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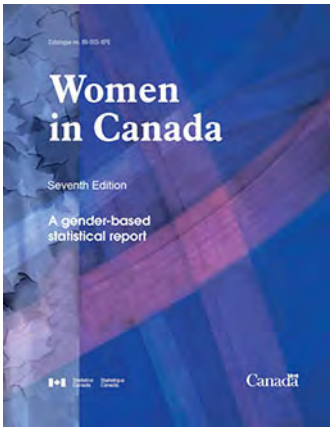
Women in Canada: A Gender-based Statistical Report

The health of girls and women



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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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The health of girls and women

1. Introduction

The factors that influence health, as well as individual health status, vary over a woman's lifetime. This chapter presents a life course perspective of the physical and mental health of girls and women in Canada. Although not exhaustive, the information is intended to provide a summary of various aspects of women's health, based on recent survey and administrative data, as well as findings from published research papers and reports.

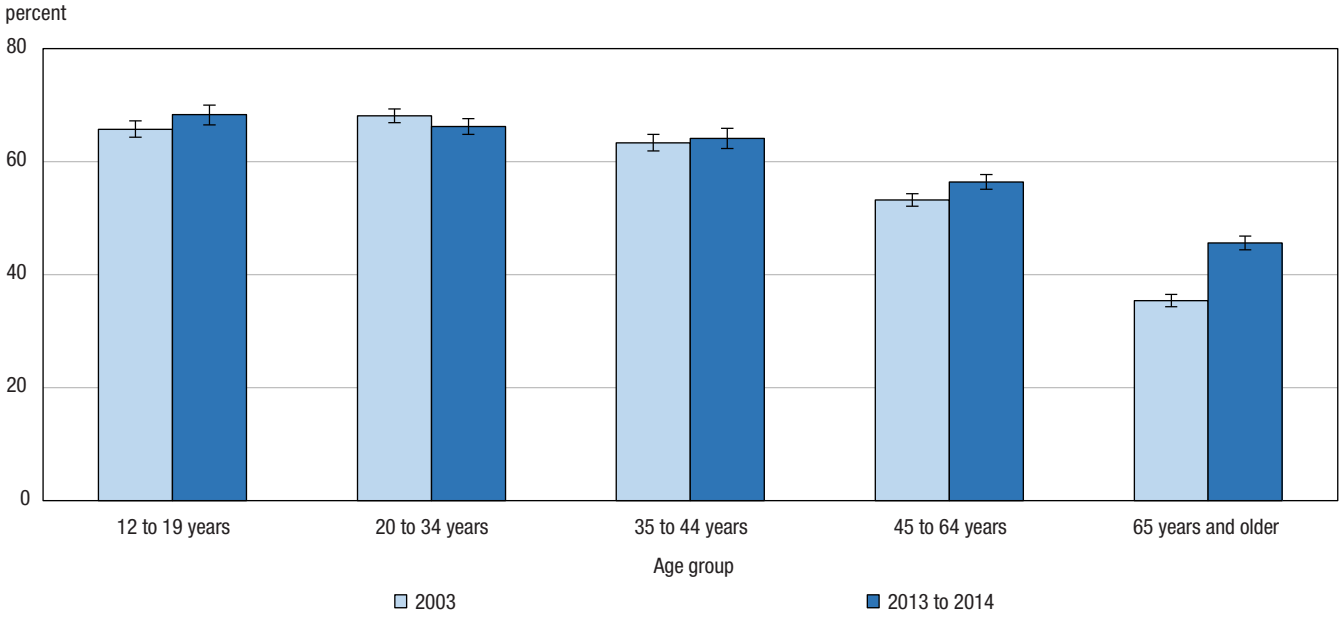
This chapter begins with a general overview of female health in Canada, with a look at self-perceived overall health, the social determinants of health, and the health of women who are immigrants to Canada. The rest of the chapter is organized into four sections: health in childhood (1 to 11 years), adolescence (12 to 19 years), adulthood (20 to 64 years), and health of older women (65 years or older). These age ranges may vary slightly depending on the data source. The following topics are addressed in each section: health behaviours, disease and chronic conditions, and mental health. Sexual activity and reproduction are also examined, beginning in adolescence.

Information specific to the health of visible minority and Aboriginal women is available in previously published chapters in *Women in Canada*.[1,2]

2. Overview of female health in Canada

Self-perceived health is an indicator of overall health status. According to the 2013/2014 Canadian Community Health Survey, 59% of females aged 12 or older living in households self-rated their overall health as very good or excellent. Age is significantly associated with health status; as women age they are less likely to rate their health as highly (Chart 1). However, in 2013/2014, older women were more likely to report very good or excellent health compared with 10 years ago, and the same is true for men (data not shown).

Chart 1
Percentage of very good or excellent self-rated overall health among women, by age group, Canada, 2003 and 2013 to 2014



I = 95% confidence interval
Source: Statistics Canada, CANSIM table 105-0501, 2003; and Statistics Canada, 2013 to 2014 Canadian Community Health Survey, custom tabulation.

1. Hudon T. Immigrant women. In: *Women in Canada: A gender-based statistical report.* Catalogue 89-503-X. Ottawa: Statistics Canada, 2015.
2. Arriagada P. First Nations, Inuit and Métis Women. In: *Women in Canada: A gender-based statistical report.* Catalogue 89-503-X. Ottawa: Statistics Canada, 2016.

Social determinants of health

Along with age, social determinants such as social status, support networks, and social and physical environments are factors that influence health.[3] Education and income are also important, as education is closely tied to socioeconomic status, and health status improves with each step up the income hierarchy.[4] In Canada, women with less than a high school education and those whose household income was in the lowest income quintile were much more likely to report being a smoker, obese, diagnosed with high blood pressure, diabetes or a mood disorder, compared with women with a bachelor's degree or whose household income was in the highest quintile (Table 1). Women with lower educational attainment and lower income were also less likely to report very good or excellent self-perceived overall or mental health, or to have consulted a family doctor or dentist in the past 12 months. Women with lower income were less likely to report having a regular medical doctor. Studies have shown that women in lower socioeconomic areas also have higher hospitalization rates.[5]

Table 1
Prevalence of selected health indicators among females aged 12 or older, by education and household income, Canada, 2013/2014

	Highest level of education						Household income					
	Less than high school graduation			Bachelor's degree or higher			Lowest quintile			Highest quintile		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI	
		from	to		from	to		from	to		from	to
Health indicators												
Very good or excellent self-perceived overall health	48.2	46.9	49.5	70.4	69.0	71.7	44.5	43.0	46.1	73.8	72.4	75.1
Very good or excellent self-perceived mental health	63.5	62.1	64.9	76.2	74.8	77.4	58.7	57.2	60.3	79.0	77.8	80.1
Daily or occasional smoker	15.8	14.8	16.8	7.7	6.9	8.6	20.2	18.9	21.4	12.1	11.1	13.0
Obese†	30.6	29.0	32.2	16.1	15.0	17.2	25.4	24.0	27.0	20.6	19.4	21.9
Active during leisure time†	27.2	26.0	28.4	29.8	28.4	31.2	21.0	19.8	22.3	35.0	33.5	36.5
High blood pressure††	23.4	22.4	24.4	9.2	8.4	10.1	21.0	19.9	22.2	11.2	10.3	12.1
Diabetes††	9.1	8.3	9.9	3.1	2.7	3.6	8.7	7.9	9.6	3.0	2.6	3.4
Mood disorder††	9.2	8.5	10.0	7.3	6.6	8.2	13.9	12.9	14.9	6.3	5.7	7.0
Has a regular medical doctor	90.1	89.2	90.9	86.5	85.1	87.8	84.0	82.6	85.3	91.6	90.6	92.5
Consulted with a medical doctor in the past 12 months	76.5	75.5	77.6	81.8	80.4	83.2	77.8	76.5	79.1	82.8	81.5	84.0
Consulted with a dentist in the past 12 months	57.5	56.1	58.9	79.3	77.9	80.7	51.9	50.3	53.4	85.0	83.9	86.1

† Obese is for those 18 years and older only, based on body mass index calculated from self-reported height and weight then adjusted for reporting bias.
Active during leisure time is based on Energy Expenditure (EE) calculated using the frequency and duration per session of self-reported leisure time physical activities.
†† Diagnosed condition has lasted or is expected to last at least 6 months or more.
Note: all estimates were significantly different (p<=0.05) across education (except active leisure time) and household income categories.
Source: Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.

3. Public Health Agency of Canada. What makes Canadians healthy or unhealthy? Available at: http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#income. Accessed October 29, 2015.
4. Ibid.
5. Canadian Institute for Health Information. Hospitalization disparities by socio-economic status for males and females. 2010. Available at: https://secure.cihi.ca/free_products/disparities_in_hospitalization_by_sex2010_e.pdf. Accessed July 8, 2015.

Health of women who are immigrants to Canada

The 2013/2014 Canadian Community Health Survey describes the health of about 3.7 million immigrant women–born outside of Canada and not born a Canadian citizen[6]– aged 12 or older living in households[7]. Immigrant women aged 25 or older were less likely to self-rate their overall health as very good or excellent compared with the Canadian-born; however, like the Canadian-born, immigrant women also rated their health less highly as they aged (Table 2). Immigrant women were less likely to report their mental health as very good or excellent, but this was because of immigrant women aged 65 or older. Immigrant women aged 65 or older also had a higher prevalence of diabetes than the Canadian-born (18% versus 15%), while immigrant women aged 25 to 44 were less likely to report having a regular doctor (78% versus 86%).

Table 2
Prevalence of selected health indicators among women aged 25 or older, by immigrant status and age group, Canada, 2013/2014

	Very good or excellent self-perceived overall health						Very good or excellent self-perceived mental health						High blood pressure†						Diabetes†						Has a regular doctor					
	Immigrant			Canadian-born			Immigrant			Canadian-born			Immigrant			Canadian-born			Immigrant			Canadian-born			Immigrant			Canadian-born		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
		from	to		from	to		from	to		from	to		from	to		from	to		from	to		from	to		from	to		from	to
Total	52.1‡	50.3	53.9	60.2	59.5	61.0	67.9‡	66.0	69.7	70.6	69.9	71.4	21.3	19.9	22.8	20.4	19.9	20.9	7.6	6.8	8.6	6.9	6.6	7.2	86.4‡	85.0	87.8	90.7	90.2	91.2
Age group																														
25 to 44	62.9‡	60.0	65.7	67.5	66.2	68.7	70.3	67.3	73.1	70.1	68.8	71.4	4.0E	2.7	5.8	3.9	3.4	4.4	2.1E	1.4	3.3	1.9	1.6	2.3	77.7‡	75.3	80.0	86.4	85.3	87.5
45 to 64	48.6‡	45.1	52.0	59.7	58.4	61.1	68.3	64.9	71.6	71.1	69.9	72.3	22.4	19.8	25.3	20.6	19.6	21.7	7.5	6.0	9.4	7.2	6.6	7.9	91.0	88.3	93.1	91.9	91.1	92.6
65 years or older	38.0‡	35.4	40.8	48.9	47.7	50.2	62.6‡	59.5	65.6	70.7	69.6	71.8	50.9	48.2	53.7	47.9	46.7	49.0	17.8‡	15.6	20.4	14.6	13.8	15.5	94.9	93.2	96.1	95.7	95.2	96.1

E use with caution (coefficient of variation 16.6% to 33.3%)
† Diagnosed condition has lasted or is expected to last at least 6 months or more.
‡ significantly different (p <=.05) from estimate for Canadian-born of same age group
Source: Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.

Studies have found considerable variations in health by source country.[8] For example, women from Asia accounted for the largest percentage of immigrant women aged 25 and older (about 43%) in Canada in 2013/2014, and they were the least likely, regardless of age group, to report very good or excellent overall health (Table 3). Results were similar for mental health (data not shown). Immigrant women aged 45 or older from Central and South America, the Caribbean, Bermuda, and Europe were also less likely than the Canadian-born of the same age to report very good or excellent overall health. And while immigrant women aged 25 to 44 from all countries (except other parts of North America) were less likely than the Canadian-born to report having a regular doctor, this difference did not persist among women aged 45 or older.

Table 3
Self-perceived overall health and having a regular doctor among women aged 25 or older, by place of birth and age group, Canada, 2013/2014

	Very good or excellent self-perceived overall health									Has regular doctor								
	25 to 44 years			45 to 64 years			65 or older			25 to 44 years			45 to 64 years			65 or older		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
		from	to		from	to		from	to		from	to		from	to		from	to
Place of birth																		
Canada	67.5	66.2	68.7	59.7	58.4	61.0	49.0	47.8	50.3	86.3	85.3	87.4	91.9	91.1	92.6	95.7	95.2	96.1
Other North America	72.3	61.5	81.0	73.3‡	62.4	82.0	66.9‡	58.6	74.3	85.4	75.0	91.9	93.1	86.6	96.5	95.7	91.4	97.9
Central America, Carribean, Bermuda and South America	62.6	54.6	70.0	48.5‡	39.0	58.0	38.0‡	28.6	48.4	70.8‡	62.8	77.8	89.7	84.0	93.6	96.6	91.8	98.6
Europe	69.7	63.9	75.0	53.4‡	48.8	57.9	39.6‡	36.7	42.6	78.9‡	73.8	83.3	94.4‡	92.3	95.9	95.0	92.8	96.5
Africa	63.6	54.9	71.4	49.2	35.0	63.6	43.2	30.4	57.0	69.6‡	61.8	76.4	80.1‡	65.3	89.6	95.6	81.2	99.1
Asia	59.7‡	55.6	63.7	42.6‡	37.3	48.0	27.1‡	21.3	33.8	81.2‡	77.7	84.2	90.8	84.7	94.6	92.2	87.1	95.4

‡ significantly different (p <=.05) from estimate for Canada within same age group
Notes: Europe also includes Oceania.
Source: Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.

6. The CCHS definition of immigrant—a person born outside Canada who was not born a Canadian citizen—differs slightly from that of the 2011 National Household Survey (NHS)—a person who is not a Canadian citizen by birth, but who has been granted the right to live in Canada permanently by Canadian immigration authorities. Results in the "Immigrant Women" chapter reflect the NHS definition.
7. The Canadian Community Health Survey excludes persons living on reserves and other Aboriginal settlements in the provinces; full-time members of the Canadian Forces; the institutionalized population and persons living in the Quebec health regions of Région du Nunavik and Région des Terres-Cries-de-la-Baie-James. Altogether, these exclusions represent less than 3% of the target population.
8. Rotermann M. The impact of considering birthplace in analyses of immigrant health. *Health Reports* 2011; 22 (4): 1-7.

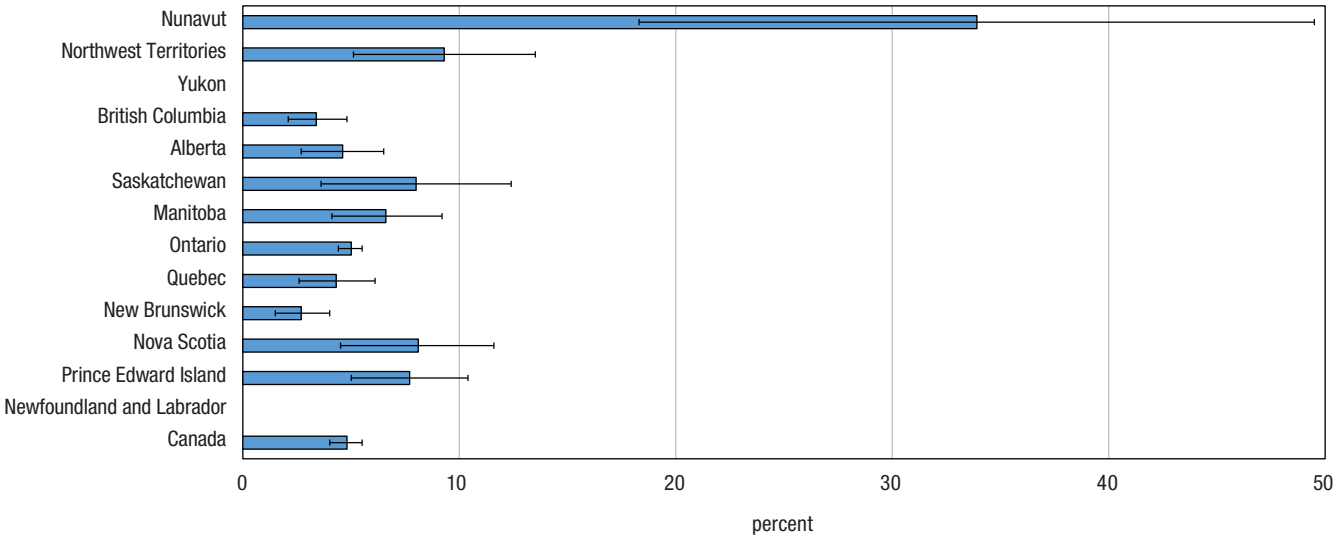
3. Childhood

Health behaviours

Food security

A nourishing and nutritious diet during childhood promotes normal growth and development, and helps with obesity and related chronic disease prevention as children age.[9] Some children live in "food insecure" households where an adequate diet quality or sufficient quantity of food is not necessarily available or accessible. About 5% of children aged 5 or younger lived in this type of household in 2011/2012. The risk of living in such a household was not the same across Canada (Chart 2). These results were unchanged from 2007/2008 (data not shown).

Chart 2
Percentage of children aged 0 to 5 in food insecure household, by province/territory, Canada, 2011 to 2012



I = 95% confidence interval
Note: Due to small sample sizes, estimates for Newfoundland and Labrador and Yukon are not presented separately but are included in the Canada total.
Source: Statistics Canada, CANSIM table 105-0546, 2011 to 2012.

Nutrient status

Examining nutrient intake can provide a picture of the nutritional health of children. According to the 2004 Canadian Community Health Survey (CCHS - Cycle 2.2 Nutrition)—the most recent data available—more than 95% of girls and boys aged 1 to 3 had protein and carbohydrate intakes within the acceptable range,[10] while 47% fell below the acceptable range for fat intake.[11] Fat helps young children meet their energy needs for growth and development, and a low-fat diet during childhood could lead to inadequate intake of certain micronutrients, including fat soluble vitamins.[12] By contrast, 88% of children aged 4 to 8 had fat intakes within the acceptable range, with almost all (99%) being within the acceptable range for protein and carbohydrates. With the planned data release of the 2015 CCHS–Nutrition Survey in the fall of 2016, it will be possible to see if these findings have changed over time.

In addition to preventing deficiency diseases, some vitamins and minerals play an important role in preventing diet-related chronic diseases.[13] Vitamin D helps the body use calcium and phosphorous to build and maintain strong bones and teeth,[14] while vitamin B12 is essential for normal red blood cell formation and neurological function.[15] Iron is involved in the transport of oxygen to tissues throughout the body for metabolism; functional indicators of iron

9. Health Canada. 2012. *Do Canadian Children Meet their Nutrient Requirements through Food Intake Alone?* Catalogue no. H164-112/1-2012E-PDF. Ottawa.
10. The acceptable range is based on the Acceptable Macronutrient Distribution Range (AMDR).
11. Health Canada. 2012. *Do Canadian Children Meet their Nutrient Requirements through Food Intake Alone?* Catalogue no. H164-112/1-2012E-PDF. Ottawa.
12. Institute of Medicine. 2006. *Dietary Reference Intakes: The Essential Guide to Nutrient Requirements.* Catalogue no. 2006015626. Washington: The National Academies Press.
13. World Health Organization. Dietary recommendations / Nutritional requirements. Available at: http://www.who.int/nutrition/topics/nutrecomm/en/. Accessed August 25, 2015.
14. Health Canada. Vitamin D and Calcium: Updated Dietary Reference Intakes. March 22, 2012. Available at: http://www.hc-sc.gc.ca/fn-an/nutrition/vitamin/vita-d-eng.php. Accessed August 25, 2015.
15. Health Canada. Vitamin B12. Available at: http://www.hc-sc.gc.ca/fn-an/surveill/nutrition/measures-mesures/vit_b12-eng.php. Accessed August 25, 2015.

deficiency are reduced physical work capacity, delayed psychomotor development in infants, and impaired cognitive function.[16] The majority of children in Canada have sufficient levels of these vitamins. Almost 100% of 3- to 11-year-olds were sufficient in vitamin B12[17]; 98% were sufficient in hemoglobin (an indicator of anemia); 97% to 98% were sufficient in ferritin (an indicator of iron storage)[18]; and 89% of 3- to 5-year-olds and 76% of 6- to 11-year-olds had vitamin D levels that were likely sufficient for optimal bone health.[19] Little difference was apparent between girls and boys.

Childhood immunization in Canada

In 2013/2014, according to the 2013 childhood National Immunization Coverage Survey (cNICS), 90% of 2-year-olds had been immunized against polio, and 89% had been immunized against measles, mumps, and rubella (MMR). The cNICS also asked about knowledge, attitudes and beliefs related to vaccines and vaccination, and found that 95% of parents thought that childhood vaccines were safe, and 97% thought that vaccines were effective and important for children's health. However, almost 70% of parents expressed concern about the side effects of vaccines, and more than a third believed that a vaccine can cause the same disease it was meant to prevent.

Source: Government of Canada. 2015. Vaccine coverage in Canadian children: Highlights from the 2013 childhood National Immunization Coverage Survey (cNICS). Available at: http://healthycanadians.gc.ca/publications/healthy-living-vie-saine/immunization-coverage-children-2013-couverture-vaccinale-enfants/index-eng.php. Accessed August 17, 2015.

Body weight and physical fitness

The prevalence of overweight and obesity has risen among children in Canada during the past 40 years.[20] In 2012/2013, 17% of girls aged 6 to 11 were overweight, and 10% were obese according to their measured body mass index (BMI).[21] Girls in this age group had an average BMI of 17.6 kg/m^2,[22] which was significantly above the average of 16.9 kg/m^2 reported for girls in a similar age group (7 to 10) in 1981.[23] The same study, which compared anthropometric and fitness measures from 1981 to more recent data, found that waist circumference and the sum of five skinfolds had also increased significantly for girls, while flexibility and muscular strength had declined over time. Trends were similar for boys.

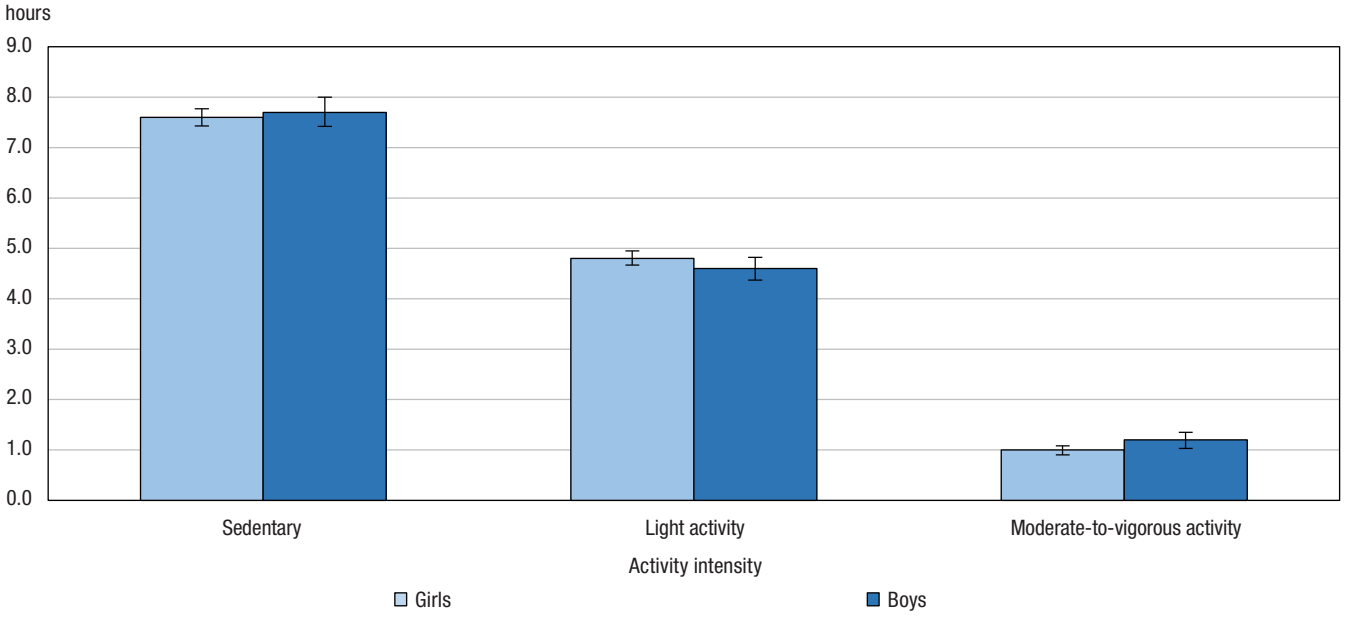
Evidence indicates that childhood obesity not only increases the risk of obesity in later life, but also contributes to the early development of a number of conditions, such as type 2 diabetes and high blood pressure.[24] In Canada, recent data have shown that the average systolic and diastolic blood pressure of overweight and obese girls aged 6 to 11 is 6 and 3-4 mm/Hg higher, respectively, than that of their normal-weight counterparts.[25]

16. Institute of Medicine. 2006. *Dietary Reference Intakes: The Essential Guide to Nutrient Requirements*. Catalogue no. 2006015626. Washington: The National Academies Press.
17. Statistics Canada. Vitamin B12 status of Canadians, 2009 to 2011. Available at: http://www.statcan.gc.ca/pub/82-625-x/2012001/article/11731-eng.htm#n1. Accessed August 19, 2015.
18. Statistics Canada. Iron sufficiency of Canadians, 2009 to 2011. Available at: http://www.statcan.gc.ca/pub/82-625-x/2012001/article/11734-eng.htm#n1. Accessed August 19, 2015.
19. Janz T et al. 2013. Vitamin D blood levels of Canadians. *Health at a Glance*. Catalogue no. 82-624-X. Ottawa.
20. Tremblay MS et al. Fitness of Canadian children and youth: Results from the 2007-2009 Canadian Health Measures Survey. *Health Reports* 2010; 21 (1): 1-14.
21. Statistics Canada, CANSIM table 117-0004, 2013.
22. Statistics Canada, CANSIM table 117-0001, 2013.
23. Tremblay MS et al. Fitness of Canadian children and youth: Results from the 2007-2009 Canadian Health Measures Survey. *Health Reports* 2010; 21 (1): 1-14.
24. Public Health Agency of Canada and the Canadian Institute for Health Information. 2011. Obesity in Canada. Catalogue no. HP5-107/2011E-PDF. Ottawa.
25. Statistics Canada. 2014. *Blood pressure of children and youth, 2012 to 2013*. Catalogue no. 82-625-X. Ottawa.

Physical activity

In addition to being associated with the rising prevalence of obesity, the OECD has suggested that sedentary lifestyles are associated with a "less visible but no less important epidemic of lack of cardio-respiratory fitness."[26] In 2012/2013, girls and boys aged 6 to 11 spent just under eight waking hours per day in sedentary behavior (Chart 3). They spent, on average, just under five hours per day in light activity, and about one hour in moderate-to-vigorous activity (MVPA). As a result, only 8% of girls and 16% of boys aged 6 to 11 met the physical activity guidelines of at least 60 minutes of MVPA every day.[27] By contrast, a 2013 study found that 84% of 3- and 4-year-olds met the current physical activity guideline, defined as being active at any intensity for at least 180 minutes every day.[28] This decline in level of physical activity from early to middle childhood continues as children age (see *Adolescence* section). Similarly, a study that examined participation trajectories of girls in organized physical activity found that 76% had a trajectory that peaked in middle childhood and declined into adolescence.[29]

Chart 3
Average daily hours of activity, by level of intensity and sex, children aged 6 to 11, Canada, 2012 to 2013



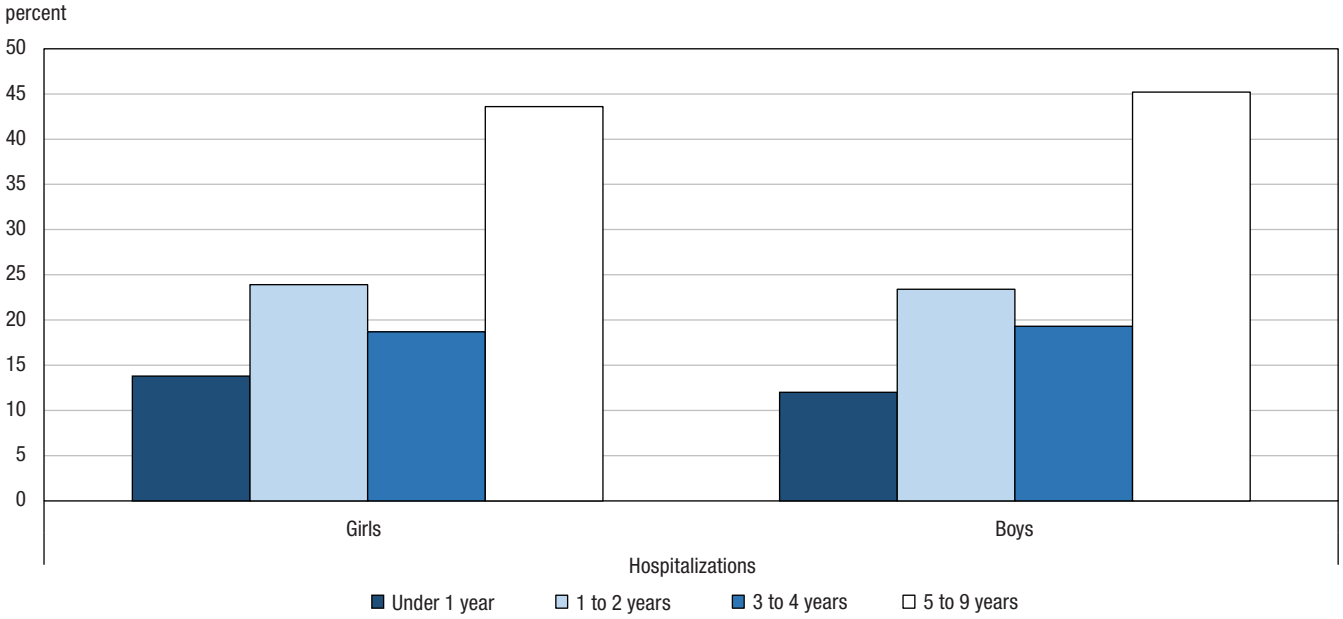
I = 95% confidence interval
Source: Statistics Canada, CANSIM table 117-0020, 2012 to 2013; CANSIM table 117-0021, 2012 to 2013.

26. Sassi, F. et al. 2009, "The obesity epidemic: Analysis of past and projected future trends in selected OECD countries", OECD Health Working Papers, No. 45, OECD Publishing. doi: 10.1787/225215402672.
27. Statistics Canada, CANSIM table 117-0019, 2013.
28. Colley RC et al. Physical activity and sedentary behavior during the early years in Canada: a cross-sectional study. *International Journal of Behavioral Nutrition and Physical Activity* 2013; 10 (54).
29. Findlay LC et al. Children's organized physical activity patterns from childhood into adolescence. *Journal of Physical Activity and Health* 2009; 6: 708-715.

Unintentional injury and hospitalization

In 2013/2014 (excluding Quebec), there were about 3,160 hospitalizations for unintentional injury among girls younger than age 10.[30] Although there were about 40% more hospitalizations among boys (data not shown), the distribution across age groups was almost the same for girls and boys (Chart 4).

Chart 4
Age distribution of hospitalizations due to unintentional injury, by sex, population younger than 10, Canada (excluding Quebec), 2013 to 2014



Note: Estimates for unintentional injury were calculated by subtracting the intentional assault injury hospitalizations from the estimates for total injury hospitalizations for those under the age of 10.
Source: Canadian Institute for Health Information. Data Tables: Intentional Assault and Self-Harm Among Children and Youth in Canada, 2013 to 2014 - Overview hospitalizations.

Research suggests that injury hospitalization varies with socioeconomic status. A study that examined hospitalization for unintentional injury found that children in the lowest neighbourhood income quintile generally had a higher rate of hospitalization than did those in the highest,[31] while another study found a similar gradient, specifically for motor vehicle accidents.[32]

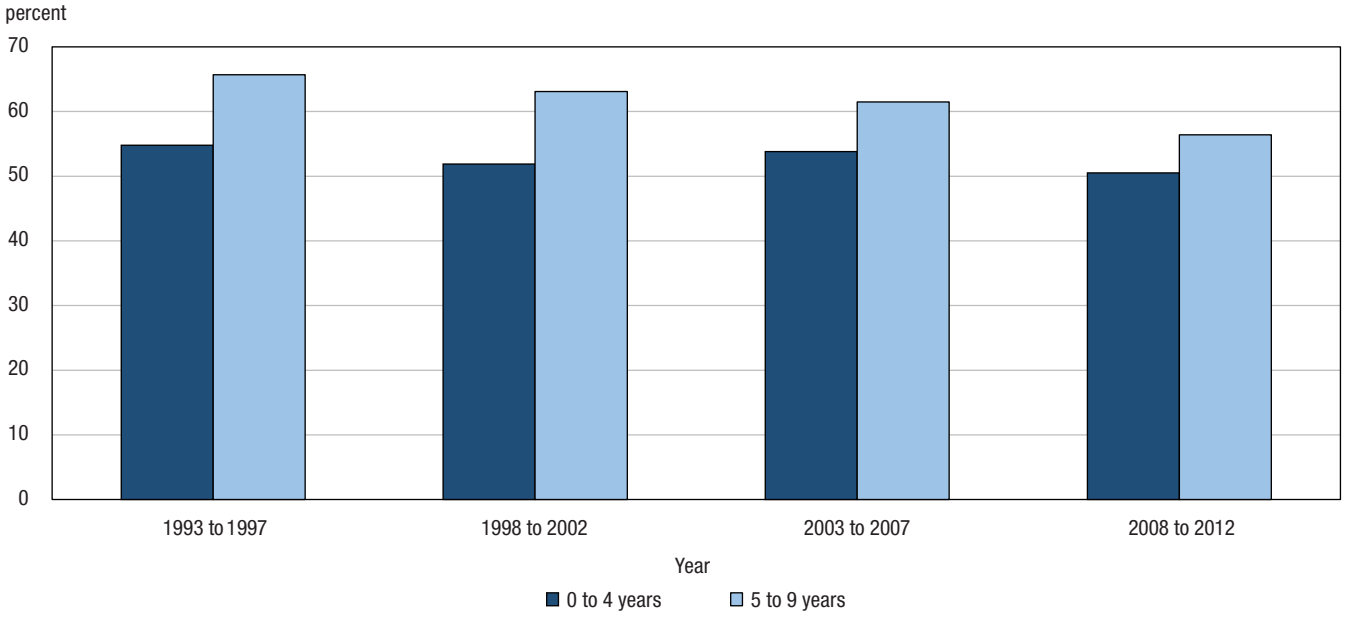
Disease

Cancer

Cancers in children differ from those in adults in both their site of origin and their behaviour; tumours in children generally have shorter latency periods and are more aggressive and invasive.[33] In 2012, 200 new cancer cases were reported among girls aged 0 to 4, and 105 new cases were reported among girls aged 5 to 9.[34] Since 1993, leukemia and central nervous system (including brain) cancers have accounted for 50% to 55% of new cancer cases for the younger group, and have declined from 66% to 56% for the older group (Chart 5). Results were similar for boys in the younger age group, while percentages remained relatively stable at about 60% for boys aged 5 to 9 (data not shown). Between 2006 and 2010, these two cancer groups also accounted for 60% of all cancer deaths among children younger than age 15.[35] In 2011, cancer was the third leading cause of death among girls aged 1 to 4 and the leading cause of death among girls aged 5 to 9, accounting for 9% and 20% of the total number of deaths, respectively.[36]

30. Canadian Institute for Health Information. Data Tables: Intentional Assault and Self-Harm Among Children and Youth in Canada. Available at: https://secure.cihi.ca/estore/productFamily.htm?locale=en&pf=PFC2720&lang=en&media=0. Accessed July 8, 2015.
31. Oliver LN et al. Neighbourhood variation in hospitalization for unintentional injury among children and teenagers. *Health Reports* 2010; 21 (4): 1-9.
32. Canadian Institute for Health Information. Injury Hospitalizations and Socio-Economic Status. Available at: https://secure.cihi.ca/free_products/Injury_aib_vE4CCF_v3_en.pdf. Accessed July 8, 2015.
33. Canadian Cancer Society's Advisory Committee on Cancer Statistics. 2015. *Canadian Cancer Statistics 2015*. Toronto, ON: Canadian Cancer Society.
34. Statistics Canada, CANSIM table 103-0550, 2012. Counts have been randomly rounded to a lower or higher multiple of 5. Cancer incidence data for Quebec are not available for 2011 and 2012 diagnosis years; therefore, the 2010 Quebec data were copied forward into 2011 and 2012.
35. Canadian Cancer Society's Advisory Committee on Cancer Statistics. 2015. *Canadian Cancer Statistics 2015*. Toronto, ON: Canadian Cancer Society.
36. Statistics Canada, CANSIM table 102-0561, 2011.

Chart 5
New cases of leukemia and central nervous system cancers as percentage of new cancer cases, by age group, female population aged 0 to 9, Canada, 1993 to 2012



Notes: Estimates are based on counts that have been randomly rounded to a lower or higher multiple of 5.
Cancer incidence data for Quebec are not available for 2011 and 2012 diagnosis years therefore the 2010 Quebec data have been copied forward into 2011 and 2012.
Estimates for leukemia include acute and chronic lymphocytic leukemia, acute and chronic myeloid leukemia, and other leukemia.
Estimates for central nervous system cancers include brain and cranial nerves and other nervous system cancers.
Source: Statistics Canada, CANSIM table 103-0550, 1993 to 2012.

Use of health services for mental illness among children

The prevalence of the use of health services for mental illness has increased over time for girls and boys in Canada.[37] Between 1996/1997 and 2009/2010, the prevalence of use rose 34% among 5- to 9-year-olds.[38] This may be due to a real increase in the number of cases or to an increase in detection and treatment resulting from greater awareness of mental illness among children. For example, the diagnosis of certain disturbance of conduct disorders and attention deficit hyperactivity disorder (ADHD) may have risen because of heightened awareness among health professionals, parents, and educators.[39] During the 2007-to-2011 period, ADHD psycho-stimulants (such as Ritalin) and nootropics were the top reported prescription medication class among those aged 6 to 14, with a prevalence of 2.5% for girls and 6% for boys.[40]

37. According to the Canadian Chronic Disease Surveillance System, which uses provincial and territorial physician billing claims and hospital discharge abstract records linked to provincial and territorial health registries.
38. Public Health Agency of Canada. 2015. Report from the Canadian Chronic Disease Surveillance System: Mental illness in Canada, 2015. Catalogue no. HP35-56/2015E-PDF. Ottawa.
39. Ibid.
40. Rotermann M et al. Prescription medication use by Canadians aged 6 to 79. *Health Reports* 2014; 25 (6): 3-9.

4. Adolescence

Health behaviours

Fruit and vegetable consumption

Nutrition needs during adolescence are greater than at any other point in life. Research suggests that adolescents, particularly girls, may not be getting the nutrients they need through food and beverages.[41] In 2014, 48% of girls and 39% of boys aged 12 to 19 reported eating fruits and vegetables the minimum recommended five or more times per day.[42] This has remained relatively unchanged for girls since 2003.[43]

Nutrient status

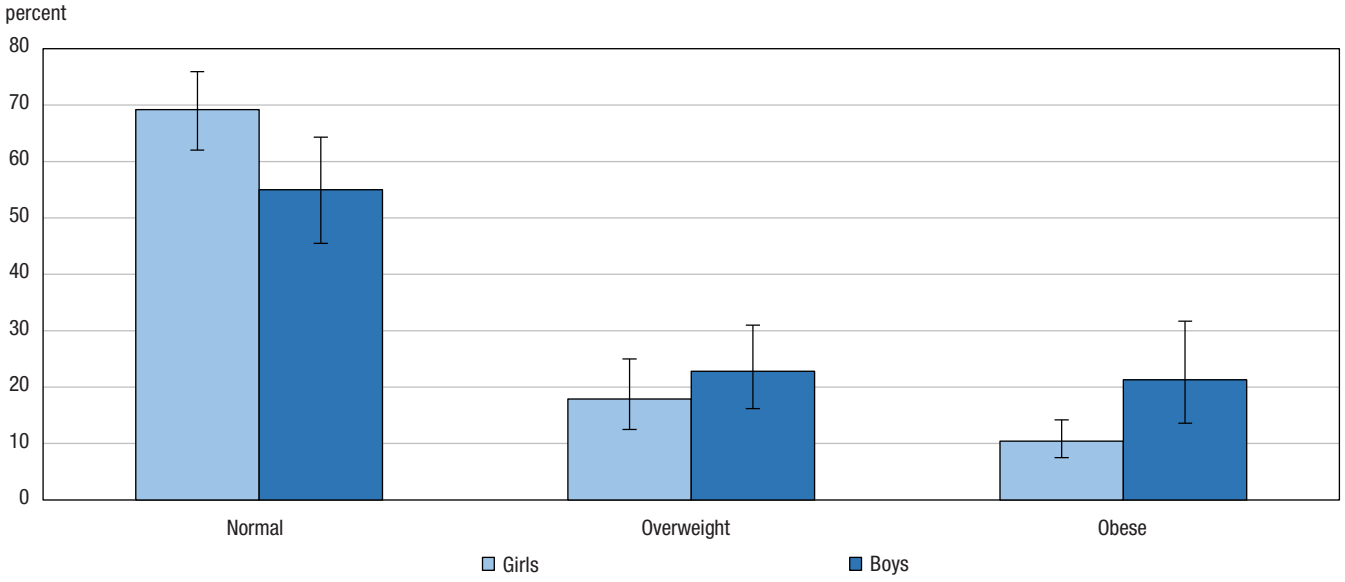
Results from the 2004 Canadian Community Health Survey (CCHS - Cycle 2.2 Nutrition)—the most recent data available—found that among teenage girls, about 1 out of 4 daily calories came from sugar, with soft drinks, confectionery, fruit drinks, and added sugars accounting for 44% of the sugar calories.[44] The data also indicated that the prevalence of *inadequate* intakes of nutrients such as vitamin A, magnesium, and zinc among girls aged 9 to 13 ranged between 10% to 20%, while the prevalence of inadequate intakes of vitamin D and calcium were 93% and 67%, respectively.[45] Similarly, among girls aged 14 to 18, the prevalence of inadequate intakes of vitamins B6 and B12, folate, zinc and iron was between 10% and 25%, and higher for vitamin D (94%) and calcium (70%). More recent results reflecting *measured* levels of vitamins in the blood found that in 2009 to 2011, 96% of girls aged 12 to 19 had sufficient vitamin B12 levels,[46] while 97% of girls in the same age group were sufficient in hemoglobin (a measure of anemia), and 87% were sufficient in ferritin (a measure of iron storage).[47] These percentages were lower than those for younger girls (see *Childhood* section), and for boys aged 12 to 19 (data not shown).

Body weight and physical fitness

In 2012/2013, 18% of girls aged 12 to 18 were overweight, and an additional 10% were obese (Chart 6). Together, these rates are double the rate in 1981 when 14% of girls aged 15 to 19 were overweight or obese.[48] The current average body mass index (BMI) of 22.5 kg/m^2 for girls aged 12 to 19[49] is also higher than in 1981, and girls in this age group also have higher waist circumference values for a given level of BMI than in the past.[50] Their level of physical fitness has also declined as indicated by higher percentages of girls aged 15 to 19 in the fair/needs improvement category for flexibility and muscular strength (Chart 7). An increase in body weight and waist circumference and decline in physical fitness over time was also observed for boys (data not shown).

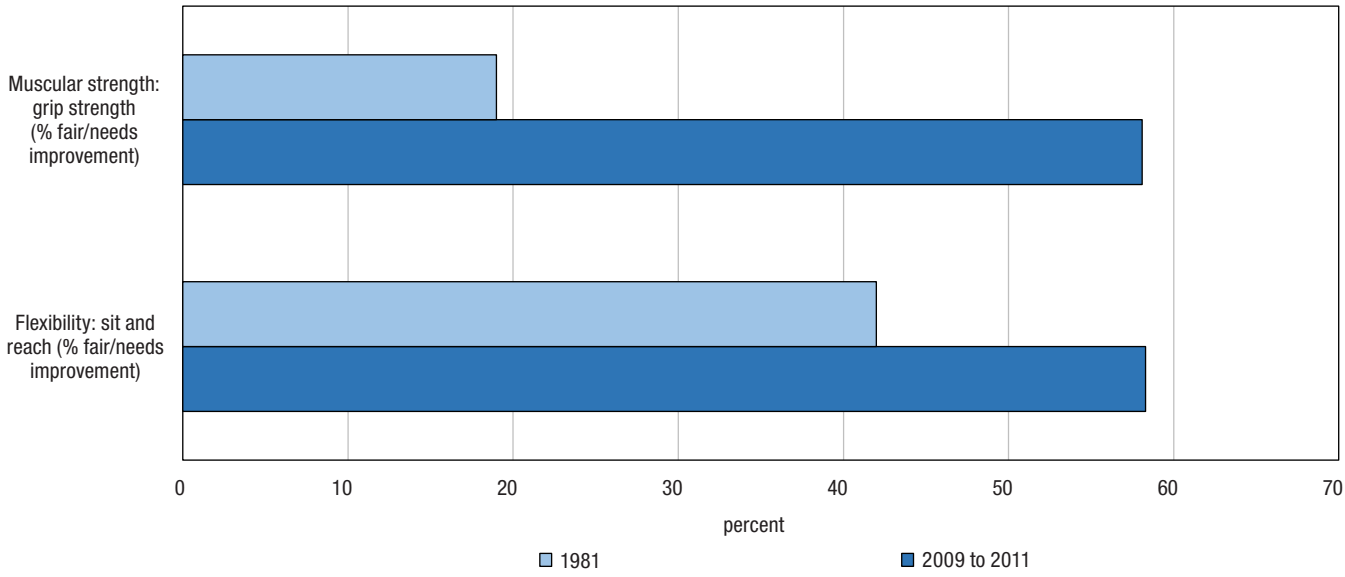
41. Story M, Stang J. Nutrition needs of adolescents. In Stang J et al, eds. *Guidelines for adolescent nutrition services.* Minneapolis: University of Minnesota, 2005: 21-34.
42. Statistics Canada, CANSIM table 105-0501, 2003-2014.
43. Ibid.
44. Langlois K et al. Sugar consumption among Canadians of all ages. *Health Reports* 2011; 22 (3): 1-5.
45. Health Canada. 2012. *Do Canadian adolescents meet their nutrient requirements through food intake alone?* Catalogue no. H164-112/2-2012E-PDF. Ottawa.
46. Statistics Canada. Vitamin B12 status of Canadians, 2009 to 2011. Available at: http://www.statcan.gc.ca/pub/82-625-x/2012001/article/11731-eng.htm#n1. Accessed August 19, 2015.
47. Statistics Canada. Iron sufficiency of Canadians, 2009 to 2011. Available at: http://www.statcan.gc.ca/pub/82-625-x/2012001/article/11734-eng.htm#n1. Accessed August 19, 2015.
48. Tremblay MS et al. Fitness of Canadian children and youth: Results from the 2007-2009 Canadian Health Measures Survey. *Health Reports* 2010; 21 (1): 1-14.
49. Statistics Canada, CANSIM table 117-0001, 2013.
50. Janssen I et al. Changes in the obesity phenotype within Canadian children and adults, 1981 to 2007–2009. *Obesity* 2012; 20: 916–919.

Chart 6
Distribution by body mass index classification, by sex, population aged 12 to 18, Canada, 2012 to 2013



I = 95% confidence interval
Note: body mass index categories were derived using the Children's body mass index (BMI) - World Health Organization (WHO) classification system based on measured height and weight.
Source: Statistics Canada, CANSIM table 117-0004, 2013.

Chart 7
Percentage with suboptimal health benefit ratings for muscular strength and flexibility, female population aged 15 to 19, Canada, 1981 and 2009 to 2011



Source: Statistics Canada, CANSIM table 117-0007, 2011 and Tremblay MS et al. Fitness of Canadian children and youth: Results from the 2007 to 2009 Canadian Health Measures Survey. *Health Reports* 2010; 21 (1): 1-14.

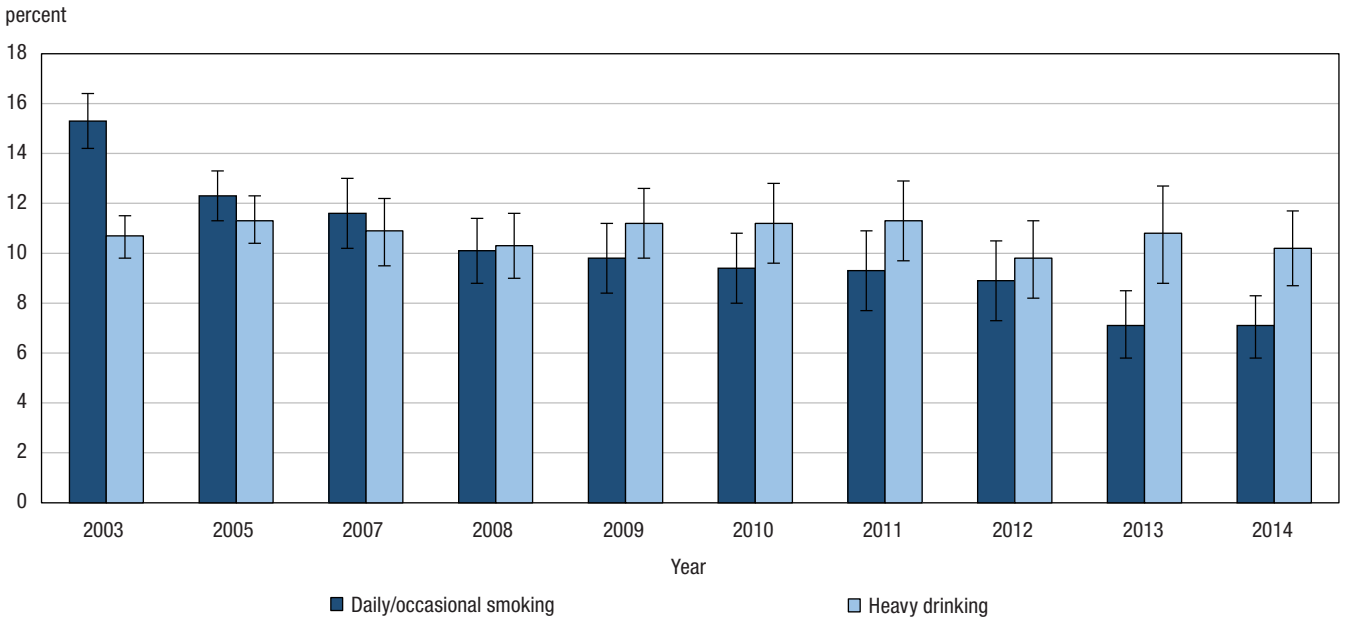
Physical activity

Physical activity is associated with numerous health benefits for youth, but for substantive health benefits, it has been suggested that physical activity should be of at least a moderate intensity.[51] In 2012/2013, only 2.5% of girls aged 12 to 17 met the current physical activity guideline of at least 60 minutes of moderate-to-vigorous physical activity (MVPA) daily.[52] The median (half below, half above) number of minutes spent doing MVPA was approximately 40 minutes,[53] whereas the median number of minutes spent being sedentary during waking hours was 559 minutes (over 9 hours).[54] These results for female adolescents represent a significant decline in the amount of physical activity compared with childhood (see *Childhood* section). The amount of physical activity also decreased from childhood to adolescence for boys (data not shown).

Substance use

Adolescence is a formative stage of child development and a period of experimentation with smoking, alcohol, and drugs.[55] In 2012, girls aged 15 to 24 were less likely than boys to be classified as meeting the criteria for a substance use disorder in their lifetime, either drugs or alcohol (16% versus 26%).[56] Furthermore, among girls aged 12 to 19, cigarette smoking rates decreased from 15% in 2003 to 7% in 2014, while rates of heavy drinking remained fairly stable[57] at about 10% to 11% (Chart 8). In 2014, boys' rates of smoking and heavy drinking were similar to those of girls (data not shown). Over the same period, exposure to second-hand smoke in the home decreased from 23% to 9%,[58] which may have been a factor in the smoking rate reduction reported among girls; parental smoking has been found to be associated with adolescent smoking behaviours.[59]

Chart 8
Prevalence of smoking and heavy drinking, female population aged 12 to 19, Canada, 2003 to 2014



I = 95% confidence interval
Notes: Until 2012, heavy drinking was defined as 5 or more drinks on one occasion, at least once a month in the past year.
Beginning in 2013, the definition for women was changed to 4 or more drinks on one occasion, at least once a month in the past year.
Source: Statistics Canada, CANSIM table 105-0501, 2003 to 2014.

51. Janssen I and LeBlanc AG. Systematic review of the health benefits of physical activity and fitness in school-aged children and youth. *International Journal of Behavioral Nutrition and Physical Activity* 2010; 7(40): 1-16.
52. Statistics Canada, CANSIM table 117-0019, 2013.
53. Statistics Canada, CANSIM table 117-0021, 2013.
54. Statistics Canada, CANSIM table 117-0020, 2013.
55. Public Health Agency of Canada. 2011. The health of Canada's young people: a mental health focus. Catalogue no. HP15-13/2011E-PDF. Ottawa.
56. Statistics Canada, CANSIM table 105-1101, 2012.
57. Despite the change in 2013 to the "heavy drinker" definition for women from "5 or more drinks" to "4 or more drinks" on one occasion, at least once a month in the past year, the data still suggest a relatively stable trend over time.
58. Statistics Canada, CANSIM table 105-0501, 2003-2014.
59. Bernet DH et al. Adolescent smoking trajectories: Results from a population-based cohort study. *Journal of Adolescent Health* 2008; 43(4): 334–340.

In 2012, 20% of girls and 21% of boys aged 15 to 17 reported having used marijuana in the previous 12 months, a decrease in percentage of nearly one-third from 2002.[60] A study of Grade 9 and Grade 10 students in Canada in 2010 found that 17% of girls and 19% of boys reported using marijuana in the previous 30 days, and of those, approximately 1 in 5 had used it 20 times or more.[61] The same study found that reported percentages of past-year illicit drug use were lower than reported levels of marijuana use. Pain relievers, ecstasy, LSD and other hallucinogens, and salvia were most frequently reported among the girls and boys in the study, with percentages ranging from 2% to 6%.[62]

Sexual activity and reproduction

Adolescence begins with puberty, a process orchestrated by hormones that eventually results in sexual maturation.[63] The timing of puberty among girls has physical, psychosocial and long-term health implications, with early-maturing girls more likely to have a more adult appearance, to engage in behaviours such as daily smoking and substance abuse, and to be younger at first sexual intercourse compared with later-maturing girls.[64]

Sexual activity

Similar to estimates from previous years, in 2013/2014, about 94% of girls aged 15 to 19 reported having sexual intercourse in the previous 12 months, and their average age at first intercourse was 15.8 years.[65] Of those, 34% reported having two or more sexual partners, and among those, 66% reported using a condom the last time they had sex.[66] Condoms are not the only form of contraception used by young women. In 2007 to 2011, 30% of non-pregnant women aged 15 to 19 reported using an oral contraceptive in the previous month.[67]

60. Rotermann M et al. Prevalence and correlates of marijuana use in Canada, 2012. *Health Reports* 2015; 26 (4): 10-15.
61. Public Health Agency of Canada. 2011. The health of Canada's young people: a mental health focus. Catalogue no. HP15-13/2011E-PDF. Ottawa.
62. Estimates were presented for English-speaking students only.
63. Scholl TO et al. Puberty and adolescent pregnancy. In: Goldman MB et al, eds. *Women and Health, 2nd edition* United States: Academic Press, 2013: 151-162.
64. Ibid.
65. Statistics Canada. Canadian Community Health Survey: Combined data, 2013/2014, custom tabulation; and Statistics Canada, 2009 Canadian Community Health Survey, custom tabulation.
66. Statistics Canada. Canadian Community Health Survey: Combined data, 2013/2014. Available at: http://www.statcan.gc.ca/daily-quotidien/150624/dq150624b-eng.htm. Accessed September 1, 2015.
67. Rotermann M et al. Oral contraceptive use among women aged 15 to 49: Results from the Canadian Health Measures Survey. *Health Reports* 2015; 26 (10): 21-28.

Births

Past information on teenage pregnancy in Canada is available in the Women and Health chapter of the 2010/2011 *Women in Canada* report.[68] Owing to data limitations associated with estimates of teenage pregnancies in Canada,[69] more recent information on teenage pregnancy will not be presented here. However, information is available about births to adolescent girls. From 2001 to 2010, excluding Ontario, the age-specific rate of live births to mothers aged 10 to 14 fluctuated between 0.1 and 0.2 per 1,000, and decreased from 9.1 to 7.7 per 1,000 for mothers aged 15 to 17, and from 31.0 to 26.6 per 1,000 for mothers aged 18 to 19.[70] Substantial variations in birth rates can be seen across the provinces and territories (Table 4). For the years 2006 to 2010, excluding Ontario, Quebec had the lowest birth rate among mothers aged 10 to 17 (1.6 per 1,000), British Columbia had the lowest birth rate among mothers aged 18 to 19 (17.8 per 1,000), and Nunavut had the highest birth rate for both age groups (29.4 and 168.9 per 1,000, respectively).

Table 4
Age-specific live birth rates, by age group and province/territory, female population aged 10 to 19, Canada (excluding Ontario), 2006-to-2010

	10 to 17 years			18 to 19 years		
	Live births per 1,000 females	95% confidence interval		Live births per 1,000 females	95% confidence interval	
		from	to		from	to
Region						
Newfoundland and Labrador	4.2	4.2	4.3	30.4	28.6	32.3
Prince Edward Island	2.9	2.7	3.0	27.2	24.1	30.3
Nova Scotia	3.6	3.5	3.6	29.3	28.0	30.6
New Brunswick	4.1	4.1	4.2	35.7	34.0	37.3
Quebec	1.6	1.5	1.6	19.3	18.9	19.7
Manitoba	7.4	7.4	7.5	49.5	48.0	50.9
Saskatchewan	8.2	8.1	8.2	55.8	54.2	57.5
Alberta	4.0	4.0	4.1	33.7	33.0	34.4
British Columbia	2.1	2.1	2.1	17.8	17.3	18.3
Yukon	4.7	4.4	5.0	33.7	26.1	41.3
Northwest Territories	7.9	7.6	8.2	59.3	51.6	67.0
Nunavut	29.4	28.8	30.0	168.9	155.5	182.3
Canada	3.2	3.2	3.2	27.5	27.2	27.8

Note: Data for Ontario were excluded because of data quality concerns.
Source: Public Health Agency of Canada. 2013. Perinatal Health Indicators for Canada 2013: a Report of the Canadian Perinatal Surveillance System. Catalogue no. HP7-1/2013E-PDF. Ottawa.

68. Turcotte M. Women and Health. In: *Women in Canada: A gender-based statistical report.* Catalogue 89-503-X. Ottawa: Statistics Canada, 2011.
69. McKay A. Trends in Canadian national and provincial/territorial teen pregnancy rates: 2001-2010. *The Canadian Journal of Human Sexuality* 2012; 21 (3-4): 161-175.
70. Public Health Agency of Canada. 2013. Perinatal Health Indicators for Canada 2013: a Report of the Canadian Perinatal Surveillance System. Catalogue no. HP7-1/2013E-PDF. Ottawa.

Sexually transmitted infections

According to the Public Health Agency of Canada, reported cases of chlamydia and gonorrhea have risen during the past 20 years. Explanations for this increase include more sensitive laboratory testing, more effective screening, antimicrobial resistance, and changes in sexual practices (such as the use of drugs that decrease inhibitions) resulting in an increase in the number of people contracting sexually transmitted infections (STIs).[71]

Among adolescents, reported rates for girls and boys differ significantly (Table 5). From 2003 to 2012, reported rates of chlamydia and gonorrhea among girls aged 10 to 14 and 15 to 19 were significantly greater than for boys. Rates for gonorrhea fluctuated over this period for both girls and boys, while rates for chlamydia remained relatively stable among girls aged 10 to 14 but increased for girls aged 15 to 19 and for boys in both age groups.

Table 5
Reported rates per 100,000 of chlamydia and gonorrhea by age group and sex, population aged 10 to 19, Canada, 2003 to 2012

	Chlamydia				Gonorrhea			
	10 to 14 years		15 to 19 years		10 to 14 years		15 to 19 years	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
	rate per 100,000							
Year								
2003	54.6	2.3	1429.6	265.9	5.7	0.5	118.5	48.9
2004	53.5	2.1	1458.0	284.8	6.6	0.6	126.0	57.3
2005	51.9	2.2	1431.3	287.1	9.0	0.6	116.4	55.0
2006	45.2	2.5	1407.2	298.8	8.4	0.5	141.1	66.9
2007	46.7	3.5	1440.8	311.9	8.2	1.1	149.0	71.5
2008	50.3	4.9	1636.6	356.6	7.8	1.6	161.6	68.5
2009	55.0	5.5	1718.4	394.7	7.1	0.9	141.2	59.0
2010	55.9	5.3	1794.1	415.9	6.6	1.6	135.3	56.4
2011	60.8	5.0	1847.8	437.2	6.5	2.0	129.7	56.8
2012	55.6	6.1	1800.4	454.9	7.1	1.7	141.3	58.4

Notes: 2011 and 2012 data are preliminary and changes are anticipated. Data reported by Nunavut prior to 2007 are preliminary. Nunavut excluded from estimates from 2007 onward.
Source: Public Health Agency of Canada. 2015. Report on sexually transmitted infections in Canada: 2012. Catalogue no. HP37-10/2012E-PDF. Ottawa.

The human papillomavirus

The human papillomavirus (HPV) is estimated to be one of the most common sexually transmitted infections in Canada and around the world.[72] Studies show that about 75% of sexually active women and men may acquire an anogenital HPV infection at some point in their lives.[73] Persistent HPV infection, with high risk types, is the cause of more than 99% of cervical cancers.[74] Since the fall of 2008, all provinces and territories introduced/announced HPV immunization programs for pre-adolescent/adolescent girls into their routine immunization schedules.[75] According to the 2013 childhood National Immunization Coverage Survey, almost three-quarters of girls aged 12 to 14 have been immunized against HPV.[76]

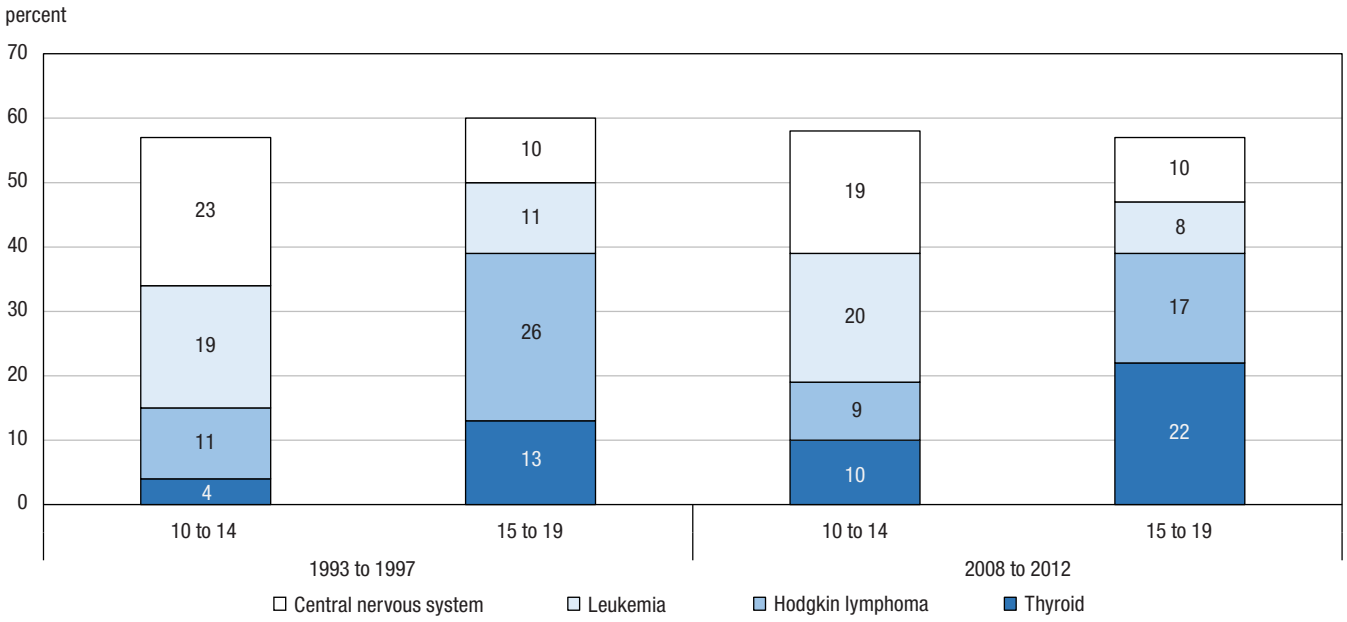
71. Public Health Agency of Canada. 2015. Report on sexually transmitted infections in Canada: 2012. Catalogue no. HP37-10/2012E-PDF. Ottawa.
72. Public Health Agency of Canada. What everyone should know about human papillomavirus (HPV): Questions and answers. Available at: http://www.phac-aspc.gc.ca/std-mts/hpv-vph/pdf/hpv-vph-qa-eng.pdf. Accessed October 28, 2015.
73. Ibid.
74. Ibid.
75. Public Health Agency of Canada. Update on human papillomavirus (HPV) vaccines. *Canada Communicable Disease Report* 2012: 38.
76. Government of Canada. 2015. Vaccine coverage in Canadian children: Highlights from the 2013 childhood National Immunization Coverage Survey (cNICS). Available at: http://healthycanadians.gc.ca/publications/healthy-living-vie-saine/immunization-coverage-children-2013-couverture-vaccinale-enfants/index-eng.php. Accessed August 17, 2015.

Disease

Cancer

Cancer in adolescence represents a transitional phase. Some tumours still closely resemble those found in childhood, while others have characteristics more common in adults, making diagnosis and treatment of this age group challenging.[77] In 2012, there were 120 new cancer cases among girls aged 10 to 14 and 220 new cancer cases among girls aged 15 to 19.[78] Over time, leukemia, central nervous system (including brain) cancers (CNS), Hodgkin lymphoma and thyroid cancer accounted for about 60% of new cancer cases for both age groups (Chart 9). However, leukemia and CNS cancers were more likely to be diagnosed in the younger age group, while Hodgkin lymphoma and thyroid cancers were more likely to be diagnosed in the older age group. Among girls, thyroid cancer accounted for a larger percentage of new cancer cases over time. Results were similar for boys except for thyroid cancer—boys had lower incidence and showed little increase over time (data not shown). In 2011, cancer was the leading cause of death among girls aged 10 to 14, accounting for 21% of all deaths, and was the third leading cause of death among girls aged 15 to 19, accounting for 10% of all deaths.[79]

Chart 9
New cases of selected cancers as percentage of new cancer cases, by age group, female population aged 10 to 19, 1993 to 1997 and 2008 to 2012



Notes: Estimates are based on counts that have been randomly rounded to a lower or higher multiple of 5.
Cancer incidence data for Quebec are not available for 2011 and 2012 diagnosis years therefore the 2010 Quebec data have been copied forward into 2011 and 2012.
Estimates for central nervous system cancers include brain and cranial nerves and other nervous system cancers.
Estimates for leukemia include acute and chronic lymphocytic leukemia, acute and chronic myeloid leukemia, and other leukemia.
Source: Statistics Canada, CANSIM table 103-0550, 1993-1997 and 2008-2012.

77. Canadian Cancer Society's Advisory Committee on Cancer Statistics. 2015. *Canadian Cancer Statistics 2015*. Toronto, ON: Canadian Cancer Society.
78. Statistics Canada, CANSIM table 103-0550, 2012. Counts have been randomly rounded to a lower or higher multiple of 5. Cancer incidence data for Quebec are not available for 2011 and 2012 diagnosis years; therefore, the 2010 Quebec data were copied forward into 2011 and 2012.
79. Statistics Canada, CANSIM table 102-0561, 2011.

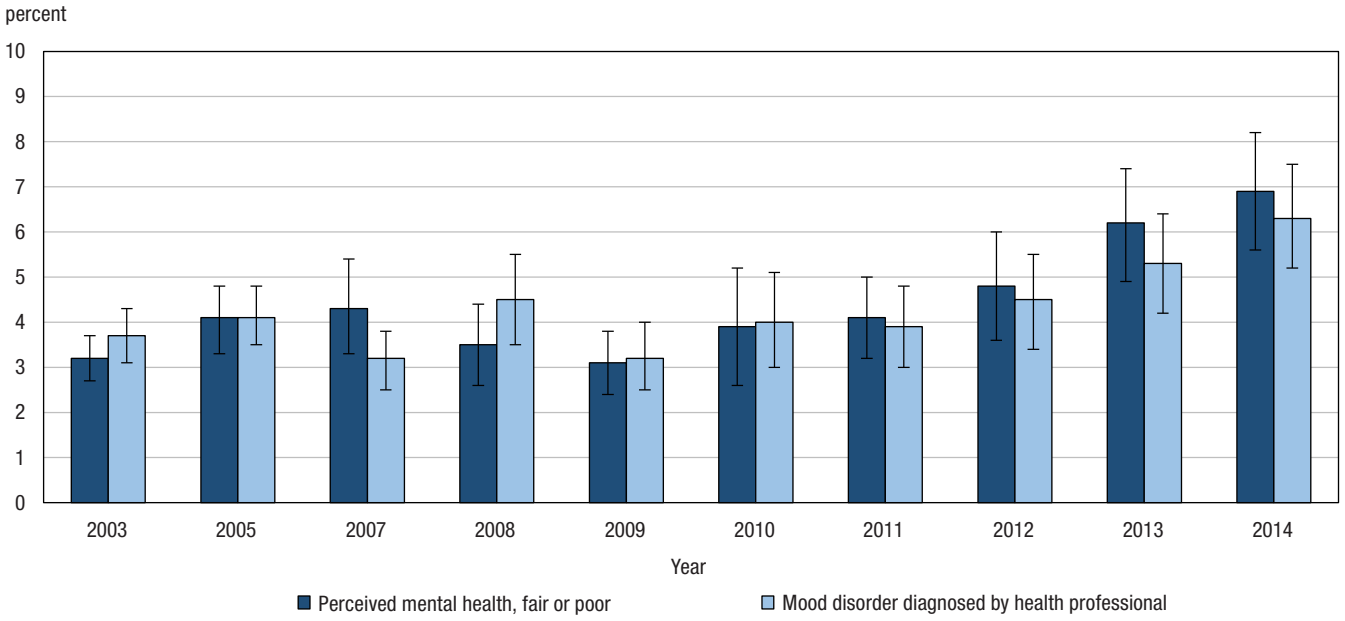
Mental health

About one in five Canadians will experience a mental disorder during their lifetime.[80] For most, onset occurs during childhood, adolescence and young adulthood, and is associated with poor educational and employment outcomes.[81]

Self-reported mental health

In 2014, 97% of girls aged 12 to 19 reported being satisfied or very satisfied with their life in general.[82] While this represents an increase from 2003, during the same period, the percentage of adolescent girls who reported perceiving their own mental health as fair or poor, or who reported having been diagnosed by a health professional as having a mood disorder, such as depression, bipolar disorder, mania or dysthymia also increased (Chart 10). Boys were less likely than girls to perceive their mental health negatively or to have been diagnosed with a mood disorder, and their rates remained relatively stable during the period (data not shown).

Chart 10
Prevalence of fair/poor mental health and mood disorders, female population aged 12 to 19, Canada, 2003 to 2014

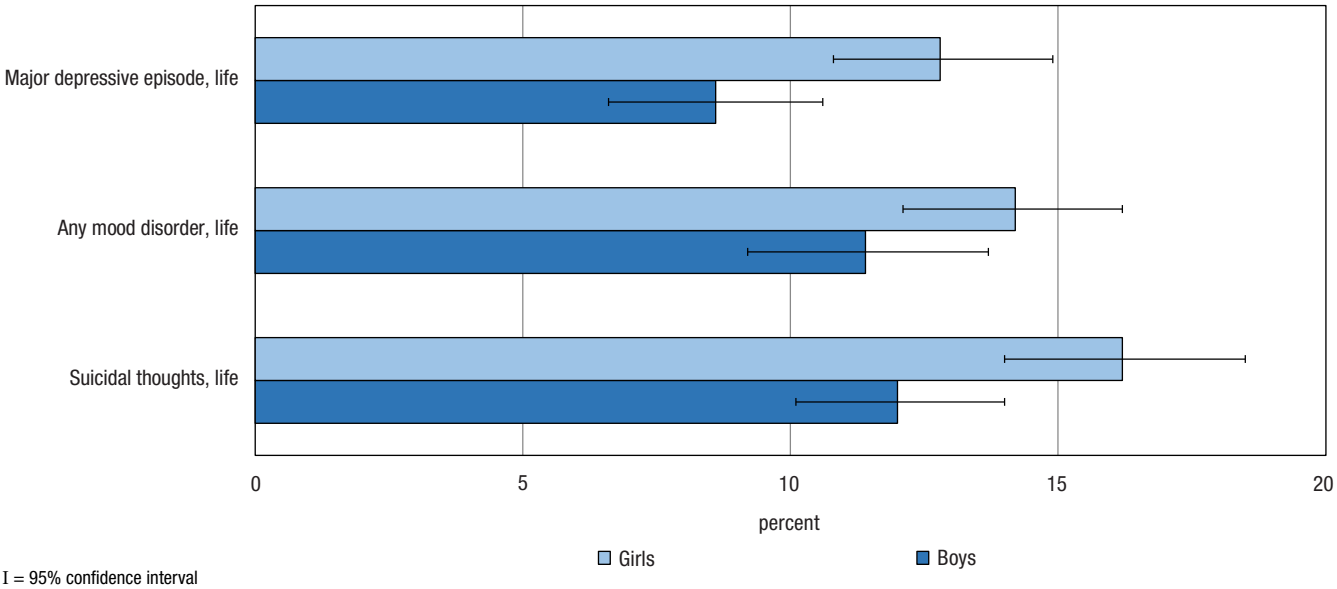


I = 95% confidence interval
Source: Statistics Canada, CANSIM table 105-0501, 2003 to 2014.

80. Canadian Institute for Health Information. Care for children and youth with mental disorders. 2015. Available at: https://secure.cihi.ca/free_products/CIHI%20CYMH%20Final%20for%20pubs_EN_web.pdf. Accessed July 8, 2015.
81. Ibid.
82. Statistics Canada, CANSIM table 105-0501, 2014.

Other mental health indicators for a slightly different age group—15 to 24—highlight further differences between girls and boys. In 2012, girls were more likely than boys to meet the criteria for having had a major depressive episode (13% versus 9%) or suicidal thoughts at some point in their life (16% versus 12%) (Chart 11). Girls in this age group were also more likely than boys to report consulting either professional or informal sources of support for problems with emotions, mental health, or substance use, regardless of household income and type of disorder.[83] During the 2007-to-2011 period, anti-depressants were the second most reported prescription medication class used by girls aged 15 to 24, after systemic use of hormonal contraceptives.[84] Although boys in this age group were much less likely to use prescription medications, anti-depressants were their top reported prescription medication class.[85]

Chart 11
Prevalence of selected mental health conditions, by sex, population aged 15 to 24, Canada, 2012



I = 95% confidence interval
Note: Those categorized as having had a major depressive episode or any mood disorder met the definition and criteria in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).
Source: Statistics Canada, CANSIM table 105-1101, 2012.

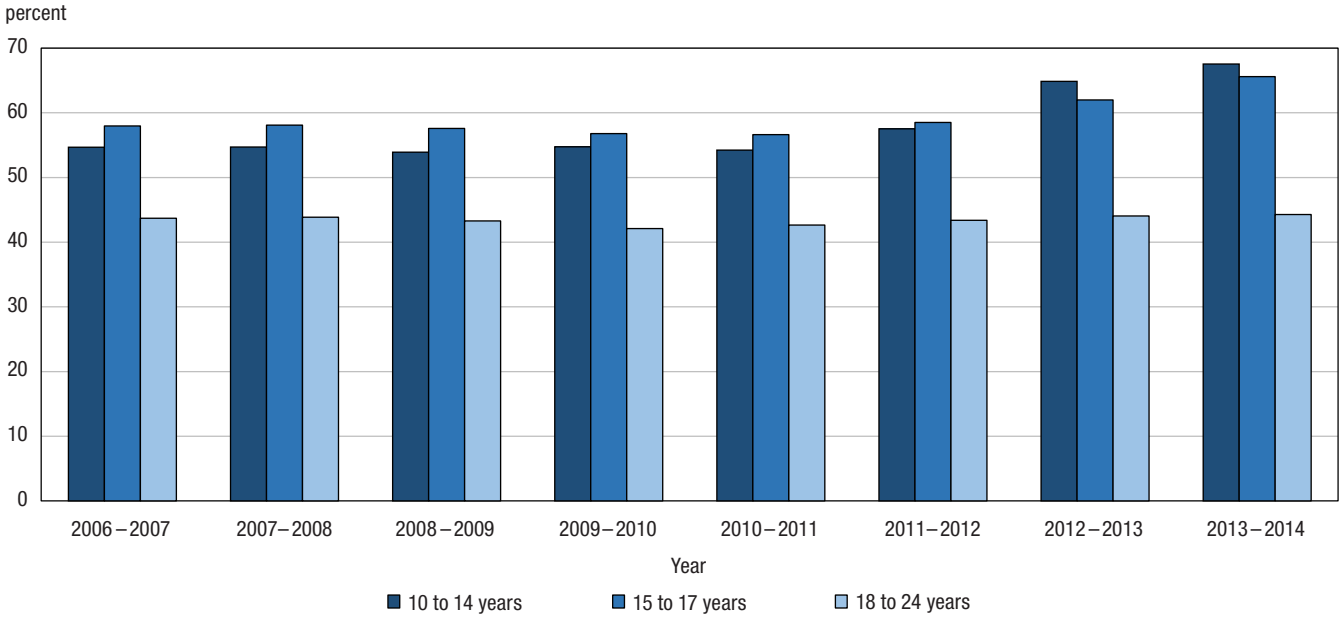
Hospitalizations for mental disorders

Mental disorders are comprised of a variety of disorder diagnoses including substance-related, schizophrenic and psychotic, mood, anxiety, conduct, and eating disorders. In 2013/2014, 33,630 patients hospitalized for mental disorders were aged 10 to 24, a 38% increase from 2006/2007.[86] The greatest increases in hospitalization for mental disorders were among girls aged 10 to 14 (81%) and 15 to 17 (83%). Factors such as improvements in identification and treatment, a reduction in stigma resulting in more youth seeking help, and/or reliance on hospital care due to limited and fragmented access to services in community settings could be associated with this trend.[87]

83. Findlay LC et al. Professional and informal mental health support reported by Canadians aged 15 to 24. *Health Reports* 2014; 25 (12): 3-11.
84. Rotermann M et al. Prescription medication use by Canadians aged 6 to 79. *Health Reports* 2014; 25 (6): 3-9.
85. Ibid.
86. Canadian Institute for Health Information. Data tables: Care for children and youth with mental disorders: Data Tables. Available at: https://www.cihi.ca/en/types-of-care/specialized-services/mental-health-and-addictions/many-more-young-canadians-using. Accessed July 8, 2015.
87. Canadian Institute for Health Information. Care for children and youth with mental disorders. 2015. Available at: https://secure.cihi.ca/free_products/CIHI%20CYMH%20Final%20for%20pubs_EN_web.pdf. Accessed July 8, 2015.

Over time, compared with boys aged 10 to 17, girls in this age range have comprised a slightly larger percentage of patients hospitalized for mental disorders. In recent years, however, their share increased (Chart 12). Between 2006/2007 and 2013/2014, there was a 13-percentage-point increase in the share of hospitalizations for girls aged 10 to 14, and an 8-percentage-point increase for girls aged 15 to 17. By contrast, women made up fewer than half of patients aged 18 to 24, a figure that remained fairly stable during the period.

Chart 12
Percentage of patients aged 10 to 24 hospitalized for mental disorders who were female, by age group, Canada, 2006-2007 to 2013-2014



Source: Canadian Institute for Health Information. Data Tables: Care for Children and Youth With Mental Disorders: Data Tables - Overview hospitalizations.

In 2013/2014, mood disorders and "other" mental disorders (for example, conduct disorder and eating disorders) were among the most common mental disorder diagnoses for inpatient hospitalizations of youth aged 10 to 17 (Table 6). Mood disorders were the most common among 18- to 24-year-olds (29%); schizophrenic and psychotic disorders (23%) were slightly more common than "other" (18%) and substance-related disorders (19%).

Table 6
Number of patients aged 10 to 24 hospitalized for mental disorders, by age group and diagnosis, 2013/2014

	10 to 24		10 to 14		15 to 17		18 to 24	
	number	%	number	%	number	%	number	%
Diagnosis Category								
Organic Disorders	135	0.4	30	0.6	25	0.3	80	0.4
Substance-Related Disorders	4,391	13.1	133	2.6	743	7.6	3,515	18.9
Schizophrenic and Psychotic Disorders	5,077	15.1	126	2.4	631	6.4	4,320	23.2
Mood Disorders	10,606	31.5	1,507	28.9	3,710	37.8	5,389	28.9
Anxiety Disorders	2,712	8.1	644	12.4	1,076	11.0	992	5.3
Personality Disorders	1,261	3.7	72	1.4	257	2.6	932	5.0
Other Disorders	9,459	28.1	2,701	51.8	3,365	34.3	3,393	18.2
Total	33,641	100.0	5,213	100.0	9,807	100.0	18,621	100.0

Notes: Diagnosis category is based on most responsible diagnosis.
"Other Disorders" includes conduct disorders, eating disorders and other behavioural and emotional disorders.
Source: Canadian Institute for Health Information. Data Tables: Care for Children and Youth With Mental Disorders: Data Tables - Overview hospitalizations

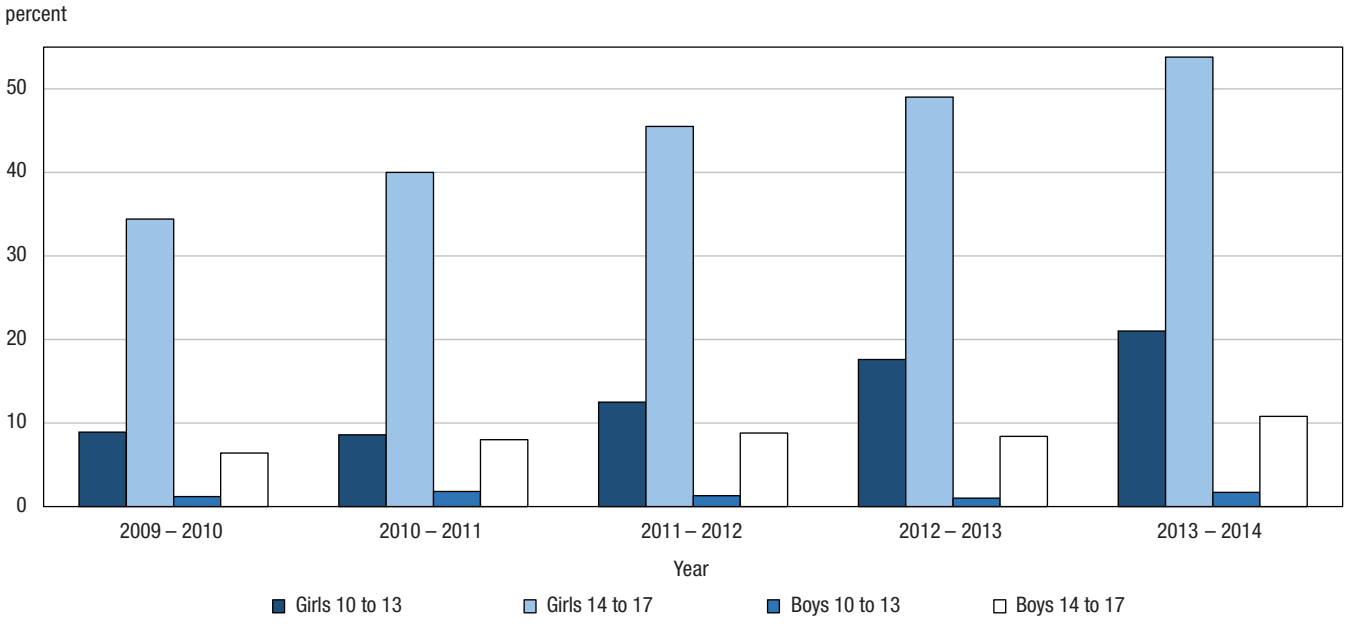
Eating disorders among female adolescents

According to the Canadian Mental Health Association, the three main types of eating disorders are anorexia nervosa, bulimia nervosa, and binge-eating disorder (BED). Anorexia nervosa and bulimia predominantly affect young women, while young men are more likely to be affected by BED.[88] Teenage dieting is the usual antecedent to anorexia and bulimia nervosa.[89] In 2012/2013, the hospitalization rate (excluding Quebec) for eating disorders for females (11.7 per 100,000) was 15 times that for males (0.8 per 100,000).[90] The rate of females hospitalized for an eating disorder was stable from 2006/2007 to 2012/2013, except at ages 10 to 19, among whom the rate increased by 42% from 2011 to 2013.[91]

Injury and self-harm

Excluding Quebec, the percentage of injury hospitalizations due to intentional self-harm[92] significantly increased between 2009/2010 and 2013/2014 for girls aged 10 to 17 and boys aged 14 to 17 (Chart 13). The percentage rose from 9% to 21% for girls aged 10 to 13, and from 34% to 54% for girls aged 14 to 17. During the period, on average, self-harm by poisoning (including drug overdose) accounted for 85% and 89% of all self-harm hospitalizations for the younger and older female age groups, while self-harm by sharp objects, such as "cutting", represented 11% and 8%, respectively (data not shown). Poisoning was also the most common method of self-harm among boys.[93]

Chart 13
Percentage of injury hospitalizations due to intentional self-harm, by sex and age group, Canada (excluding Quebec), 2009-2010 to 2013-2014



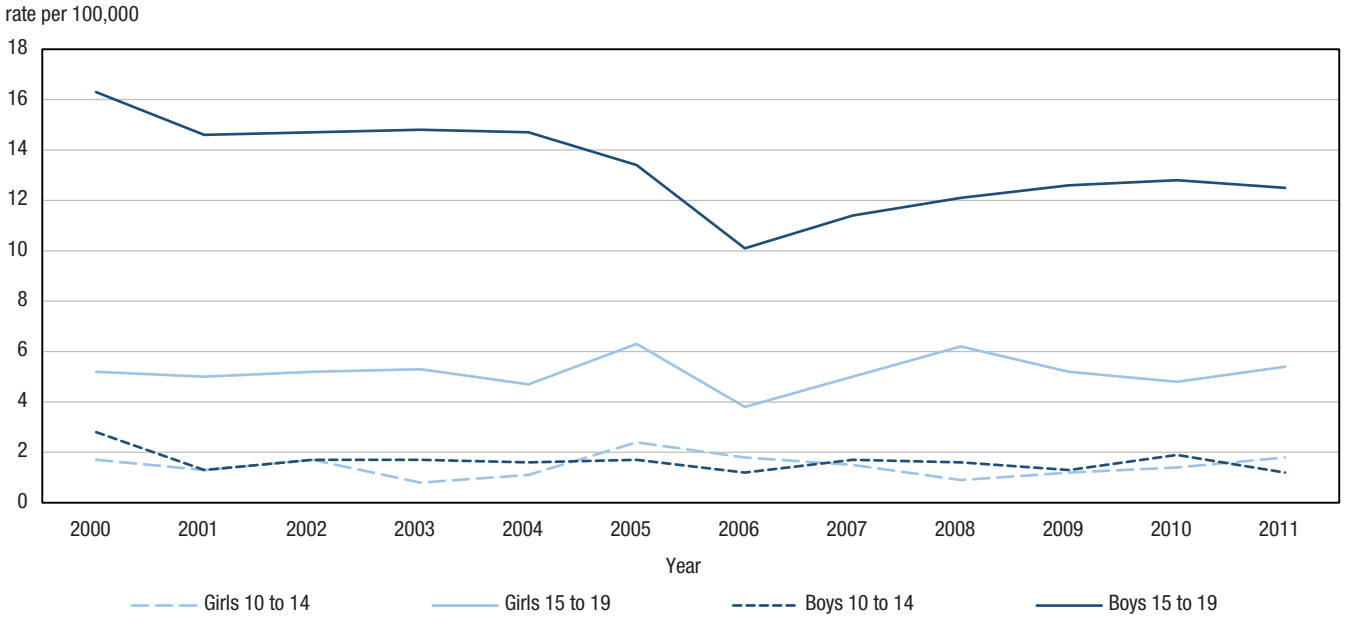
Source: Canadian Institute for Health Information. Data Tables: Intentional Assault and Self-Harm Among Children and Youth in Canada, 2009-2010 to 2013-2014 - Overview hospitalizations.

88. Health Canada. 2002. A Report on Mental Illnesses in Canada. Catalogue no. 0-662-32817-5. Ottawa.
89. Canadian Paediatric Society. Dieting in adolescence. Available at: http://www.cps.ca/documents/position/dieting-adolescence. Accessed August 27, 2015.
90. Canadian Institute for Health Information. Use of hospital services for eating disorders in Canada. Available at: https://www.cihi.ca/web/resource/en/eatingdisord_2014_infosheet_en.pdf. Accessed July 8, 2015.
91. Canadian Institute for Health Information. More young women being hospitalized for eating disorders. Available at: https://www.cihi.ca/web/resource/en/eatingdisord_2014_pubsum_en.pdf. Accessed July 8, 2015.
92. Self-harm includes purposely self-inflicted poisoning or injury and suicide.
93. Canadian Institute for Health Information. Intentional self-harm among youth in Canada. Available at: http://www.cihi.ca/web/resource/en/info_child_harm_en.pdf. Accessed July 8, 2015.

Suicide

From 2000 to 2011, suicide was the second or third leading cause of death (after cancers and accidents) for girls and boys aged 10 to 14, and the second leading cause (after accidents) among girls and boys aged 15 to 19.[94] Since 2000, suicide rates have remained relatively stable for girls aged 10 to 19 and boys aged 10 to 14 (Chart 14). In 2011, suicide rates were 1.8 and 5.4 per 100,000 for girls aged 10 to 14 and 15 to 19, respectively, and 1.2 per 100,000 for boys aged 10 to 14. During the same period, rates for boys aged 15 to 19 fell from 16.3 to 12.5 per 100,000. In 2011, the most common specific cause of death due to intentional self-harm was hanging, strangulation and suffocation for both girls and boys.[95]

Chart 14
Suicide rates, by age group and sex, population aged 10 to 19, Canada, 2000 to 2011



Source: Statistics Canada, CANSIM table 102-0551, 2000-2011.

94. Statistics Canada, CANSIM table 102-0561, 2000-2011.
95. Canadian Institute for Health Information. Intentional self-harm among youth in Canada. Available at: http://www.cihi.ca/web/resource/en/info_child_harm_en.pdf. Accessed July 8, 2015.

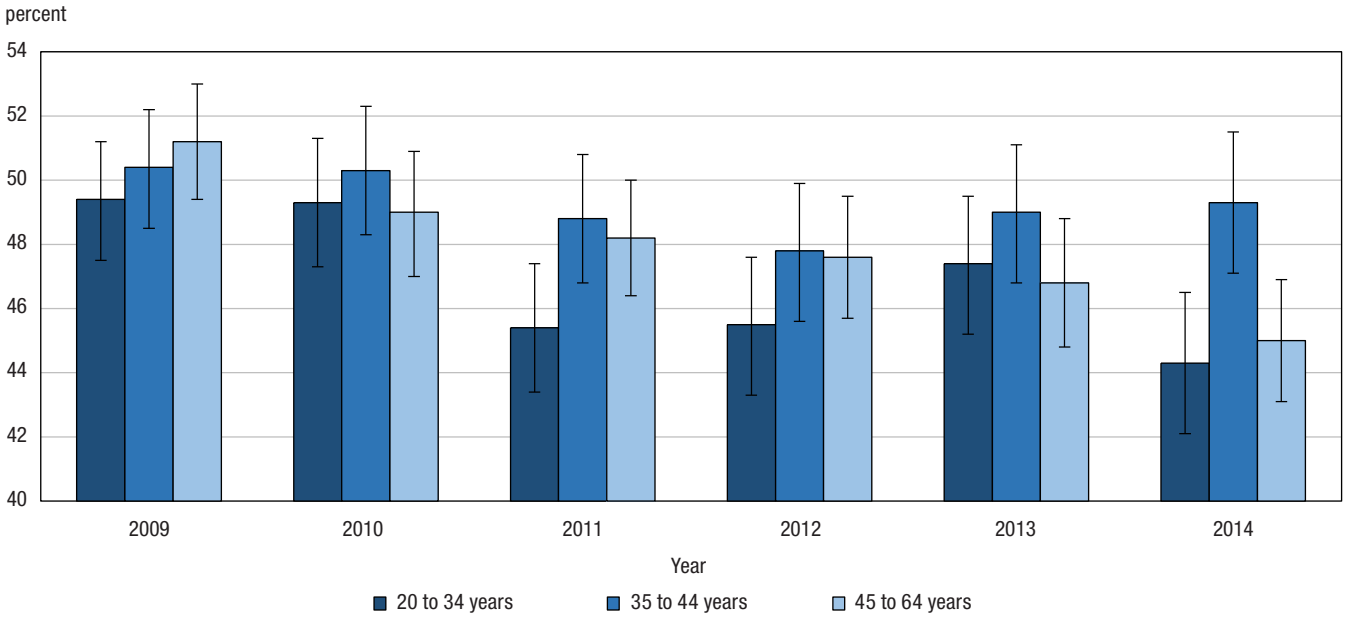
5. Adulthood

Health behaviours

Fruit and vegetable consumption

The frequency of fruit and vegetable consumption is a good indicator of diet quality.[96] As reported in the 2011 *Women and Health* chapter, the percentage of women who consumed fruits and vegetables five or more times per day rose from 2003 to 2009 to about 50%.[97] However, that level has not been maintained in recent years, particularly among women aged 20 to 34 and 45 to 64; by 2014, the figures had fallen to 44% and 45%, respectively (Chart 15). Men in these age groups experienced a similar decrease (to 34% and 28%, respectively). Women continued to be more likely than men to consume fruits and vegetables at this frequency.

Chart 15
Percentage consuming fruits and vegetables five or more times per day, by age group, female population aged 20 to 64, Canada, 2009 to 2014

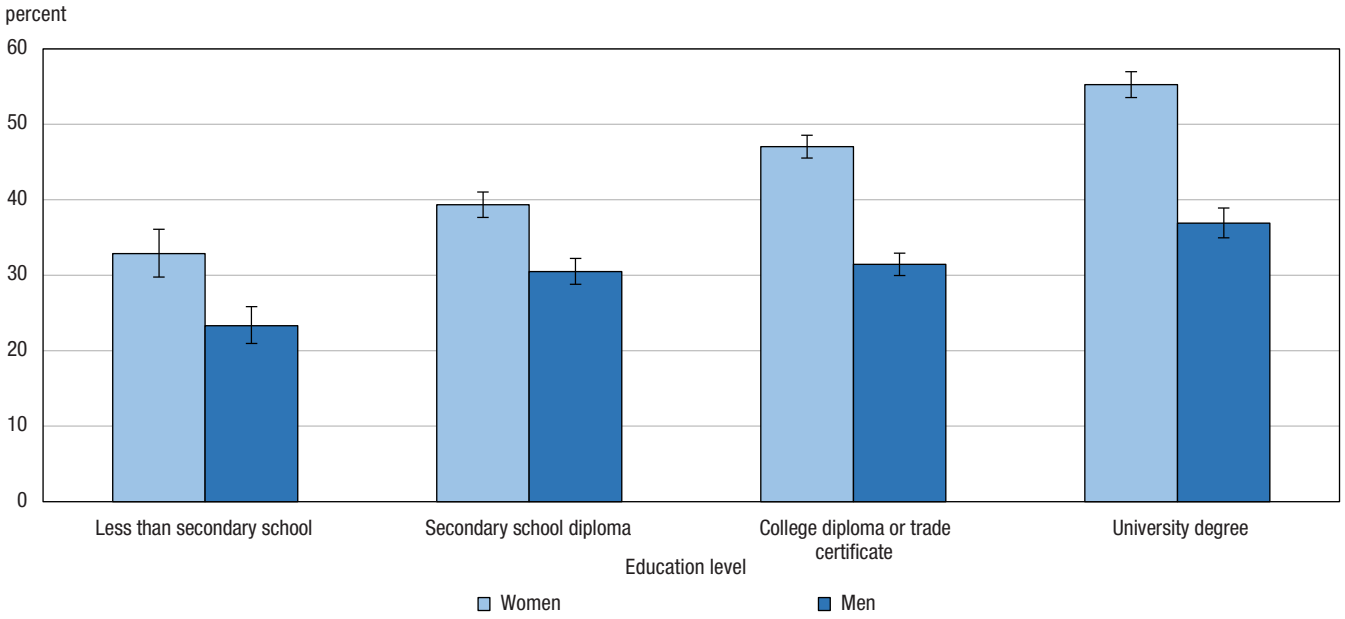


I = 95% confidence interval
Source: Statistics Canada, CANSIM table 105-0501, 2009-2014.

96. Garriguet D. Diet quality in Canada. *Health Reports* 2009; 20 (3): 1-12.
97. Turcotte M. Women and Health. In: *Women in Canada: A gender-based statistical report.* Catalogue 89-503-X. Ottawa: Statistics Canada, 2011.

Educational attainment is significantly associated with fruit and vegetable consumption—the higher the education level, the higher the likelihood of consuming five or more fruits and vegetables per day (Chart 16). Women are more likely than men to consume fruits and vegetables at this frequency regardless of education, but the gender gap widens at higher levels of education.

Chart 16
Percentage consuming fruits and vegetables five or more times per day, by educational attainment and sex, population aged 20 to 64, Canada, 2013 to 2014



I = 95% confidence interval
Source: Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.

Body weight and waist circumference

The negative health impacts associated with obesity, such as increased risk of type 2 diabetes, hypertension, and cardiovascular disease, are well-documented.[98] In recent years, not only have substantial increases in obesity prevalence been reported,[99] but studies have also found that body composition (such as waist circumference and skinfold thickness) has changed more adversely than body weight, particularly for women.[100] Furthermore, the rate of change has not been consistent across age groups. Specifically, women aged 20 to 39 had a sixfold increase in their obesity rate from 1981 to 2012/2013 (4% to 24%), while women aged 40 to 59 had a twofold increase (13% to 29%) (Table 7). At the same time, the percentage of women in the younger age group whose waist circumference put them at high health risk increased sevenfold, compared with a threefold increase in the older age group. Among men, the percentages who were obese and had a high health risk waist circumference also rose substantially. Unlike women, the percentage of older adult men with suboptimal ratings continued to be significantly higher than among younger men.

98. Public Health Agency of Canada and the Canadian Institute for Health Information. 2011. Obesity in Canada. Catalogue no. HP5-107/2011E-PDF. Ottawa.
99. Shields M et al. Fitness of Canadian adults: Results from the 2007-2009 Canadian Health Measures Survey. *Health Reports* 2010; 21 (1): 1-16.
100. Janssen I et al. Changes in the obesity phenotype within Canadian children and adults, 1981 to 2007–2009. *Obesity* 2012; 20: 916–919.

Table 7
Prevalence of suboptimal health benefit ratings for body mass index and waist circumference, by sex and age group, population aged 20 to 59, Canada, 1981 and 2012/2013

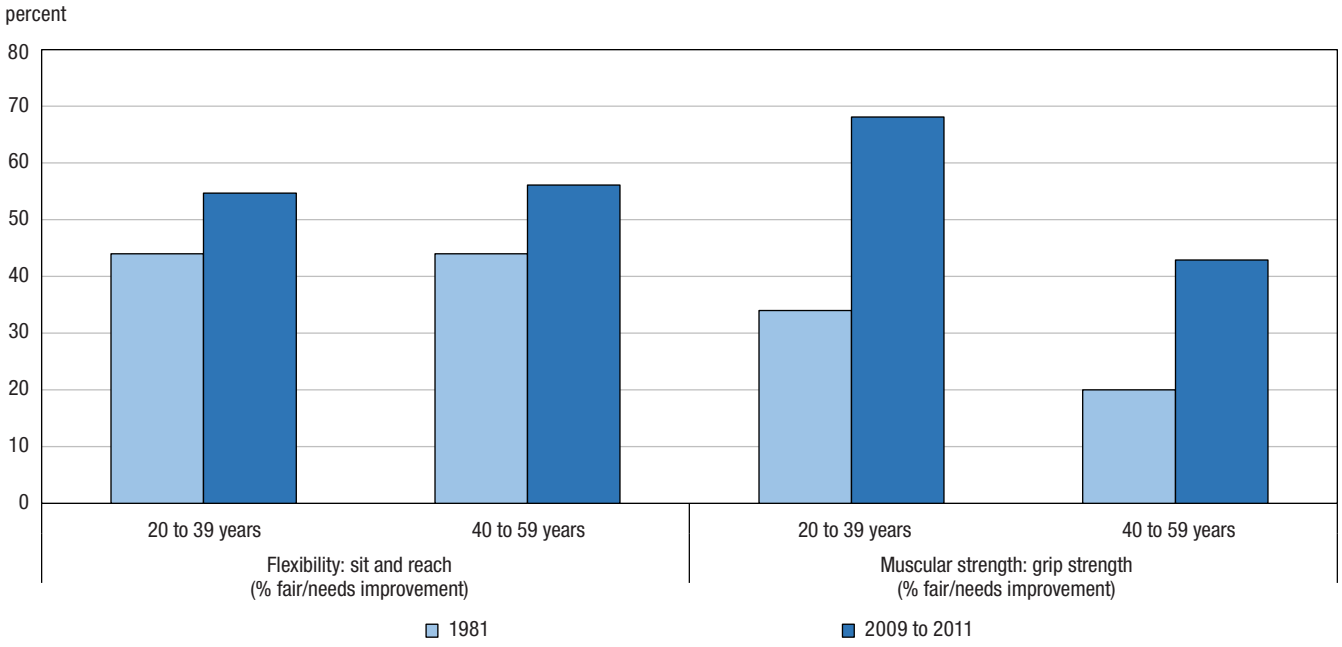
	1981		2012/2013	
	20 to 39 years	40 to 59 years	20 to 39 years	40 to 59 years
Women				
Body mass index (% obese)	4	13	24[E]	29
Waist circumference (% high risk)	6	18	44	49
Men				
Body mass index (% obese)	7	12	19	31
Waist circumference (% high risk)	5	15	22	42

[E] use with caution (coefficient of variation 16.6% to 33.3%)
Notes: BMI is based on measured height and weight. Pregnant women were excluded from these estimates.
Source: Shields M et al. Fitness of Canadian adults: Results from the 2007-2009 Canadian Health Measures Survey. *Health Reports* 2010; 21 (1): 1-16; and Statistics Canada, 2012-2013 Canadian Health Measures Survey, custom tabulation.

Physical fitness

Along with rising obesity rates, women's physical fitness has declined over time. A 2012 study found that aerobic fitness levels of younger and middle-aged women and men decreased during the past three decades.[101] At the same time, the percentage of women aged 20 to 59 whose flexibility was fair or needs improvement rose to 55%, while the percentage whose muscular strength was fair or needs improvement doubled to 68% and 43% for women aged 20 to 39 and 40 to 59, respectively (Chart 17). A similar trend was observed for men (data not shown).

Chart 17
Prevalence of suboptimal health benefit ratings for flexibility and muscular strength, by age group, female population aged 20 to 59, Canada, 1981 and 2009 to 2011



Source: Shields M et al. Fitness of Canadian adults: Results from the 2007-2009 Canadian Health Measures Survey. *Health Reports* 2010; 21 (1): 1-16; and Statistics Canada, CANSIM table 117-0007, 2011.

101. Craig CL et al. Trends in aerobic fitness among Canadians, 1981 to 2007–2009. *Applied Physiology, Nutrition and Metabolism* 2012; 37: 511-519.

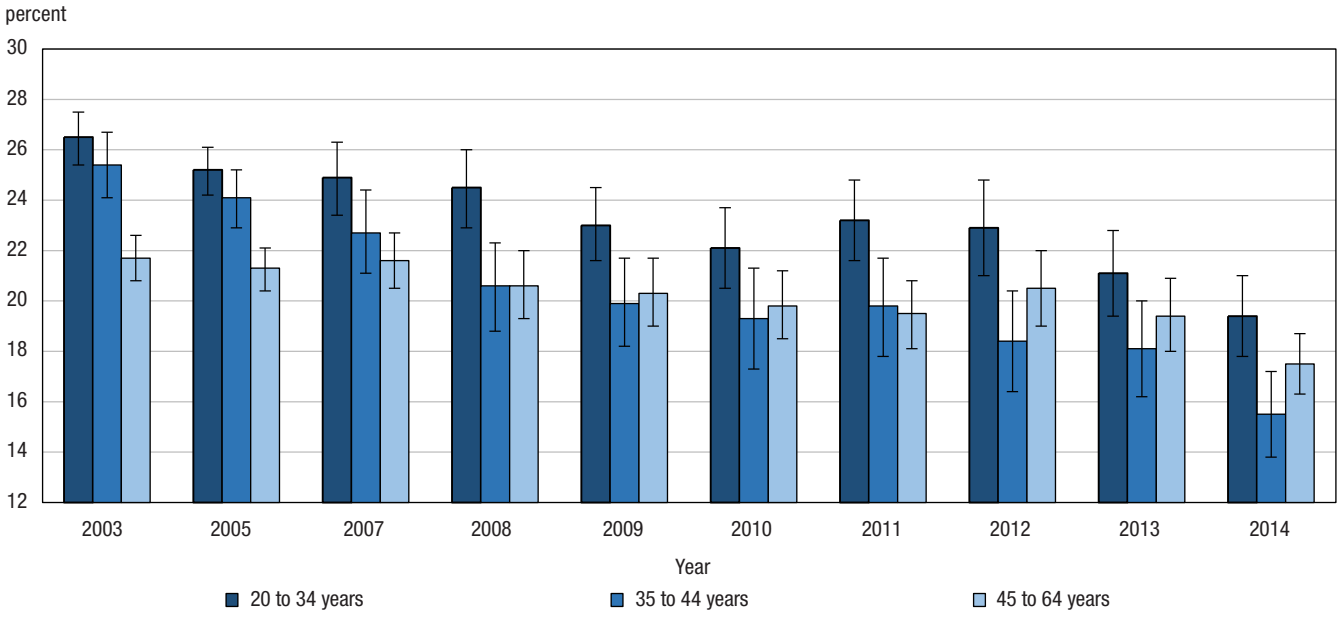
Physical activity

According to the Canadian Society for Exercise Physiology, to achieve health benefits, adults should accumulate at least 150 minutes of moderate-to-vigorous aerobic activity per week, in bouts of 10 minutes or more.[102] In 2012/2013, about 30% of women aged 18 to 39 and 18% of women aged 40 to 59 met these guidelines.[103] In terms of average time per day doing various levels of activity, women aged 18 to 39 spent 69% of their waking time sedentary (average 578 minutes), 27% of their time in light activity (average 228 minutes), and 4% of their time in moderate or vigorous activity (average 32 minutes).[104] Results were similar for older adult women (data not shown).

Substance use

Tobacco use remains the single largest preventable cause of death and disease for women and men.[105] Although smokers of both sexes are at risk of adverse health outcomes such as cancer and cardiovascular and pulmonary diseases, some studies have found cigarette smoking to be associated with higher relative risk of myocardial infarction and higher coronary heart disease mortality among women than among men.[106] Since 2003, smoking rates have fallen among adult women, with the largest decline among those aged 35 to 44 (16% in 2014 from 25% in 2003) (Chart 18). Rates have also decreased among adult men, but the decline was about half of that of women (data not shown). Two 2013 longitudinal studies documented the benefits of quitting. One found that adult women who quit smoking for at least 10 years had a health-related quality of life that was clinically similar to that of never-smokers, regardless of household income, education, marital status, and obesity.[107] The second study found that after 20 years of continuous cessation, regardless of socio-demographic characteristics, the relative risk of heart disease among female former smokers was significantly lower than that of current daily smokers.[108]

Chart 18
Prevalence of current smoking, by age group, female population aged 20 to 64, Canada, 2003 to 2014

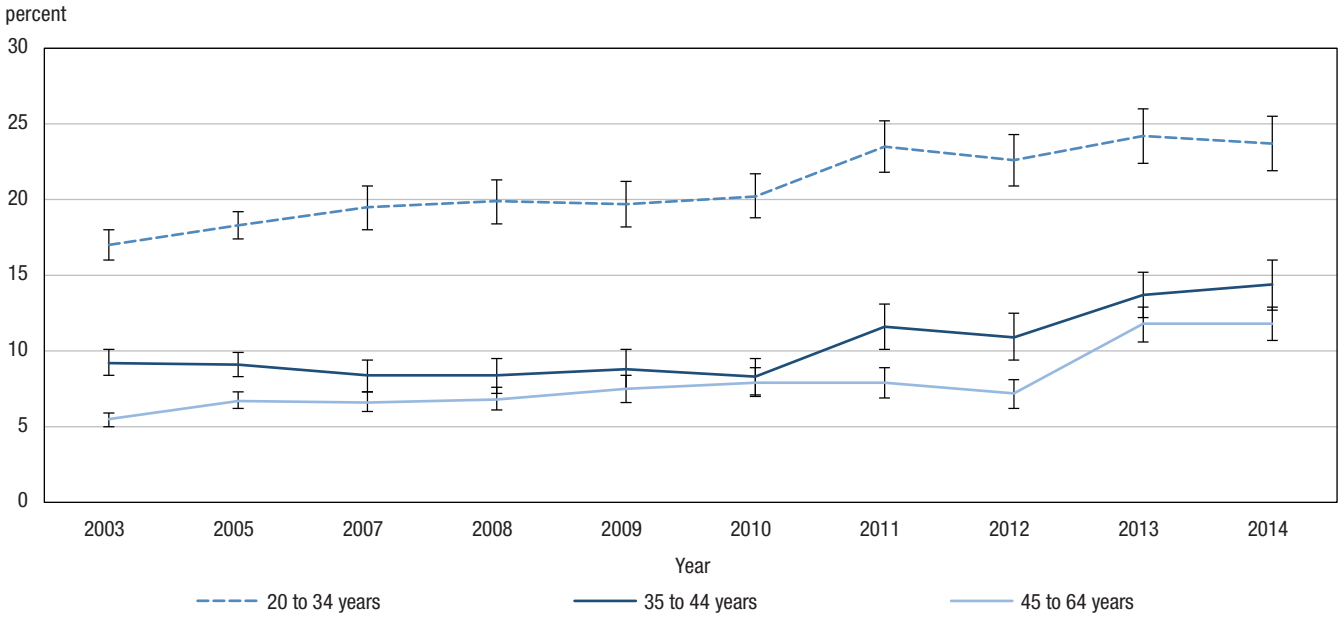


I = 95% confidence interval
Note: Current smoking includes daily and occasional smoking.
Source: Statistics Canada, CANSIM table 105-0501, 2003 to 2014.

102. Canadian Society for Exercise Physiology. Canadian Physical Activity Guidelines (18-64 yrs). Available at: http://www.csep.ca/en/guidelines/read-the-guidelines. Accessed September 17, 2015.
103. Statistics Canada, CANSIM table 117-0019, 2013.
104. Statistics Canada, CANSIM table 117-0020, 2013; and Statistics Canada, CANSIM table 117-0021, 2013.
105. U.S. Department of Health and Human Services. 2010. How Tobacco Smoke Causes Disease: The biology and behavioral basis for smoking-attributable disease: A report of the Surgeon General. Available at: http://www.cdc.gov/tobacco/data_statistics/sgr/2010/index.htm. Accessed September 17, 2015.
106. Ibid.
107. Shields M et al. Dynamics of smoking cessation and health-related quality of life among Canadians. *Health Reports* 2013; 24 (2): 3-11.
108. Shields M et al. Smoking, smoking cessation and heart disease risk: A 16-year follow-up study. *Health Reports* 2013; 24 (2): 12-22.

Unlike smoking rates, the percentage of adult women categorized as a heavy drinker increased[109] over the past 10 years (Chart 19). In 2014, 24% of women aged 20 to 34 were heavy drinkers, compared with 17% in 2003. Similar increases were found for women aged 35 to 44 (9% to 14%) and women aged 45 to 64 (6% to 12%). This is in contrast to adult men whose rates remained fairly stable (data not shown).

Chart 19
Prevalence of heavy drinking, by age group, female population aged 20 to 64, Canada, 2003 to 2014



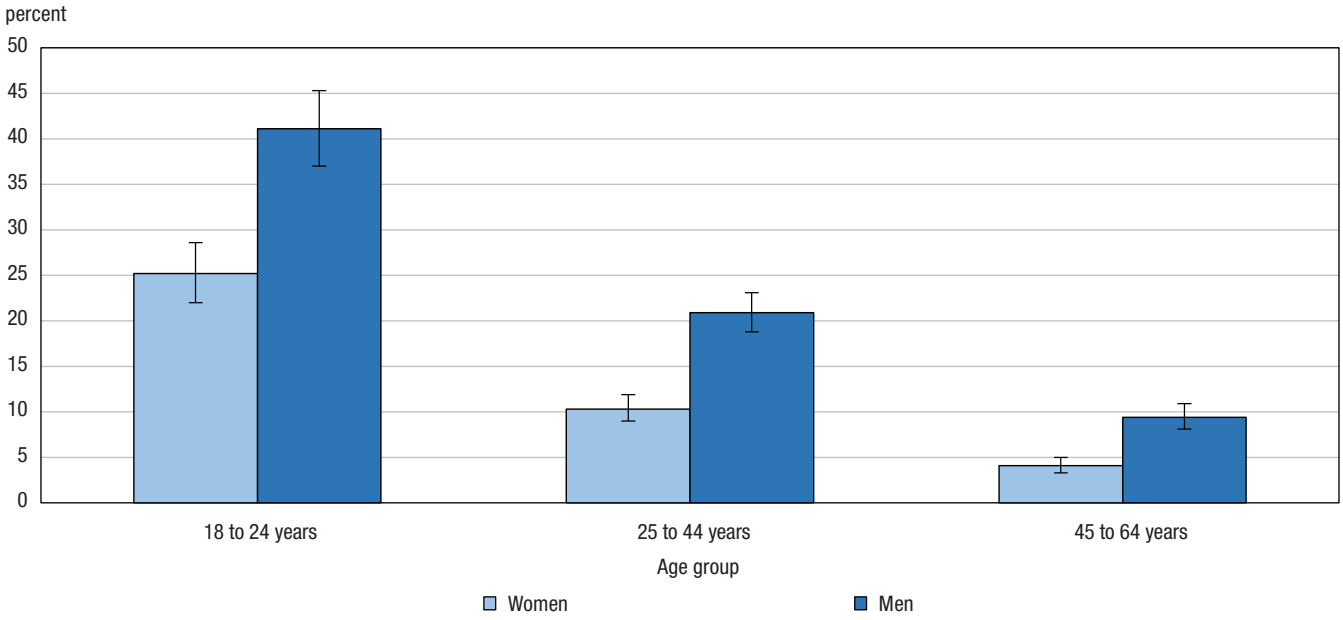
I = 95% confidence interval
Notes: Until 2012, heavy drinking was defined as 5 or more drinks on one occasion, at least once a month in the past year.
Beginning in 2013, the definition for women was changed to 4 or more drinks on one occasion, at least once a month in the past year.
Source: Statistics Canada, CANSIM table 105-0501, 2003-2014.

Among women, alcohol abuse is associated with an even greater risk of alcoholic liver disease, alcohol-induced brain damage, breast cancer, and heart disease than among men.[110] However, women are less likely than men to report alcohol abuse or dependency. In 2012, 13% of women aged 25 to 44 were classified as meeting the criteria for alcohol abuse or dependency in their lifetime, compared with 26% of men in the same age group.[111] Among 45- to 64-year-olds, the percentage was 10% for women, compared with 31% for men.

109. Despite the change in 2013 to the "heavy drinker" definition for women from "five or more drinks" to "four or more drinks" on one occasion, at least once a month in the past year, the trend over time still suggests an increase for all age groups.
110. U.S. Department of Health and Human Services. Alcohol: A women's health issue. Available at: http://pubs.niaaa.nih.gov/publications/brochurewomen/Woman_English.pdf. Accessed September 17, 2015.
111. Statistics Canada, CANSIM table 105-1101, 2012.

Women are also less likely to report drug use. In 2012, women across all adult age groups had a significantly lower prevalence of past-year marijuana use than men (Chart 20). Unlike men, women's reported use was associated with their household income—those in the highest income quintile were less likely to report past-year marijuana use than those in the lowest—and among users, women used marijuana less frequently than did men.[112] Moreover, women were less likely to be classified as meeting the criteria for drug abuse or dependency. Among women aged 25 to 44, 5% and 4% were marijuana and other drug dependent in their lifetime, respectively, compared with 12% and 6% of men in the same age group.[113] Differences between women and men were similar at ages 45 to 64 (data not shown).

Chart 20
Prevalence of past-year marijuana use, by sex and age group, population aged 18 to 64, Canada excluding territories, 2012



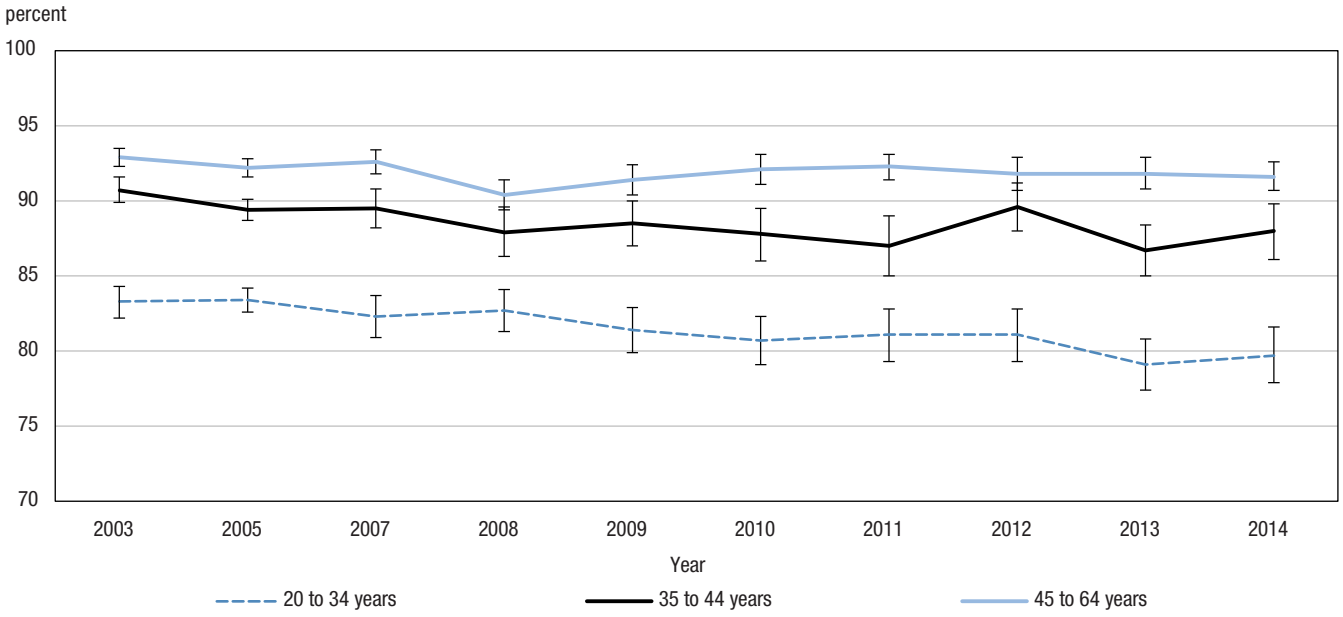
I = 95% confidence interval
Source: Rotermann M et al. Prevalence and correlates of marijuana use in Canada, 2012. *Health Reports* 2015; 26 (4): 10-15.

112. Rotermann M et al. Prevalence and correlates of marijuana use in Canada, 2012. *Health Reports* 2015; 26 (4): 10-15.
113. Statistics Canada, CANSIM table 105-1101, 2012.

Contact with doctors

In 2014, 9.4 million women aged 20 to 64 (87%) reported that they had a regular medical doctor.[114] Older women were more likely than younger women to report having a doctor, and since 2003, the percentage of women aged 20 to 44 who reported having a doctor has decreased slightly (Chart 21). The percentage of adult men who reported having a regular doctor remained relatively stable between 2003 and 2014 (data not shown). However, men were consistently less likely than women to report having a doctor—10 to 12 percentage points less for men aged 20 to 44 in 2014—although the gap narrowed to about 5 percentage points in the oldest age group. Despite some provincial variation, in general, a similar difference between the sexes was observed across the country in 2014 (data not shown).

Chart 21
Percentage with regular doctor, by age group, female population aged 20 to 64, Canada, 2003 to 2014



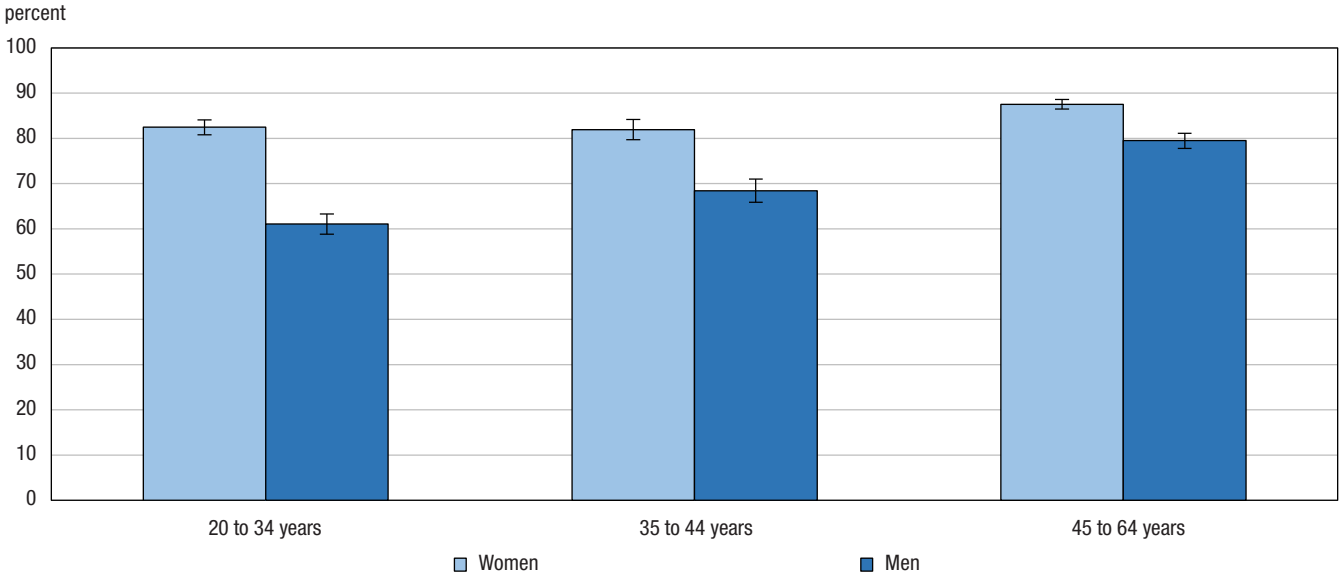
I = 95% confidence interval
Source: Statistics Canada, CANSIM table 105-0501, 2003-2014.

Although having a regular doctor was associated with household income for women aged 12 or older in general, this association was primarily driven by women aged 20 to 34.[115] In this age group, 73% of those in the lowest quintile reported having a doctor, compared with 86% in the highest quintile. The disparity was less at ages 35 to 44 (83% versus 89%) and 45 to 64 (87% versus 94%).

114. Statistics Canada, CANSIM table 105-0501, 2014.
115. Statistics Canada, 2014 Canadian Community Health Survey, custom tabulation.

The majority of women also reported contact with a family doctor or general practitioner in the previous 12 months. In 2014, 82% to 87% of adult women did so, with the highest percentage in the oldest age group (Chart 22). Adult women in all age groups were also more likely than men to report contact, although the gap narrowed as age increased. Similar to having a regular doctor, the income disparity associated with contact with a family doctor was primarily observed among women aged 20 to 34 (data not shown). However, the income disparity associated with contact with a dentist was significant for all adult age groups and was similar in magnitude to the disparity for all females aged 12 or older shown in Table 1.

Chart 22
Percentage reporting contact with medical doctor in previous 12 months, by sex and age group, household population aged 20 to 64, Canada, 2014



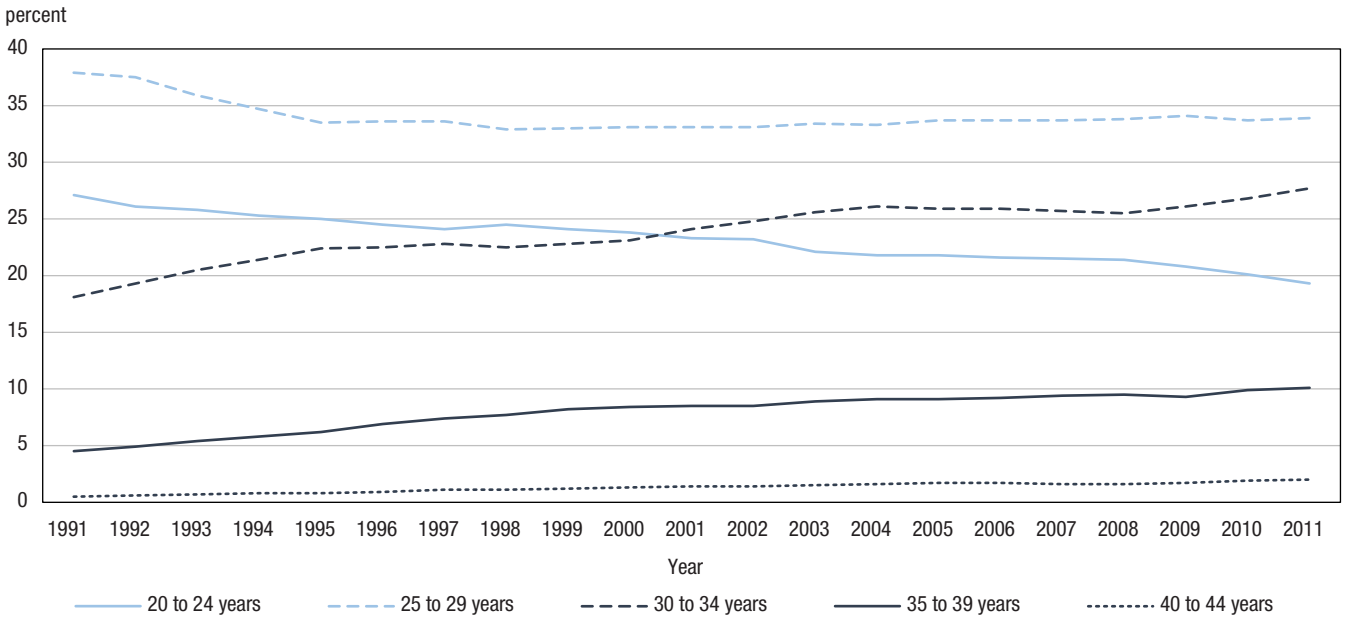
I = 95% confidence interval
Note: Medical doctor includes a family doctor or general practitioner, as well as specialists.
Source: Statistics Canada, CANSIM table 105-0501, 2014.

Reproduction and sexual activity

Childbirth

Women in Canada are delaying childbirth. Since 1991, the percentage of first births among women aged 30 or older has increased substantially (Chart 23). Specifically, from 1991 to 2011, the percentage among women aged 30 to 34 rose from 18% to 28%; at ages 35 to 39, from 5% to 10%; and at ages 40 to 44, from 0.5% to 2%. Although many women give birth at older ages without complication, compared with 20- to-34-year-olds, those who give birth at age 35 or older are at greater risk of developing gestational diabetes, experiencing placenta previa, and having a caesarian delivery, while their babies are at greater risk of being born preterm or small for their gestational age.[116] The risk of maternal mortality is also greater.[117] Mothers aged 35 to 44 are as likely as mothers aged 20 to 34 to initiate breastfeeding (90% for both age groups in 2012), and they are more to exclusively breastfeed for at least six months (31% versus 21%).[118]

Chart 23
Percentage of first live births, by female age group, Canada, 1991 to 2011



Note: Percentage is calculated by dividing the number of first births to a specific age group in a given year by the total number of first births in that same year.
Source: Statistics Canada, CANSIM table 102-4508, 1991-2011.

Contraception use

Contraception use among adult women varies by age group. Among women who reported having two or more sexual partners in the previous year, 51% of those aged 20 to 29 reported using a condom the last time they had sexual intercourse.[119] The percentage was 52% for women aged 30 to 39, and 41% for women aged 40 to 49.

Systemic use hormonal contraceptives were the top prescription medication class reported by women aged 25 to 44 in 2007 to 2011.[120] An estimated 29% of non-pregnant women aged 20 to 24 in the 2007-to-2011 period reported using an oral contraceptive in the previous month; the figure decreased to 3% by ages 40 to 49.[121]

116. Canadian Institute for Health Information. In due time: Why maternal age matters. 2011. Available at: https://secure.cihi.ca/free_products/AIB_InDueTime_WhyMaternalAgeMatters_E.pdf. Accessed September 23, 2015.
117. Public Health Agency of Canada. Maternal mortality in Canada. 2013. Catalogue no. HP32-7/2011E-PDF. Ottawa.
118. Statistics Canada, CANSIM table 105-0501, 2012.
119. Statistics Canada. Canadian Community Health Survey: Combined data, 2013/2014. Available at: http://www.statcan.gc.ca/daily-quotidien/150624/dq150624b-eng.htm. Accessed September 1, 2015.
120. Rotermann M et al. Prescription medication use by Canadians aged 6 to 79. *Health Reports* 2014; 25 (6): 3-9.
121. Rotermann M et al. Oral contraceptive use among women aged 15 to 49: Results from the Canadian Health Measures Survey. *Health Reports* 2015; 26 (10): 21-28.

Infertility

The prevalence of infertility (inability to conceive) has increased over time. In 1984, it was estimated that 5.4% of couples had experienced current (in the past 12 months) infertility.[122] By 2009/2010, it was estimated that 12% to 16% of couples had experienced current infertility.[123] Among couples who reported having tried to become pregnant, 15% had sought medical help for conception.[124] These couples shared certain characteristics, including being married, being childless, and having a female partner aged 35 or older. Of the couples who sought help, 42% reported using fertility-enhancing drugs, and 19% reported using assisted reproductive technologies (ART). From 2001 to 2012, the number of ART clinics in Canada increased from 22 to 33, while the reported number of ART cycles performed (including in vitro fertilization, intracytoplasmic sperm injection, and frozen embryo transfer) rose more than threefold.[125,126]

Sexually transmitted infections

As mentioned in the *Adolescence* section of this chapter, reported cases of certain nationally reportable sexually transmitted infections (STIs) have risen over the past 20 years. From 2003 to 2012, reported rates of chlamydia and gonorrhea rose for both women and men (Table 8). Women aged 20 to 39 had higher rates of chlamydia than men, although rates declined steadily with age. Except among 20- to 24-year-olds, women had lower rates of gonorrhea than men in 2012, but the relative rate increase over time was greater for women. By contrast, compared with men, women generally had lower rates of infectious syphilis, which declined over time while men's rates rose significantly. In a 2013 study that examined laboratory-confirmed herpes (HSV-2) prevalence in the population, women had a higher overall prevalence than men—16% versus 11% of those aged 14 to 59—and 94% of those infected were unaware of their infection status.[127]

Table 8
Reported rates per 100,000 of chlamydia, gonorrhea and infectious syphilis, by age group and sex, population aged 20 to 59, Canada, 2003 and 2012

	Chlamydia				Gonorrhea				Infectious syphilis			
	2003		2012		2003		2012		2003		2012	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
	rate per 100,000											
Age group												
20 to 24	1453.3	656.5	2151.7	1073.9	97.1	111.8	153.0	148.5	3.3	2.9	2.2	21.2
25 to 29	546.8	385.5	937.1	704.1	40.4	83.8	81.7	133.1	3.3	7.5	0.9	21.5
30 to 39	148.5	138.7	332.1	271.9	14.9	57.4	30.6	68.6	1.7	12.6	0.8	20.0
40 to 59	18.8	27.1	54.8	61.6	2.5	19.6	6.0	25.6	0.5	6.6	0.5	14.8

Notes: 2012 data are preliminary and changes are anticipated. Data reported by Nunavut prior to 2007 are preliminary. Nunavut excluded from estimates from 2007 onward.
Infectious syphilis includes primary, secondary and early latent stages.
Source: Public Health Agency of Canada. 2015. Report on sexually transmitted infections in Canada: 2012. Catalogue no. HP37-10/2012E-PDF. Ottawa.

Menopause

Menopause is defined as the permanent cessation of menstruation, and marks the end of a woman's ability to become pregnant.[128] Women typically begin to experience menopausal symptoms between ages 40 and 58.[129] The menopausal transition period may encompass 5% to 10% of a woman's lifetime, and variations in the experience have been associated with cultural background, body size, smoking, and socioeconomic status.[130] Evidence suggests that the hormonal and metabolic changes that accompany menopause may be associated with increased risk of depression, breast cancer, bone loss, and osteoarthritis.[131]

122. Balakrishnan TR et al. Infertility among Canadians: an analysis of data from the Canadian Fertility Survey (1984) and General Social Survey (1990). In: The Prevalence of Infertility in Canada: Research Studies of the Royal Commission on New Reproductive Technologies. Ottawa: Minister of Supply and Services Canada, 1993: 107-162.
123. Bushnik T et al. Estimating the prevalence of infertility in Canada. *Human Reproduction* 2012; 27(3): 738-746.
124. Bushnik T et al. Seeking medical help to conceive. *Health Reports* 2012; 23(4): 3-9.
125. Gunby J et al. Assisted reproductive technologies (ART) in Canada: 2001 results from the Canadian ART Register. *Fertility and Sterility* 2005; 84(3):590-599.
126. Gunby J. Assisted reproductive technologies (ART) in Canada: 2012 results from the Canadian ART Register. Available at www.cfas.ca/images/stories/pdf/CARTR_2012.pdf. Accessed September 23, 2015.
127. Rotermann M et al. Prevalence of *Chlamydia trachomatis* and herpes simplex virus type 2: Results from the 2009 to 2011 Canadian Health Measures Survey. *Health Reports* 2013; 24 (4): 10-15.
128. Harlow SD et al. Menopause: Its epidemiology. In: Goldman MB et al, eds. *Women and Health, 2nd edition* United States: Academic Press, 2013: 371-387.
129. The Society of Obstetricians and Gynaecologists of Canada. Managing menopause. *Journal of Obstetrics and Gynaecology Canada* 2014; 36(9): Supplement 2.
130. Harlow SD et al. Menopause: Its epidemiology. In: Goldman MB et al, eds. *Women and Health, 2nd edition* United States: Academic Press, 2013: 371-387.
131. Ibid.

Disease and chronic conditions

Cancer

The overall cancer incidence rate among women has been increasing slowly since the early 1990s, reflecting the rise in lung cancer, but also an increase in thyroid and uterine cancers and melanoma.[132] Breast, lung and colorectal cancers are the cancers most frequently diagnosed among adult women. Not only does the incidence rate of these three cancers increase with age (cancer primarily affects Canadians older than 50), but these three cancers account for an increasing share of all new primary site cancer cases as women age (Table 9). In 2012, these three cancers represented 9% of all new cancer cases among women aged 20 to 24, and 55% of all new cancer cases among women aged 60 to 64. While the risk of developing lung cancer is strongly associated with smoking,[133] it is also associated with socioeconomic status. Adult women who do not have a university degree, are at the lowest income quintile, or work in a non-managerial occupation are at two to four times greater risk of developing lung cancer, compared with women with a degree, in the highest income quintile, or in a managerial occupation.[134] On the other hand, breast cancer incidence is one of the few adverse health outcomes consistently associated with higher socioeconomic status.[135]

Table 9
New primary breast, lung and colorectal cancer cases, by age group, female population aged 20 to 64, Canada, 2012

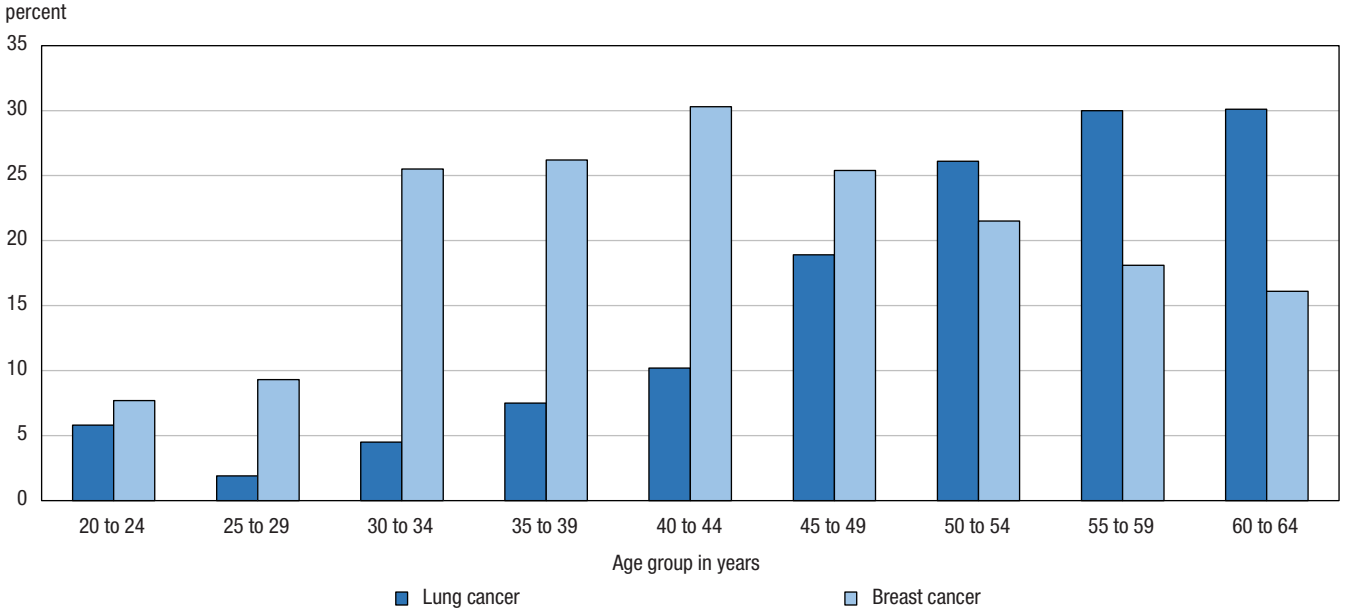
	Total, all primary sites			Breast			Lung			Colon and rectum			Combined share of all primary site cancer cases[†]
	rate per 100,000	95% CI		rate per 100,000	95% CI		rate per 100,000	95% CI		rate per 100,000	95% CI		
		from	to		from	to		from	to		from	to	%
Age group													
20 to 24	32.2	29.0	35.6	1.7	1.0	2.6	0.0	0.0	0.3	1.3	0.7	2.1	9.3
25 to 29	64.4	59.9	69.1	7.9	6.4	9.7	0.8	0.4	1.5	2.5	1.7	3.6	17.5
30 to 34	107.4	101.5	113.4	22.4	19.8	25.3	1.3	0.7	2.1	5.9	4.6	7.5	27.6
35 to 39	174.2	166.6	182.0	55.7	51.5	60.2	2.6	1.8	3.8	8.8	7.1	10.7	38.5
40 to 44	270.8	261.6	280.3	104.1	98.4	110.0	6.7	5.3	8.3	16.3	14.1	18.8	46.9
45 to 49	410.5	399.7	421.5	163.1	156.4	170.1	23.9	21.4	26.7	26.9	24.2	29.9	52.1
50 to 54	569.9	557.2	582.7	204.5	197.0	212.3	52.9	49.1	56.9	50.3	46.6	54.2	54.0
55 to 59	751.4	736.0	767.0	233.7	225.2	242.5	98.4	92.9	104.2	66.4	61.9	71.2	53.0
60 to 64	1024.3	1004.9	1044.0	302.8	292.3	313.5	150.2	142.8	157.8	104.9	98.8	111.4	54.5

[†] Combined share per age group is the sum of new breast, lung and colorectal cancer cases divided by the total number of new primary site cancer cases for that age group, multiplied by 100.
Notes: Estimates are based on counts that have been randomly rounded to a lower or higher multiple of 5.
Cancer incidence data for Quebec are not available for 2011 and 2012 diagnosis years therefore the 2010 Quebec data have been copied forward into 2011 and 2012.
ICD-O-3 coding as follows: Breast: C50.0-C50.9; Lung and bronchus: C34.0-C34.9; Colon and rectum: C18.0-C18.9, C19.9, C20.9, C26.0.
Source: Statistics Canada, CANSIM table 103-0550, 2012.

132. Canadian Cancer Society's Advisory Committee on Cancer Statistics. 2015. *Canadian Cancer Statistics 2015*. Toronto, ON: Canadian Cancer Society.
133. U.S. Department of Health and Human Services. 2010. How tobacco smoke causes disease: The biology and behavioral basis for smoking-attributable disease: A report of the Surgeon General. Available at: http://www.cdc.gov/tobacco/data_statistics/sgr/2010/index.htm. Accessed September 17, 2015.
134. Mitra D et al. Social determinants of lung cancer incidence in Canada: A 13-year prospective study. *Health Reports* 2015; 26 (6): 12-20.
135. Borugian MJ et al. Breast cancer incidence and neighbourhood income. *Health Reports* 2011; 22 (2): 1-7.

Cancer was the leading cause of death for women aged 35 to 64 from 2000 to 2011, and was in the top two with accidents for women aged 20 to 34 during the same period.[136] Breast and lung cancer account for a significant share of all cancer deaths across most age groups, with deaths due to breast cancer more prevalent at younger ages and deaths due to lung cancer more prevalent at older ages (Chart 24).

Chart 24
Percentage of cancer mortality among women aged 20 to 64 due to lung and breast cancer, by age group, Canada, 2011



Notes: ICD-10 coding as follows: Breast: C50; Lung (includes trachea and bronchus): C33-C34.
Source: Statistics Canada, CANSIM table 102-0551, 2011.

A 2015 analysis of age-standardized rates of cancers of the reproductive system found that in 2010, uterine cancer incidence was at its highest level since 1992, and that ovarian and cervical cancer incidence has been decreasing over time.[137] Among women aged 20 to 64, these three cancers accounted for an average of 14% of all new cancer cases in 2012 (Table 10). A woman's age was associated with her risk of developing one of these cancers. In 2012, rates of cervical cancer increased with age, peaking at ages 40 to 44. Rates of ovarian and uterine cancer both increased throughout adulthood; however, uterine cancer rates were two to three times higher than ovarian cancer rates among older women. Reproductive cancers accounted for 9.2% of cancer deaths in 2010.[138] Although the risk of death from ovarian cancer was almost twice that of uterine cancer (9.5 versus 5.4 per 100,000 women), ovarian cancer mortality has been steadily decreasing since 1974.[139]

136. Statistics Canada, CANSIM table 102-0561, 2000-2011.
137. Navaneelan T. 2015. Trends in the incidence and mortality of female reproductive system cancers. *Health at a Glance*. Catalogue no. 82-624-X. Ottawa.
138. Ibid.
139. Ibid.

Table 10
New primary ovarian, cervical and uterine cancer cases, female adult population, by age group, Canada, 2012

	Total, all primary sites			Ovary			Cervix			Uterus			Combined share of all primary site cancer cases[†]
	rate per 100,000	95% CI		rate per 100,000	95% CI		rate per 100,000	95% CI		rate per 100,000	95% CI		
		from	to		from	to		from	to		from	to	%
Age group													
20 to 24	32.2	29.0	35.6	2.1	1.4	3.2	1.7	1.0	2.6	0.0	0.0	0.3	12.0
25 to 29	64.4	59.9	69.1	2.5	1.7	3.6	6.3	4.9	7.9	0.8	0.4	1.5	14.9
30 to 34	107.4	101.5	113.4	2.5	1.7	3.6	10.6	8.8	12.6	2.5	1.7	3.6	14.6
35 to 39	174.2	166.6	182.0	4.8	3.6	6.3	13.2	11.1	15.4	5.7	4.4	7.3	13.6
40 to 44	270.8	261.6	280.3	9.2	7.6	11.1	17.1	14.9	19.6	13.0	11.0	15.2	14.5
45 to 49	410.5	399.7	421.5	16.5	14.4	18.8	12.7	10.9	14.8	23.2	20.7	25.9	12.8
50 to 54	569.9	557.2	582.7	21.4	19.1	24.1	8.9	7.4	10.6	45.9	42.3	49.6	13.4
55 to 59	751.4	736.0	767.0	22.4	19.8	25.3	10.8	9.0	12.8	75.1	70.3	80.2	14.4
60 to 64	1024.3	1004.9	1044.0	28.9	25.7	32.3	10.1	8.3	12.2	99.6	93.7	105.9	13.5

[†] Combined share per age group is the sum of new ovarian, cervical and uterine cancer cases divided by the total number of new primary site cancer cases for that age group, multiplied by 100.
Notes: Estimates are based on counts that have been randomly rounded to a lower or higher multiple of 5.
Cancer incidence data for Quebec are not available for 2011 and 2012 diagnosis years therefore the 2010 Quebec data have been copied forward into 2011 and 2012.
ICD-O-3 coding as follows: Ovary: C56.9; Cervix: C53.0-C53.9; Uterus: C54.0-C54.9.
Source: Statistics Canada, CANSIM table 103-0550, 2012.

Update on mammography use and Pap tests

Canadian guidelines recommend that women aged 50 to 69 have a mammogram every two years, and that women in their 40s talk to their doctors about the benefits of mammography.[140] In 2012, 72% of women aged 50 to 69 reported having a mammogram in the past two years, and 53% of women aged 40 to 49 reported ever having had a mammogram.[141] These rates are similar to what has been reported since 2001 (data not shown). In general, women with a regular doctor are more likely to report that they had a mammogram.[142]

As a method for prevention and early detection of cervical cancer, Canadian guidelines recommend that sexually active women have a Pap test every one to three years.[143] In 2012, 77% of women aged 20 to 34 reported having a Pap test within the past three years.[144] The percentages were 82% for women aged 35 to 44 and 70% for women aged 45 to 64. Those who reported never having a Pap test were more likely to have a lower level of education, be from a lower income household, to not have a regular doctor, and to not be born in Canada.[145] These rates and associations were relatively unchanged from 2001 (data not shown).

Hypertension

Hypertension increases the risk of stroke, myocardial infarction, heart failure, and renal failure.[146] In 2014, about 1.2 million women aged 20 to 64 reported that they had been diagnosed with high blood pressure by a health professional in the previous 12 months.[147] Hypertension prevalence—defined as taking blood pressure medication and/or having a measured systolic blood pressure greater or equal to 140 mm Hg or measured diastolic blood pressure greater or equal to 90 mm Hg—increases with age. In 2012/2013, fewer than 5% of 20- to 39-year-olds were considered to be hypertensive, compared with 24% of 40- to 59-year-olds.[148] At ages 40 to 59, women had a hypertension prevalence of 20%, compared with 28% for men.[149]

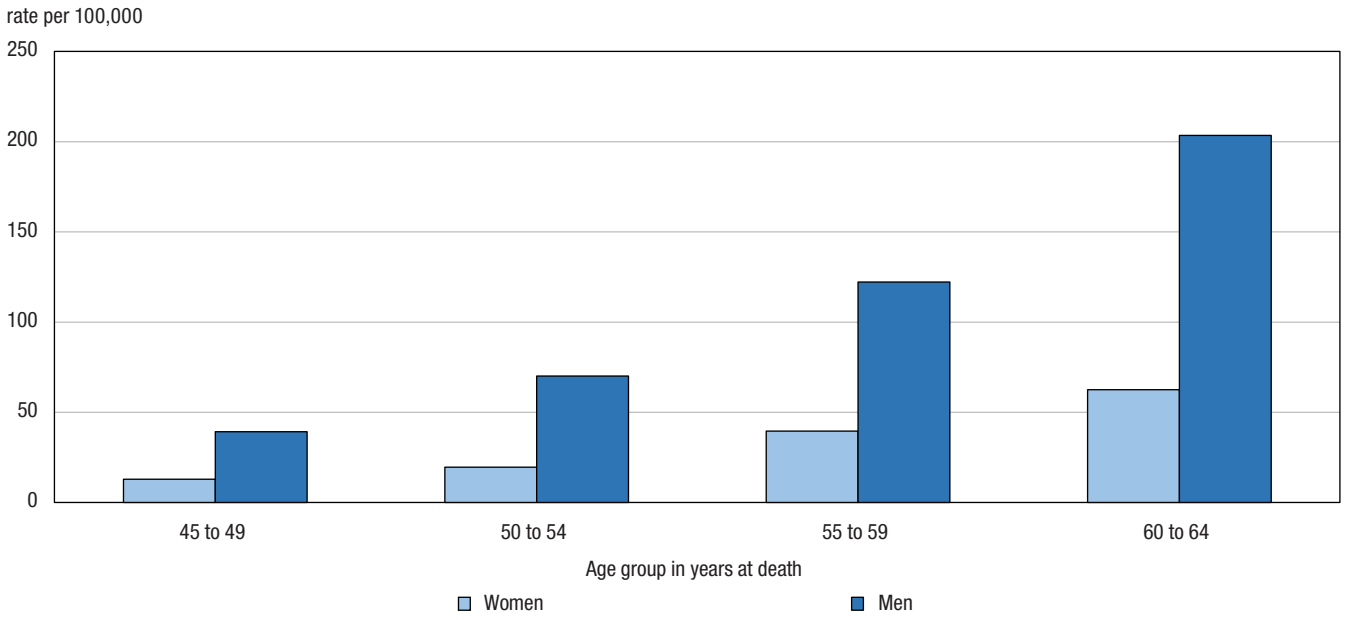
140. Canadian Cancer Society. Screening for breast cancer. Available at: http://www.cancer.ca/en/prevention-and-screening/early-detection-and-screening/. Accessed October 2, 2015.
141. Statistics Canada, 2012 Canadian Community Health Survey, custom tabulation.
142. Ibid.
143. Canadian Cancer Society. Screening for cervical cancer. Available at: http://www.cancer.ca/en/prevention-and-screening/early-detection-and-screening/. Accessed October 2, 2015.
144. Statistics Canada, 2012 Canadian Community Health Survey, custom tabulation.
145. Ibid.
146. Nabel EG. Cardiovascular disease. *New England Journal of Medicine* 2003; 349: 60-72.
147. Statistics Canada, CANSIM table 105-0501, 2014.
148. Statistics Canada. Blood pressure of adults, 2012 to 2013. Available at: http://www.statcan.gc.ca/pub/82-625-x/2014001/article/14101-eng.htm. Accessed September 30, 2015.
149. Statistics Canada, CANSIM table 117-0011, 2013.

Heart disease

In 2013/2014, an estimated 230,000 women aged 20 to 64 reported that they had been diagnosed with heart disease by a health professional.[150] Prevalence rose with age from 1% at ages 20 to 44 to 3% at ages 45 to 64. During the same period, heart attack and heart failure ranked third and fourth, respectively, in the top 10 high-volume inpatient hospitalizations in Canada (childbirth was first, followed by respiratory disease).[151] The age-standardized rate of new acute myocardial infarction events admitted to acute care hospitals was 130 per 100,000 women and 290 per 100,000 men.[152] Since 2007, the rate for women has consistently been slightly less than half that of men (data not shown).

Although mortality rates for heart disease have declined over time, it remains among the top five leading causes of death for women (and men) aged 25 to 44, and the second leading cause of death for women (and men) aged 45 to 64.[153] Throughout the 2000-to-2011 period, mortality rates for women were consistently lower than for men across age groups (Chart 25 shows data for 2011).

Chart 25
Mortality rates for heart disease, by sex and age group at death, Canada, 2011



Note: ICD-10 coding as follows: Diseases of the heart: I00-I09, I11, I13, I20-I51.
Source: Statistics Canada, CANSIM table 102-0551, 2011.

Lifestyle modifications such as reducing smoking and excessive alcohol consumption, and increasing physical activity play a significant role in the prevention and management of heart disease.[154] However, studies have found that women (and men) do not necessarily make these changes after a diagnosis. One longitudinal study of people aged 50 or older who had been diagnosed with heart disease found that women's post-diagnosis excessive alcohol consumption and level of physical activity did not differ significantly from their pre-diagnosis behaviour[155]; while another found that inactive women (and men) in mid- to late-life who had a new vascular diagnosis (hypertension, heart disease, or diabetes) did not become more active after their diagnosis.[156]

150. Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.
151. Canadian Institute for Health Information. DAD/HMDB hospitalization rate, average length of stay, top 10 high-volume inpatient hospitalizations and surgeries, and hospital-based newborn rate, 2013-2014. Available at: https://www.cihi.ca/en/quick-stats. Accessed July 8, 2015.
152. Canadian Institute for Health Information. Health Indicators Interactive Tool. Available at: http://yourhealthsystem.cihi.ca/epub/?language=en&healthIndicatorSelection=Event_AMI. Accessed September 29, 2015.
153. Statistics Canada, CANSIM table 102-0561, 2000-2011.
154. Heart and Stroke Foundation. What is heart disease? Available at: http://www.heartandstroke.com/site/c.ikIQLcMWJtE/b.3682421/k.48B2/Heart_disease__What_is_heart_disease.htm. Accessed September 29, 2015.
155. Newsom JT et al. Health behaviour changes after diagnosis of chronic illness among Canadians aged 50 or older. *Health Reports* 2012; 23 (4): 3-7.
156. Ramage-Morin PL et al. Adopting leisure-time physical activity after diagnosis of a vascular condition. *Health Reports* 2012; 23 (1): 1-13.

Diabetes

Diabetes is a chronic disease that occurs when the body is either unable to sufficiently produce or properly use insulin; an ability that deteriorates with age.[157] If uncontrolled, diabetes results in high blood sugar levels, which, over time, can damage blood vessels, nerves, and organs such as the kidneys, eyes, and heart.[158]

In 2014, about 400,000 women aged 20 to 64 reported having been diagnosed with diabetes by a health professional.[159] Prevalence rose with age: 1% at ages 20 to 34, 2% at ages 35 to 44, and 7% at ages 45 to 64. At ages 45 to 64, women were less likely than men to report having been diagnosed with diabetes (data not shown). Low income and lower education are both associated with the onset of diabetes among adult women.[160]

Diabetes management often involves the use of services from a range of health care providers. A 2011 report that looked at health care use of those with diabetes found that women and men aged 20 to 49 with diabetes saw a family physician about twice as often as those without diabetes, and a specialist two to three times more often.[161] At ages 50 to 64, the rate ratios fell to one-and-a-half to just under twice as often for family physician and specialist visits, respectively.

Given that many people with diabetes also report having been diagnosed with hypertension and/or heart disease,[162] diabetes is rarely the single cause of death. A 2014 study found that among 56,000 diabetes-related female deaths between 2004 and 2008, diabetes was twice as likely to be coded as a contributing cause than an underlying cause.[163] The same was true for men. Cardiovascular diseases were also the most common co-existing conditions listed on death certificates for both women and men where diabetes was either the contributing or an underlying cause.

Migraine

According to the World Health Organization, migraine is the second leading cause of disease burden for women aged 15 to 44 in high-income countries.[164] In 2010/2011, about 1.9 million girls and women in Canada reported that they had been diagnosed with migraine.[165] This represented about 12% of female Canadians, more than twice the percentage among male Canadians (5%). Reported migraine prevalence among women increased from childhood to adulthood, peaking at 18% at ages 30 to 49. The majority of those who reported migraine also reported symptoms of depression, and many reported that migraine negatively affected their daily life, including work and educational opportunities.[166]

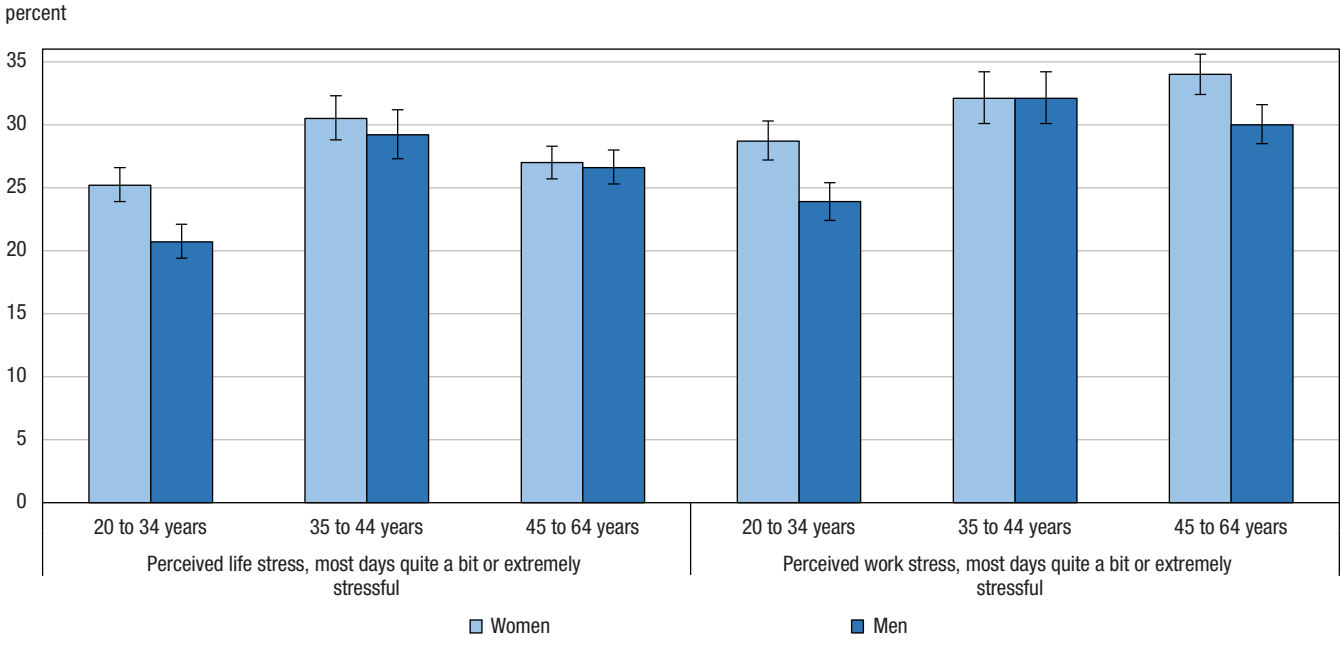
157. Public Health Agency of Canada. 2011. Diabetes in Canada: Facts and figures from a public health perspective. Catalogue no. HP35-25/2011E-PDF. Ottawa.
158. Ibid.
159. Statistics Canada, CANSIM table 105-0501, 2014.
160. Ross NA et al. 14-year diabetes incidence: The role of socio-economic status. *Health Reports* 2010; 21 (3): 19-28.
161. Public Health Agency of Canada. 2011. Diabetes in Canada: Facts and figures from a public health perspective. Catalogue no. HP35-25/2011E-PDF. Ottawa.
162. Ibid.
163. Park J et al. Mortality from diabetes mellitus, 2004 to 2008: A multiple-cause-of-death analysis. *Health Reports* 2014; 25 (3): 12-16.
164. World Health Organization. 2008. The Global Burden of Disease: 2004 update. Available at: http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_full.pdf?ua=1. Accessed September 30, 2015.
165. Ramage-Morin PL et al. Prevalence of migraine in the Canadian household population. *Health Reports* 2014; 25(6): 10-16.
166. Ibid.

Mental health

Stress

People who experience routine stress such as that related to the pressures of work, family, and other daily responsibilities may experience digestive symptoms, headaches, sleeplessness, depressed mood, anger, and irritability.[167] In 2013/2014, 25% to 30% of women aged 20 to 64 perceived that most days in their life were quite a bit or extremely stressful, and 29% to 34% of women who had worked in the previous 12 months perceived that most days at work were quite a bit or extremely stressful (Chart 26). At ages 20 to 34, women were significantly more likely than men to report life stress, which could be associated with family status. Women in this age group who were single or living with a partner without children tended to rate their life stress higher than men in these same family situations, although women who were living with a partner with children reported similar life stress to men (data not shown).

Chart 26
Perception of life and work stress, by sex and age group, Canada, 2013 to 2014



I = 95% confidence interval
Source: Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.

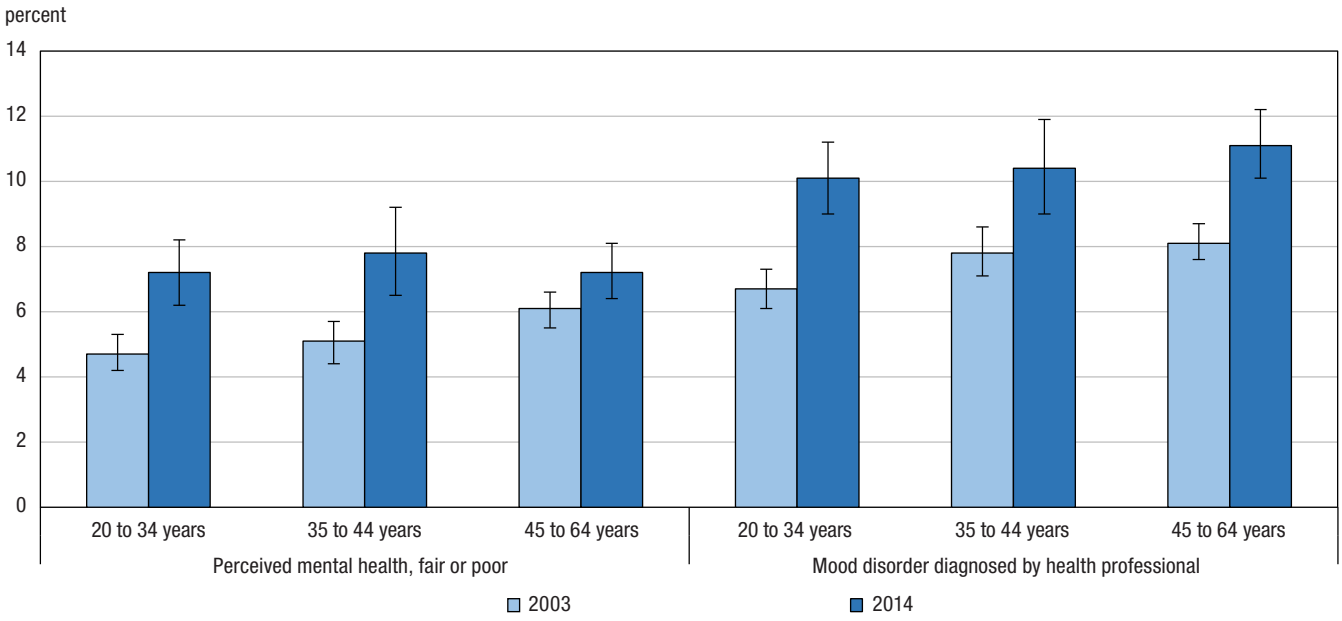
That women were more likely than men to report work stress at ages 20 to 34 and 45 to 64 could be related to their occupation. In 2013/2014, women were more heavily represented in occupations in social science, education, government service and religion, and tended to rate their work stress level higher than did men in the same occupations (data not shown).

167. National Institute of Mental Health. Adult Stress—Frequently Asked Questions. Available at: http://www.nimh.nih.gov/health/publications/stress/Stress_Factsheet_LN_142898.pdf. Accessed September 30, 2015.

Self-reported mental health

In 2014, about 790,000 women aged 20 to 64 reported perceiving their own mental health as fair or poor.[168] They represented roughly 7% of adult women in Canada, an increase in percentage across all age groups, compared with 2003 (Chart 27). The percentage of adult women who reported having been diagnosed with a mood disorder also rose across all age groups over time, resulting in a total of about 1.15 million in 2014. Men in these age groups also experienced an increase in the prevalence of mood disorders, but the overall percentages were generally lower than those of women (data not shown).

Chart 27
Prevalence of fair/poor mental health and mood disorders, female population aged 20 to 64, by age group, Canada, 2003 and 2014

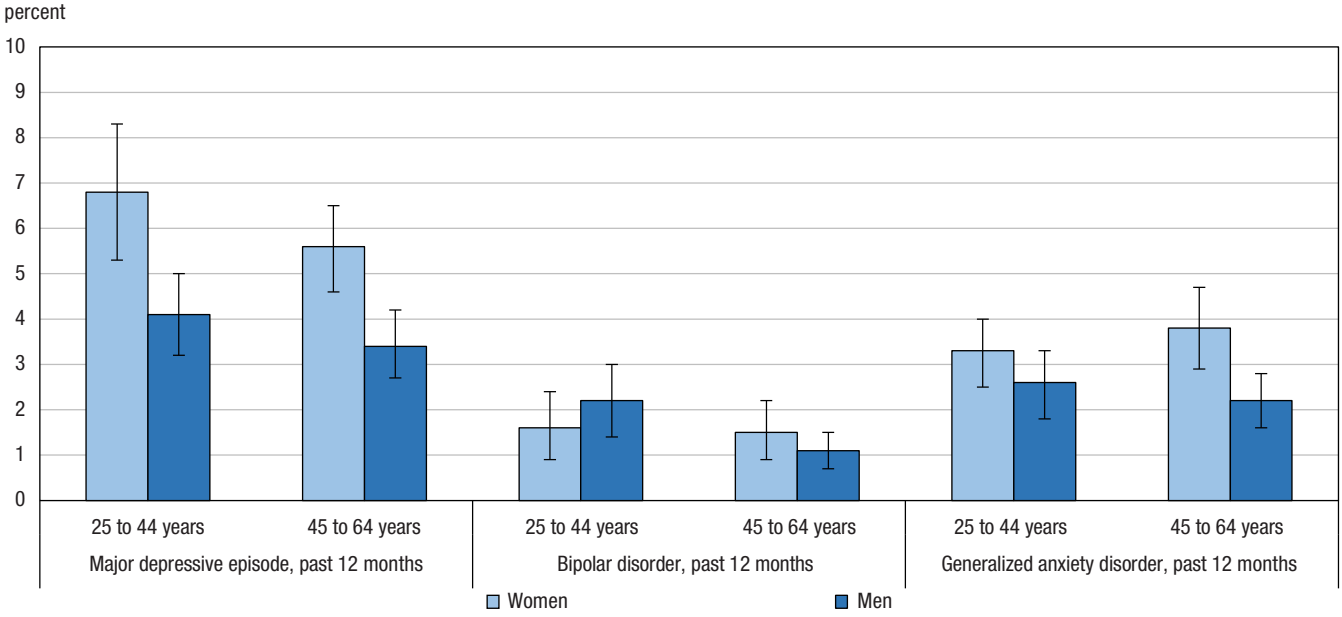


I = 95% confidence interval
Note: Mood disorder diagnosed by a health professional such as depression, bipolar disorder, mania or dysthymia.
Source: Statistics Canada, CANSIM table 105-0501, 2003 and 2014.

168. Statistics Canada, CANSIM table 105-0501, 2014.

As is the case during adolescence, women are more likely than men to meet the criteria to be classified as having certain mental disorders. In 2012, adult women were more likely than men to be classified as having had a major depressive episode or generalized anxiety disorder in the previous 12 months (Chart 28). Women are also more likely to report using anti-depressants. During the 2007-to-2011 period, 9% of women aged 25 to 44 and 17% of women aged 45 to 64 were current users of anti-depressants, compared with 4% and 8% of men, respectively.[169]

Chart 28
Percentage of adults who were classified as meeting the criteria of selected mental health disorders, by sex and age group, Canada excluding territories, 2012



I = 95% confidence interval
Notes: Those categorized as having had the selected disorder met the definition and criteria in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). All estimates of bipolar disorder should be used with caution (coefficient of variation from 16.6 to 33.3).
Source: Statistics Canada, CANSIM table 105-1101, 2012.

Despite the numbers who report mental disorders or life or work stress, nine out of ten women aged 20 to 64, on average, also reported being satisfied or very satisfied with their life in general.[170]

Use of mental health services

According to a report based on data from the Canadian Chronic Disease Surveillance System, annual rates of health services use for mental illness among people aged 20 or older remained relatively stable from 1996/1997 to 2009/2010.[171] However, differences by gender were apparent. In 2009/2010, rates for women aged 20 to 64 were, on average, 1.5 times higher than for men. For example, the percentages were 16% for women aged 25 to 29 and 20% for women aged 45 to 49, compared with 10% and 14% for men in these age groups, respectively. For both women and men, evidence suggests that lower socioeconomic status is associated with higher hospitalization rates for mental illness.[172]

Women's higher use of health services for mental illness may be due to a number of factors including differences in help-seeking behaviours. Adult women are more likely than men to report a perceived need for mental health care. In 2012, 25% of women aged 25 to 44 and 22% aged 45 to 64 had a perceived need for mental health care, compared with 14% and 13% of men, respectively.[173] However, among those who perceived a need, women and men were equally as likely (on average, 66%) to say that all their needs were met.

169. Rotermann M et al. Prescription medication use by Canadians aged 6 to 79. *Health Reports* 2014; 25 (6): 3-9.
170. Statistics Canada, CANSIM table 105-0501, 2014.
171. Public Health Agency of Canada. 2015. Report from the Canadian Chronic Disease Surveillance System: Mental illness in Canada, 2015. Catalogue no. HP35-56/2015E-PDF. Ottawa.
172. Canadian Institute for Health Information. Hospitalization disparities by socio-economic status for males and females. 2010. Available at: https://secure.cihi.ca/free_products/disparities_in_hospitalization_by_sex2010_e.pdf. Accessed July 8, 2015.
173. Statistics Canada, CANSIM table 105-1101, 2012.

6. Older women

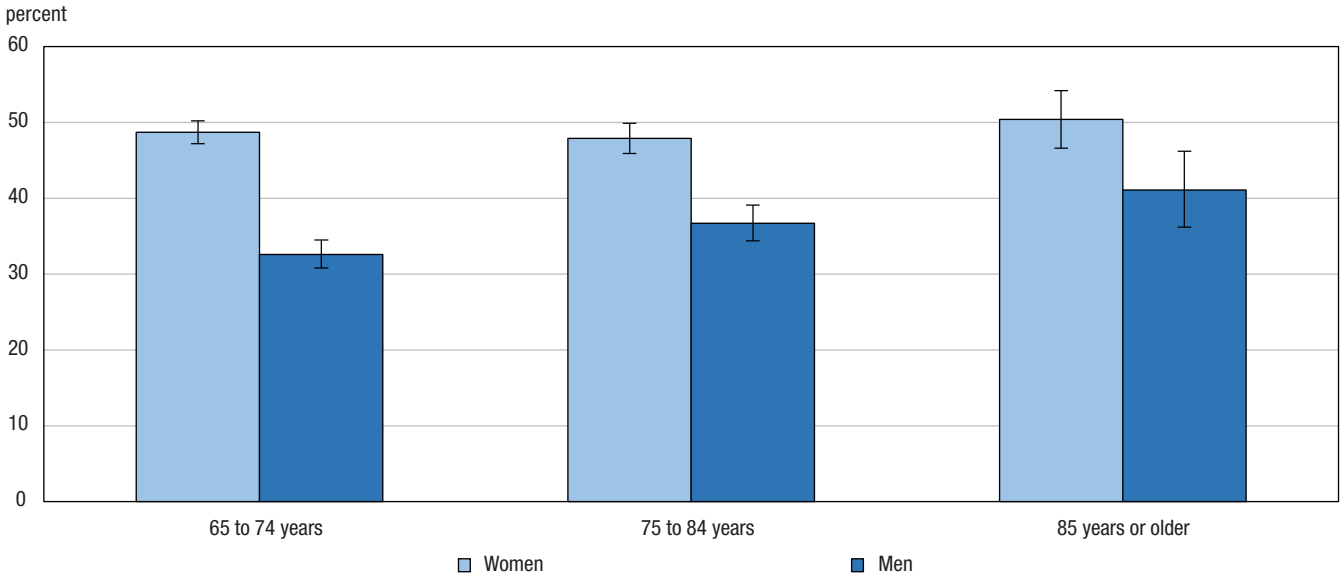
As people age, they are more likely to live in collective dwellings that provide ongoing support and assistance services, as well as health monitoring, care, and treatment. At the time of the 2011 Census of Population, 9% of women and 5% of men aged 65 or older lived in a general or specialty hospital, a nursing home, a chronic care or long-term care hospital, or a residence for senior citizens.[174,175] The oldest women were much more likely to live in these types of collective dwellings: 34% at age 85 or older, compared with 2% at ages 65 to 74 and 9% at ages 75 to 84.[176] Because household surveys generally exclude collective dwellings, health data based on these surveys, which are a primary source of information for this chapter, tend to be less representative of all older women, particularly those in the oldest age groups. Consequently, much of what is presented here reflects the health of older women who live in households, and the estimated prevalence of various negative health outcomes in the older female population is likely underestimated, particularly among women older than 75.

Health behaviours

Fruit and vegetable consumption

As mentioned in the Adulthood section, fruit and vegetable consumption is a good indicator of diet quality. In 2014, 49% of women aged 65 or older living in households consumed fruits and vegetables five or more times per day, compared with 35% of men in this age group.[177] The percentage varied little across age groups for women, but men 85 or older were more likely to consume at this frequency than were men aged 65 to 74 (Chart 29).

Chart 29
Percentage consuming fruits and vegetables five or more times per day, by sex and age group, household population aged 65 or older, Canada, 2013 to 2014



I = 95% confidence interval
Source: Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.

174. Statistics Canada. Living arrangements of seniors. Available at: http://www12.statcan.ca/census-recensement/2011/as-sa/98-312-x/98-312-x2011003_4-eng.cfm#bx2. Accessed November 10, 2015.
175. Statistics Canada, 2011 Census of Population, Statistics Canada Catalogue no. 98-313-XCB2011024.
176. Ibid.
177. Statistics Canada, CANSIM table 105-0501, 2014.

Nutritional risk

Older women are more likely than older men to be at nutritional risk (risk of malnourishment). A 2013 study found that 38% of women aged 65 or older who lived in households were at nutritional risk, compared with 29% of men.[178] The main drivers of nutritional risk for women (and men) were a weight change of more than 10 pounds in the previous six months and skipping meals almost every day, reported by 22% and 13% of women, respectively. Other factors associated with nutritional risk were living alone, low tangible social support, infrequent social participation, depression, moderate to severe disability, medication use, and fair or poor oral health. Income and education were not associated with nutritional risk once other factors were taken into account.[179]

Body weight and waist circumference

Obesity and being underweight are each related to negative health outcomes among people 65 or older. Obesity is associated with increased risk of type 2 diabetes, hypertension, and cardiovascular disease,[180] while being underweight is associated with outcomes ranging from malnutrition and osteoporosis to mortality.[181]

In 2012/2013, 23% of women aged 65 to 79 living in households were obese and 69% of women had a waist circumference that put them at high health risk.[182] These rates are significantly higher compared with 1981, where the rates in the narrower age range of 60 to 69 were 15% and 26% for women, respectively.[183] In 2012/2013, older women were more likely to have a waist circumference that put them at high health risk compared with men, which was also the case in 1981 (data not shown).

Based on the standard BMI cut-off of less than 18.5 kg/m^2, about 2% of women aged 65 to 79 living in households were categorized as underweight in the 2009-to-2013 period.[184] However, studies suggest that this cut-off may be too low for people 65 or older given their increased health risks at a higher BMI within the lower end of the "normal" range.[185] Adjusting the underweight BMI cut-off to less than 23 kg/m^2 as has been suggested[186] results in 16% of women aged 65 to 79 being estimated as underweight.[187]

Physical fitness

Similar to younger adult women, older women's physical fitness has declined over time. Since 1981, aerobic fitness levels of women aged 60 to 69 have decreased.[188] Furthermore, the percentage of women aged 60 to 69 whose flexibility was fair or needs improvement rose from 42% in 1981 to 51% in 2009 to 2011, and the percentage whose muscular strength was fair or needs improvement tripled from 13% to 40%.[189] Declines in flexibility and muscle strength were also observed among older men (data not shown). Muscle weakness is particularly problematic for people aged 65 or older because it increases the risk of falls.[190]

Physical activity

In addition to the known benefit of disease prevention, studies report that physical activity is associated with improvements in overall health status among older people. A longitudinal study found that for both women and men, being active "delays" the effects of aging on health-related quality of life, whereas being inactive or sedentary accelerates the rate of decline.[191] The Canadian Society for Exercise Physiology physical activity guidelines for people 65 or older are the same as for 20- to 64-year-olds: at least 150 minutes of moderate-to-vigorous aerobic activity per week, in bouts of at least 10 minutes.[192] In 2012/2013, 11% of women and 13% of men aged 60 to 79 or older met these guidelines.[193] In terms of average time per day doing various levels of activity, women aged 60 to 79 spent 75%

178. Ramage-Morin PL et al. Nutritional risk among older Canadians. *Health Reports* 2013; 24 (3): 3-13.
179. Ibid.
180. Public Health Agency of Canada and the Canadian Institute for Health Information. 2011. Obesity in Canada. Catalogue no. HP5-107/2011E-PDF. Ottawa.
181. Public Health Agency of Canada. 2010. The Chief Public Health Officer's Report on the state of public health in Canada, 2010: Growing older – adding life to years. Catalogue no. HP2-10/2010E-PDF. Ottawa.
182. Statistics Canada, 2012-2013 Canadian Health Measures Survey, custom tabulation.
183. Shields M et al. Fitness of Canadian adults: Results from the 2007-2009 Canadian Health Measures Survey. *Health Reports* 2010; 21 (1): 1-16.
184. Statistics Canada, 2009-2013 Canadian Health Measures Survey: Combined data, custom tabulation.
185. Public Health Agency of Canada. 2010. The Chief Public Health Officer's Report on the state of public health in Canada, 2010: Growing older – adding life to years. Catalogue no. HP2-10/2010E-PDF. Ottawa.
186. Winter JE et al. BMI and all-cause mortality in older adults: a meta-analysis. *The American Journal of Clinical Nutrition* 2014: 99(4); 875-890.
187. Statistics Canada, 2009-2013 Canadian Health Measures Survey: Combined data, custom tabulation.
188. Craig CL et al. Trends in aerobic fitness among Canadians, 1981 to 2007–2009. *Applied Physiology, Nutrition and Metabolism* 2012; 37: 511-519.
189. Shields M et al. Fitness of Canadian adults: Results from the 2007-2009 Canadian Health Measures Survey. *Health Reports* 2010; 21 (1): 1-16; and Statistics Canada, CANSIM 117-0017, 2011.
190. HealthLinkBC. Preventing falls in older adults. Available at: http://www.healthlinkbc.ca/healthtopics/content.asp?hwid=ug2329spec. Accessed October 8, 2015.
191. Feeny D et al. Physical activity matters: associations among body mass index, physical activity, and health-related quality of life trajectories over 10 years. *Journal of Physical Activity and Health* 2014; 11(7): 1265-1275.
192. Canadian Society for Exercise Physiology. Canadian Physical Activity Guidelines (65 years and older). Available at: http://www.csep.ca/en/guidelines/read-the-guidelines. Accessed September 17, 2015.
193. Statistics Canada, CANSIM table 117-0019, 2013.

of their waking time sedentary (average 610 minutes), 23% of their time in light activity (average 185 minutes), and 2% of their time in moderate or vigorous activity (average 13 minutes).[194] Results were similar for men (data not shown).

Falls

Falls among older people harm not only the person who has fallen, but can have repercussions for their family, friends and care providers, and for the health care system.[195] Research suggests that falls are the direct cause of 95% of all hip fractures, leading to death in 20% of cases, and can be a catalyst for the transition to long-term care.[196]

In 2013/2014, about 310,000 women aged 65 or older (11%) reported being injured in the previous 12 months, and 200,000 of them (64%) reported their most serious injury was the result of a fall.[197] Women were more likely than men to report that their most serious injury was the result of a fall, and the percentage rose with age for both sexes: 59% of women versus 44% of men aged 65 to 74 who had been injured; 69% versus 54% at ages 75 to 84; and 77% versus 74% at age 85 or older. Women are also more likely than men to perceive a greater risk of falling; falling and perceiving a risk of a fall have been identified as risk factors for each other.[198] Research suggests a relationship between low socioeconomic status and risk of falls. Possible explanations include the association of low socioeconomic status with poor environment, poor diet, and barriers in accessing health care services.[199] In 2013/2014, lower educational attainment was associated with an increased likelihood of reporting that the most serious injury was the result of a fall for both older women and older men; low income was associated with a fall for older men only (data not shown).

Falls are the leading cause of injury-related hospitalizations at age 65 or older; each year, fall-related hospitalizations account for about 85% of injury hospitalizations for people in this age group.[200] Women are at greater risk of osteoporosis, so are at increased risk of fracture as a consequence of a fall. This may partly explain why rates of fall-related hospitalizations are higher for women than for men.[201]

Substance use

Although the health risks associated with tobacco use such as lung cancer, heart disease and stroke are well-documented, cigarette smoking is also related to an increased risk of hip fractures, cataracts, and chronic obstructive pulmonary disease.[202] Between 2003 and 2014, smoking rates decreased from 10% to 8% among women aged 65 or older, while rates for men in this age group remained relatively stable at about 11%.[203] The health benefits of quitting described in the *Adulthood* section, including improved health-related quality of life[204] and reduced relative risk of heart disease,[205] also apply to women aged 65 or older.

Because physiological aging brings a reduction in the percentage of water in the body, alcohol has increased potency in older people.[206] In 2014, 3% of women and 9% of men aged 65 or older were categorized as a heavy drinker—four or more drinks for women and five or more drinks for men, on one occasion, at least once a month in the past year.[207] Three percent of women in this age group met the criteria for alcohol abuse or dependency in their lifetime, compared with 24% of men.[208]

At age 65 or older, women are less likely than men to report marijuana use. Past-year and lifetime prevalence of marijuana use in 2012 was 0.2% and 8% for women, respectively, compared with 1.5% and 19% for men.[209] The number of women in this age group with past-year or lifetime marijuana abuse or dependency was too small to be reported.

194. Statistics Canada, CANSIM table 117-0020, 2013; CANSIM table 117-0021, 2013.
195. Public Health Agency of Canada. 2014. Seniors' falls in Canada: Second report. Catalogue no. HP25-1/2014E_PDF. Ottawa.
196. Ibid.
197. Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.
198. Pearson C et al. 2014. Understanding seniors' risk of falling and their perception of risk. *Health at a Glance*. Catalogue no. 82-624-X. Ottawa.
199. Public Health Agency of Canada. 2014. Seniors' falls in Canada: Second report. Catalogue no. HP25-1/2014E-PDF. Ottawa.
200. Ibid.
201. Ibid.
202. Public Health Agency of Canada. 2010. The Chief Public Health Officer's Report on the state of public health in Canada, 2010: Growing older – adding life to years. Catalogue no. HP2-10/2010E-PDF. Ottawa.
203. Statistics Canada, CANSIM table 105-0501, 2003-2014.
204. Shields M et al. Dynamics of smoking cessation and health-related quality of life among Canadians. *Health Reports* 2013; 24 (2): 3-11.
205. Shields M et al. Smoking, smoking cessation and heart disease risk: A 16-year follow-up study. *Health Reports* 2013; 24 (2): 12-22.
206. Health Canada. 2002. Best practices: Treatment and rehabilitation for seniors with substance use problems. Catalogue no. H46-2/03-295E. Ottawa.
207. Statistics Canada, CANSIM table 105-0501, 2014.
208. Statistics Canada, CANSIM table 105-1101, 2012.
209. Ibid.

Prescription drug use

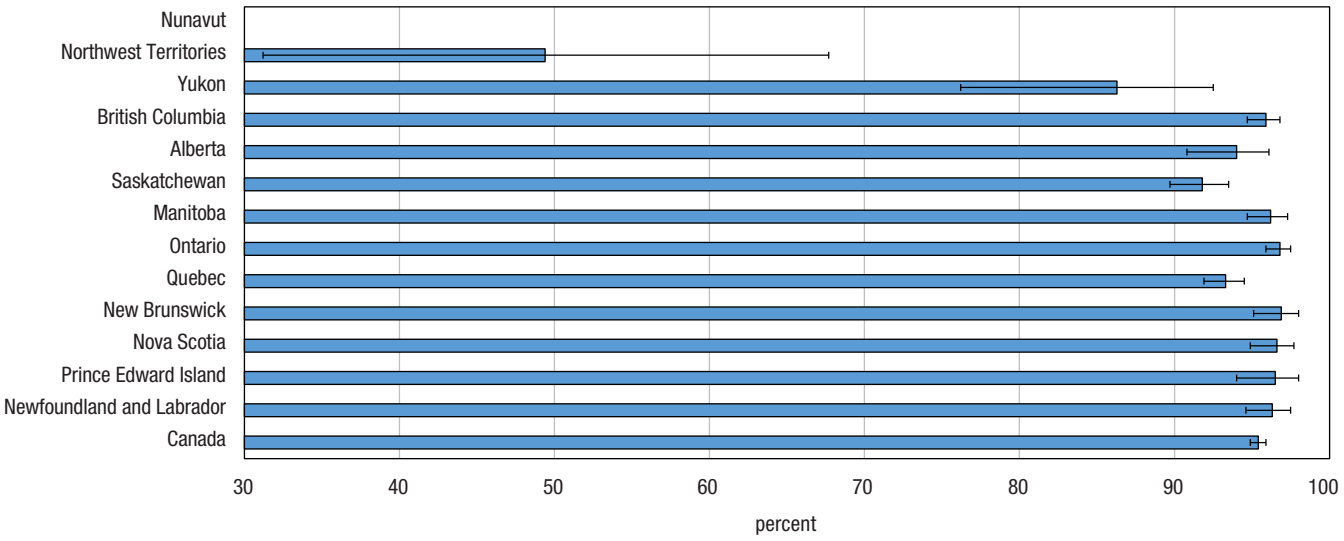
Prescription drugs account for about 85% of total drug spending in Canada.[210] Prescription medication use increases with age, a fact that can be partially attributed to the presence of multiple morbidities in the elderly.[211] A 2014 study of prescription medication use in 2007 to 2011 found that 82% of women and 83% of men aged 65 to 79 living in households reported using prescription medication, compared with 35% and 21% of women and men aged 25 to 44.[212] The study also found a higher prevalence of prescription drug use among women who reported not being free of pain or discomfort (68%), or being in fair or poor self-perceived health (68%). Prescription drug use also rose with level of disability (30% for none, 73% for severe) and with number of chronic conditions (29% for none, almost 100% for four or more). Polypharmacy—the use of five or more medications—was found among 30% of those aged 65 to 79, and the top five medication classes reported for women in this age group were for high cholesterol, ulcers, low thyroid function, heart disease, and high blood pressure.

Contact with doctors

In 2013/2014, 95% of women aged 65 or older living in households reported that they had a regular medical doctor, and 88% reported that they had contact with a family doctor or general practitioner in the previous 12 months.[213] Men in this age group were equally likely to report having (95%) and contacting a doctor (88%), unlike men in younger age groups (see Chart 22).

The percentage of older women who reported having a regular doctor varied somewhat by province. Women in the Northwest Territories, Yukon, Saskatchewan and Quebec were less likely to report having a regular doctor than those living in other provinces (Chart 30). A similar pattern was observed for men in this age group (data not shown).

Chart 30
Percentage who reported having regular doctor, by province/territory, female household population aged 65 or older, 2013 to 2014

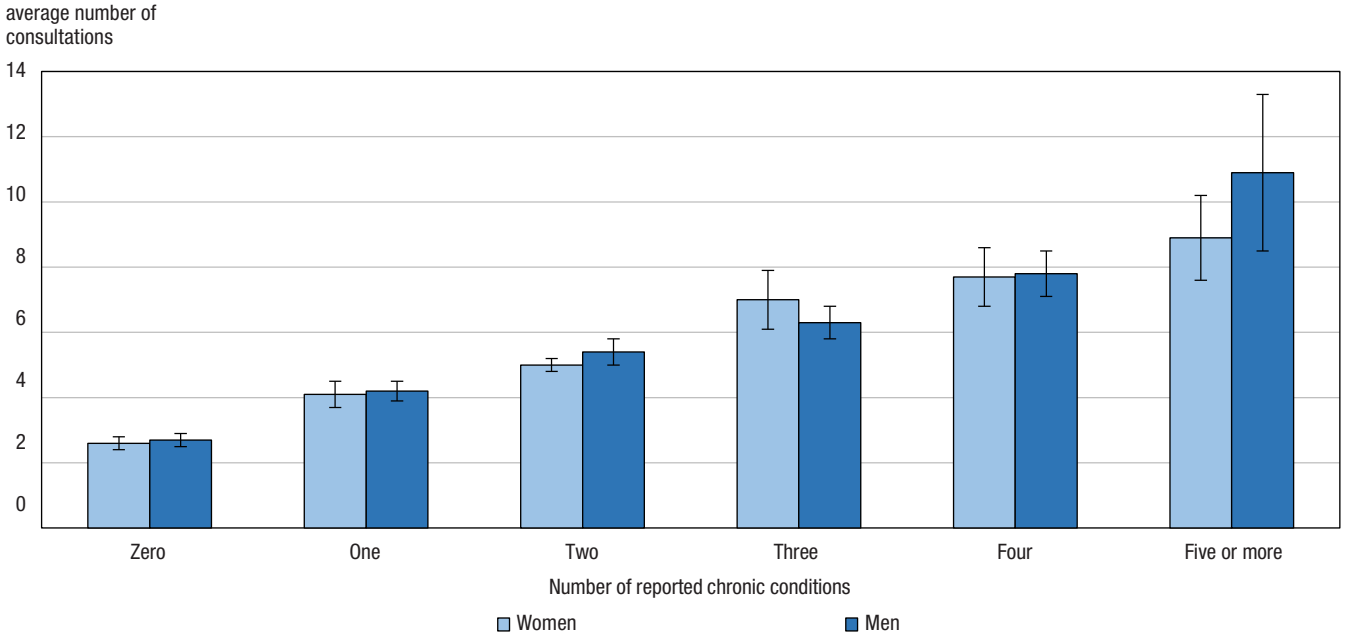


I = 95% confidence interval
Note: Due to small sample sizes, the estimate for Nunavut is not presented but is included in the Canada total.
Source: Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.

210. Canadian Institute for Health Information. National health expenditure trends, 1975 to 2014. 2014. Available at: https://www.cihi.ca/en/nhex_2014_report_en.pdf. Accessed October 22, 2015.
211. Canadian Institute for Health Information. Seniors and the health care system: What is the impact of multiple chronic conditions? 2011. Available at: https://secure.cihi.ca/free_products/air-chronic_disease_aib_en.pdf. Accessed July 8, 2015.
212. Rotermann M et al. Prescription medication use by Canadians aged 6 to 79. *Health Reports* 2014; 25 (6): 3-9.
213. Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.

Although having a regular doctor was associated with household income for women aged 12 or older in general, this was driven by women younger than 65. Women aged 65 and older in the lowest income quintile were almost as likely as those in the highest to report having a doctor (94% and 96%). Similarly, household income was not strongly associated with contact with a family doctor or general practitioner in the previous 12 months (87% of those in the lowest quintile and 89% in the highest), however, an income disparity existed in contact with a dentist (38% versus 76%). Women aged 65 or older reported consulting with a family doctor or specialist an average of about four times in the previous 12 months. As expected, the greater the reported number of chronic conditions, the greater the reported average number of consultations in the previous 12 months, regardless of sex (Chart 31).

Chart 31
Average number of consultations with doctor in previous 12 months, by number of chronic conditions and sex, household population aged 65 or older, Canada, 2013/2014



I = 95% confidence interval
Notes: Chronic conditions include: heart disease, stroke, high blood pressure, arthritis, chronic obstructive pulmonary disorder, diabetes, cancer and Alzheimer's disease. Includes consultation with a family doctor or specialist.
Source: Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.

Home care

A study of home care in Canada found that 718,000 women aged 65 or older (30%) reported that they had received either formal or informal home care in 2009.[214] The prevalence of receiving home care among women increased with age, with personal care or mobility limitation, and with level of disability. Those who lived alone and whose main source of income was Social assistance/Old Age Security Guaranteed Income Supplement were also more likely to report receiving home care. At the same time, 5% of women in this age group reported at least one unmet need for professional home care. Close to two-thirds (63%) of seniors with an unmet need for formal care attributed it to personal circumstances, such as inability to pay.

214. Hoover M et al. Seniors' use of and unmet needs for home care, 2009. *Health Reports* 2012; 23 (4): 3-8.

Disease and chronic conditions

Cancer

The median age at cancer diagnosis is between 65 and 69, and the median age range for cancer deaths is estimated at 70 to 74.[215] As was the case for younger adult women (see *Adulthood* section), the overall cancer incidence rate among women aged 65 or older has been increasing slowly since the early 1990s, with lung, breast, and colorectal cancers the most frequently diagnosed cancers in this age group.[216] In 2012, the share of lung and breast cancer declined with advancing age, while the share of colorectal cancers increased (Table 11).

Table 11
New primary breast, lung and colorectal cancer cases, by age group, female population aged 65 or older, Canada, 2012

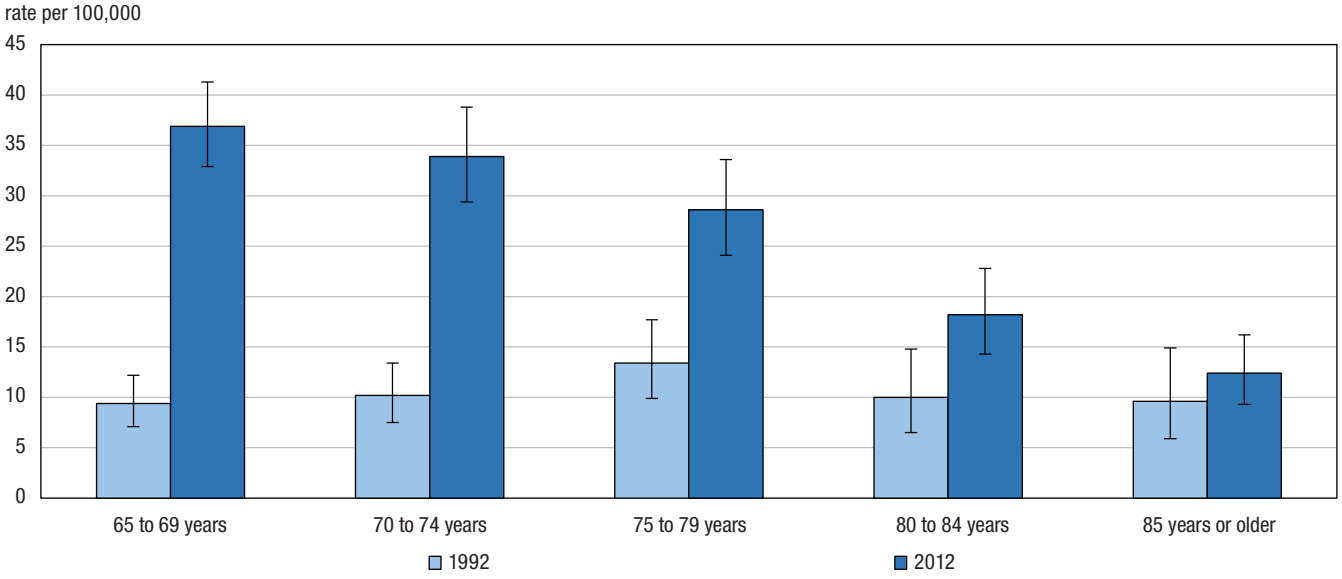
	Total, all primary sites			Breast				Lung				Colon and rectum			
	rate per 100,000	95% CI		rate per 100,000	95% CI		share of all primary site cases (%)†	rate per 100,000	95% CI		share of all primary site cases (%)†	rate per 100,000	95% CI		share of all primary site cases (%)†
		from	to		from	to			from	to			from	to	
Age group															
65 to 69	1285.6	1261.3	1310.3	354.1	341.4	367.2	27.5	217.9	208.0	228.2	16.9	148.3	140.1	156.8	11.5
70 to 74	1578.8	1547.7	1610.4	374.9	359.9	390.5	23.7	309.6	295.9	323.8	19.6	191.9	181.2	203.1	12.2
75 to 79	1746.2	1710.0	1782.9	357.5	341.2	374.3	20.5	338.8	323.0	355.2	19.4	252.1	238.5	266.3	14.4
80 to 84	1895.0	1853.2	1937.5	332.6	315.2	350.7	17.6	299.8	283.4	317.0	15.8	332.6	315.2	350.7	17.6
85 years or older	1844.8	1805.0	1885.2	308.0	291.9	324.8	16.7	222.3	208.6	236.6	12.0	331.7	315.0	349.1	18.0

† Share of all primary site cases per age group is the number of new cases of the cancer type in that age group divided by the total number of new primary site cancer cases for that age group, multiplied by 100.
Notes: Estimates are based on counts that have been randomly rounded to a lower or higher multiple of 5.
Cancer incidence data for Quebec are not available for 2011 and 2012 diagnosis years therefore the 2010 Quebec data have been copied forward into 2011 and 2012.
ICD-O-3 coding as follows: Breast: C50.0-C50.9; Lung and bronchus: C34.0-C34.9; Colon and rectum: C18.0-C18.9, C19.9, C20.9, C26.0.
Source: Statistics Canada, CANSIM table 103-0550, 2012.

215. Canadian Cancer Society's Advisory Committee on Cancer Statistics. 2015. *Canadian Cancer Statistics 2015*. Toronto, ON: Canadian Cancer Society.
216. Ibid.

Although thyroid cancer accounted for less than 2% of new cancer cases among women aged 65 or older in 2012, incidence has risen significantly since 1992, particularly among women aged 65 to 79 (Chart 32). The rapidly increasing incidence rate of thyroid cancer has been observed for women not only in Canada, but worldwide.[217]

Chart 32
Incidence of thyroid cancer, by age group, female population aged 65 or older, Canada, 1992 and 2012

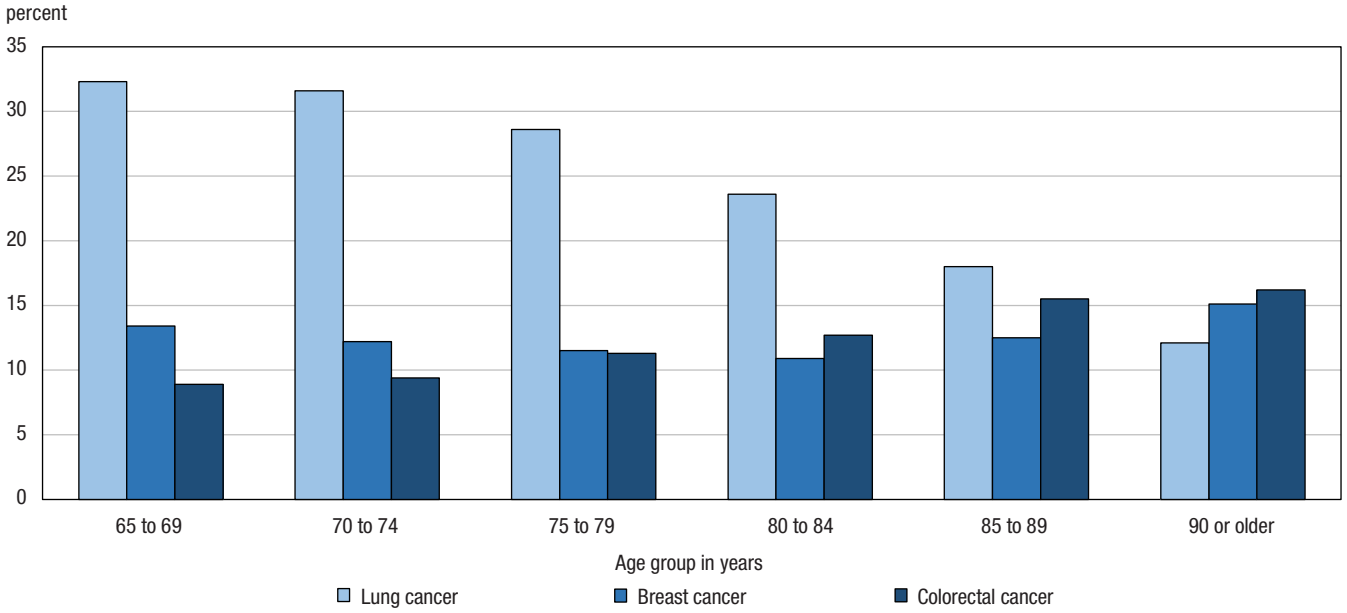


I = 95% confidence interval
Notes: Estimates are based on counts that have been randomly rounded to a lower or higher multiple of 5. ICD-O-3 coding as follows: Thyroid: C73.9.
Source: Statistics Canada, CANSIM table 103-0550, 1992 and 2012.

217. Ibid.

From 2001 to 2011, cancer was the leading cause of death for women aged 65 to 84, and was the second leading cause of death after heart disease for women 85 or older.[218] Breast, lung and colorectal cancer accounted for a significant share of all cancer deaths across most age groups (Chart 33). Deaths due to lung cancer were most prevalent at ages of 65 to 84, but declined with increasing age, while deaths due to colorectal cancer increased slightly with age. The five-year relative survival ratios for breast, lung and colorectal cancers for women[219] are 88%, 20% and 65%, respectively.[220]

Chart 33
Percentage of cancer mortality due to lung, breast and colorectal cancer, by age group, female population aged 65 or older, Canada, 2011



Notes: ICD-10 coding as follows: Lung (includes trachea and bronchus): C33-C34; Breast: C50; Colorectal (includes colon, rectum and anus): C18-C21.
Source: Statistics Canada, CANSIM table 102-0551, 2011.

See the *Adulthood* section for a discussion of cancers of the reproductive system.

218. Statistics Canada, CANSIM table 102-0561, 2000-2011.
219. Includes all women aged 15 to 99 at diagnosis, excludes Quebec.
220. Canadian Cancer Society's Advisory Committee on Cancer Statistics. 2015. *Canadian Cancer Statistics 2015*. Toronto, ON: Canadian Cancer Society.

Hypertension

In 2013/2014, about 1.4 million women aged 65 or older living in households reported that they had been diagnosed with high blood pressure.[221] Women aged 85 or older had a higher prevalence of a high blood pressure diagnosis than women aged 65 to 84, whereas men aged 75 to 84 had a higher prevalence than the men in the other age groups (Table 12). In 2012/2013, 54% of women and 51% of men aged 60 to 79 were categorized as hypertensive, defined as taking blood pressure medication and/or having a measured systolic blood pressure greater or equal to 140 mm Hg or measured diastolic blood pressure greater or equal to 90 mm Hg.[222]

Table 12
Prevalence of selected chronic conditions, by sex and age group, household population aged 65 or older, Canada, 2013/2014

	High blood pressure						Heart disease						Stroke						Diabetes					
	Women			Men			Women			Men			Women			Men			Women			Men		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
		from	to		from	to		from	to		from	to		from	to		from	to		from	to		from	to
Age group																								
Total	48.4	47.4	49.5	46.5	45.3	47.8	13.7	13.0	14.4	20.1	19.1	21.2	3.3	3.0	3.8	4.0	3.6	4.5	15.5	14.6	16.4	20.6	19.6	21.7
65 to 74	44.6	43.1	46.0	44.7	43.0	46.4	9.3	8.6	10.1	16.7	15.5	18.0	2.1	1.7	2.5	3.2	2.7	3.9	14.4	13.3	15.7	20.6	19.2	22.1
75 to 84	53.5	51.7	55.3	50.6	48.4	52.7	17.3	15.9	18.9	24.9	23.0	26.9	4.4	3.7	5.1	5.0	4.3	5.9	17.4	16.0	18.9	22.0	20.2	23.8
85 years or older	55.0	51.7	58.2	45.4	41.1	49.8	26.8	23.9	29.9	28.8	24.9	33.0	7.3	5.4	9.8	6.9	5.0	9.4	15.6	13.0	18.6	15.1	12.1	18.5

Note: These conditions have lasted or are expected to last at least 6 months or more
Source: Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.

Despite improvements in hypertension awareness and control over the past 20 years, older women are significantly less likely than older men to have their blood pressure controlled with antihypertensive medication. One study found the percentage of women aged 60 to 69 whose blood pressure was not controlled was 19%, compared with 7% of men in this age group; among those aged 70 to 79, the percentages were 37% versus 18%.[223] Similar differences have been observed in other countries, but the reasons for this remain unclear.

Heart disease

In 2013/2014, about 380,000 women aged 65 or older living in households reported that they had been diagnosed with heart disease.[224] Prevalence was higher among the oldest women: 27% at age 85 or older versus 9% at ages 65 to 74 (Table 12). At ages 65 to 84, women were less likely than men to report heart disease. As was mentioned in the *Adulthood* section, the rate of new acute myocardial infarction events admitted to acute care hospitals is significantly lower for women than for men.[225]

In 2011, about 21,000 women and 20,000 men aged 65 or older died of heart disease.[226] Mortality rates for heart disease have declined over time, but it remains the second leading cause of death for women (and men) aged 65 to 84, and the leading cause of death for women (and men) aged 85 or older.[227] From 2000 through 2011, mortality rates for women aged 65 or older were consistently lower than for men. For example, in 2011, the mortality rate for heart disease among women aged 65 to 69 was 118.1 per 100,000 versus 302.2 per 100,000 for men in this age group.[228]

Stroke

Stroke is a sudden loss of brain function caused by the interruption of flow of blood to the brain or the rupture of blood vessels in the brain.[229] In 2013/2014, about 95,000 women aged 65 or older living in households reported suffering from the effects of a stroke, representing about 3% of women in this age group. Reported prevalence among women increased with age and did not differ significantly from men (Table 12).

In 2011, about 7,200 women aged 65 or older died of cerebrovascular diseases, including stroke.[230] Similar to heart disease, mortality rates due to cerebrovascular diseases dropped significantly (by an average 43%) between 2000

221. Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.
222. Statistics Canada, CANSIM table 117-0011, 2013.
223. Wilkins K et al. Blood pressure in Canadian adults. *Health Reports* 2010; 21 (1): 1-10.
224. Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.
225. Canadian Institute for Health Information. Health Indicators Interactive Tool. Available at: http://yourhealthsystem.cihi.ca/epub/?language=en&healthIndicatorSelection=Event_AMI. Accessed September 29, 2015.
226. Statistics Canada, CANSIM table 102-0561, 2011.
227. Statistics Canada, CANSIM table 102-0561, 2000-2011.
228. Statistics Canada, CANSIM table 102-0551, 2011.
229. Heart and Stroke Foundation. What is a stroke? Available at: http://www.heartandstroke.com/site/c.ikIQLcMWJtE/b.3483935/k.736A/Stroke__What_is_Stroke.htm. Accessed October 16, 2015.
230. Statistics Canada, CANSIM table 102-0551, 2011.

and 2011 for both women and men.[231] Despite the decline, mortality due to cerebrovascular disease has been the fourth leading cause of death for women aged 65 for 74 since 2002, and the third leading cause of death for women 75 or older since 2000.[232]

Stroke is more a disabling disease than a fatal one.[233] In 2013/2014, women aged 65 or older living in households who reported suffering the effects of stroke were twice as likely (60% versus 24%) to report often experiencing activity limitations and to perceive their health-related quality of life to be significantly lower, compared with women who did not report a stroke (results similar for men, data not shown).

Diabetes

Diabetes is a chronic disease that occurs when the body is either unable to sufficiently produce or properly use insulin.[234] In 2013/2014, about 430,000 women aged 65 or older living in households reported having been diagnosed with diabetes.[235] Prevalence was similar across age groups, averaging about 16% (Table 12). This is an increase from the number of women (355,000) who reported having been diagnosed with diabetes in 2009, and a marginal increase from the prevalence of 15%.[236] As was the case in 2009, women were less likely than men to report having been diagnosed with diabetes, particularly at ages 65 to 84. Obesity is the most important risk factor for type 2 diabetes and its complications.[237] In 2013/2014, 46% of women 65 or older who reported having been diagnosed with diabetes were categorized as obese, compared with 23% of women without diabetes.[238]

Diabetes significantly increases the risk of cardiovascular disease.[239] In 2013/2014, compared with women aged 65 or older who did not report having been diagnosed with diabetes, those with diabetes were more likely to report having been diagnosed with high blood pressure (69% versus 45%) and heart disease (23% versus 12%).[240] A similar pattern was observed for men (data not shown).

As was the case for younger adults, older people with diabetes are more likely than someone without diabetes to see a family physician or a specialist. In 2013/2014, women 65 or older with diabetes reported an average of six visits in the past 12 months to a doctor or specialist, compared with a reported average of four visits among women without diabetes.[241]

See the *Adulthood* section for a discussion of diabetes as a contributing and underlying cause of death.

Urinary incontinence among older women

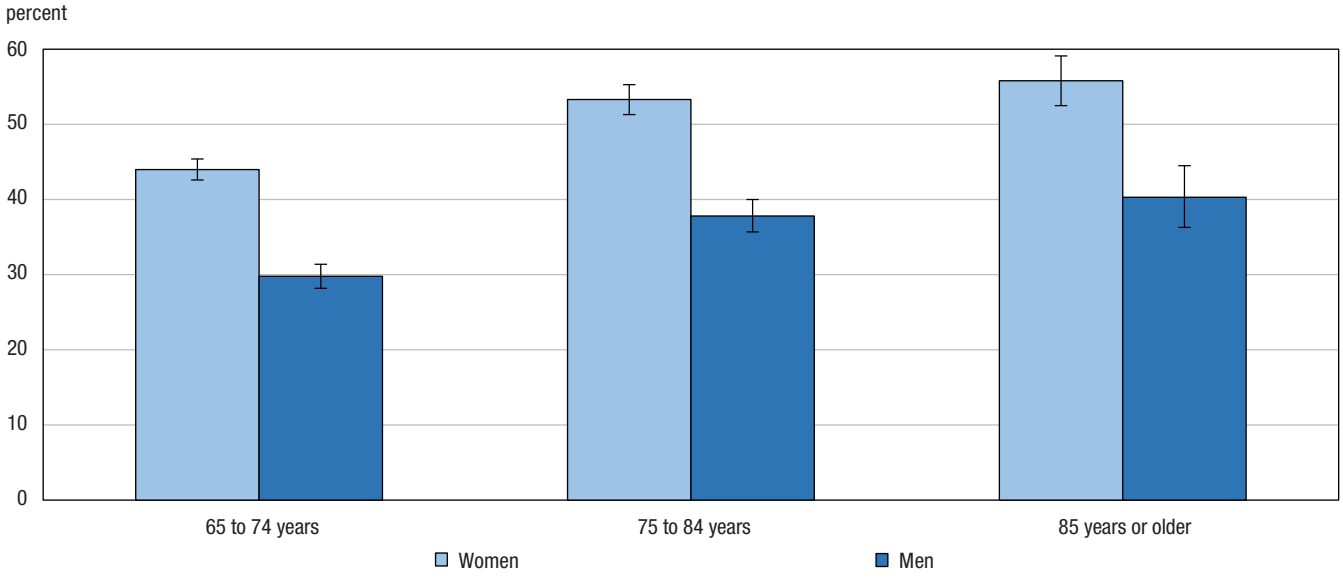
Urinary incontinence (UI) is the involuntary leakage of urine.[242] In 2013/2014, 380,000 women aged 65 or older living in households reported having been diagnosed with urinary incontinence.[243] Overall, women were more likely than men to report having been diagnosed (14% versus 9%), and the percentage of women with UI increased with age: 10% at ages 65 to 74, 15% at ages 75 to 84, and 28% at age 85 or older.[244] UI can have a negative impact on a person's well-being. A 2013 study found that UI was significantly associated with loneliness among people aged 65 or older, even when frequency of social participation, availability of social support, and level of disability were taken into account.[245] Although the prevalence of UI is higher among women than men, the social impact, at least in terms of loneliness, was similar for both sexes.

231. Ibid.
232. Statistics Canada, CANSIM table 102-0561, 2000-2011.
233. Public Health Agency of Canada. 2009. Tracking heart disease and stroke in Canada. Catalogue no. HP32-3/2009E-PDF. Ottawa.
234. Public Health Agency of Canada. 2011. Diabetes in Canada: Facts and figures from a public health perspective. Catalogue no. HP35-25/2011E-PDF. Ottawa.
235. Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.
236. Turcotte M. Women and Health. In: *Women in Canada: A gender-based statistical report*. Catalogue 89-503-X. Ottawa: Statistics Canada, 2011.
237. Public Health Agency of Canada. 2011. Diabetes in Canada: Facts and figures from a public health perspective. Catalogue no. HP35-25/2011E-PDF. Ottawa.
238. Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.
239. Public Health Agency of Canada. 2011. Diabetes in Canada: Facts and figures from a public health perspective. Catalogue no. HP35-25/2011E-PDF. Ottawa.
240. Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.
241. Ibid.
242. Bartoli S et al. Impact on quality of life of urinary incontinence and overactive bladder: A systematic literature review. *Urology* 2010; 75(3): 491-501.
243. Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.
244. Ibid.
245. Ramage-Morin PL et al. Urinary incontinence and loneliness in Canadian seniors. *Health Reports* 2013; 24(10): 3-10.

Arthritis and osteoporosis

The term "arthritis" describes more than 100 rheumatic diseases and conditions that affect a joint or joints, causing pain, swelling, and stiffness.[246] In 2013/2014, just over 1.3 million women aged 65 or older (48%) living in households reported having been diagnosed with arthritis. The prevalence of arthritis increases with age (44% at ages 65 to 74, compared with 56% at age 85 or older), and the percentage of women affected is larger than the percentage of men (Chart 34).

Chart 34
Prevalence of arthritis, by sex and age group, household population aged 65 or older, 2013 to 2014



I = 95% confidence interval
Source: Statistics Canada, 2013-2014 Canadian Community Health Survey, custom tabulation.

Osteoporosis is a bone disease in which the amount and quality of the bone is reduced, leading to fractures.[247] As is the case with arthritis, women are affected more than men. In the 2009-to-2013 period, 24% of women aged 65 to 79 living in households reported having been diagnosed with osteoporosis, compared with 6% of men in the same age group.[248] Calcium, which is essential for bone health, and vitamin D, which improves the absorption of calcium, are frequently mentioned in the prevention and treatment of osteoporosis. Supplements as treatment were evident in a 2011 study that found women (and men) diagnosed with osteoporosis were more likely than those without osteoporosis to report taking calcium and vitamin D supplements.[249] And according to the 2012/2013 Canadian Health Measures Survey, measured levels of vitamin D were higher among those aged 65 to 79 diagnosed with osteoporosis than among those who were not (data not shown).

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Chronic obstructive pulmonary disease

Chronic obstructive pulmonary disease (COPD) is characterized by gradual airway obstruction, shortness of breath, cough, and sputum production.[250] The reported prevalence of COPD differs little between women and men. In 2014, about 8% of women and 7% of men 65 or older living in households reported having been diagnosed with COPD.[251] However, evidence suggests that COPD is underdiagnosed in Canada. In 2012/2013, the Canadian Health Measures Survey asked about diagnosed COPD and also conducted a spirometry test to identify those with measured airflow obstruction consistent with COPD. An estimated 90% of those who had "measured" COPD did not report being previously diagnosed by a health care professional,[252] and COPD prevalence, either self-reported or measured, among women and men aged 60 to 79 living in households was about 15%.[253]

Alzheimer's disease

Dementia is an overall term for a set of symptoms that are caused by disorders affecting the brain; symptoms may include memory loss and difficulties with thinking, problem-solving or language.[254] Alzheimer's disease is one of the most common forms of dementia.[255] The POHEM-Neurological microsimulation project estimated that, in 2011, 310,000 people aged 65 or older were living with Alzheimer's disease and other dementias, and that this number would double by 2031.[256]

According to the 2011/2012 Survey on Living with Neurological Conditions in Canada, the average age at symptom onset of Alzheimer's disease and other dementias was 73.6 for women and 70.2 for men, while the average age at diagnosis was 75.8 and 72.2, respectively.[257] In 2011, Alzheimer's disease was the tenth leading cause of death of women aged 65 to 74, fifth for women aged 75 to 84, and fourth for women aged 85 or older.[258] It had a lower ranking among men across the same age groups: 16th, 8th, and 7th, respectively.

Parkinson's disease

Parkinson's is a neurodegenerative disease whose symptoms include tremor, slowness and stiffness, impaired balance and rigidity of the muscles.[259] Studies suggest that Parkinson's occurs less commonly in women than in men.[260] In 2010/2011, 0.6% of women aged 65 to 79 living in households reported having been diagnosed with Parkinson's, compared with 1.2% of men; at age 80 or older, 1% of women had Parkinson's, compared with 2.1% of men.[261] Similarly, for those living in institutions, Parkinson's was less common among women than men: 6% versus 9% at ages 65 to 79, and 4% versus 8% at age 80 or older.[262]

Parkinson's ranked 14th as a cause of death for women aged 65 to 74 in 2011.[263] Its ranking was 11th and 13th for women aged 75 to 84 and aged 85 or older, respectively. Among men, the ranking was slightly higher for the same three age groups: 13th, 9th, and 11th.

Sexually transmitted infections (STIs) among older people

Although significantly lower than among younger people—see the *Adolescence* and *Adulthood* sections—rates of chlamydia and gonorrhea have been increasing among those aged 60 or older. Women in this age group had the highest relative rate increase between 2003 and 2012 for these two STIs (267% and 188%, respectively), compared with all other age groups.[264] In 2012, the rates of chlamydia and gonorrhea for women aged 60 or older were 3.2 and 0.7 per 100,000, respectively. However, women aged 60 or older had lower rates of chlamydia and gonorrhea than did men in this age group (data not shown).

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Mental health

Self-reported mental health

While life satisfaction has declined slightly over time for women (and men) aged 65 or older living in households, about 89% of women in this age group reported being satisfied or very satisfied with life in general in 2013/2014.[265] The prevalence of satisfaction among women was higher at ages 65 to 74 (91%) than at age 85 or older (85%). At the same time, 13% of women aged 65 or older reported perceiving most days in their life as quite a bit or extremely stressful, and 6% perceived their mental health as fair or poor.

Although the percentages of women and men aged 65 or older living in households who met the criteria for a diagnosis of selected mental disorders in the previous 12 months were similar, the prevalence of diagnoses within their lifetimes was different. In 2012, the percentage of women who met the criteria of generalized anxiety disorder or a major depressive episode in their lifetime was higher (8% and 9%, respectively), compared with men (5% for both).[266] Seniors living in households are much less likely to report depression than seniors living in care. A study of seniors in residential care facilities (such as long-term care, nursing or personal care homes) in five Canadian jurisdictions found that 44% had a diagnosis and/or symptoms of depression.[267]

Social well-being

Social well-being plays a part in healthy aging and is influenced by factors that include satisfaction with life and social connectedness with others. Older Canadians who are not able to access or do not participate in social support networks may lack social connectedness, become isolated or lonely, or lack a sense of belonging.[268]

In 2013/2014, 74% of women aged 65 or older living in households reported a somewhat to very strong sense of belonging to their local community.[269] Compared with those with a somewhat weak or weak sense of belonging, those with a strong sense of belonging were more likely to have very good or excellent perceived mental health (72% versus 59%) and very good or excellent overall health (51% versus 37%). They were also more likely to be satisfied or very satisfied with their life (93% versus 81%), and less likely to report that their life was quite a bit or extremely stressful (10% versus 18%).

A 2012 study of people aged 65 or older living in households found that women were more likely than men to report being lonely, even though older women participate in social activities more frequently than older men.[270] Those with greater social participation were more likely to perceive their health to be very good or excellent, and less likely to report loneliness or life dissatisfaction, regardless of age, sex, income, education, retirement status, disability, and behavioural risk factors.

Use of mental health services

According to the Canadian Community Health Survey, older people were less likely than younger adults to report that they perceive a need for mental health care. In 2012, 13% of women and 9% of men aged 65 or older reported a need for mental health care (compared with 22% of women and 13% of men aged 45 to 64). However, among those 65 or older who perceived a need, 80% of women and 74% of men reported that all their needs were met.[271] This was significantly higher than for those aged 45 to 64 (see *Adulthood* section).

Data from the Canadian Chronic Disease Surveillance System show that the annual rates of use of health services for mental illness among people aged 55 or older remained relatively stable from 1996/1997 to 2009/2010. In 2009/2010, rates for women and men aged 60 to 74 were *lower* than for adults aged 35 to 59, while people aged 80 or older had the highest percentage at 24%.[272] The latter may be the result of the inclusion of diagnostic codes for dementias in the mental illness definition. Rates for women aged 65 or older were, on average, 1.2 to 1.4 times higher than for men.

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