
Table not produced for cycle 2	25	Self-reported height		
Table not produced for cycle 2	26	Body mass index norms (ages 6 to 17) based on self-reported inputs—Center for Disease Control system		
Table not produced for cycle 2	27	Body mass index norms (ages 6 to 17) based on self-reported inputs—Cole system		
Table not produced for cycle 2	28	Body mass index norms (ages 18 to 79) based on self-reported inputs		
Table not produced for cycle 2	29	Measured sitting height		
Comparable + 3 to 5 year olds added	30	Measured standing height	22	Measured standing height
Comparable + 3 to 5 year olds added	31	Measured weight	23	Measured weight
Comparable + 3 to 5 year olds added	32	Measured body mass index	24	Measured body mass index
New in cycle 2			25	Body mass index norms (ages 5 to 18) based on direct measures—World Health Organization (WHO) system
Comparable + 3 to 5 year olds added	33	Body mass index norms (ages 6 to 17) based on measured inputs—Center for Disease Control system	26	Body mass index norms (ages 3 to 17) based on direct measures—Center for Disease Control (CDC) system
Comparable + 3 to 5 year olds added	34	Body mass index norms (ages 6 to 17) based on measured inputs—Cole system	27	Body mass index norms (ages 3 to 17) based on direct measures—Cole system
Comparable	35	Body mass index norms (ages 18 to 79) based on measured inputs	28	Body mass index norms (ages 18 to 79) based on direct measures
6 to 7 year olds excl. from cycle 2 (quality concerns)	36	Mean predicted maximal aerobic power	15	Mean predicted maximal aerobic power
Comparable	37	Ratio of the best forced expiratory volume in one second to forced vital capacity (FEV ₁ /FVC)	29	Ratio of the best forced expiratory volume in one second to forced vital capacity (FEV ₁ /FVC)
Comparable	38	Best forced expiratory volume in one second (FEV ₁)	30	Best forced expiratory volume in one second (FEV ₁)
Comparable	39	Best forced vital capacity (FVC)	31	Best forced vital capacity (FVC)
New in cycle 2			32	Chronic obstructive pulmonary disease (COPD) (ages 35 to 79)
Content not collected in cycle 2	40	Dental status		

Note(s): All tables provide a distribution of the household population by age and sex for Canada for the particular topic indicated. Data collection occurred from 2007 to 2009 for cycle 1 and from 2009 to 2011 for Cycle 2. A blank cell in the table indicates a situation that is not applicable.