

Health Fact Sheets

Blood pressure of children and youth, 2012 to 2015



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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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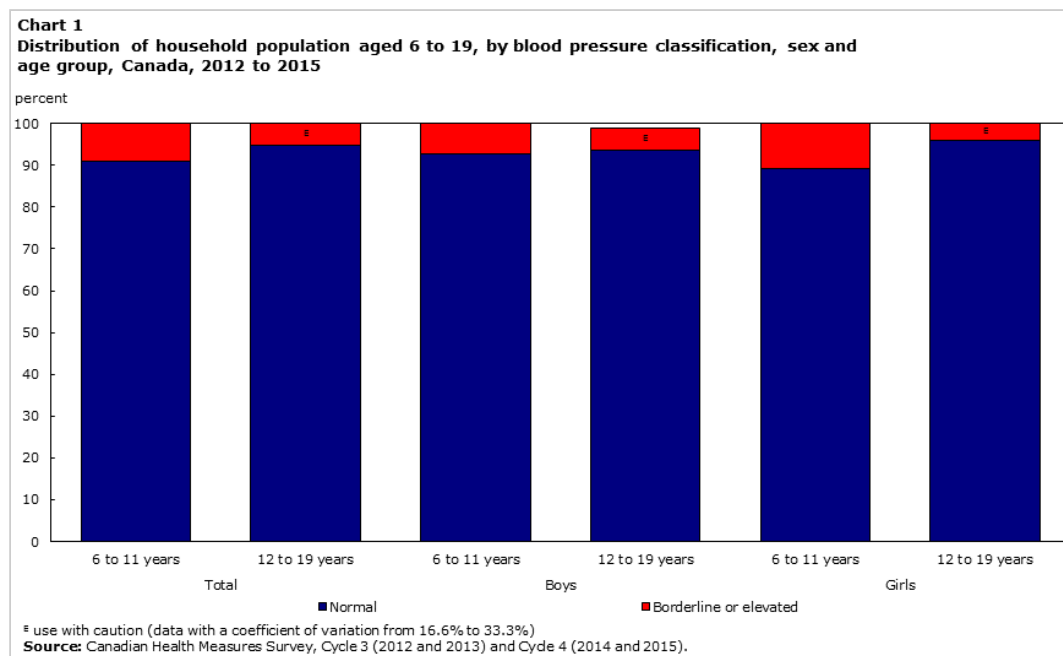
Health Fact Sheets Blood pressure of children and youth, 2012 to 2015



The results of the 2012 to 2015¹ Canadian Health Measures Survey (CHMS) indicate that the average resting blood pressure of children and youth aged 6 to 19 was 97/62 mmHg. Among this group, 93% had a measured blood pressure that was considered normal and 7% had results considered borderline or elevated (data not shown).

In children aged 6 to 11, average resting blood pressure was 94/62 mmHg, while youth aged 12 to 19 had an average resting blood pressure of 99/63 mmHg.

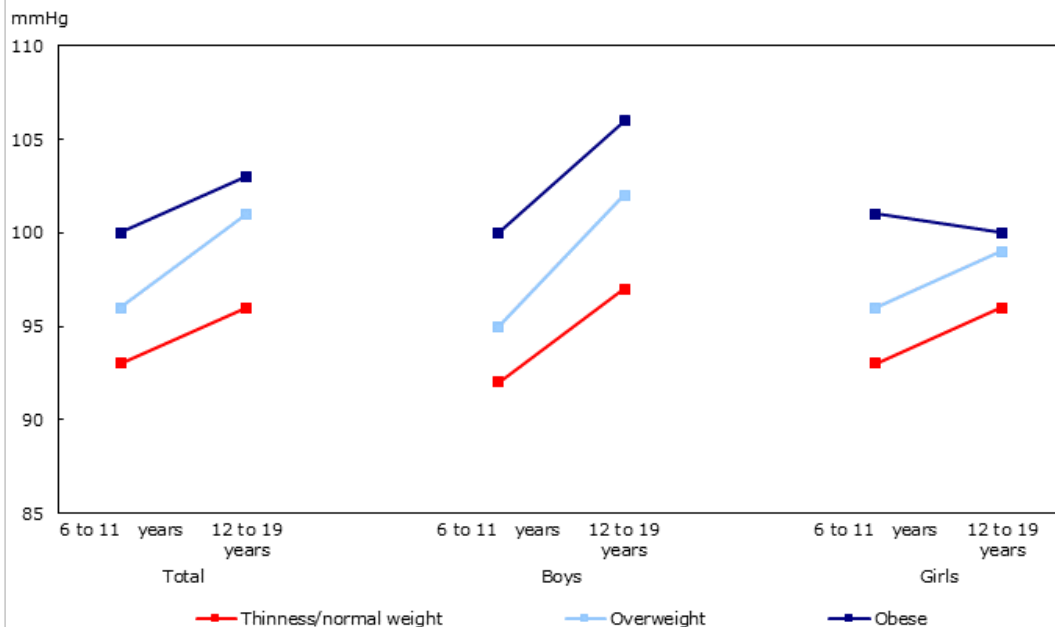
The proportion of girls aged 12 to 19 with blood pressure in the normal range was significantly higher than that of girls aged 6 to 11 (Chart 1).



Blood pressure and body composition

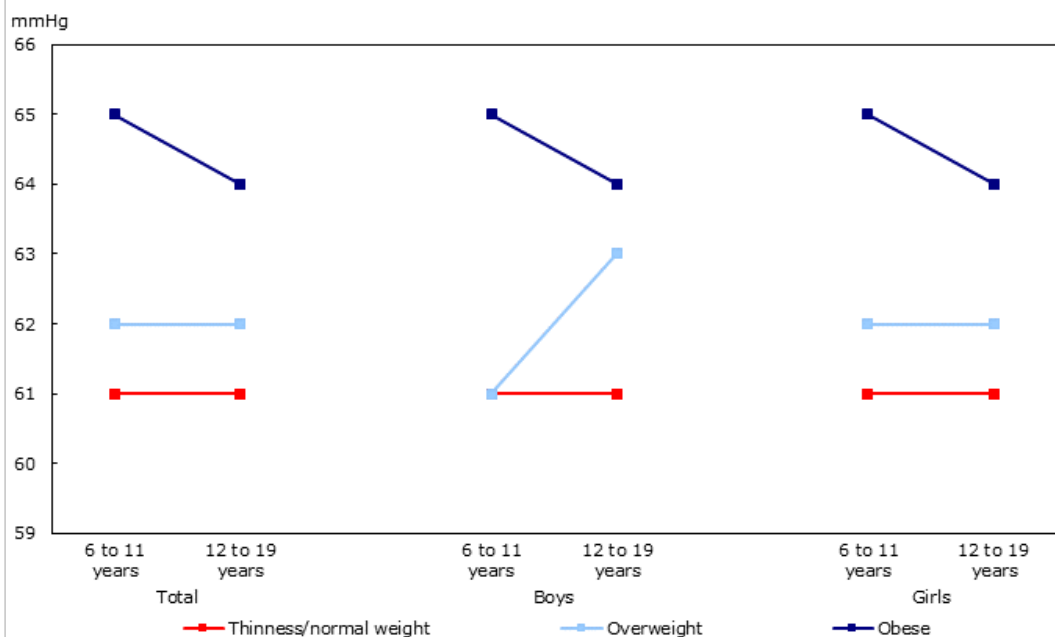
Height and weight were measured for all CHMS respondents. Children and youth who were classified as being overweight (99/62 mmHg) or obese (102/64 mmHg) had a significantly higher average blood pressure than normal weight children (95/61 mmHg). Average systolic blood pressure was significantly higher in overweight and obese children compared with those in the normal weight category (Chart 2). As well, overweight and obese children had significantly higher average diastolic blood pressure when compared with their normal weight counterparts (Chart 3).^{2,3,4,5}

Chart 2
Average systolic blood pressure (mmHg) of children and youth aged 6 to 19, by body mass index (BMI), sex and age group, household population, Canada, 2012 to 2015



Note: The body mass index (BMI) classification is based on de Onis et al. for children and youth aged 6 to 17, and on the *Canadian Guidelines for Body Weight Classification in Adults* (Health Canada, 2003) for youth aged 18 to 19.
Source: Canadian Health Measures Survey, Cycle 3 (2012 and 2013) and Cycle 4 (2014 and 2015).

Chart 3
Average diastolic blood pressure (mmHg) of children and youth aged 6 to 19, by body mass index (BMI), sex and age group, household population, Canada, 2012 to 2015



Note: The body mass index (BMI) classification is based on de Onis et al. for children and youth aged 6 to 17, and on the *Canadian Guidelines for Body Weight Classification in Adults* (Health Canada, 2003) for youth aged 18 to 19.
Source: Canadian Health Measures Survey, Cycle 3 (2012 and 2013) and Cycle 4 (2014 and 2015).

About blood pressure

Blood pressure is a measure of the force of blood against the artery walls, and is expressed as systolic pressure/diastolic pressure in millimetres of mercury (e.g., 120/80 mmHg). The systolic pressure (top number) is the pressure when the heart contracts and pushes the blood out, and the diastolic pressure (bottom number) is the lowest pressure when the heart relaxes between beats.

Resting blood pressure was measured in the CHMS using an automated device (BPTTM) following a five-minute rest period. The BPTTM recorded six measurements, one minute apart. The average systolic and diastolic blood pressure were calculated using the last five out of six measurements.

The criteria for blood pressure classification in children and adults are as follows:

Category	Description	
	Ages 6 to 17 ²	Ages 18 and 19 ³
Normal	SBP and DBP < 90th percentile	Mean SBP/DBP < 120/80 mmHg
Borderline	SBP or DBP ≥ to the 90th percentile, but < the 95th percentile OR Measured mean SBP/DBP > 120/80 mmHg	Mean SBP of 120-139 mmHg and mean DBP of 80-89 mmHg OR Mean SBP of 120-139 mmHg and mean DBP < 80 mmHg OR Mean SBP < 120 mmHg and mean DBP of 80-89 mmHg
Elevated	SBP or DBP ≥ 95th percentile OR Respondent reported using blood pressure medication within the past month	Mean SBP/DBP of ≥ 140/90 mmHg OR Respondent reported using blood pressure medication within the past month
SBP systolic blood pressure DBP diastolic blood pressure		

Data

Canadian Health Measures Survey data related to this fact sheet are available in CANSIM tables 117-0004, 117-0008 and 117-0009.

For more information on the Canadian Health Measures Survey, please contact Statistics Canada's Statistical Information Service (toll-free 1-800-263-1136; 514-283-8300; STATCAN.infostats-infostats.STATCAN@canada.ca).

Notes

- 1 Blood pressure data from Cycle 3 (2012 and 2013) and Cycle 4 (2014 and 2015) of the CHMS were combined for this fact sheet.
- 2 National High Blood Pressure Education Program Working Group on High Blood Pressure in Children and Adolescents. 2004. "The fourth report on the diagnosis, evaluation, and treatment of high blood pressure in children and adolescents." *Pediatrics*. 114 (2 Suppl. 4th report):555-76.
- 3 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):1206-52.
- 4 Health Canada. 2003. *Canadian Guidelines for Body Weight Classification in Adults*. Ottawa.
- 5 de Onis M, Onyango AW, Borghi E, Siyam A, Nishida C, Siekmann J. 2007. "Development of a WHO growth reference for school-aged children and adolescents." *Bulletin of the World Health Organization*. 85(9):660 to 667.