29,288 **expected cancer deaths in 2016, nearly double the number of deaths in 1981**

3

Mortality

While the number of cancer deaths in Ontario (mortality count) has increased annually since at least 1981, the mortality rate has declined.

In general, cancer mortality is affected by:

- the incidence of cancer;
- socio-demographic factors;
- the extent of early detection for cancer; and
- the availability of and access to effective treatment for cancer.

Mortality counts and rates

In 2012, there were 27,442 cancer deaths in Ontario, resulting in an age-standardized mortality rate (ASMR) of 202.4 per 100,000 (**Table 3.1**). For both sexes combined, the highest ASMR were for lung (49.9 per 100,000), colorectal (22.9 per 100,000) and pancreatic (12.1 per 100,000) cancers.

The ASMR for all cancers was higher for males (243.7 per 100,000) than for females (173.5 per 100,000). Males had higher mortality rates than females for every type of cancer analyzed. Among males the highest ASMR were for lung, colorectal and prostate cancers. For females, the highest ASMR were for lung, breast and colorectal cancers.

While the most commonly diagnosed cancers (lung, colorectal, breast and prostate) were responsible for almost 50% of all cancer mortality in 2012, some of the less commonly diagnosed cancers made a relatively large contribution to mortality due to their poor prognosis and low survival rates. For example, pancreatic, stomach and brain cancers combined accounted for more than 11% of all cancer deaths in 2012.

Pancreatic, stomach and brain cancers combined accounted for more than 11% of all cancer deaths in 2012.

Although the number of cancer deaths has been increasing since 1981, the ASMR for all cancers decreased between 1981 and 2016 for both sexes combined and for males and females individually (**Figures 3.1, 3.2** and **3.3**).

Projected mortality for 2016 estimates that 29,288 deaths will be caused by cancer, resulting in an ASMR of 190.4 per 100,000 (data not shown). The ASMR is projected to be significantly higher for males (227.3 per 100,000) than for females (163.1 per 100,000), but lower for each sex compared to actual rates in 2012. These lower anticipated rates in 2016 are mainly due to expected decreases in prostate cancer mortality.

Distribution of deaths for selected cancers, 2012

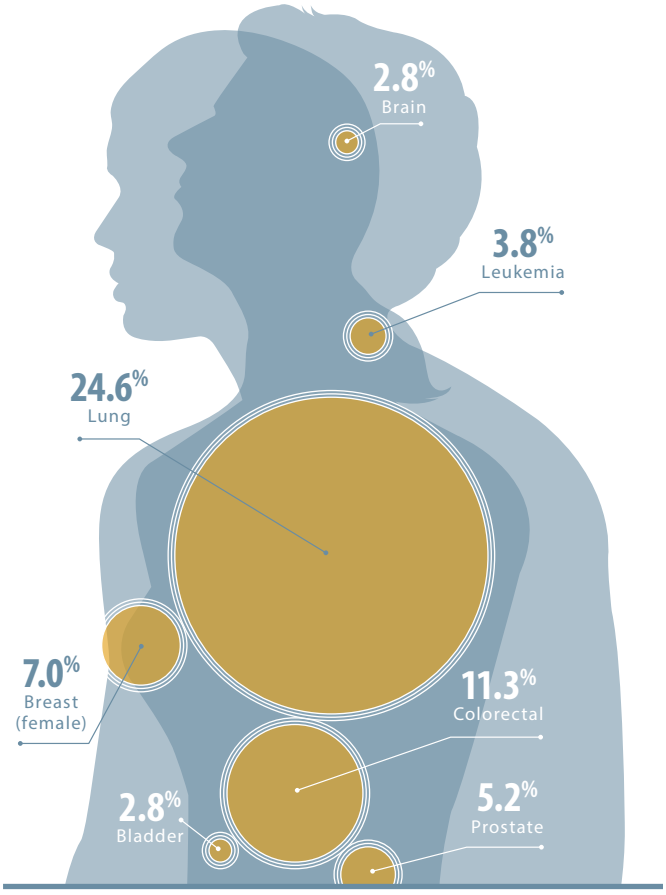


Figure 3.1 Mortality counts and age-standardized rates, all cancers combined, Ontario, 1981–2016

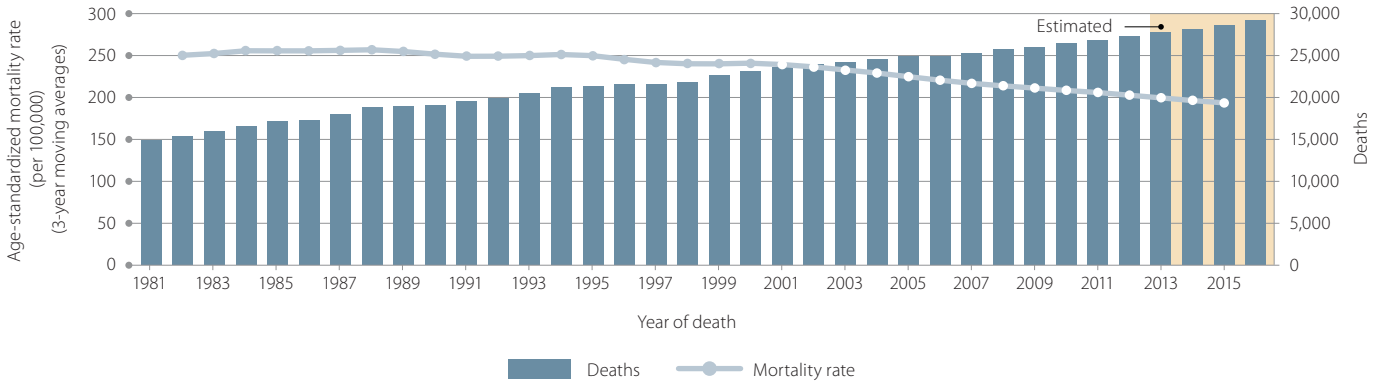


Figure 3.2 Mortality counts and age-standardized rates, all cancers combined, males, Ontario, 1981–2016

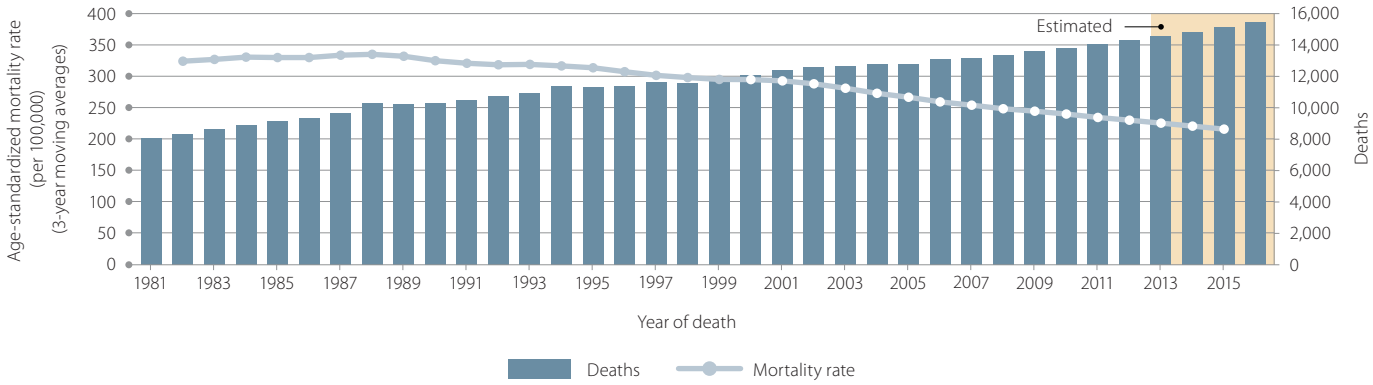
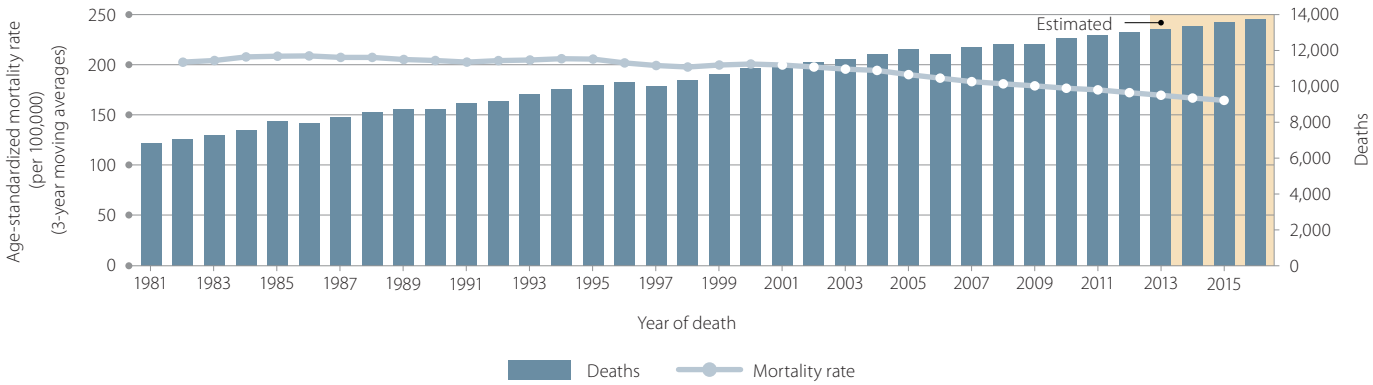


Figure 3.3 Mortality counts and age-standardized rates, all cancers combined, females, Ontario, 1981–2016



Note: Rates standardized to the 2011 Canadian population
Analysis by: Surveillance, Analytics and Informatics, CCO
Data source: CCO SEER*Stat Package Release 10—OCR (August 2015)

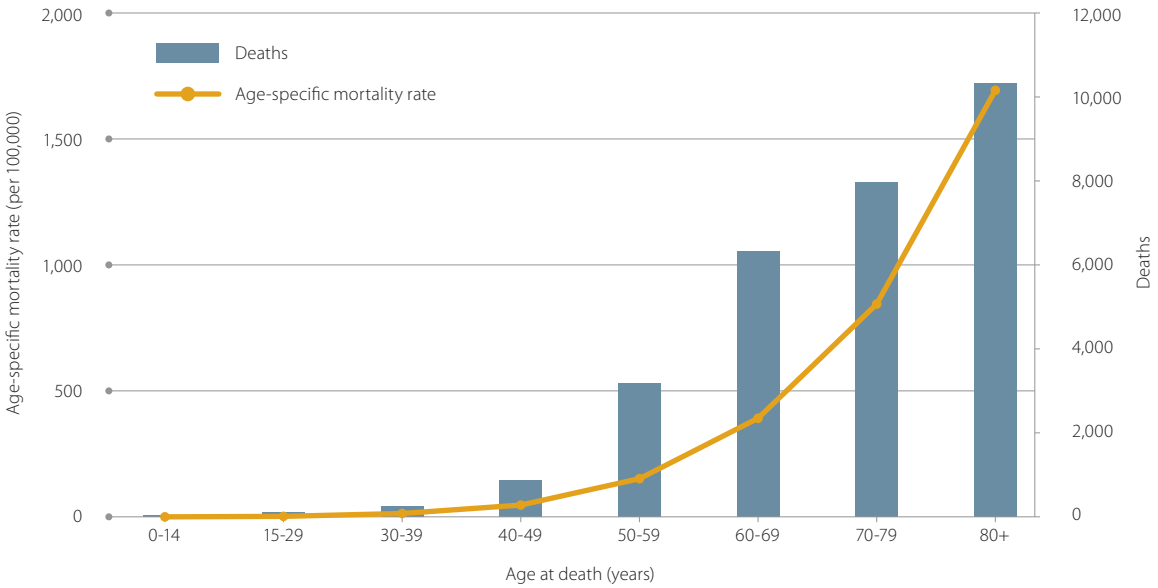
Mortality by age group

Mortality projections for the year 2016 estimate that more than 60% of all cancer deaths in Ontario will occur in people 70 years of age and older (**Figure 3.4**). Mortality by age group is projected as follows:

- 35.6% of all cancer deaths will occur in people 80 years of age or older.
- 27.4% of all cancer deaths will occur in people 70 to 79 years of age.
- 21.7% of all cancer deaths will occur in people 60 to 69 years of age.
- 10.9% of all cancer deaths will occur in people 50 to 59 years of age.
- 3.0% of all cancer deaths will occur in people 40 to 49 years of age.
- 1.4% of all cancer deaths will occur in people younger than 40 years of age.

Mortality projections for the year 2016 estimate that more than 60% of all cancer deaths in Ontario will occur in people 70 years of age and older.

Figure 3.4 **Estimated mortality counts and age-specific rates, all cancers combined, by age group, Ontario, 2016**



Analysis by: Surveillance, Analytics and Informatics, CCO
Data source: CCO SEER*Stat Package Release 10—OCR (August 2015)

The greatest proportion of female breast cancer deaths (31.9%) will occur among women 80 years of age and older (**Figure 3.5**). However, 2.2% of all breast cancer deaths will occur in females under the age of 40, meaning that, of the four most common cancers, breast cancer will cause the most mortality in younger people.

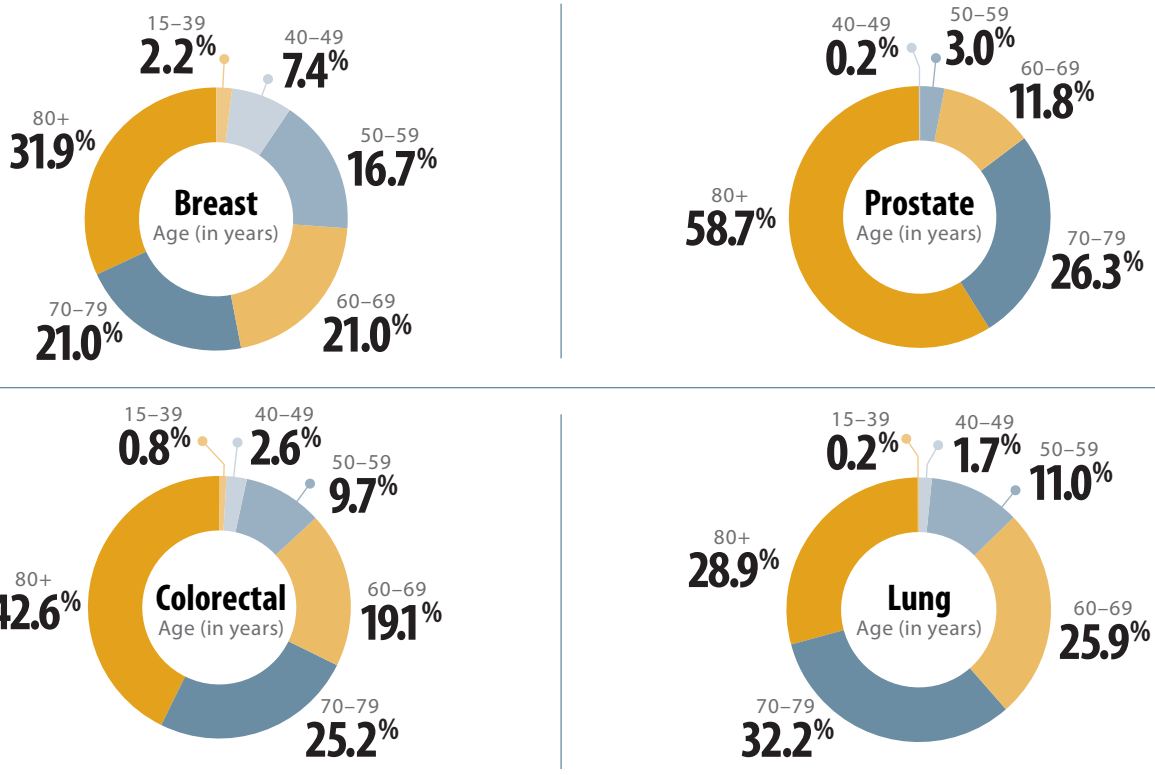
While prostate cancer will be diagnosed most frequently in males 65 to 74 years of age in 2016, most deaths from prostate cancer will occur in males 80 years and older. These mortality patterns reflect the often slow progression of the disease.

For many cancers the number of deaths increases with age. Deaths from lung cancer, however, will peak in people 70 to 79 years of age. This peak is a result of high incidence in this age group and poor overall survival for lung cancer.

The majority of cancer deaths due to colorectal cancer will occur in Ontarians 70 to 79 years of age (25.2%) and 80 years of age and older (42.6%). This reflects the large proportion of new colorectal cancer cases that occur in these particular age groups.

Between 1986 and 2016, the mortality rate for all cancers combined declined in people of all ages except those 80 years of age and older (**Table 3.2**). For those diagnosed at age 80 or older, the mortality rate remained fairly stable over this time period.

Figure 3.5 **Estimated mortality distribution for most common cancers, by age group, Ontario, 2016**



Note: There were no deaths from prostate cancer under the age of 40
Estimated number of deaths: breast n=1929; colorectal n=3342; lung n=7178; prostate n=1559
Analysis by: Surveillance, Analytics and Informatics, CCO
Data source: CCO SEER*Stat Package Release 10—OCR (August 2015)

Mortality trends over time

After a period of increase, the cancer mortality rate in Ontario has been decreasing in recent decades. Between 1981 and 1985, the ASMR increased by 1.1% per year. The rate then decreased by 0.5% per year between 1985 and 2001, and by 1.5% between 2001 and 2012 (**Table 3.3**).

PROSTATE CANCER

The prostate cancer ASMR increased between 1981 and 1994 by 1.6% per year and then decreased by 2.8% per year from 1994 to 2012. This decline in mortality is likely due to early detection and improved treatments.

Prostate cancer ASMR decreased 2.8% per year between 1994 to 2012

FEMALE BREAST CANCER

The breast cancer ASMR has been declining since the mid-1980s. From 1986 to 1995 it decreased by 1.1% per year, and the decrease accelerated to 2.5% per year from 1995 to 2012. This fall in the mortality rate is likely due to increased participation in mammography screening, especially after the introduction of the provincial organized screening program. In addition, improved treatment and the use of more effective therapies following breast cancer surgery likely also contributed to the improvement in the mortality rate.[1]

Breast cancer ASMR decreased 2.5% per year between 1995 to 2012

COLORECTAL CANCER

The colorectal cancer ASMR has continuously declined in both sexes since 1981. In males, the rate decreased by 1.2% per year from 1981 to 2003 and accelerated to 2.8% per year from 2003 to 2012. In females, the mortality rate has decreased by 1.9% per year since 1981. These strong declines are consistent with changes in risk factors and protective factors, earlier diagnosis due to greater uptake of screening and improvements in treatment.[2]

Colorectal cancer ASMR in males decreased 2.8% per year between 2003 to 2012

Lung cancer ASMR decreased by 1.3% between 2001 and 2012

Liver cancer ASMR increased by 2.4% between 1994 and 2012

Stomach cancer ASMR decreased by 2.3% between 1993 and 2012

LUNG CANCER

In males, the lung cancer ASMR began to level off in the late 1980s and declined by 2.1% per year between 1988 and 2012. The mortality rate in females increased by 7.4% per year from 1981 to 1985 and slowed to 1.9% per year from 1985 to 2000. The rate then stabilized between 2000 and 2012. Decreases in lung cancer mortality are largely attributable to decreased tobacco use. Tobacco use began to decline in the late 1950s for males and in the mid-1970s for females.[3,4] This approximately 15-year gap in peak smoking rates between males and females corresponds to the gap in the stabilization of lung cancer mortality rates between males and females.

OTHER TYPES OF CANCER

The liver cancer ASMR increased significantly after 1981. It increased by 4.2% per year between 1981 and 1994 but slowed to 2.4% per year between 1994 and 2012. This increase was probably at least partially driven by changes in the incidence rate, which increased over the same time period.

The stomach cancer mortality rate, on the other hand, decreased significantly between 1981 and 2012. It declined by 3.6% per year between 1981 and 1993 and slowed to 2.3% per year between 1993 and 2012. The decline in the stomach cancer mortality rate has been attributed to decreased exposure to *Helicobacter pylori (H.pylori)* infection, improvements in food preservation and refrigeration, lifestyle changes and better treatment.[5]

Changes in mortality rates between 1981 and 2012 for other cancer types are provided in **Table 3.3**.

Ten-year trends

Over the most recent 10-year period of 2003 to 2012 (**Figure 3.6**) the average annual percent change (AAPC) in the ASMR for males:

- decreased for most types of cancer, including Hodgkin lymphoma (4.2% per year), laryngeal cancer (3.3%) and testicular cancer (3.0%);
- increased for liver cancer (3.1%), brain cancer (1.7%), melanoma (1.2%) and esophageal cancer (0.3%); and
- was stable for thyroid and pancreatic cancers.

Fastest increase in mortality rates over the past 10 years

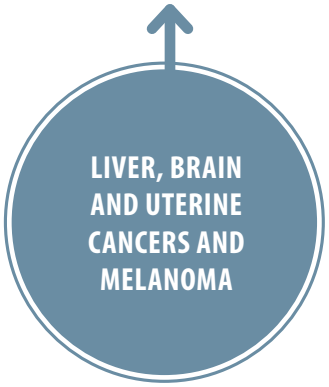
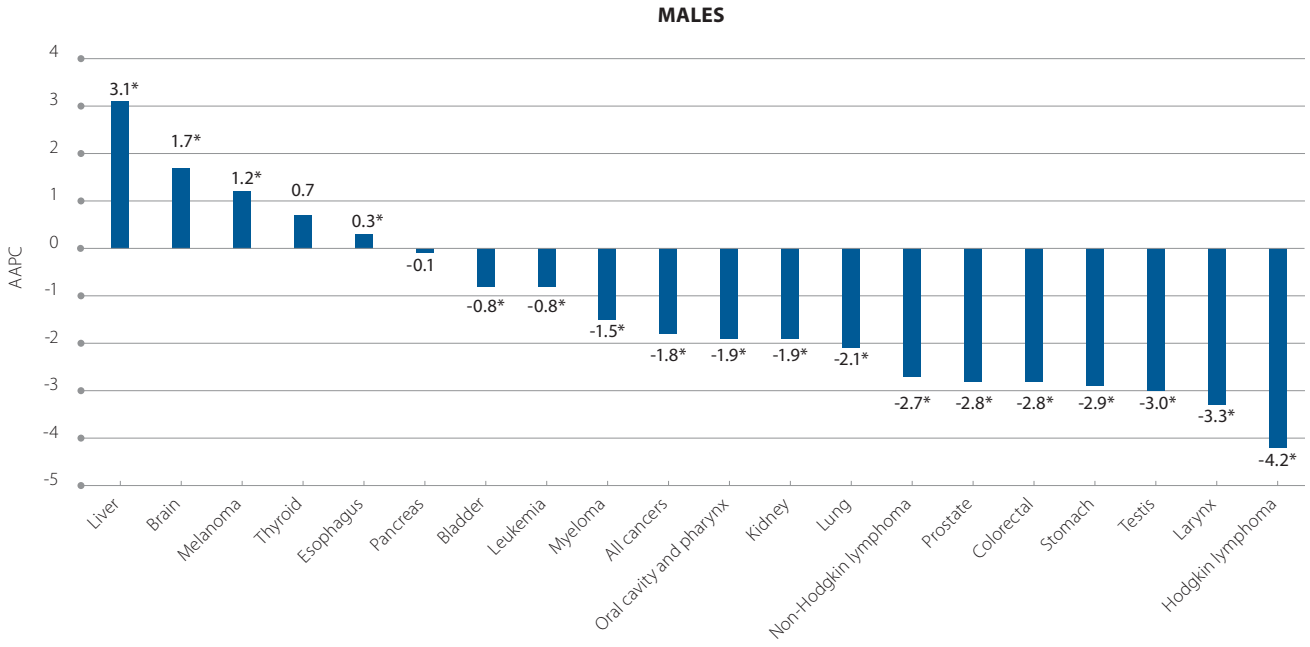


Figure 3.6 **Average annual percent change (AAPC) in mortality rates, by cancer type and sex, Ontario, 2003–2012**



*Statistically significant AAPC
Note: Rates standardized to the 2011 Canadian population
Analysis by: Surveillance, Analytics and Informatics, CCO
Data source: CCO SEER*Stat Package Release 10—OCR (August 2015)

For some cancers, such as liver cancer and melanoma, the increase in mortality rates are likely reflective of increases in incidence rates.

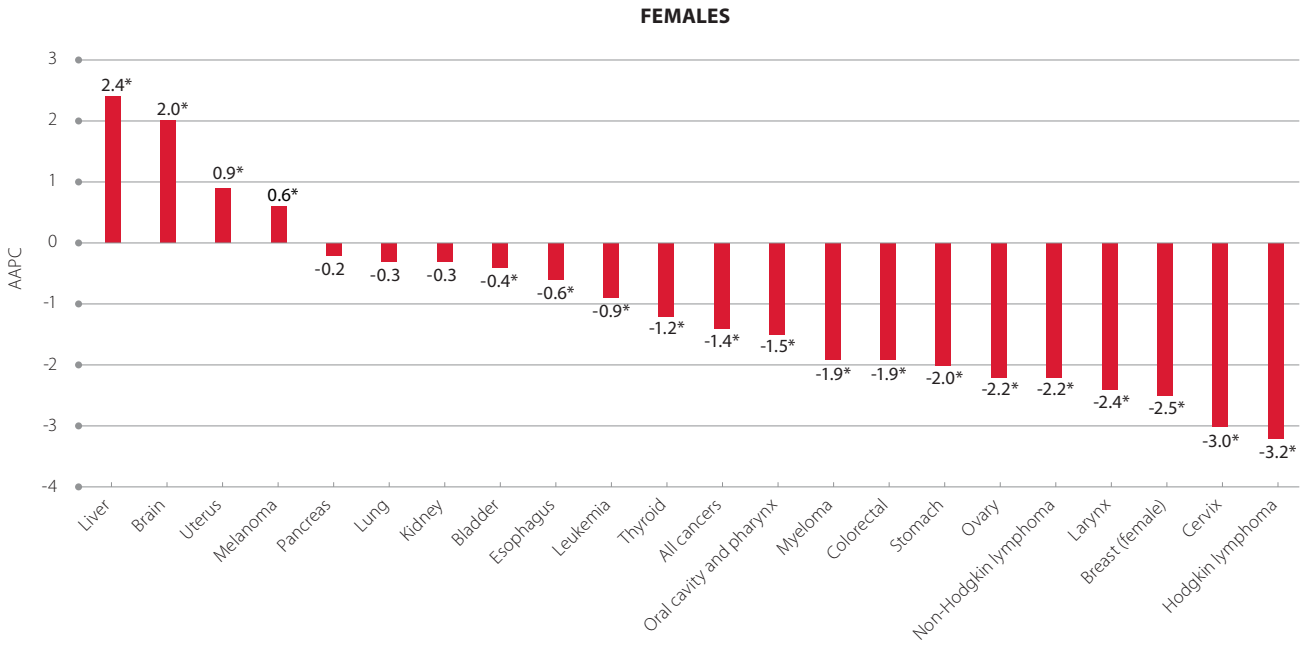
HODGKIN LYMPHOMA, FEMALE BREAST, LARYNGEAL, TESTIS AND CERVICAL CANCERS

Fastest decline in mortality rates over the past 10 years

Over the most recent 10-year period of 2003 to 2012 (**Figure 3.6**), the AAPC in the ASMR for females:

- decreased for most types of cancer, including Hodgkin lymphoma (3.2% per year), cervical cancer (3.0%) and breast cancer (2.5%);
- increased for liver cancer (2.4%), brain cancer (2.0%), uterine cancer (0.9%) and melanoma (0.6%); and
- was stable for pancreatic, lung and kidney cancers.

For some cancers, such as liver cancer and melanoma, the increase in mortality rates are likely reflective of increases in incidence rates.



Potential years of life lost

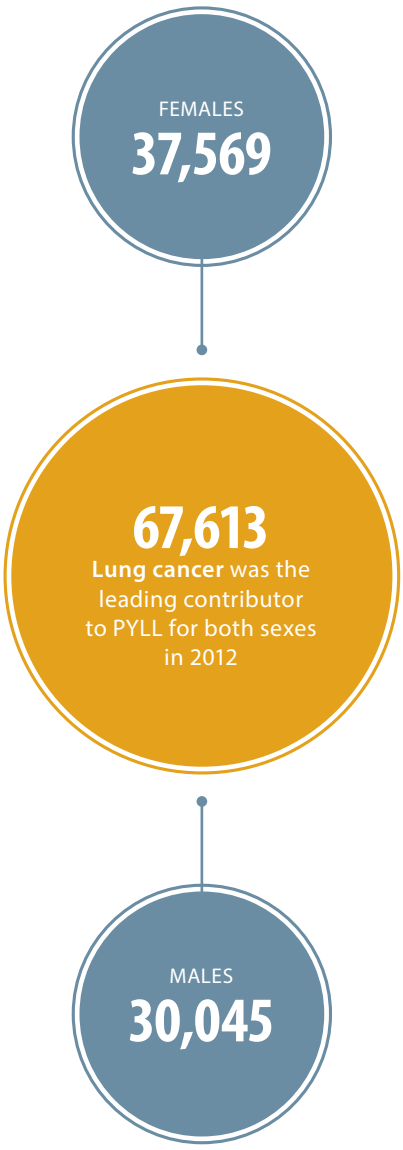
One frequently used measure of premature death in a population is the potential years of life lost (PYLL), which is the number of years of life lost when a person dies prematurely (defined in this report as before the average life expectancy for the population). PYLL gives more weight to deaths that occur among younger people. More years of life are lost due to cancers that are more common, have an earlier age of onset or have high mortality.

In 2012, the PYLL due to cancer in Ontario was 286,009 years for both sexes combined. The PYLL for females was 162,465 years, which was higher than the 123,544 years for males (**Table 3.4**). This difference was likely because women generally live longer than men and some female cancers, such as breast cancer, tend to cause death at a younger age.

Lung cancer was the leading contributor to PYLL for both sexes (67,613 years), accounting for 23.6% of all PYLL caused by cancer. Even though pancreatic cancer made up only 2.4% of the total cancer cases diagnosed in Ontario in 2012, it was the fourth highest contributor to PYLL (16,159 years) among all cancers. In both cases, the high PYLL number is the reflection of poor survival and the resulting high mortality. On the other hand, prostate was the fourth most commonly diagnosed cancer in 2012 but contributed only 1.7% of the total PYLL. This is because prostate cancer has high survival and tends to occur most often in older men.

Among males, lung cancer had the highest PYLL (30,045 years), followed by colorectal, stomach and pancreatic cancers. These four cancers together accounted for 50.2% of the total PYLL due to cancer in males. Although prostate cancer is more common than lung cancer among males (the number of new prostate cancer cases was more than 1.5 times higher than the number of new lung cancer cases in males in 2012), the PYLL due to lung cancer is more than six times higher than the PYLL due to prostate cancer (4,802 years).

Among females, lung (37,569 years), breast (29,450 years) and colorectal (13,569 years) cancers were the three most common causes of premature death from cancer, accounting for 49.6% of the total PYLL due to cancer. In comparison to males, the PYLL from female breast cancer far exceeds the PYLL from prostate cancer, reflecting the relatively young age at which women die from breast cancer.



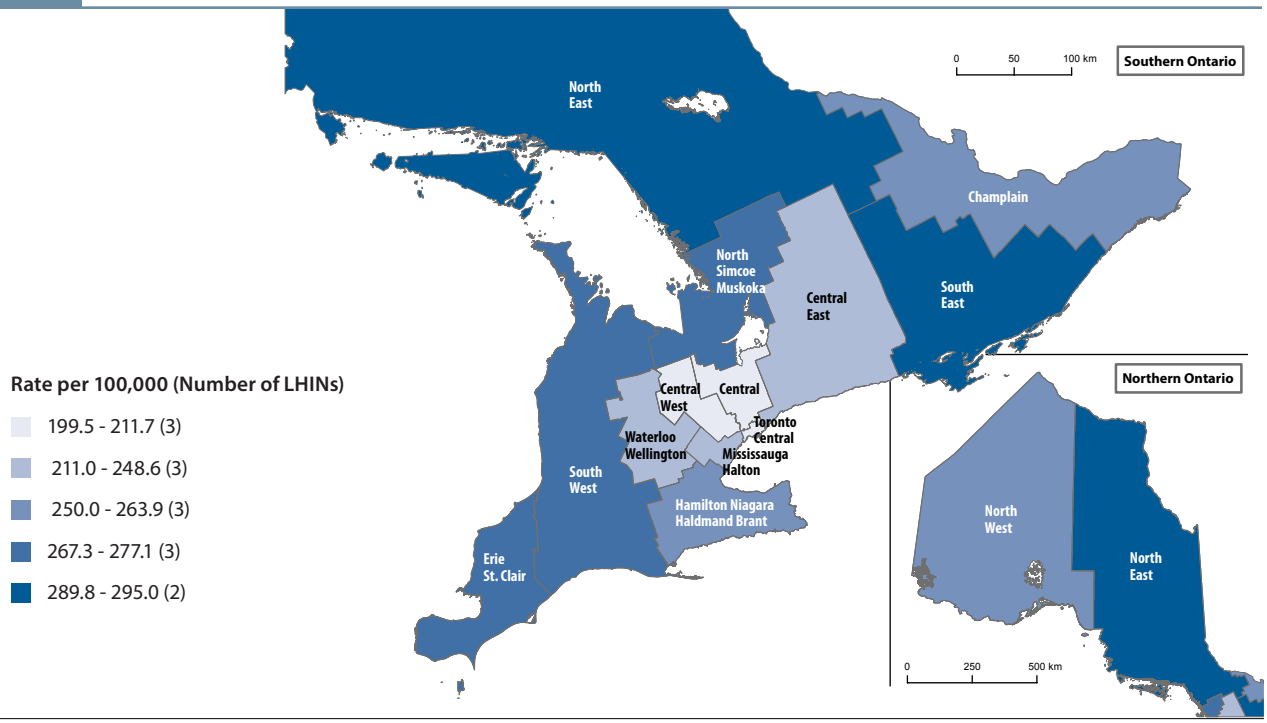
Mortality by geography

The same geographic factors that influence incidence—the prevalence of risk factors, the demographic makeup and regional differences in diagnostic and treatment practices—also affect mortality. Mortality rates by geography are presented for all cancers combined.

Among males (**Figure 3.7** and **Table DA.9** in the *Data appendix*):

- The LHINs with the lowest ASMR were Central, Central West and Toronto Central. Additionally, the mortality rates were significantly lower than the Ontario ASMR in the Mississauga Halton and Central East LHINs. Therefore, lower mortality rates occurred around the south-central Ontario region, somewhat coincident with lower incidence rates.
- Corresponding to the male incidence rates (**Figure 2.10**), the North East and the South East LHINs had the highest ASMR, both of which were significantly higher than the Ontario rate. Mortality rates were also significantly higher in the Erie St. Clair, the South West and the Hamilton Niagara Haldimand Brant LHINs.
- Similar to the incidence rates (**Figure 2.10**), the ASMR varied substantially across the LHINs in northern Ontario.

Figure 3.7 **Age-standardized mortality rates, males, by LHIN,† Ontario, 2012**



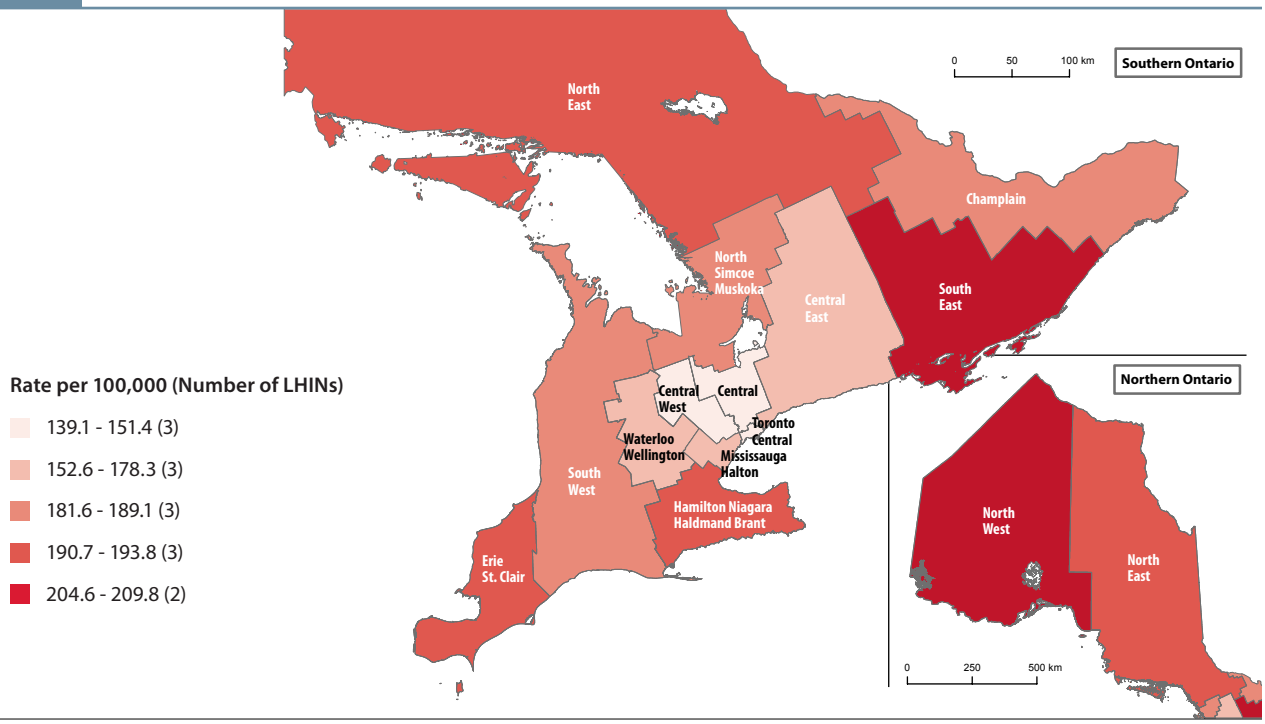
†LHIN=Local Health Integration Network
Note: Rates standardized to the 2011 Canadian population
Analysis by: Surveillance, Analytics and Informatics, CCO
Data source: CCO SEER*Stat Package Release 10—OCR (August 2015)

The North West, South East and North East LHINs recorded the highest ASMR among females.

Among females (**Figure 3.8** and **Table DA.10** in the *Data appendix*):

- The Central, Central West, Mississauga Halton and Toronto Central LHINs recorded ASMR significantly lower than the Ontario ASMR.
- The North West, South East and North East LHINs recorded the highest ASMR among females. Rates were significantly higher than the Ontario rate in these LHINs, and the Erie St. Clair and Hamilton Niagara Haldimand Brant LHINs.
- In general, female mortality rates paralleled male mortality rates across the LHIN's, with two exceptions. The North West LHIN's ASMR for females was significantly higher than the Ontario rate, but there was so significant difference in rates among males. The South West LHIN's ASMR for males was significantly higher than the Ontario rate, but there was no significant difference in rates among females.

Figure 3.8 **Age-standardized mortality rates, females, by LHIN,† Ontario, 2012**

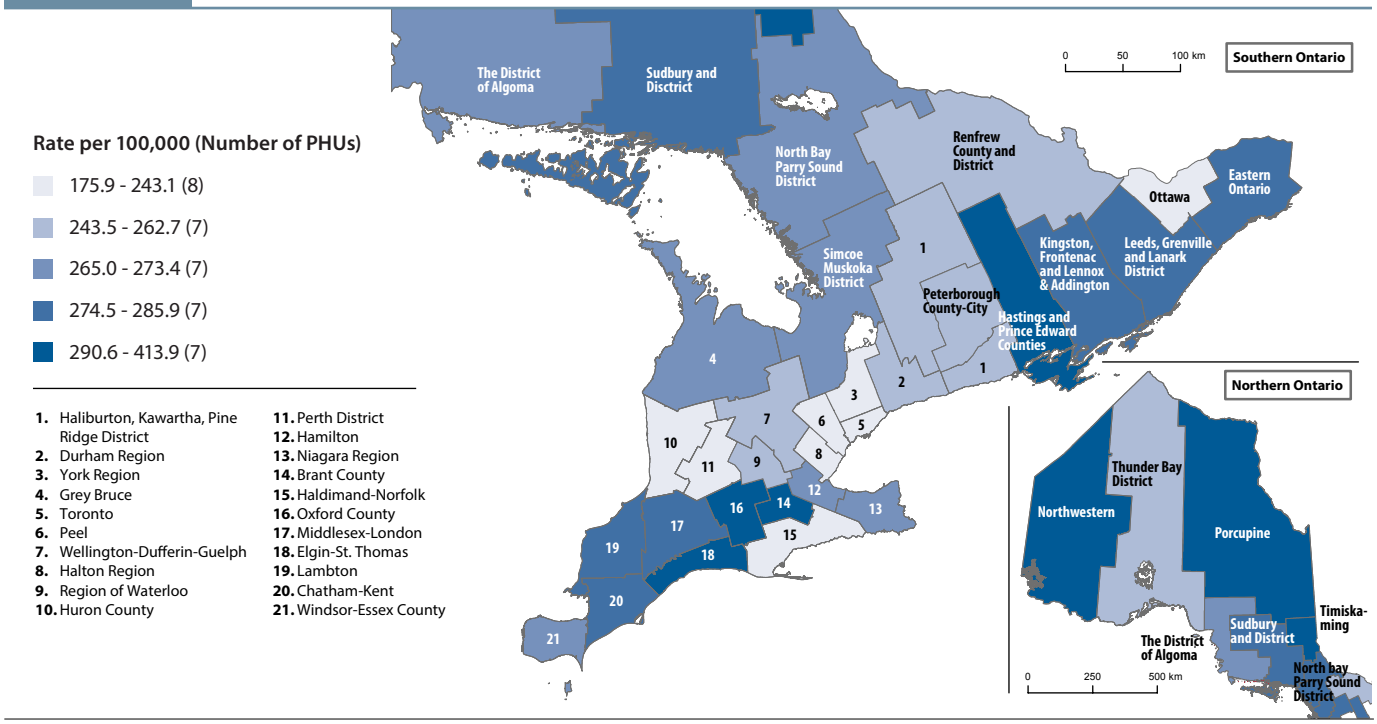


†LHIN=Local Health Integration Network
Note: Rates standardized to the 2011 Canadian population
Analysis by: Surveillance, Analytics and Informatics, CCO
Data source: CCO SEER*Stat Package Release 10—OCR (August 2015)

The smaller geographical unit of PHUs allow for more detailed patterns to be analyzed. Among males (**Figure 3.9** and **Table DA.11** in the *Data appendix*):

- PHUS in the Greater Toronto Area, (York Region, Peel and Toronto) had ASMR significantly lower than the Ontario ASMR.
- Thirteen PHUs had significantly higher ASMR among males compared to the Ontario rate: Timiskaming; Porcupine; Brant County; Elgin-St Thomas; Hastings and Prince Edward Counties; Oxford County; Kingston, Frontenac and Lennox & Addington; Leeds, Grenville and Lanark District; Eastern Ontario; Middlesex-London; Windsor-Essex County; Simcoe Muskoka District and City of Hamilton. Generally, higher rates tended to be found in small groups of adjacent PHUs across Ontario.
- Within the remaining south Ontario PHUs, the male ASMR were not significantly different than the Ontario rate and were geographically dispersed.
- High variability in ASMR among males was found in northern Ontario PHUs, and the pattern did not correspond to incidence rates found among males (see **Figure 2.12**).

Figure 3.9 **Age-standardized mortality rates, males, by PHU,† Ontario, 2012**

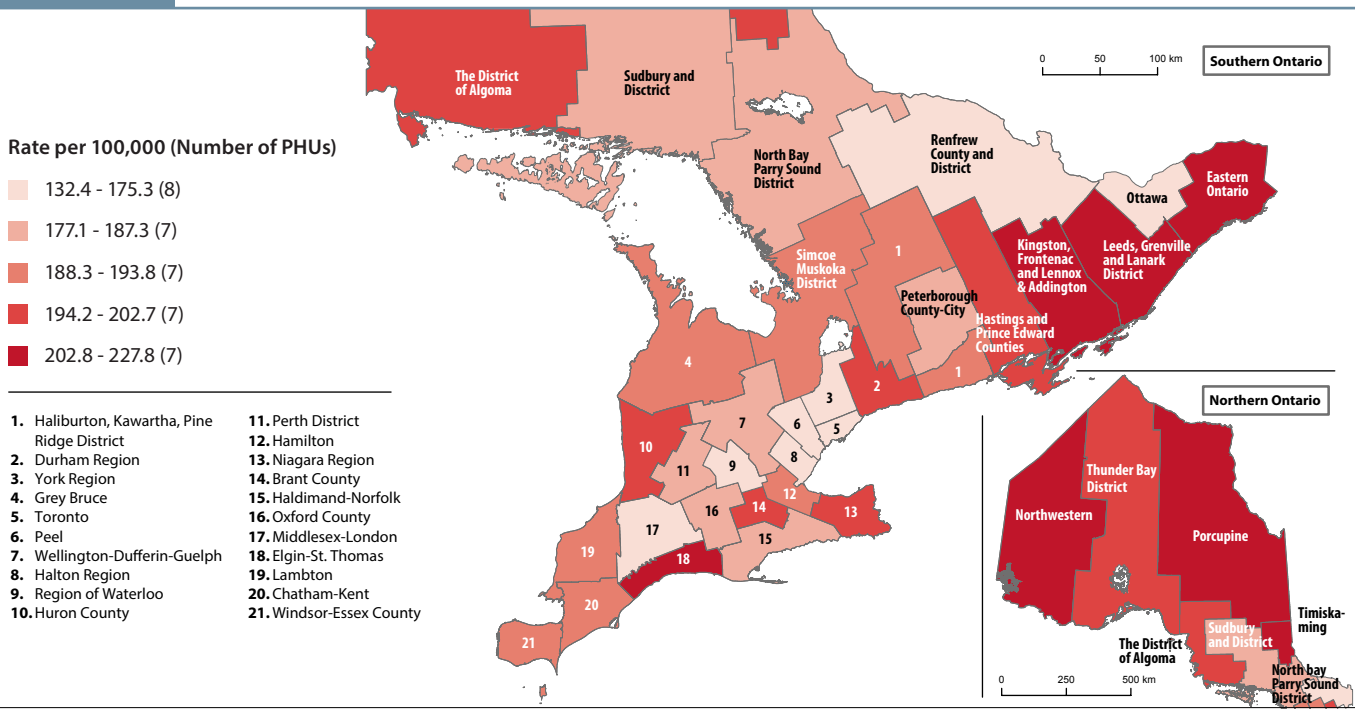


†PHU=Public Health Unit
Note: Rates standardized to the 2011 Canadian population
Analysis by: Surveillance, Analytics and Informatics, CCO
Data source: CCO SEER*Stat Package Release 10—OCR (August 2015)

Among females (**Figure 3.10** and **Table DA.12** in the *Data appendix*):

- The same PHUs that had significantly lower ASMR compared to the Ontario ASMR for males also had lower ASMR for females: York Region, Peel and Toronto.
- Several of the PHUs that had significantly higher mortality rates compared to the Ontario rate for males also had higher mortality rates for females: Elgin-St. Thomas; Leeds, Grenville and Lanark District; City of Hamilton; Kingston, Frontenac and Lennox & Addington; and Eastern Ontario. However, the following PHUs also had female mortality rates that were significantly higher than the Ontario rate: Northwestern; Durham Region; and Niagara Region. In general, the PHUs in south-eastern Ontario had higher mortality rates among females compared to Ontario.
- The pattern of high mortality rate variability across the northern Ontario PHUs was different compared to the distribution of incidence rates among females in that region, particularly in the Northwestern PHU where the female incidence rate was significantly lower than Ontario while the female mortality rate was significantly higher than Ontario (**Figure 2.13**).

Figure 3.10 **Age-standardized mortality rates, females, by PHU,† Ontario, 2012**



†PHU=Public Health Unit
Note: Rates standardized to the 2011 Canadian population

Analysis by: Surveillance, Analytics and Informatics, CCO
Data source: CCO SEER*Stat Package Release 10—OCR (August 2015)

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Table 3.1 Cancer mortality counts and rates, by cancer type and sex, Ontario, 2012

Cancer type	Total				Males				Females			
	Deaths	% of deaths	Crude Rate (per 100,000)	ASMR† (per 100,000)	Deaths	% of deaths	Crude Rate (per 100,000)	ASMR (per 100,000)	Deaths	% of deaths	Crude Rate (per 100,000)	ASMR (per 100,000)
All cancers	**27,442**	**100.0%**	**204.6**	**202.4**	**14,360**	**100.0%**	**218.0**	**243.7**	**13,082**	**100.0%**	**191.7**	**173.5**
Bladder	761	2.8%	5.7	5.6	543	3.8%	8.2	9.6	218	1.7%	3.2	2.7
Brain	762	2.8%	5.7	5.7	427	3.0%	6.5	6.8	335	2.6%	4.9	4.6
Breast (female)	1,912	7.0%	28.0	25.7	—	—	—	—	1,912	14.6%	28.0	25.7
Cervix	187	0.7%	2.7	2.6	—	—	—	—	187	1.4%	2.7	2.6
Colorectal	3,103	11.3%	23.1	22.9	1,692	11.8%	25.7	29.0	1,411	10.8%	20.7	18.1
Esophagus	758	2.8%	5.7	5.6	583	4.1%	8.9	9.6	175	1.3%	2.6	2.3
Hodgkin lymphoma	61	0.2%	0.5	0.5	35	0.2%	0.5	0.6	26	0.2%	0.4	0.3
Kidney	556	2.0%	4.1	4.1	352	2.5%	5.3	5.9	204	1.6%	3.0	2.7
Larynx	132	0.5%	1.0	1.0	106	0.7%	1.6	1.8	26	0.2%	0.4	0.3
Leukemia	1,052	3.8%	7.8	7.7	599	4.2%	9.1	10.2	453	3.5%	6.6	6.0
Liver	1,004	3.7%	7.5	7.4	672	4.7%	10.2	11.0	332	2.5%	4.9	4.4
Lung	6,764	24.6%	50.4	49.9	3,638	25.3%	55.2	60.6	3,126	23.9%	45.8	42.0
Melanoma	460	1.7%	3.4	3.4	286	2.0%	4.3	4.7	174	1.3%	2.6	2.3
Myeloma	526	1.9%	3.9	3.9	293	2.0%	4.4	4.9	233	1.8%	3.4	3.0
Non-Hodgkin lymphoma	1,014	3.7%	7.6	7.5	556	3.9%	8.4	9.5	458	3.5%	6.7	6.0
Oral cavity & pharynx	432	1.6%	3.2	3.2	304	2.1%	4.6	4.9	128	1.0%	1.9	1.7
Ovary	629	2.3%	9.2	8.6	—	—	—	—	629	4.8%	9.2	8.6
Pancreas	1,638	6.0%	12.2	12.1	790	5.5%	12.0	13.1	848	6.5%	12.4	11.1
Prostate	1,415	5.2%	21.5	26.0	1,415	9.9%	21.5	26.0	—	—	—	—
Stomach	691	2.5%	5.2	5.1	413	2.9%	6.3	7.0	278	2.1%	4.1	3.7
Testis	18	0.1%	0.3	0.3	18	0.1%	0.3	0.3	—	—	—	—
Thyroid	62	0.2%	0.5	0.5	29	0.2%	0.4	0.5	33	0.3%	0.5	0.4
Uterus	408	1.5%	6.0	5.5	—	—	—	—	408	3.1%	6.0	5.5

†ASMR=Age-standardized mortality rate
Note: Rates standardized to the 2011 Canadian population
Analysis by: Surveillance, Analytics and Informatics, CCO
Data source: CCO SEER*Stat Package Release 10—OCR (August 2015)

Table 3.2 **Mortality counts and age-specific rates, all cancers combined, by age group, Ontario, 1986, 1996, 2006, 2016**

	Year							
	1986		1996		2006		2016 (estimates)	
Age group	Deaths	Age-specific rate (per 100,000)	Deaths	Age-specific rate (per 100,000)	Deaths	Age-specific rate (per 100,000)	Deaths	Age-specific rate (per 100,000)
0–14	69	3.6	73	3.3	45	2.0	45	2.0
15–29	146	5.8	133	5.7	108	4.3	103	3.7
30–39	347	22.5	371	18.9	244	13.3	248	13.5
40–49	919	88.0	1,153	72.0	1,082	53.1	882	47.7
50–59	2,574	271.3	2,477	225.3	3,050	182.5	3,202	151.0
60–69	4,850	623.4	5,208	571.9	5,108	479.4	6,366	388.5
70–79	4,996	1088.1	7,049	1129.7	7,612	1022.9	8,024	857.2
80+	3,438	1675.4	5,201	1783.7	7,722	1779.0	10,418	1685.5

Analysis by: Surveillance, Analytics and Informatics, CCO
Data source: CCO SEER*Stat Package Release 10—OCR (August 2015)

Table 3.3 Annual percent change (APC) in age-standardized mortality rates, by cancer type and sex, Ontario, 1981–2012

Cancer type	Both Sexes			Males			Females		
	Period	APC		Period	APC		Period	APC	
All Cancers	**1981-1985**	**1.1**	↑	**1981-1988**	**0.5**	↑	**1981-1985**	**1.0**	
	1985-2001	**-0.5**	↓	**1988-2001**	**-0.9**	↓	**1985-2002**	**-0.3**	↓
	2001-2012	**-1.5**	↓	**2001-2012**	**-1.8**	↓	**2002-2012**	**-1.4**	↓
Bladder	1981-1992	-1.7	↓	1981-2012	-0.8	↓	1981-2012	-0.4	↓
	1992-2012	-0.2							
Brain	1981-2005	-1.0	↓	1981-2004	-1.0	↓	1981-2006	-1.1	↓
	2005-2012	2.6	↑	2004-2012	2.0	↑	2006-2012	3.6	↑
Breast (female)							1981-1986	1.3	
							1986-1995	-1.1	↓
							1995-2012	-2.5	↓
Cervix							1981-2012	-3.0	↓
Colorectal	1981-2004	-1.4	↓	1981-2003	-1.2	↓	1981-2012	-1.9	↓
	2004-2012	-2.8	↓	2003-2012	-2.8	↓			
Esophagus	1981-2012	0.2		1981-2012	0.3	↑	1981-2012	-0.6	↓
Hodgkin lymphoma	1981-2012	-3.8	↓	1981-2012	-4.2	↓	1981-2012	-3.2	↓
Kidney	1981-2012	-0.2	↓	1981-2008	0.1		1981-2012	-0.3	
				2008-2012	-4.3	↓			
Larynx	1981-1991	0.5		1981-1989	1.6		1981-2012	-2.4	↓
	1991-2012	-3.3	↓	1989-2012	-3.3	↓			
Leukemia	1981-2012	-0.8	↓	1981-2012	-0.8	↓	1981-2012	-0.9	↓
Liver	1981-1994	4.2	↑	1981-2012	3.1	↑	1981-2012	2.4	↑
	1994-2012	2.4	↑						
Lung	1981-1988	1.5	↑	1981-1988	0.4		1981-1985	7.4	↑
	1988-2001	-0.7	↓	1988-2012	-2.1	↓	1985-2000	1.9	↑
	2001-2012	-1.3	↓				2000-2012	-0.3	
Melanoma	1981-2012	0.9	↑	1981-2012	1.2	↑	1981-2012	0.6	↑
Myeloma	1981-1999	0.5		1981-1998	0.5		1981-1999	0.6	
	1999-2012	-1.5	↓	1998-2012	-1.5	↓	1999-2012	-1.9	↓

Note: Statistically significant changes in trend and their direction are indicated by corresponding arrows
Rates standardized to the 2011 Canadian population
Analysis by: Surveillance, Analytics and Informatics, CCO
Data source: CCO SEER*Stat Package Release 10—OCR (August 2015)

Table 3.3 ***(Cont'd)*** **Annual percent change (APC) in age-standardized mortality rates, by cancer type and sex, Ontario, 1981–2012**

Cancer type	Both Sexes			Males			Females		
	Period	APC		Period	APC		Period	APC	
Non-Hodgkin lymphoma	1981-2000	1.9	↑	1981-2001	1.8	↑	1981-1998	2.2	↑
	2000-2012	-2.5	↓	2001-2012	-2.7	↓	1998-2012	-2.2	↓
Oral cavity and pharynx	1981-2012	-1.7	↓	1981-2012	-1.9	↓	1981-2012	-1.5	↓
Ovary							1981-2003	-0.5	↓
							2003-2012	-2.2	↓
Pancreas	1981-2006	-0.7	↓	1981-1999	-1.4	↓	1981-2012	-0.2	
	2006-2012	0.9		1999-2012	-0.1				
Prostate				1981-1994	1.6	↑			
				1994-2012	-2.8	↓			
Stomach	1981-1993	-3.6	↓	1981-2012	-2.9	↓	1981-1993	-4.1	↓
	1993-2012	-2.3	↓				1993-2012	-2.0	↓
Testis				1981-2012	-3.0	↓			
Thyroid	1981-2012	-0.6	↓	1981-2012	0.7		1981-2012	-1.2	↓
Uterus							1981-1992	-1.9	↓
							1992-2012	0.9	↑

Note: Statistically significant changes in trend and their direction are indicated by corresponding arrows
Rates standardized to the 2011 Canadian population
Analysis by: Surveillance, Analytics and Informatics, CCO
Data source: CCO SEER*Stat Package Release 10—OCR (August 2015)

Table 3.4 Potential years of life lost (PYLL), by cancer type and sex, Ontario, 2012

Cancer type	Total		Males		Females	
	Years	% of all PYLL	Years	% of all male PYLL	Years	% of all female PYLL
All cancers	**286,009**	**100%**	**123,544**	**100%**	**162,465**	**100%**
Bladder	4,231	1.5%	2,665	2.2%	1,566	1.0%
Brain	14,004	4.9%	7,323	5.9%	6,681	4.1%
Breast (female)	29,450	10.3%	—	—	29,450	18.1%
Cervix	4,407	1.5%	—	—	4,407	2.7%
Colorectal	26,858	9.4%	13,290	10.8%	13,569	8.4%
Esophagus	8,392	2.9%	6,718	5.4%	1,674	1.0%
Hodgkin lymphoma	1,252	0.4%	785	0.6%	467	0.3%
Kidney	5,587	2.0%	3,592	2.9%	1,996	1.2%
Larynx	1,209	0.4%	1,069	0.9%	141	0.1%
Leukemia	11,862	4.1%	6,049	4.9%	5,813	3.6%
Liver	11,085	3.9%	7,030	5.7%	4,055	2.5%
Lung	67,613	23.6%	30,045	24.3%	37,569	23.1%
Melanoma	6,202	2.2%	3,445	2.8%	2,757	1.7%
Myeloma	4,502	1.6%	2,622	2.1%	1,881	1.2%
Non-Hodgkin lymphoma	9,994	3.5%	5,089	4.1%	4,905	3.0%
Oral cavity and pharynx	5,637	2.0%	3,898	3.2%	1,740	1.1%
Ovary	9,850	3.4%	—	—	9,850	6.1%
Pancreas	16,159	5.6%	7,445	6.0%	8,715	5.4%
Prostate	4,802	1.7%	4,802	3.9%	—	—
Stomach	18,315	6.4%	11,261	9.1%	7,054	4.3%
Testis	594	0.2%	594	0.5%	—	—
Thyroid	827	0.3%	302	0.2%	525	0.3%
Uterus	5,736	2.0%	—	—	5,736	4.6%

Note: Premature death is defined as dying before the average life expectancy for the population.
Analysis by: Surveillance, Analytics and Informatics, CCO
Data source: CCO SEER*Stat Package Release 10—OCR (August 2015)