

Health Fact Sheets

Blood pressure of children and youth, 2012 to 2013



How to obtain more information

For information about this product or the wide range of services and data available from Statistics Canada, visit our website, www.statcan.gc.ca.

You can also contact us by

email at STATCAN.infostats-infostats.STATCAN@canada.ca

telephone, from Monday to Friday, 8:30 a.m. to 4:30 p.m., at the following numbers:

- Statistical Information Service 1-800-263-1136
- National telecommunications device for the hearing impaired 1-800-363-7629
- Fax line 1-514-283-9350

Depository Services Program

- Inquiries line 1-800-635-7943
- Fax line 1-800-565-7757

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, Statistics Canada has developed standards of service that its employees observe. To obtain a copy of these service standards, please contact Statistics Canada toll-free at 1-800-263-1136. The service standards are also published on www.statcan.gc.ca under “Contact us” > “Standards of service to the public.”

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued co-operation and goodwill.

Standard table symbols

The following symbols are used in Statistics Canada publications:

- 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 ($p < 0.05$)

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2014

All rights reserved. Use of this publication is governed by the Statistics Canada [Open Licence Agreement](#).

An HTML version is also available.

Cette publication est aussi disponible en français.



Blood pressure of children and youth, 2012 to 2013

The average resting blood pressure of children and youth aged 6 to 19 in 2012 to 2013 was 96/62 mmHg. Among this group, 95% had a measured blood pressure that was considered normal, 3% had results considered borderline, and 2% were categorized as having an elevated blood pressure (Chart 1).

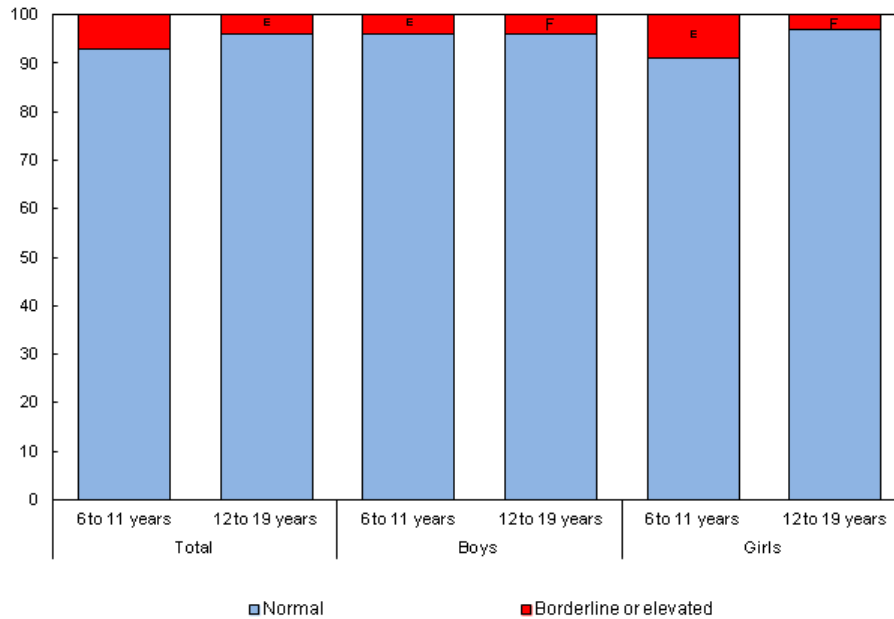


The results of the 2012 to 2013 Canadian Health Measures Survey (CHMS) indicate that the average resting blood pressure of children aged 6 to 11 was 94/62 mmHg, while youth aged 12 to 19 had an average resting blood pressure of 98/61 mmHg.

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
Distribution of household population aged 6 to 19, by blood pressure classification, sex and age group, Canada, 2012 to 2013

percent



^E use with caution (data with a coefficient of variation from 16.6% to 33.3%)

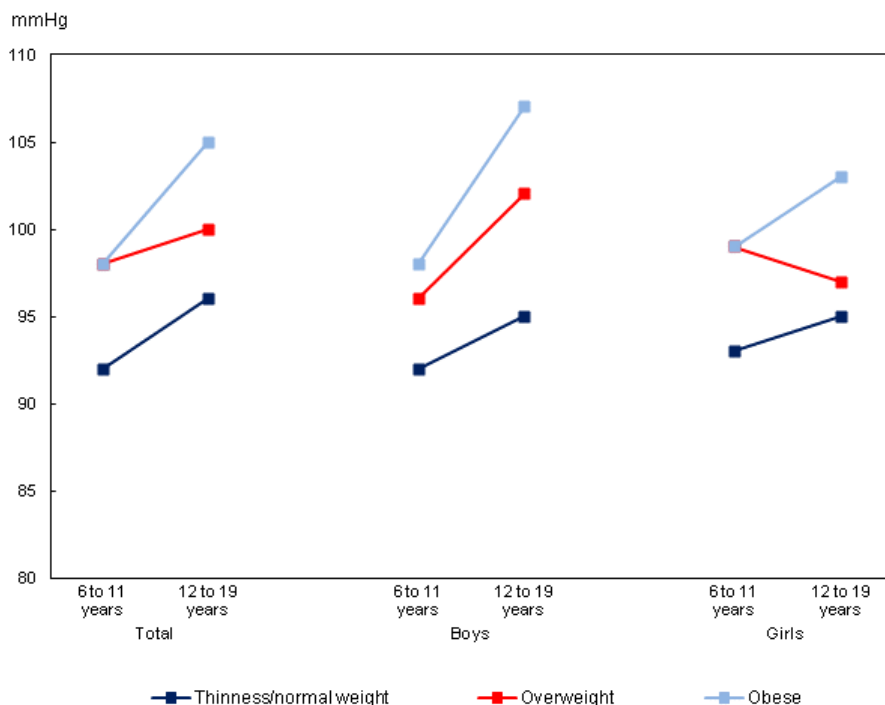
^F too unreliable to be published (data with a coefficient of variation greater than 33.3%; suppressed due to extreme sampling variability)

Source: Canadian Health Measures Survey, 2012 to 2013

Blood pressure and body composition

Children and youth who were classified as being overweight (99/62 mmHg) or obese (103/64 mmHg) had a higher average blood pressure than normal weight children (94/61 mmHg). Average systolic blood pressure was significantly higher in overweight and obese children compared to those in the normal weight category (Chart 2). Overweight and obese girls as well as obese boys had significantly higher average diastolic blood pressure when compared with their normal weight counterparts (Chart 3).

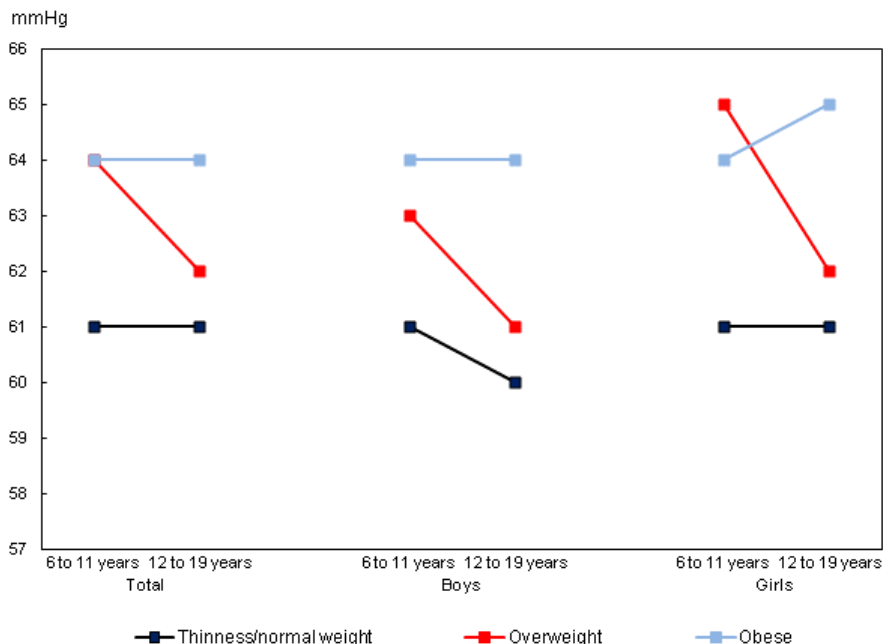
Chart 2
Average systolic blood pressure (mmHg) of children and youth aged 6 to 19, by body mass index (BMI),¹ sex and age group, household population, Canada, 2012 to 2013



1. 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, 2012 to 2013

Chart 3
Average diastolic blood pressure (mmHg) of children and youth aged 6 to 19, by body mass index (BMI),¹ sex and age group, household population, Canada, 2012 to 2013



1. 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, 2012 to 2013

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., (for example), 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 (Canadian Health Measures Survey) using an automated device (BPTru™) following a five-minute rest period. The BPTru™ recorded six measurements, one minute apart. The average systolic and diastolic blood pressure were calculated using the last five out of six measurements.

Blood pressure classifications in children and youth

	Ages 6 to 17 ¹	Ages 18 and 19 ²
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 BP medication within the past month	Mean SBP/DBP of ≥ 140/90 mmHg OR Respondent reported using BP medication within the past month

1 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*. 2004. 114 (2 Suppl. 4th report):555-76.

2 Chobanian, A.V., Bakris, G.L., Black, H.R., et al. (and others) 2003. "Seventh report on the Joint National Committee on the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure." *Hypertension*, vol. (volume) 42, no. (number) 6.

SBP systolic blood pressure
 DBP diastolic blood pressure

References

Health Canada. 2003. *Canadian Guidelines for Body Weight Classification in Adults*. Ottawa.

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.

Chobanian, A.V., Bakris, G.L., Black, H.R., et al. (and others) 2003. "Seventh report on the Joint National Committee on the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure." *Hypertension*, vol (volume). 42, no (number). 6. 1206-52.

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.

Data

Additional data from the Canadian Health Measures Survey are available from CANSIM tables 117-0001 to 117-0012.

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; infostats@statcan.gc.ca).