

Cancer At A Glance in Durham Region

Last Updated: June 2017

Highlights

- This report examined cancer incidence in Durham Region over time and as compared to Ontario. Cancer incidence refers to newly diagnosed cases. There were 3,500 cancer cases diagnosed in Durham Region residents in 2012, with 84% of these occurring in people aged 50 or older.
- One in two Ontarians will develop cancer in their lifetime and one in four will die of the disease (1).
- Although we think of cancer as one disease, it is actually many different diseases. Even within a specific type, such as lung cancer or leukemia, there are several different types of diseases. All cancers exhibit uncontrolled growth and spread of abnormal cells. Each type of cancer has different causes, risk factors, preventive factors and characteristics.
- Important risk factors for cancer include tobacco use, alcohol consumption, obesity, overexposure to ultraviolet radiation from the sun, and various occupational exposures. We can prevent some types of cancer by eating a diet rich in vegetables and fruits, vaccinating against infections such as human papillomavirus (HPV) and hepatitis B, and being physically active (2). Screening for breast, cervical and colorectal cancers can reduce both incidence and mortality by detecting pre-cancerous cells and treating the condition before the cells have become cancerous and spread throughout the body.
- The incidence of a disease can change over time because of changes in risk factors or protective factors. Screening or improved diagnostic testing can also increase incidence because more cases are detected and diagnosed.
- The most common cancers in Durham Region males were prostate, lung and colorectal with these three accounting for half of new cancer cases. The most common cancers in females were breast, lung and colorectal, which make up half of all newly diagnosed cancers in Durham Region females. This is similar to Ontario and Canada (1, 3).
- Overall cancer incidence rates were significantly higher in Durham Region than Ontario for males, females and both sexes combined in 2010 to 2012.

- Durham Region males showed elevated rates for all cancers combined and for cancer in adults aged 50 and older. While incidence rates increased for thyroid cancer, non-Hodgkin lymphoma and melanoma, Durham Region males also experienced decreased rates of prostate cancer and cancer in ages 50 and older from 1998 to 2012.
- Durham Region females are of particular concern as they had higher rates than Ontario for all cancers combined, lung, bladder and thyroid cancers, and in all age groups except children. Lung cancer and thyroid cancer incidence increased in both Durham Region and Ontario females from 1998 to 2012. Incidence over this time increased provincially for non-Hodgkin lymphoma, melanoma, leukemia and kidney cancer but decreased for colorectal, breast, bladder and ovarian cancers. While Durham Region females generally had similar patterns, the changes were not statistically significant, likely due to the smaller number of cases. Lung cancer findings suggest that smoking may be an important risk factor for Durham Region females.
- Melanoma incidence increased both locally and provincially and was significantly higher in Durham Region than Ontario for both sexes combined.
- Cancer incidence is complex and influenced by a mix of factors that cause cancer including heredity, demographics, lifestyle, infectious agents and substances in the environment. The health care system also influences incidence by determining whether and when a cancer is detected and diagnosed.

Introduction: List of indicators

To understand how cancer rates changed over time, we examined age-standardized incidence rates for Durham Region and Ontario from 1998 to 2012 for all cancers, certain age groupings and major types of cancer. Age-standardization helped us to make comparisons by controlling for different age distributions across populations, which is important because cancer incidence increases greatly with age. To understand how Durham Region compared with Ontario, we calculated the Standardized Incidence Ratio (SIR) for the most recent three years of 2010 to 2012 combined. The percentage distribution of cases likewise groups 2010 to 2012 data.

For each indicator, we provided a graph, table, and brief description of background information and results. Information about cancer risk factors and protective factors comes from the report Cancer Risk Factors in Ontario: Evidence Summary (2).

We present the following indicators:

- Figure 1: Male most common cancers
- Table 1: Male most common cancers
- Figure 2: Female most common cancers
- Table 2: Female most common cancers
- Figure 3: All cancers
- Figure 4: Cancer in children
- Figure 5: Cancer in ages 15-29
- Figure 6: Cancer in ages 30-49
- Figure 7: Cancer in ages 50+
- Figure 8: Lung cancer
- Figure 9: Colorectal cancer
- Figure 10: Prostate cancer
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- Figure 18: Oral cancers
- Figure 19: Stomach cancer
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- Figure 22: Cervical cancer
- Table 3: Trends in males
- Table 4: Trends in females
- Table 5: Trends in both sexes
- Table 6: Male SIRs
- Table 7: Female SIRs
- Table 8: SIRs for both sexes

Data Source: Cancer incidence data

Cancer incidence data comes from the Ontario Cancer Registry (OCR) operated by Cancer Care Ontario. We used the most recent data available from Cancer Care Ontario's November 2015 release. The OCR contains information on Ontario residents newly diagnosed with all types of malignant cancers, with the exception of basal cell and squamous cell (non-melanoma) skin cancers. The OCR assesses four major data sources to count cancer cases: 1) Hospital discharge records and same day surgeries from the Canadian Institute for Health Information, 2) Death certificates from the Ontario Registrar General, 3) Pathology reports from laboratories, and 4) Treatment records from Regional Cancer Centres and Princess Margaret Hospital.

The OCR coded cancer sites using rules about counting multiple primary cancers from the International Agency for Research on Cancer and the International Association of Cancer Registries (IARC/IACR). Starting with diagnosis year 2010, OCR began using the Surveillance, Epidemiology and End Results (SEER) rules, which are more liberal in defining a primary case of cancer. The SEER rules led to higher counts and rates of cancer because of a different method of counting cancers, not an actual increase in cancer incidence. The old IARC/IACR rules determined the number of new cancers in Durham Region in 2012 to be 3,216 whereas the SEER rules found this to be 3,508.

To maintain consistency over time, we used the IARC/IACR rules for cancer trend data from 1998 to 2012. For the percentage distribution of cancers and for comparisons of Durham Region with Ontario for 2010 to 2012 combined, we used the new SEER method of counting cancers. We analyzed data by the residence of the person at the time of diagnosis. To comply with confidentiality rules from Cancer Care Ontario, we grouped indicators to ensure that all counts were greater than six. As well, we did not present age-standardized rates (shown as dashes in tables and gaps in graphs) if the total number of cases was less than 20, a general practice recommended by the Association of Public Health Epidemiologists in Ontario.

This report includes cancers of relevance to public health programming, referenced in the Ontario Public Health Standards (OPHS) as well as cancers that are most common in the population. The Minister of Health and Long-Term Care published the OPHS under the authority of Section 7 of the Health Protection and Promotion Act.

Definitions

Age-standardized incidence rate

The age-standardized incidence rate is the number of cases in the population that would occur if the population had the same age distribution as the 2011 Canadian population (per 100,000). This rate provides a single summary number that allows us to compare populations with different age compositions.

Standardized Incidence Ratio (SIR)

The SIR is the ratio of the number of cases observed in a population of interest (in this case Durham Region) to the number of cases that would be expected if the population had the same age-specific incidence rates as a standard population (in this case Ontario). Since statistical estimates may be unstable when the number of events is small, we used confidence intervals to determine whether an SIR was statistically different from 1.0. An SIR with confidence intervals greater than 1.0 indicated that the incidence rate was higher in Durham Region than Ontario, whereas an SIR with confidence intervals less than 1.0 indicated that incidence was lower in Durham Region.

Annual Percent Change (APC)

The annual percent change is the rate of change of incidence rates (age-adjusted to the 2011 Canadian population) over time calculated by fitting a linear model to the annual rates after applying a logarithmic transformation. The estimated slope is then transformed back to represent a percentage increase or decrease per year.

Other cancer reports

For more Durham Region cancer reports, please go to the [Health Statistics in Durham Region webpage](#) found at durham.ca/healthstats. The [Mortality At A Glance](#) report includes information about cancer mortality in Durham Region.

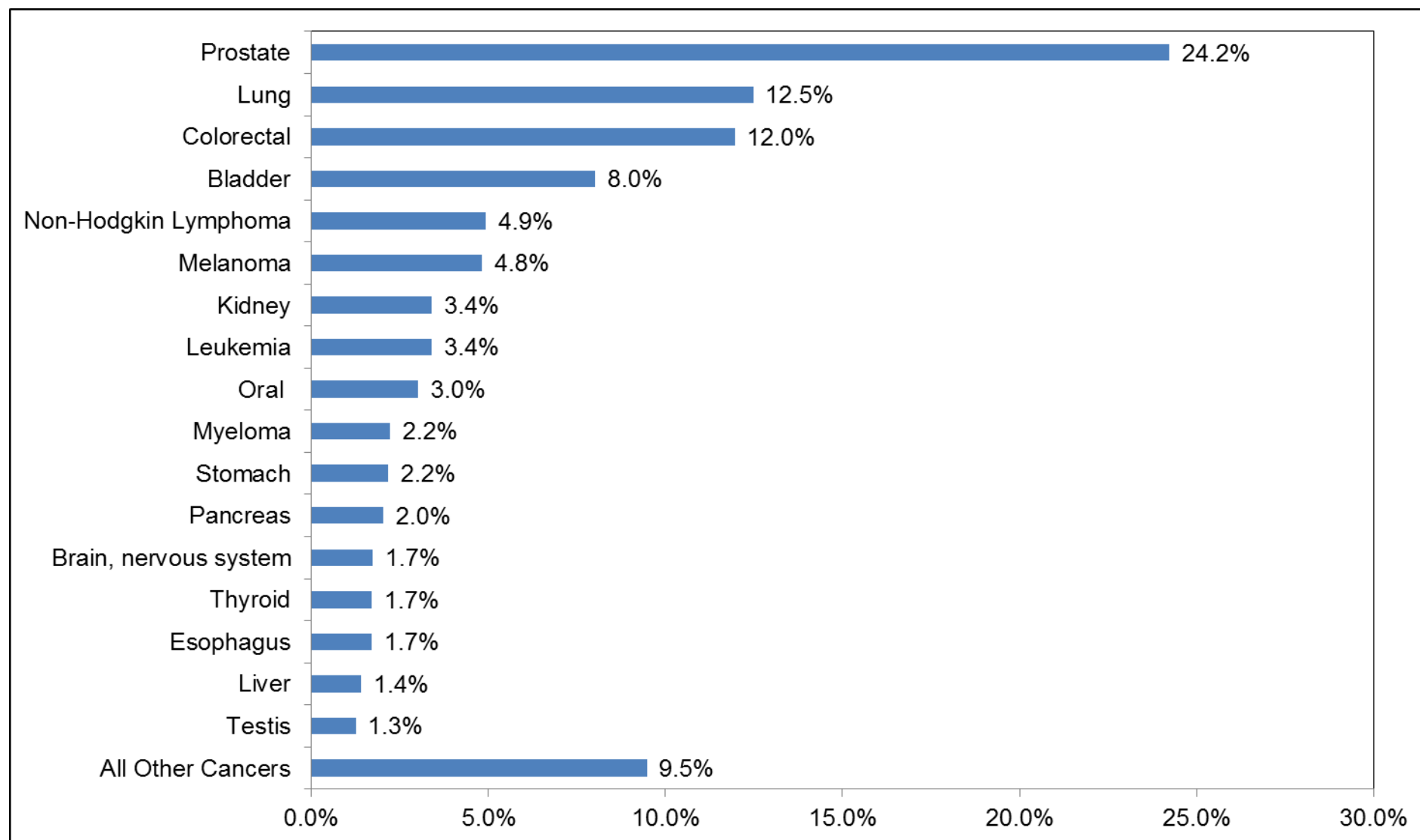
Public Health Ontario reports cancer data (as well as other health information) for Ontario and all public health units in an interactive map-based dashboard called [Snapshots](#).

Cancer Care Ontario provides an analytic mapping tool called [Ontario Cancer Profiles](#) that provides cancer incidence, mortality, risk factor and screening information by Local Health Integration Network (LHIN) geography. Durham Region is part of the Central East LHIN.

For more information or if you require this information in an accessible format, please contact Durham Health Connection Line at 905-666-6241 or 1-800-841-2729.

Figure 1: Male most common cancers

Percentage distribution of new cancer cases in Durham Region males, 2010 to 2012 combined



Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: The most common cancers in Durham Region males were prostate, lung and colorectal cancers. These three cancers accounted for almost half (49%) of new cases over this time

Table 1: Male most common cancers

Counts, percentages and rankings of new cancer cases in Durham Region and Ontario males, 2010 to 2012 combined

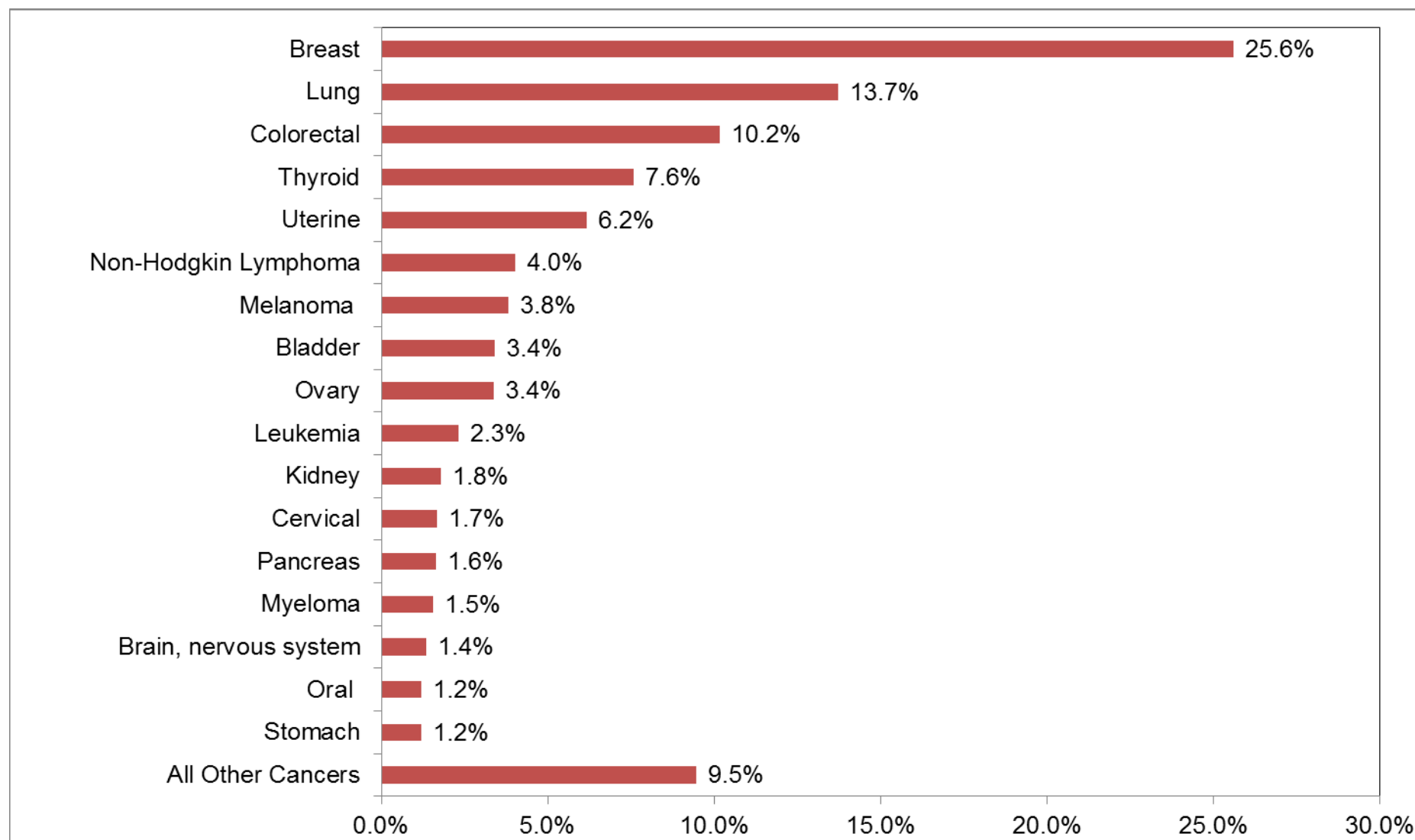
	Durham Count	Durham Percentage	Durham Rank	Ontario Count	Ontario Percentage	Ontario Rank
Prostate	1,237	24.2%	1	28,031	23.7%	1
Lung	637	12.5%	2	15,244	12.9%	3
Colorectal	611	12.0%	3	15,267	12.9%	2
Bladder	409	8.0%	4	10,358	8.7%	4
Non-Hodgkin lymphoma	252	4.9%	5	5,407	4.6%	5
Melanoma	246	4.8%	6	5,104	4.3%	6
Leukemia	174	3.4%	7	4,107	3.5%	7
Kidney	174	3.4%	8	4,089	3.5%	8
Oral	154	3.0%	9	3,738	3.2%	9
Myeloma	114	2.2%	10	1,914	1.6%	14
Stomach	111	2.2%	11	2,680	2.3%	10
Pancreas	104	2.0%	12	2,595	2.2%	11
Brain, nervous system	89	1.7%	13	1,891	1.6%	15
Thyroid	87	1.7%	14	2,056	1.7%	13
Esophagus	87	1.7%	15	1,855	1.6%	16
Liver	72	1.4%	16	2,284	1.9%	12
Testis	64	1.3%	17	1,273	1.1%	17
All other cancers	484	9.5%	--	10,493	8.9%	--
All cancer sites	5,106	100.0%	--	118,386	100.0%	--

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Note: The Ontario Cancer Registry does not include basal cell and squamous cell (non-melanoma) skin cancers, which would be the most common cancers if they were included.

Figure 2: Female most common cancers

Percentage distribution of new cancer cases in Durham Region females, 2010 to 2012 combined



Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: The most common cancers in Durham Region females were breast, lung and colorectal cancers. These three cancers accounted for half (50%) of new cases over this time.

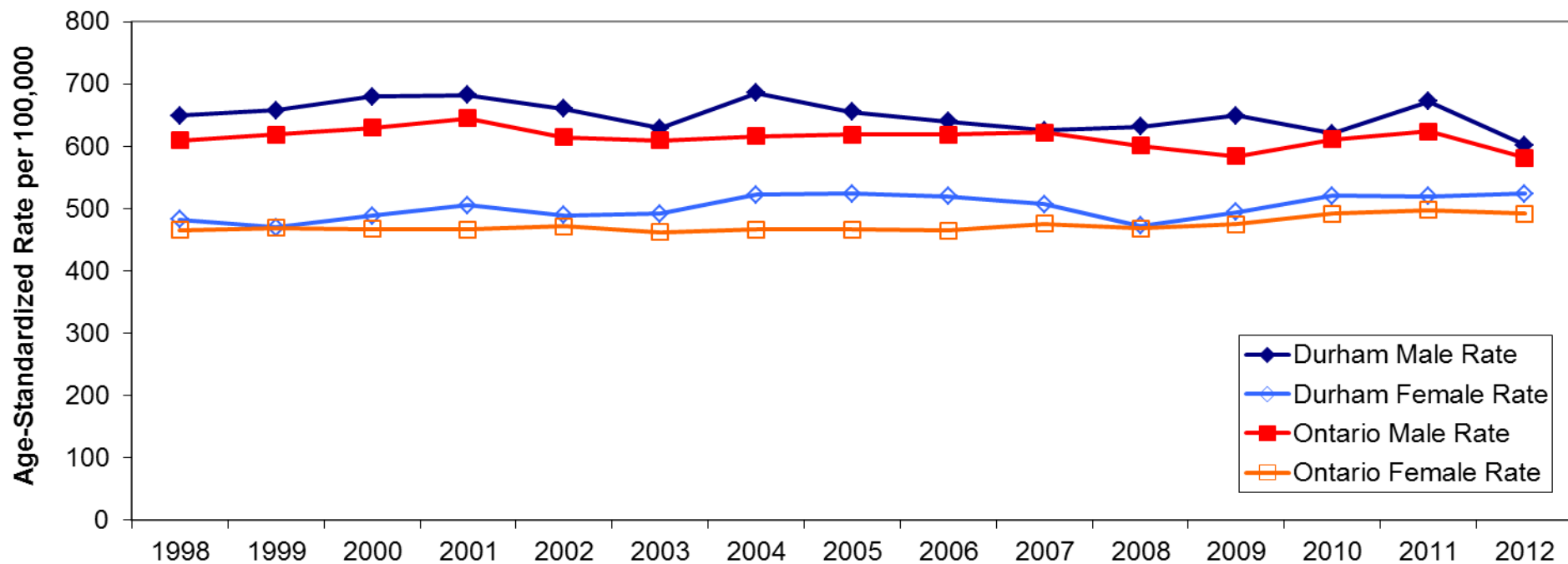
Table 2: Female most common cancers**Counts, percentages and rankings of new cancer cases in Durham Region and Ontario females, 2010 to 2012 combined**

	Durham Count	Durham Percentage	Durham Rank	Ontario Count	Ontario Percentage	Ontario Rank
Breast	1,341	25.6%	1	30,503	26.9%	1
Lung	719	13.7%	2	13,976	12.3%	2
Colorectal	532	10.2%	3	12,839	11.3%	3
Thyroid	397	7.6%	4	7,001	6.2%	5
Uterine	323	6.2%	5	7,339	6.5%	4
Non-Hodgkin Lymphoma	210	4.0%	6	4,545	4.0%	6
Melanoma	200	3.8%	7	4,026	3.6%	7
Bladder	178	3.4%	8	3,379	3.0%	9
Ovary	176	3.4%	9	3,520	3.1%	8
Leukemia	121	2.3%	10	2,978	2.6%	10
Kidney	93	1.8%	11	2,296	2.0%	12
Cervical	88	1.7%	12	1,946	1.7%	13
Pancreas	86	1.6%	13	2,608	2.3%	11
Myeloma	81	1.5%	14	1,518	1.3%	17
Brain, nervous system	71	1.4%	15	1,585	1.4%	15
Stomach	63	1.2%	16	1,567	1.4%	16
Oral	63	1.2%	17	1,693	1.5%	14
All Other Cancers	496	9.5%	--	9,876	8.7%	--
All Sites	5,238	100.0%	--	113,195	100.0%	--

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)**Note:** The Ontario Cancer Registry does not include basal cell and squamous cell (non-melanoma) skin cancers, which would be the most common cancers if they were included.

Figure 3: All cancers

Age-standardized incidence rates for males and females, Durham Region and Ontario, 1998 to 2012



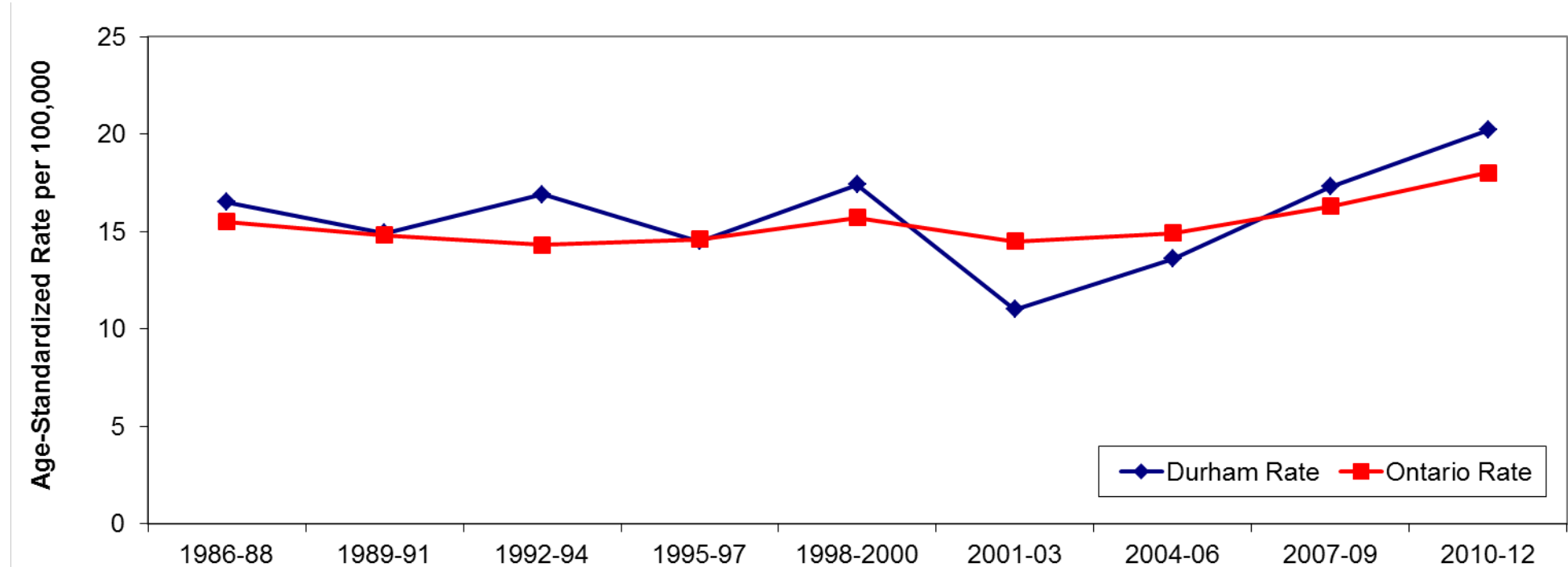
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Male Rate	649.0	657.5	679.2	682.3	659.6	628.4	685.7	654.5	639.4	625.1	631.5	648.8	620.2	671.9	601.7
Durham Female Rate	482.0	469.5	488.1	505.1	489.3	491.8	522.3	524.1	519.3	507.0	472.3	494.5	520.3	519.7	524.1
Ontario Male Rate	609.0	618.1	629.4	644.8	614.3	609.3	615.6	618.4	618.5	622.0	600.4	584.1	611.3	623.2	581.3
Ontario Female Rate	465.2	468.3	466.8	466.4	471.2	462.0	466.3	465.9	464.4	475.9	467.7	474.4	491.9	497.2	491.6
Durham Male Count	942	981	1,071	1,134	1,150	1,154	1,279	1,265	1,312	1,326	1,405	1,498	1,491	1,666	1,573
Durham Female Count	907	907	984	1,057	1,071	1,120	1,240	1,299	1,326	1,347	1,302	1,406	1,532	1,573	1,643
Durham Total Count	1,849	1,888	2,055	2,191	2,221	2,274	2,519	2,564	2,638	2,673	2,707	2,904	3,023	3,239	3,216

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Cancer rates were higher in males than females, although the gap has closed over time. Cancer incidence was steady in Durham Region males, decreased in Ontario males, and increased in females in both Durham Region and Ontario. The increase in the overall number of cases is mostly due to the aging of the population and population growth, rather than changes in cancer risk and control practices (1). For 2010 to 2012 combined, incidence was significantly higher in Durham Region than Ontario for both males and females.

Figure 4: Cancer in children

Age-standardized incidence rates in children aged 0 to 14 years for males and females, Durham Region and Ontario, by 3-year time periods, 1986- to -2012



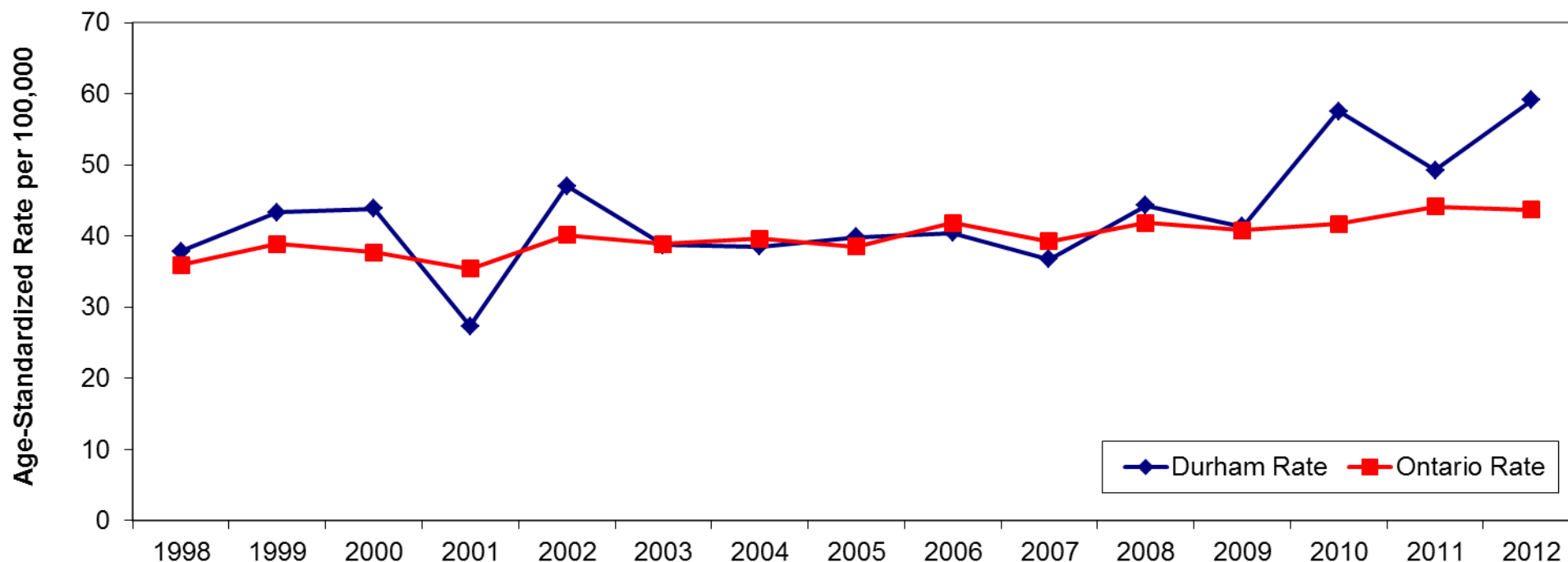
Rates and Counts	1986-88	1989-91	1992-94	1995-97	1998-2000	2001-03	2004-06	2007-09	2010-12
Durham Rate	16.5	14.9	16.9	14.5	17.4	11.0	13.6	17.3	20.2
Ontario Rate	15.5	14.8	14.3	14.6	15.7	14.5	14.9	16.3	18.0
Durham Count	42	44	55	49	60	37	45	57	68
Ontario Count	910	929	937	986	1,055	984	992	1,072	1,185

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Cancer in children is rare. We combined males and females, and 3-year time periods going back to 1986 to provide more stable rates for Durham Region. Cancer incidence increased significantly in Ontario over this time but the increase was not statistically significant in Durham Region. For 2010 to 2012, incidence in Durham Region was similar to Ontario for both males and females.

Figure 5: Cancer in ages 15 to 29

Age-standardized incidence rates in young adults aged 15 to 29 for males and females, Durham Region and Ontario, 1998 to 2012



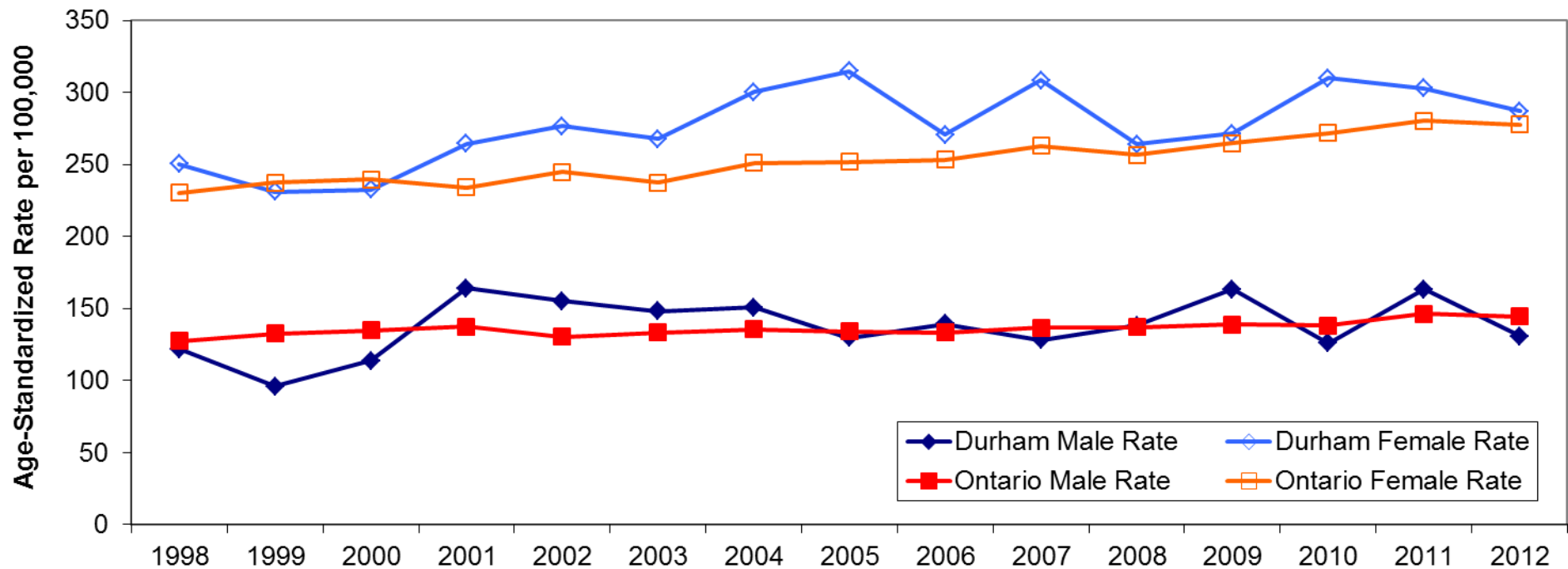
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Rate	37.8	43.3	43.8	27.3	47.0	38.7	38.5	39.8	40.4	36.7	44.3	41.3	57.5	49.2	59.1
Ontario Rate	35.9	38.9	37.7	35.4	40.1	38.9	39.6	38.5	41.8	39.2	41.8	40.8	41.7	44.1	43.7
Durham Count	34	41	42	27	46	40	41	42	45	42	52	47	70	60	74
Ontario Count	827	899	884	844	966	949	978	962	1,059	1,004	1,080	1,065	1,108	1,184	1,190

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Cancer incidence rates among young adults aged 15 to 29 years increased significantly in both Durham Region and Ontario from 1998 to 2012. We combined males and females for each individual year because counts were too small to present separately. For 2010 to 2012 combined, incidence in Durham Region was significantly higher than Ontario for females and both sexes combined.

Figure 6: Cancer in ages 30 to 49

Age-standardized incidence rates in adults aged 30 to 49 for males and females, Durham Region and Ontario, 1998 to 2012



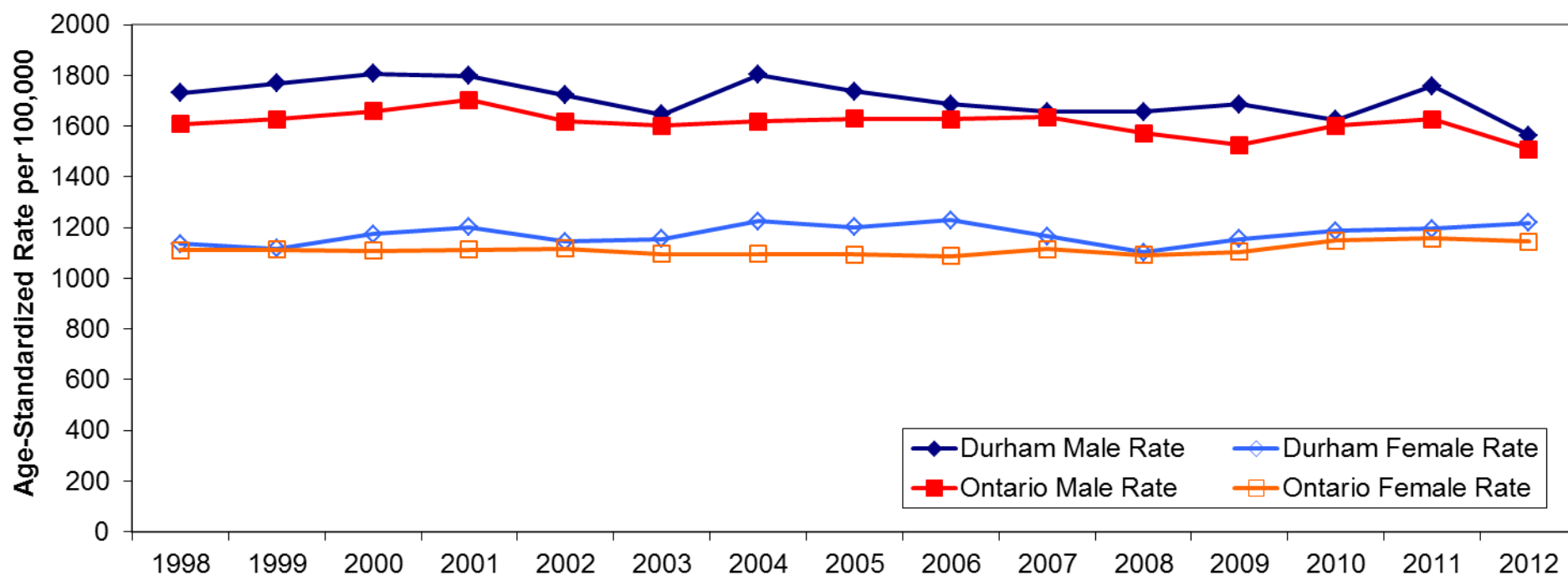
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Male Rate	121.9	96.0	113.6	163.8	155.0	148.0	150.6	129.7	139.1	128.1	137.9	163.2	125.7	163.1	130.5
Durham Female Rate	250.2	230.9	232.3	264.3	276.7	267.8	300.3	314.8	270.7	308.4	264.1	271.3	309.8	302.7	250.2
Ontario Male Rate	127.5	132.5	134.7	137.2	130.1	133.2	135.6	134.1	133.4	136.5	136.8	138.8	137.9	146.1	127.5
Ontario Female Rate	230.2	237.2	239.4	233.8	244.5	237.3	251.0	251.7	253.1	262.8	256.7	264.8	271.6	280.1	230.2
Durham Male Count	100	82	93	135	133	132	138	121	132	123	132	154	119	152	100
Durham Female Count	204	189	195	231	244	246	283	301	263	299	261	266	302	293	204
Durham Total Count	304	271	288	366	377	378	421	422	395	422	393	420	421	445	304

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Cancer incidence among adults aged 30 to 49 years was higher in females than males in both Durham Region and Ontario, showing a reverse pattern than for cancer overall and ages 50 and older. Rates increased over time in Ontario males and both Durham Region and Ontario females, but the increase was not significant for Durham Region males. Incidence was significantly higher among Durham Region females and both sexes combined compared to Ontario for 2010 to 2012, but not for males.

Figure 7: Cancer in ages 50 and older

Age-standardized incidence rates in adults aged 50 and older, males and females, Durham Region and Ontario, 1998 to 2012



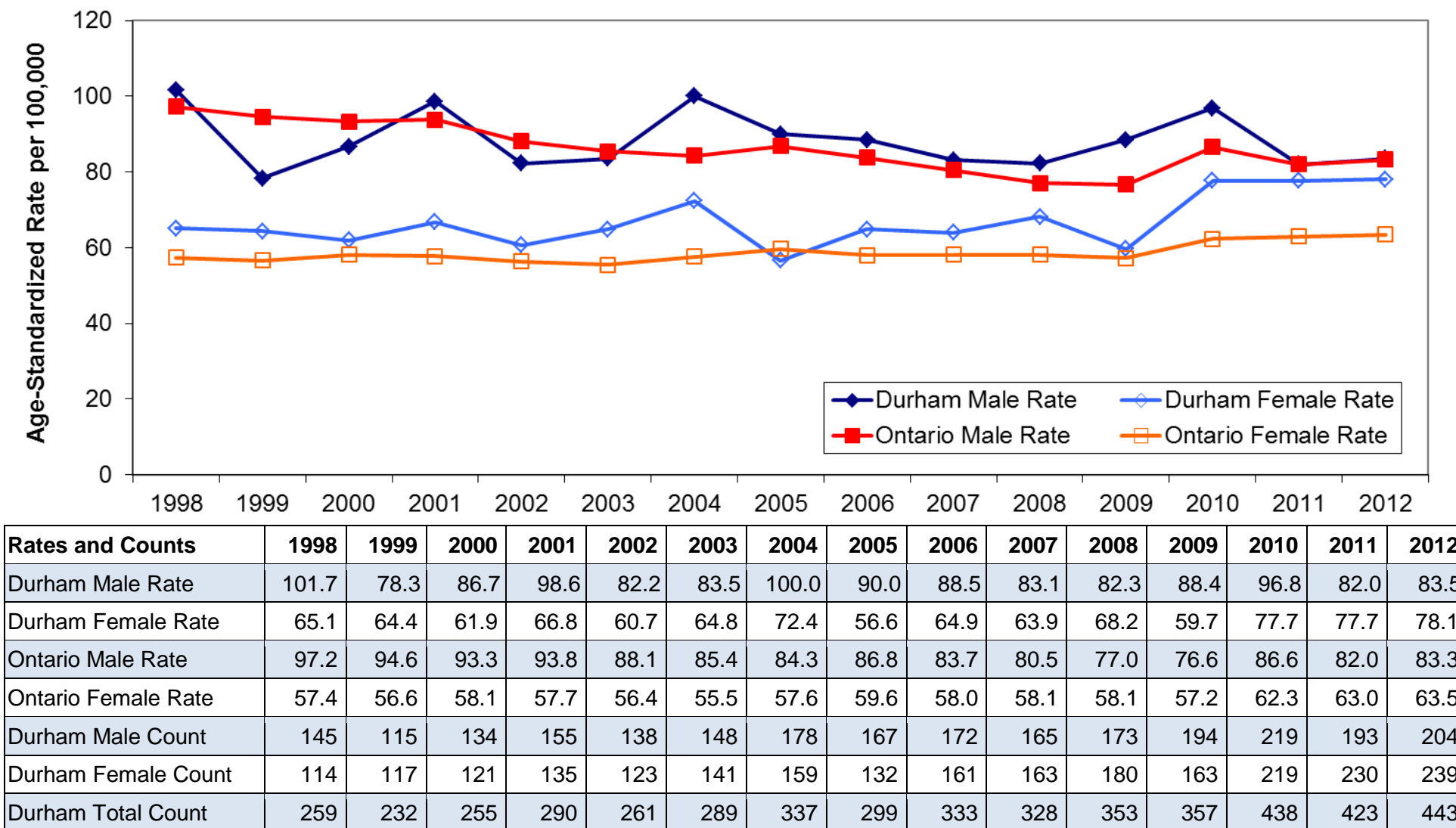
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Male Rate	1729.4	1767.4	1806.1	1797.2	1721.1	1645.3	1802.9	1737.6	1684.9	1655.5	1655.3	1685.5	1625.3	1758.7	1563.9
Durham Female Rate	1136.8	1117.6	1173.7	1201.7	1145.3	1154.9	1224.9	1201.3	1229.6	1165.4	1102.5	1155.2	1186.0	1195.3	1219.4
Ontario Male Rate	1606.9	1627.1	1657.8	1701.8	1617.6	1601.3	1617.8	1629.2	1626.7	1634.8	1572.7	1525.3	1601.3	1627.4	1508.0
Ontario Female Rate	1111.2	1113.3	1107.8	1113.1	1116.2	1095.5	1095.5	1093.3	1086.7	1113.8	1092.1	1104.5	1148.2	1156.9	1143.4
Durham Male Count	820	871	943	983	985	995	1,111	1,119	1,152	1,178	1,237	1,310	1,325	1,485	1,400
Durham Female Count	672	687	759	803	804	845	936	961	1,031	1,016	1,008	1,102	1,180	1,235	1,320
Durham Total Count	1,492	1,558	1,702	1,786	1,789	1,840	2,047	2,080	2,183	2,194	2,245	2,412	2,505	2,720	2,720

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Cancer incidence was highest in this older age group. Rates were higher in males than females. While rates significantly increased in Ontario females from 1998 to 2012, incidence decreased in males for both Durham Region and Ontario with no change in Durham Region females. Incidence was significantly higher in Durham Region than Ontario for both males and females in 2010 to 2012 combined.

Figure 8: Lung cancer

Age-standardized incidence rates for males and females, Durham Region and Ontario, 1998 to 2012

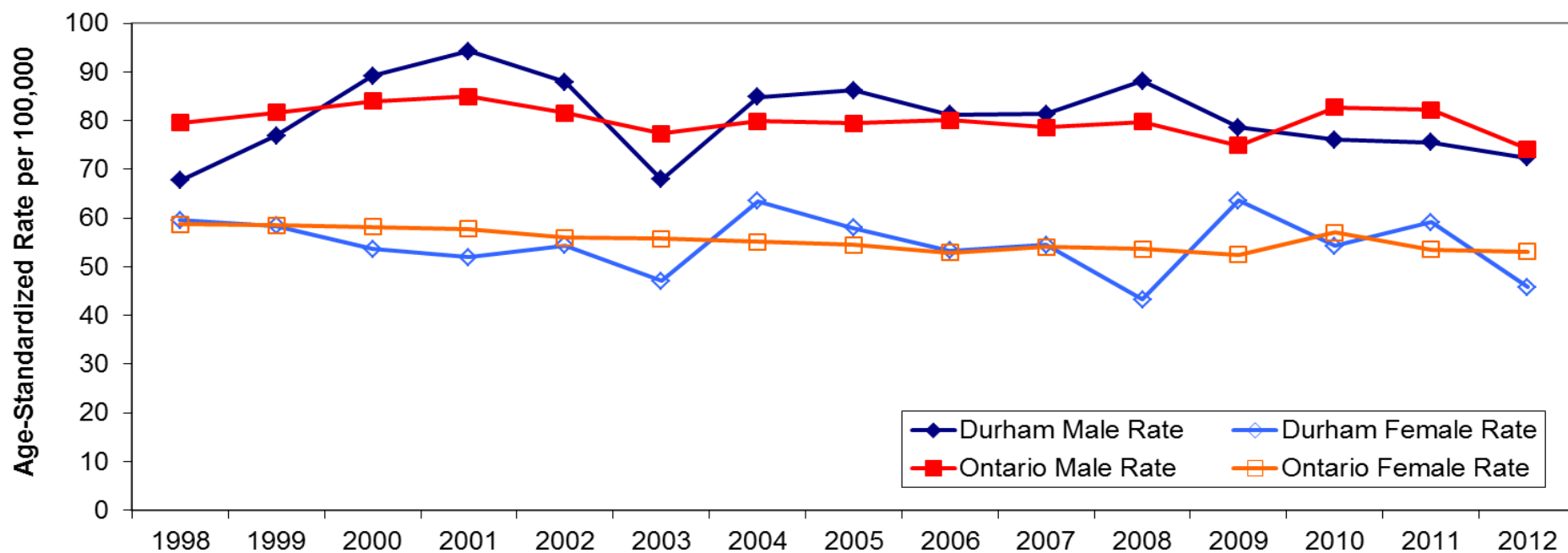


Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Lung cancer is the most common cancer and leading cause of cancer death (1). Tobacco is the main cause along with exposure to radon, asbestos and air pollution. Incidence was higher in males than females but the gap is closing. Rates in females increased in both Durham Region and Ontario from 1998 to 2012, but decreased in Ontario males. The decrease in Durham Region males was non-significant. For 2010 to 2012 combined, incidence was higher in Durham Region females and similar for males.

Figure 9: Colorectal cancer

Age-standardized incidence rates for males and females, Durham Region and Ontario, 1998 to 2012



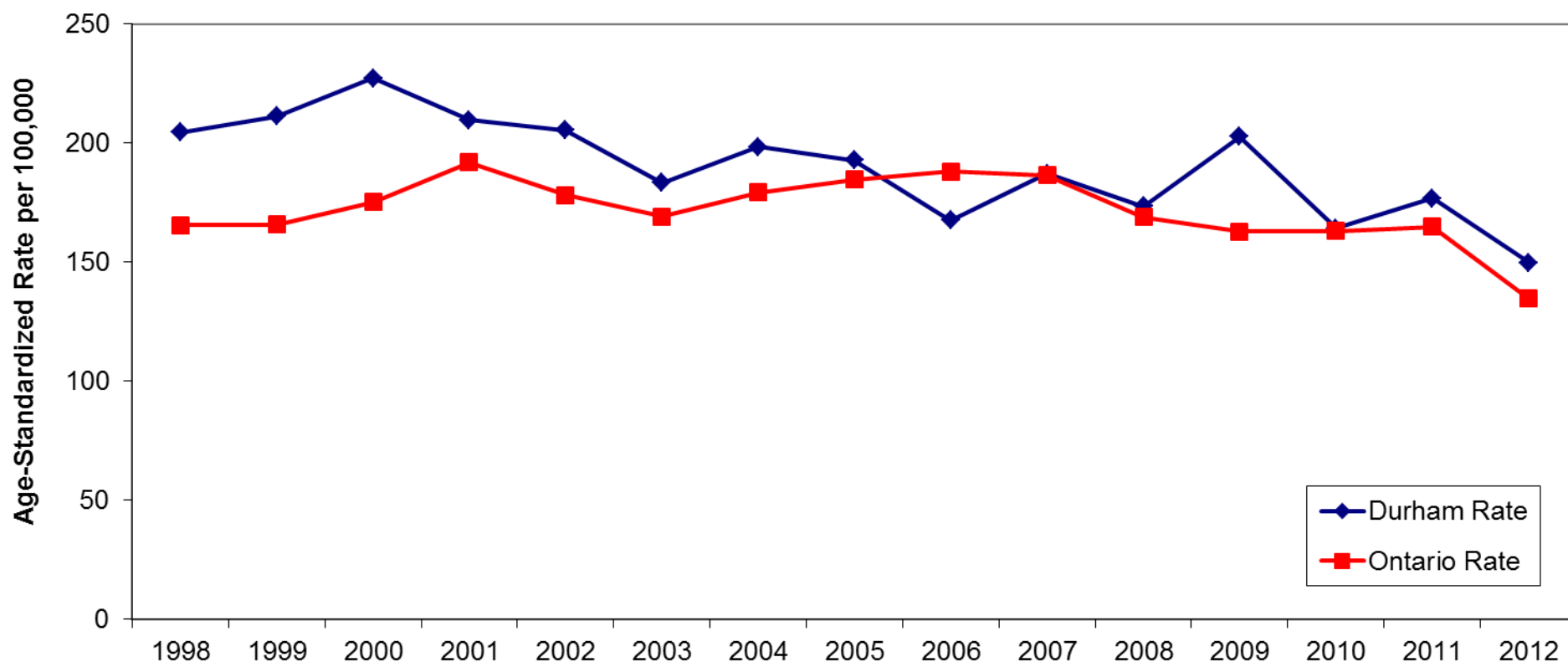
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Male Rate	67.7	76.9	89.2	94.2	87.9	67.9	84.8	86.2	81.2	81.3	88.1	78.6	76.0	75.5	72.3
Durham Female Rate	59.5	58.4	53.6	51.9	54.4	47.1	63.5	58.0	53.3	54.5	43.3	63.6	54.3	59.1	45.8
Ontario Male Rate	79.5	81.7	84.0	84.9	81.5	77.3	79.9	79.4	80.1	78.6	79.7	74.9	82.7	82.2	74.1
Ontario Female Rate	58.7	58.5	58.2	57.7	55.9	55.7	55.1	54.5	52.9	54.0	53.6	52.5	57.0	53.5	53.1
Durham Male Count	97	113	141	150	148	124	157	163	158	170	197	180	181	185	188
Durham Female Count	105	108	101	101	115	101	142	132	132	141	116	178	160	178	145
Durham Total Count	202	221	242	251	263	225	299	295	290	311	313	358	341	363	333

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Colorectal cancer was the second most common cancer among males and females combined, after lung cancer. Risk factors include obesity, smoking, alcohol consumption, occupational radiation exposure, inflammatory bowel disease, family history, and a diet high in red and processed meat and low in dietary fibre (2). Physical activity may prevent colon cancer (2). Colorectal cancer was higher among males than females, with rates significantly decreasing from 1998 to 2012 in Ontario females and both sexes combined. Decreases in Durham Region were non-significant. For 2010 to 2012 combined, Durham Region rates were similar to Ontario.

Figure 10: Prostate cancer

Age-standardized incidence rates for males, Durham Region and Ontario, 1998 to 2012



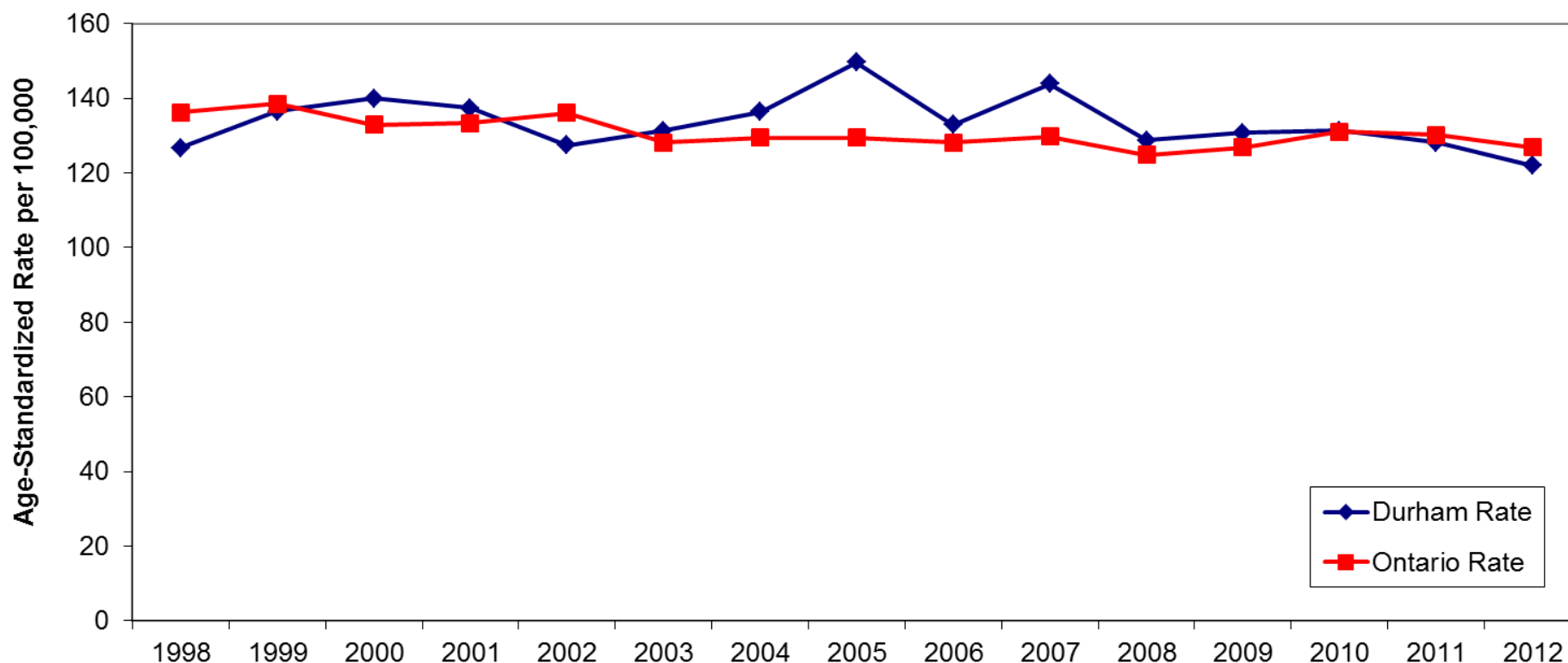
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Rate	204.4	211.2	227.2	209.7	205.3	183.3	198.5	192.8	167.5	187.2	173.5	202.7	164.3	176.9	149.8
Ontario Rate	165.6	165.8	175.2	191.9	178.1	169.1	179.2	184.6	188.1	186.4	168.9	162.9	163.1	164.8	134.7
Durham Count	276	299	335	346	347	322	359	370	336	388	380	465	394	440	397
Ontario Count	6,735	6,950	7,529	8,425	8,060	7,875	8,621	9,117	9,610	9,849	9,226	9,201	9,504	9,907	8,408

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Prostate cancer is the most commonly diagnosed cancer among males. During the 1980s, incidence rates rose due to the increased use of PSA testing, a blood test that detects increased risk of prostate cancer. Current recommendations caution against using PSA for screening healthy men (1). The only firmly established risk factors are increasing age and family history of prostate cancer (2). Incidence decreased significantly in Durham Region from 1998 to 2012 but there was no change in Ontario. For 2010 to 2012 combined, Durham Region was similar to Ontario.

Figure 11: Breast cancer

Age-standardized incidence rates for females, Durham Region and Ontario, 1998 to 2012



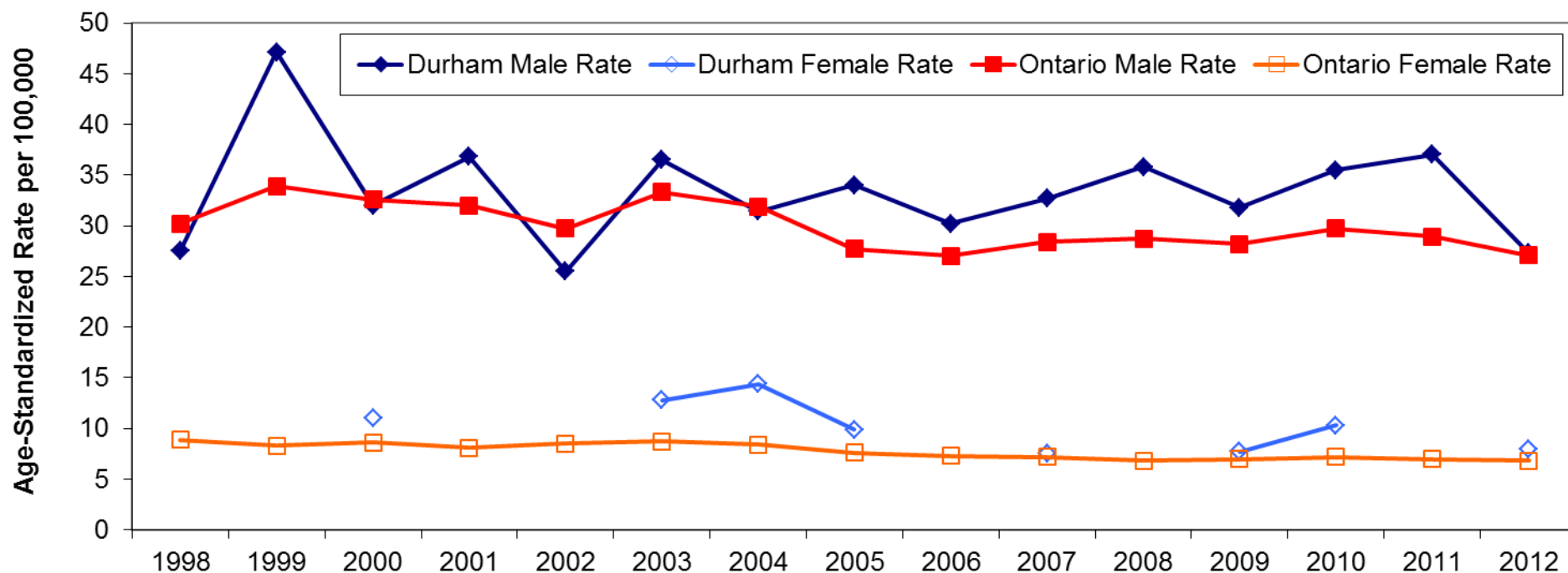
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Rate	126.7	136.5	139.9	137.4	127.4	131.3	136.3	149.6	132.9	143.9	128.7	130.8	131.3	128.2	121.9
Ontario Rate	136.2	138.5	132.9	133.3	136.1	128.1	129.4	129.4	128.2	129.8	124.8	126.8	131.1	130.2	126.8
Durham Count	247	269	283	297	285	307	333	383	342	387	358	377	391	393	383
Ontario Count	6,923	7,196	7,073	7,242	7,548	7,335	7,640	7,816	7,923	8,194	8,069	8,391	8,877	9,007	8,961

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Breast cancer is the most commonly diagnosed cancer among women in Ontario, and the second leading cause of cancer death after lung cancer (1). Risk factors include smoking, alcohol use, and obesity, various reproductive and hormonal factors associated with high estrogen levels, and family history and genetics (specifically BRCA1 and BRCA2 genes) (2). Breastfeeding and physical activity can reduce risk (2). Early detection by mammography can reduce breast cancer mortality. Incidence remained steady in Durham Region but decreased significantly in Ontario from 1998 to 2012. For 2010 to 2012 combined, Durham Region was similar to Ontario.

Figure 12: Bladder cancer

Age-standardized incidence rates for males and females, Durham Region and Ontario, 1998 to 2012



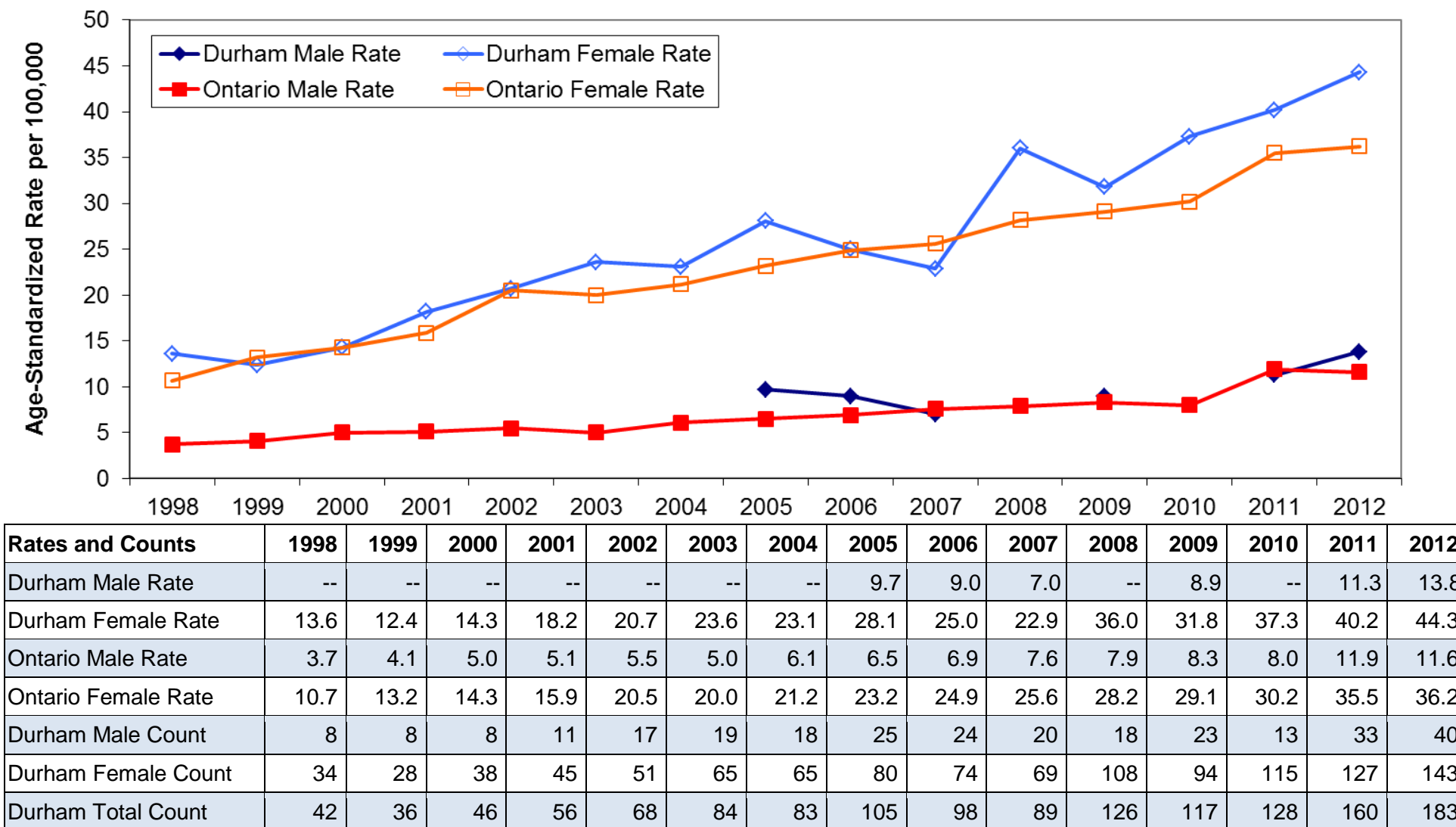
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Male Rate	27.5	47.1	32.0	36.8	25.5	36.5	31.4	34.0	30.2	32.7	35.8	31.8	35.5	37.0	27.3
Durham Female Rate	--	--	11.0	--	--	12.8	14.4	9.9	--	7.5	--	7.7	10.3	--	8.0
Ontario Male Rate	30.2	33.9	32.6	32.0	29.7	33.3	31.9	27.7	27.0	28.4	28.7	28.2	29.7	28.9	27.1
Ontario Female Rate	8.9	8.3	8.6	8.1	8.5	8.7	8.4	7.6	7.3	7.2	6.8	7.0	7.2	7.0	6.8
Durham Male Count	39	67	46	53	41	57	52	56	57	67	73	68	77	83	67
Durham Female Count	19	17	22	13	19	27	33	25	14	20	13	21	30	17	25
Durham Total Count	58	84	68	66	60	84	85	81	71	87	86	89	107	100	92

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Bladder cancer is more common in males than in females. Risk factors include smoking, occupational and medical exposure to radiation, and exposure to arsenic, diesel engine exhaust and polycyclic aromatic hydrocarbons, usually through occupational settings (2). Incidence was stable in Durham Region but decreased significantly from 1998 to 2012 in Ontario males and females. For 2010 to 2012 combined, Durham Region females were significantly higher than Ontario but male rates were similar. We excluded age-standardized rates when counts were less than 20 and presented these as dashes in the table and gaps in the graph.

Figure 13: Thyroid cancer

Age-standardized incidence rates for both sexes combined, Durham Region and Ontario, 1998 to 2012

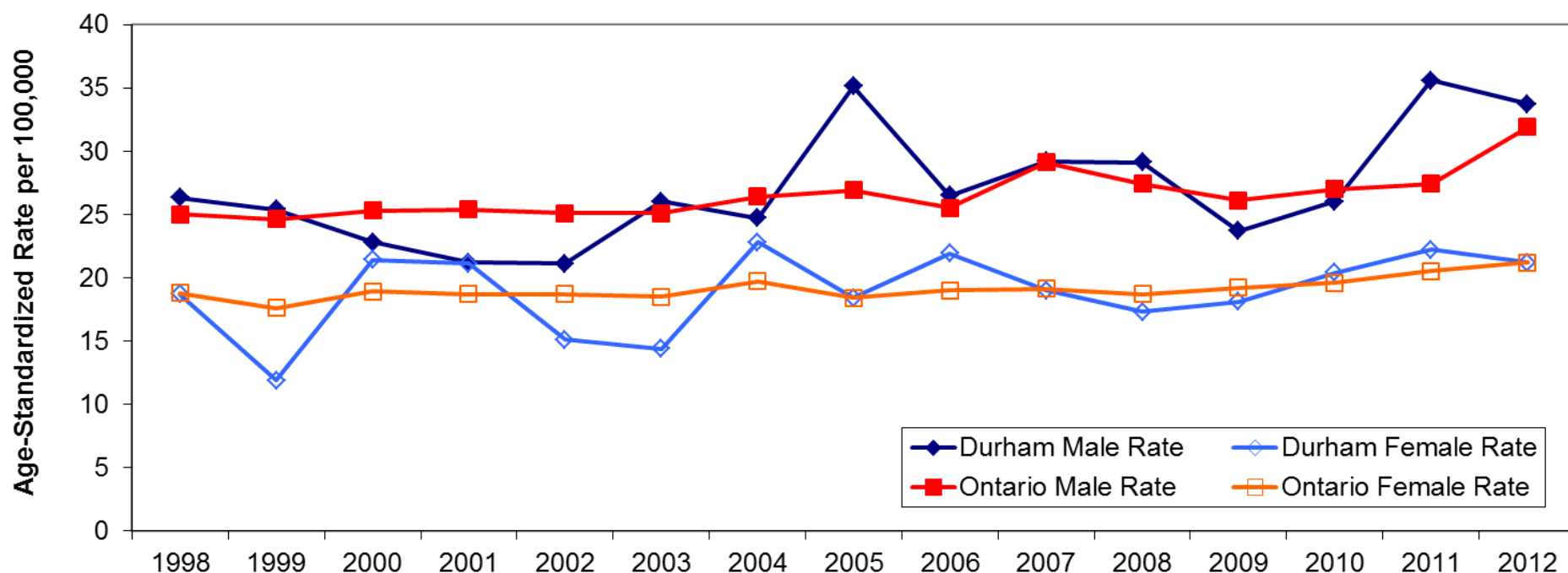


Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Thyroid cancer is more common in females than males and in younger people; mortality from thyroid cancer is rare. Increased incidence has occurred in developed countries, partly due to improved detection technology (1). The clearest known risk factor is ionizing radiation, particularly from medical sources (2). Thyroid cancer increased in Durham Region and Ontario for both males and females. For 2010 to 2012, Durham Region females and both sexes combined were higher than Ontario, but males were similar. We excluded age-standardized rates when counts were less than 20, shown as dashes in the table and gaps in the graph.

Figure 14: Non-Hodgkin lymphoma

Age-standardized incidence rates for males and females, Durham Region and Ontario, 1998 to 2012



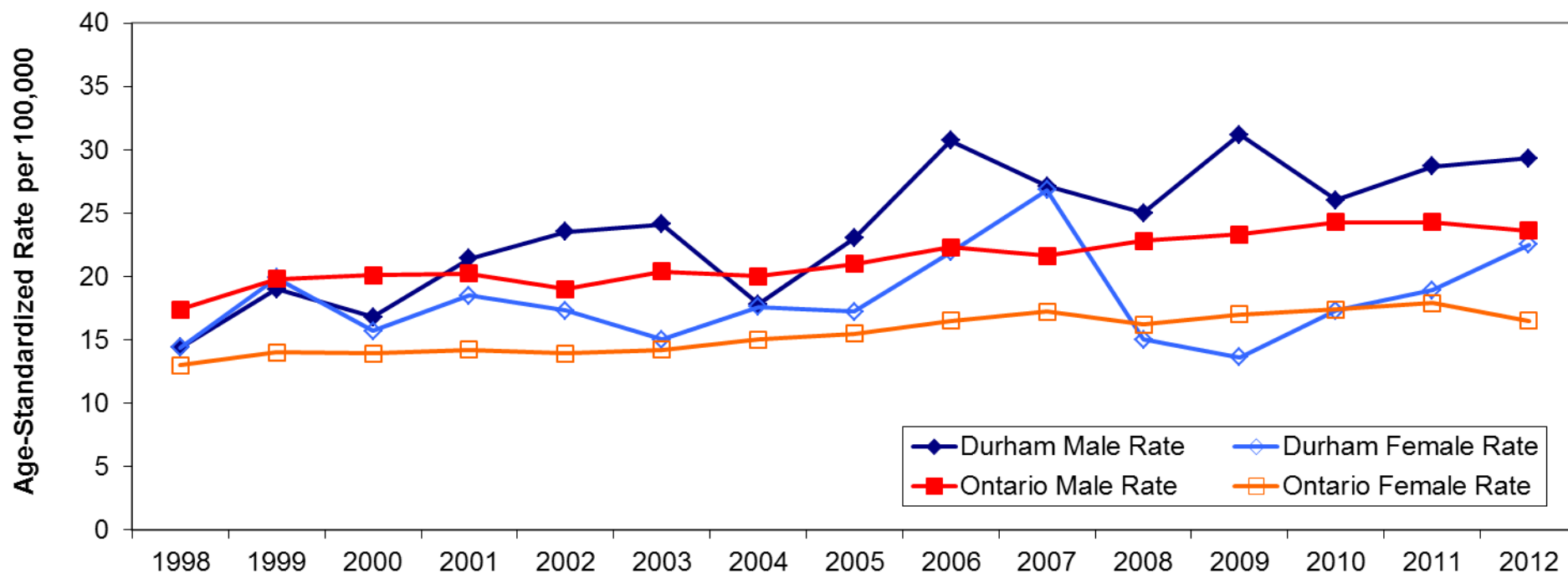
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Male Rate	26.3	25.4	22.8	21.2	21.1	26.0	24.7	35.1	26.5	29.2	29.1	23.7	26.0	35.6	33.7
Durham Female Rate	18.7	11.9	21.4	21.1	15.1	14.4	22.8	18.4	21.9	19.0	17.3	18.1	20.4	22.2	21.2
Ontario Male Rate	25.0	24.6	25.3	25.4	25.1	25.1	26.4	26.9	25.5	29.1	27.4	26.1	27.0	27.4	31.9
Ontario Female Rate	18.8	17.6	18.9	18.7	18.7	18.5	19.7	18.4	19.0	19.1	18.7	19.2	19.6	20.5	21.2
Durham Male Count	42	39	41	38	42	52	54	69	59	63	68	56	62	92	88
Durham Female Count	35	22	43	45	34	33	54	43	56	50	46	51	60	67	66
Durham Total Count	77	61	84	83	76	85	108	112	115	113	114	107	122	159	154

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Non-Hodgkin lymphoma (NHL) is more common in young adults aged 20 to 44 years. The clearest risk factor is immunosuppression related to immune disorders, immunosuppressive drugs, and viruses such as Epstein-Barr, hepatitis C and human immunodeficiency virus (HIV) (2). NHL incidence rates increased significantly from 1998 to 2012 in both Durham Region and Ontario and for both males and females (non-significant in Durham Region females). For 2010 to 2012 combined, Durham Region was similar to Ontario.

Figure 15: Melanoma

Age-standardized incidence rates for males and females, Durham Region and Ontario, 1998 to 2012



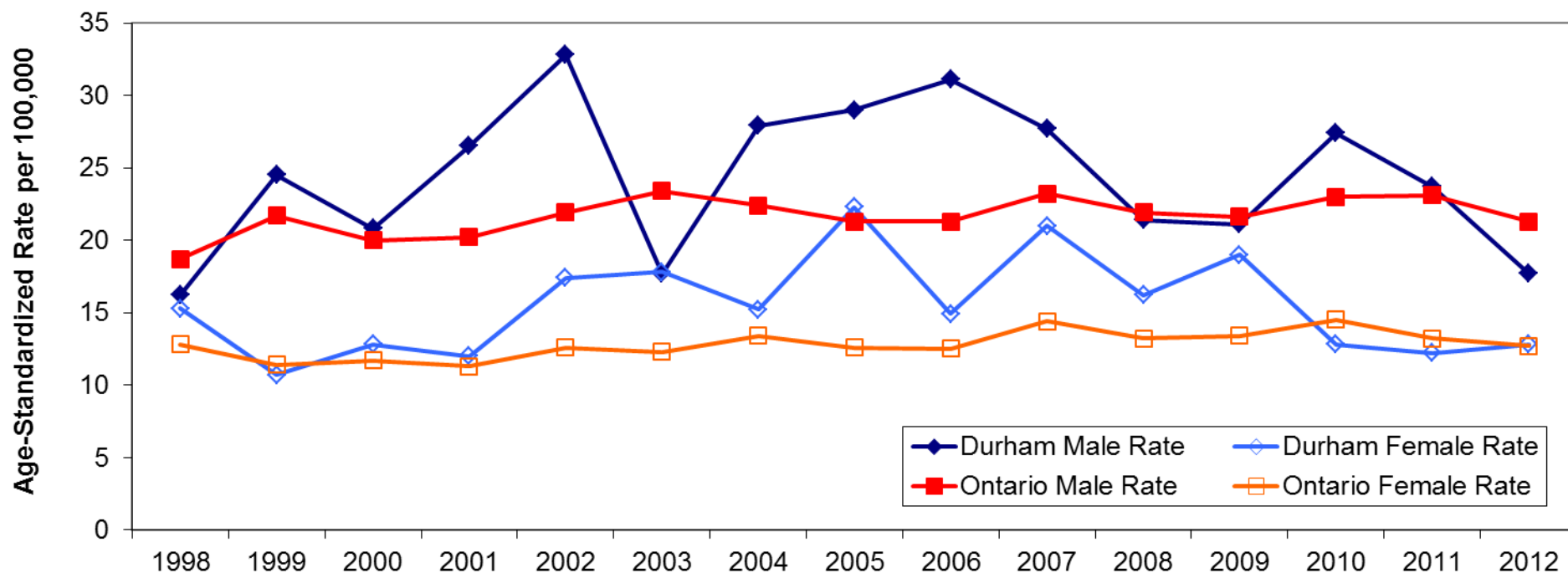
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Male Rate	14.4	19.0	16.8	21.4	23.5	24.1	17.8	23.0	30.7	27.1	25.0	31.2	26.0	28.7	29.3
Durham Female Rate	14.4	19.9	15.7	18.5	17.3	15.0	17.6	17.2	21.9	26.8	15.0	13.6	17.3	18.9	22.5
Ontario Male Rate	17.4	19.8	20.1	20.2	19.0	20.4	20.0	21.0	22.3	21.6	22.8	23.3	24.3	24.3	23.6
Ontario Female Rate	13.0	14.0	13.9	14.2	13.9	14.2	15.0	15.5	16.5	17.2	16.2	17.0	17.4	17.9	16.5
Durham Male Count	27	27	34	43	48	48	39	49	67	64	58	73	66	72	79
Durham Female Count	32	43	33	44	41	38	45	46	62	74	44	41	53	57	71
Durham Total Count	59	70	67	87	89	86	84	95	129	138	102	114	119	129	150

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Melanoma is a type of skin cancer caused by intense exposure to sunlight and use of tanning beds. People at higher risk have pale skin, light eyes, fair or red hair, many freckles or moles, and tend to burn rather than tan (2). Melanoma tends to be more common in males than females. Melanoma increased significantly in Durham Region and Ontario from 1998 to 2012. Incidence was significantly higher in Durham Region than Ontario for both sexes combined for 2010 to 2012.

Figure 16: Leukemia

Age-standardized incidence rates for males and females, Durham Region and Ontario, 1998 to 2012



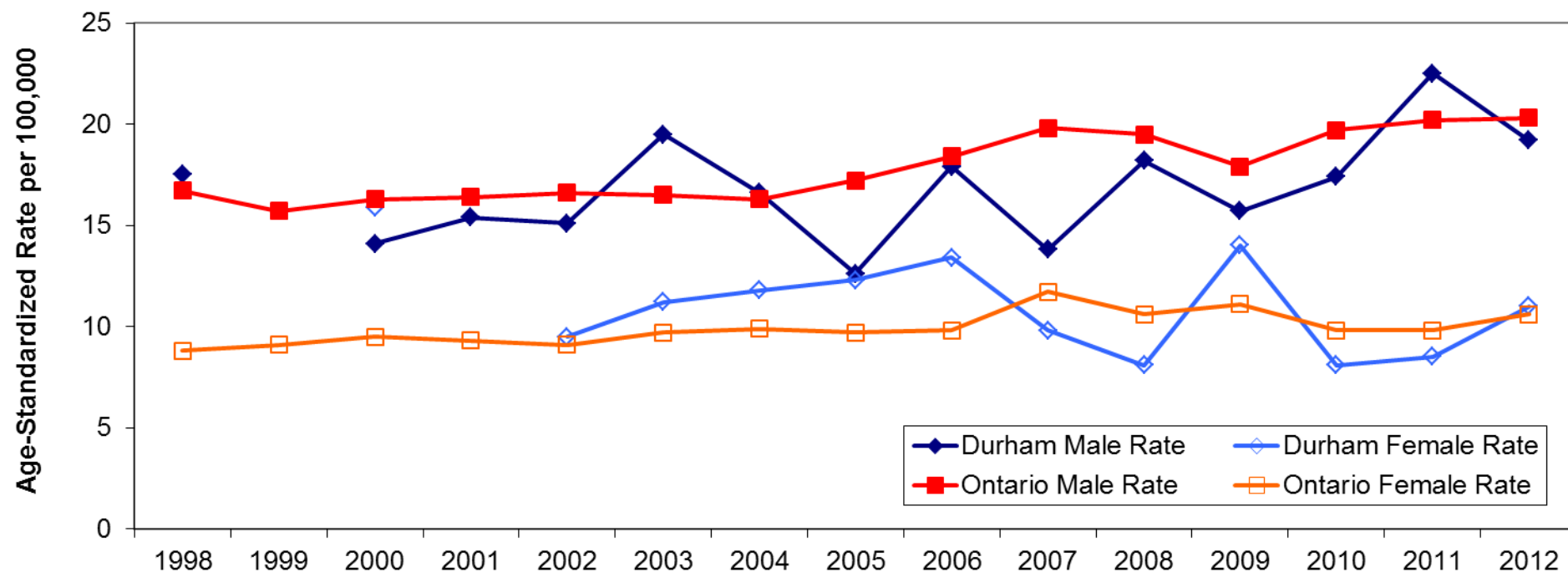
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Male Rate	16.2	24.5	20.8	26.5	32.8	17.7	27.9	29.0	31.1	27.7	21.4	21.1	27.4	23.7	17.7
Durham Female Rate	15.3	10.7	12.8	12.0	17.4	17.8	15.2	22.3	14.9	21.0	16.2	19.0	12.8	12.2	12.8
Ontario Male Rate	18.7	21.7	20.0	20.2	21.9	23.4	22.4	21.3	21.3	23.2	21.9	21.6	23.0	23.1	21.3
Ontario Female Rate	12.8	11.4	11.7	11.3	12.6	12.3	13.4	12.6	12.5	14.4	13.2	13.4	14.5	13.2	12.7
Durham Male Count	26	37	39	38	49	36	54	55	65	59	49	48	70	56	45
Durham Female Count	30	24	28	25	39	40	36	54	37	55	43	53	39	38	40
Durham Total Count	56	61	67	63	88	76	90	109	102	114	92	101	109	94	85

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Risk factors are different for each type of leukemia but include smoking, medical and occupational exposure to radiation, occupational exposures to benzene and formaldehyde, and certain drugs used to treat cancer (2). Leukemia incidence tends to be higher in males than females. Incidence was stable in Durham Region but increased significantly from 1998 to 2012 in Ontario females and both sexes combined. For 2010 to 2012 combined, Durham Region was similar to Ontario.

Figure 17: Kidney cancer

Age-standardized incidence rates for males and females, Durham Region and Ontario, 1998 to 2012



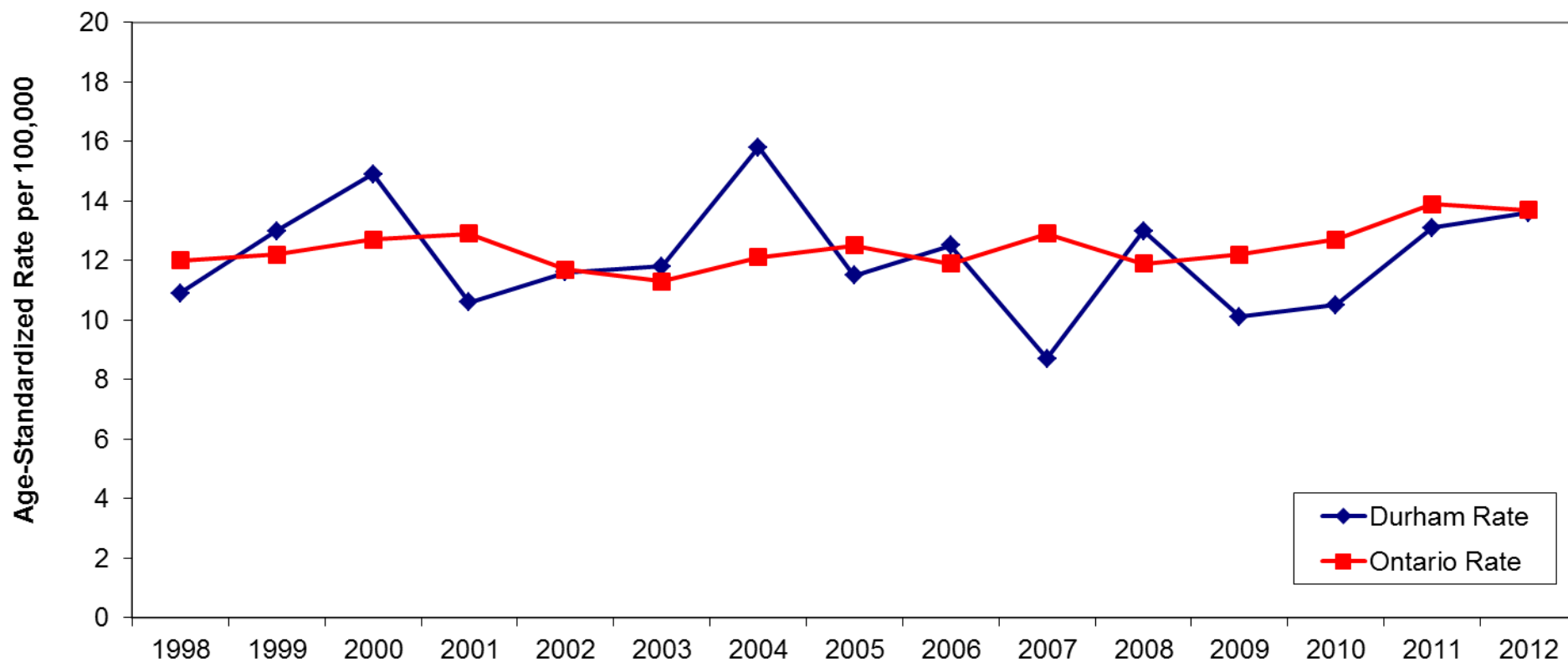
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Male Rate	17.5	--	14.1	15.4	15.1	19.5	16.6	12.6	17.9	13.8	18.2	15.7	17.4	22.5	19.2
Durham Female Rate	--	--	15.9	--	9.5	11.2	11.8	12.3	13.4	9.8	8.1	14.0	8.1	8.5	11.0
Ontario Male Rate	16.7	15.7	16.3	16.4	16.6	16.5	16.3	17.2	18.4	19.8	19.5	17.9	19.7	20.2	20.3
Ontario Female Rate	8.8	9.1	9.5	9.3	9.1	9.7	9.9	9.7	9.8	11.7	10.6	11.1	9.8	9.8	10.6
Durham Male Count	30	17	24	30	30	35	36	28	41	31	44	38	46	61	51
Durham Female Count	11	14	31	19	21	26	28	31	32	28	23	38	24	25	34
Durham Total Count	41	31	55	49	51	61	64	59	73	59	67	76	70	86	85

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Kidney cancer (includes renal pelvis) was more common in males than females. Risk factors include smoking, obesity, and medical radiation (2). Incidence rates have been slowly rising each year in part due to improved detection technology, but may also be due to increased obesity and hypertension, and past smoking practices, particularly in women (4). Incidence was stable in Durham Region but increased in Ontario males and females. For 2010 to 2012 combined, Durham Region was similar to Ontario. We excluded age-standardized rates when counts were less than 20, shown as dashes in the table and gaps in the graph.

Figure 18: Oral cancers

Age-standardized incidence rates for both sexes combined, Durham Region and Ontario, 1998 to 2012



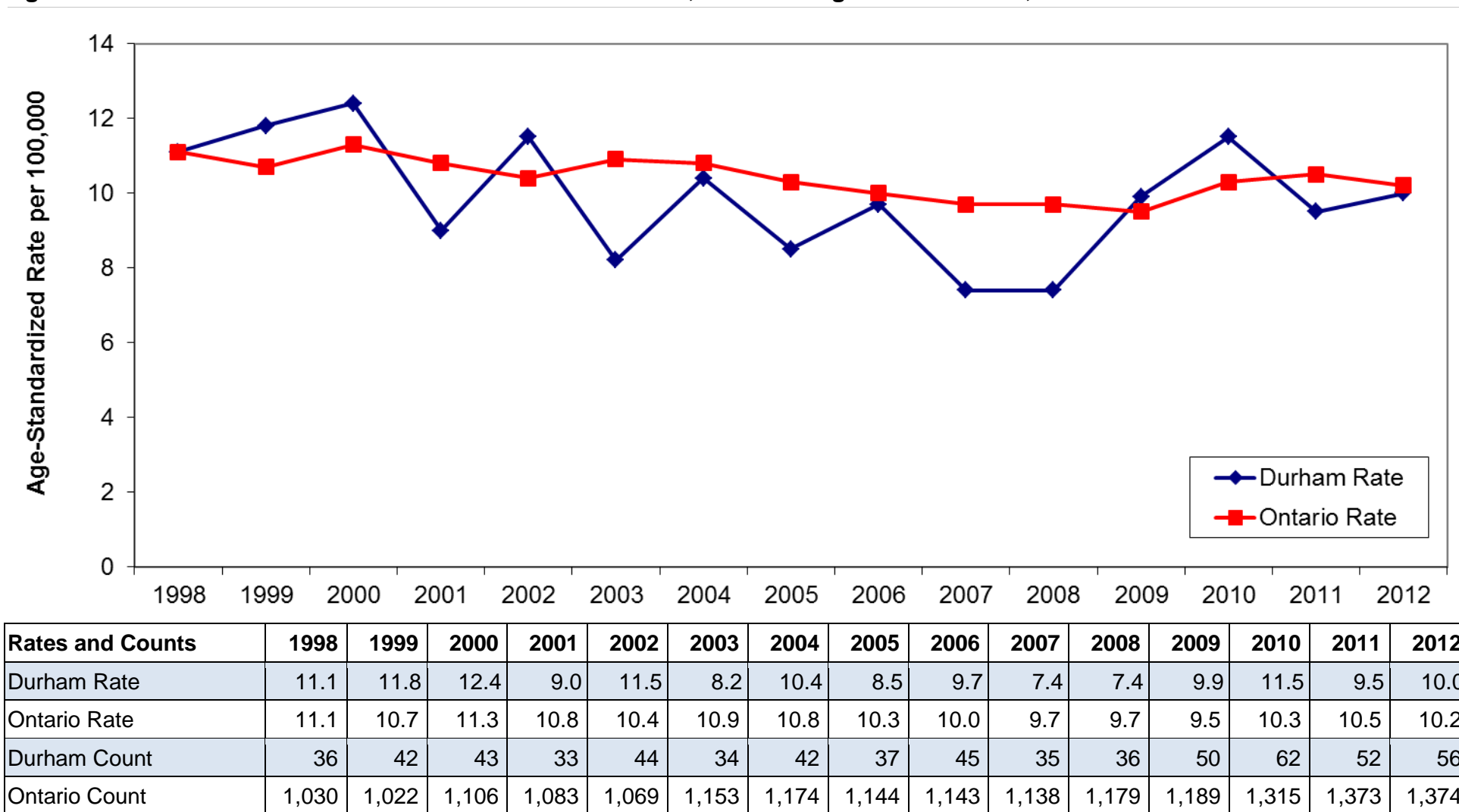
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Rate	10.9	13.0	14.9	10.6	11.6	11.8	15.8	11.5	12.5	8.7	13.0	10.1	10.5	13.1	13.6
Ontario Rate	12.0	12.2	12.7	12.9	11.7	11.3	12.1	12.5	11.9	12.9	11.9	12.2	12.7	13.9	13.7
Durham Count	40	46	53	43	46	51	68	52	61	42	67	56	58	74	79
Ontario Count	1,127	1,186	1,255	1,296	1,224	1,215	1,334	1,404	1,369	1,521	1,452	1,516	1,625	1,820	1,844

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Oral cancers include cancers of the lip, pharynx, tongue, salivary gland, floor of mouth, gums, tonsil and nasopharynx. Oral cancers are more common in males than females. The main cause is tobacco use. Other risk factors include alcohol consumption, infection with Epstein-Barr virus, and occupational exposure to asbestos, wood dust and nickel compounds (2). A diet high in vegetables and fruit may reduce the risk of developing oral cancer (2). Incidence was stable in Durham Region and Ontario from 1998 to 2012. For 2010 to 2012 combined, Durham Region was similar to Ontario.

Figure 19: Stomach cancer

Age-standardized incidence rates for both sexes combined, Durham Region and Ontario, 1998 to 2012

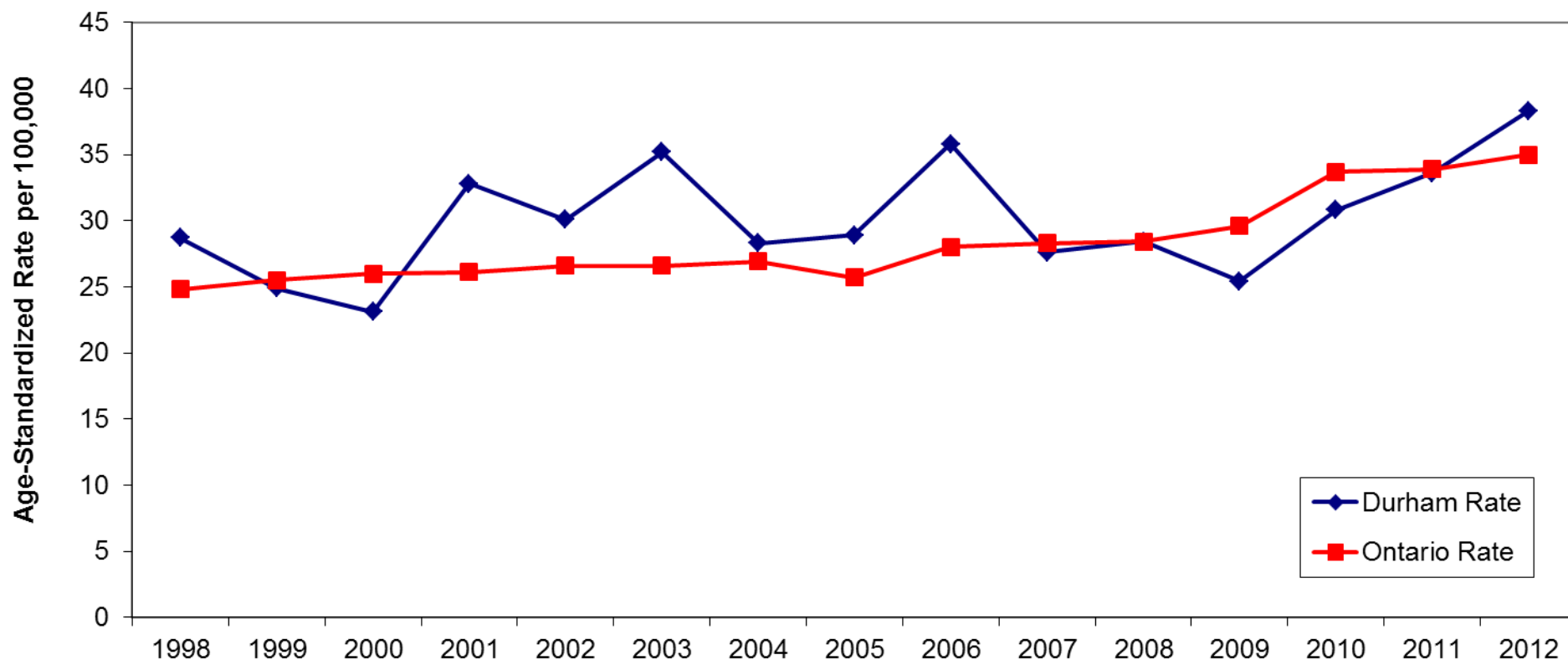


Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Stomach cancer is more common in males than females (4). Because incidence was low in Durham Region females, we combined males and females. Risk factors for stomach cancer include smoking, a diet high in salt, and infection with the *Helicobacter pylori* bacteria (2). A diet high in vegetables and fruit lowers the risk of developing stomach cancer (2). Incidence was stable in Durham Region from 1998 to 2012 but decreased significantly in Ontario males and both sexes combined. For 2010 to 2012 combined, Durham Region was similar to Ontario.

Figure 20: Uterine cancer

Age-standardized incidence rates for females, Durham Region and Ontario, 1998 to 2012



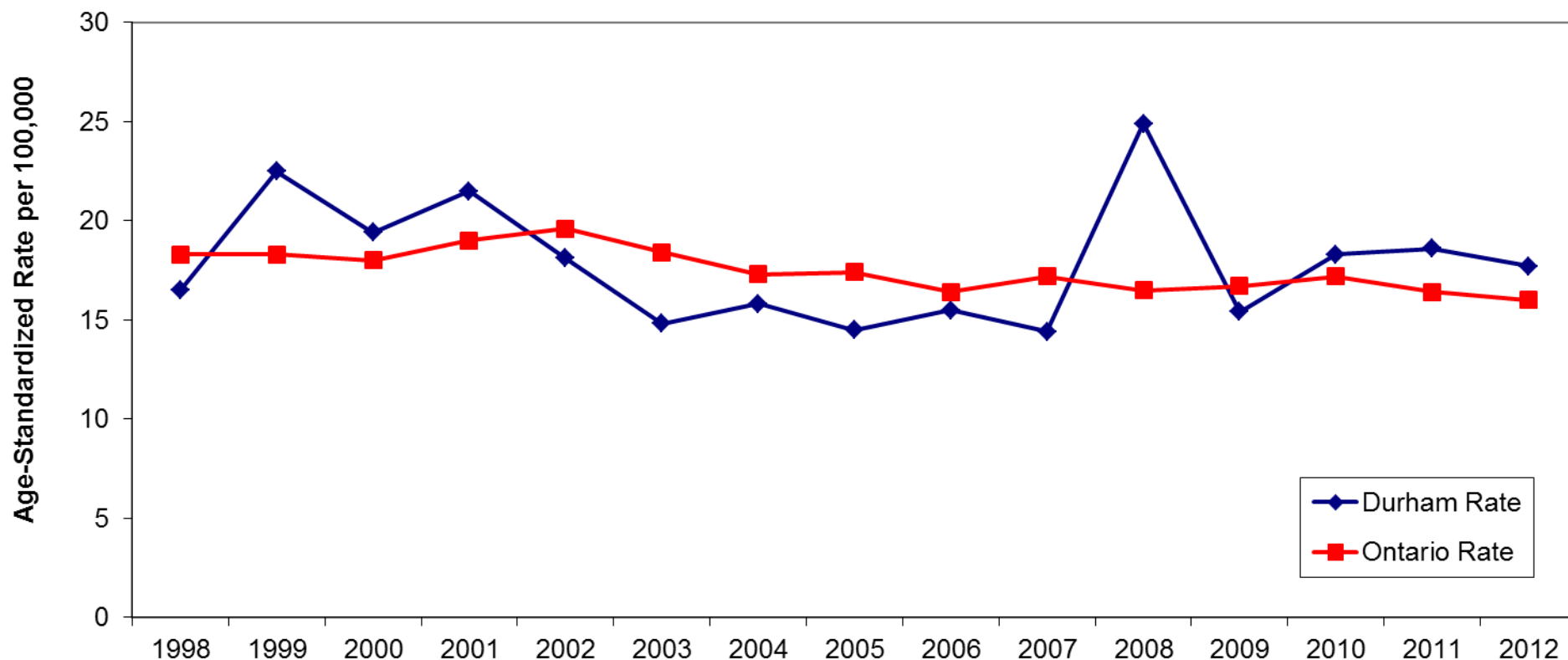
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Rate	28.7	24.9	23.1	32.8	30.1	35.2	28.3	28.9	35.8	27.6	28.4	25.4	30.8	33.6	38.3
Ontario Rate	24.8	25.5	26.0	26.1	26.6	26.6	26.9	25.7	28.0	28.3	28.4	29.6	33.7	33.9	35.0
Durham Count	53	46	44	66	63	75	65	70	88	70	76	71	89	100	120
Ontario Count	1,230	1,287	1,343	1,368	1,436	1,472	1,540	1,500	1,681	1,746	1,797	1,924	2,252	2,322	2,465

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Uterine cancer is the fourth most commonly diagnosed cancer in women in Canada (3). Most are cancers of the endometrium, which is the inner layer or lining of the uterus. Risk factors for uterine cancer include obesity, and various reproductive and hormonal factors including hormone replacement therapy for menopause, and later age at menopause. Physical activity and oral contraceptive use may reduce the risk of developing uterine cancer (2). Incidence remained steady in Durham Region but increased significantly in Ontario from 1998 to 2012. For 2010 to 2012 combined, Durham Region was similar to Ontario.

Figure 21: Ovarian cancer

Age-standardized incidence rates for females, Durham Region and Ontario, 1998 to 2012



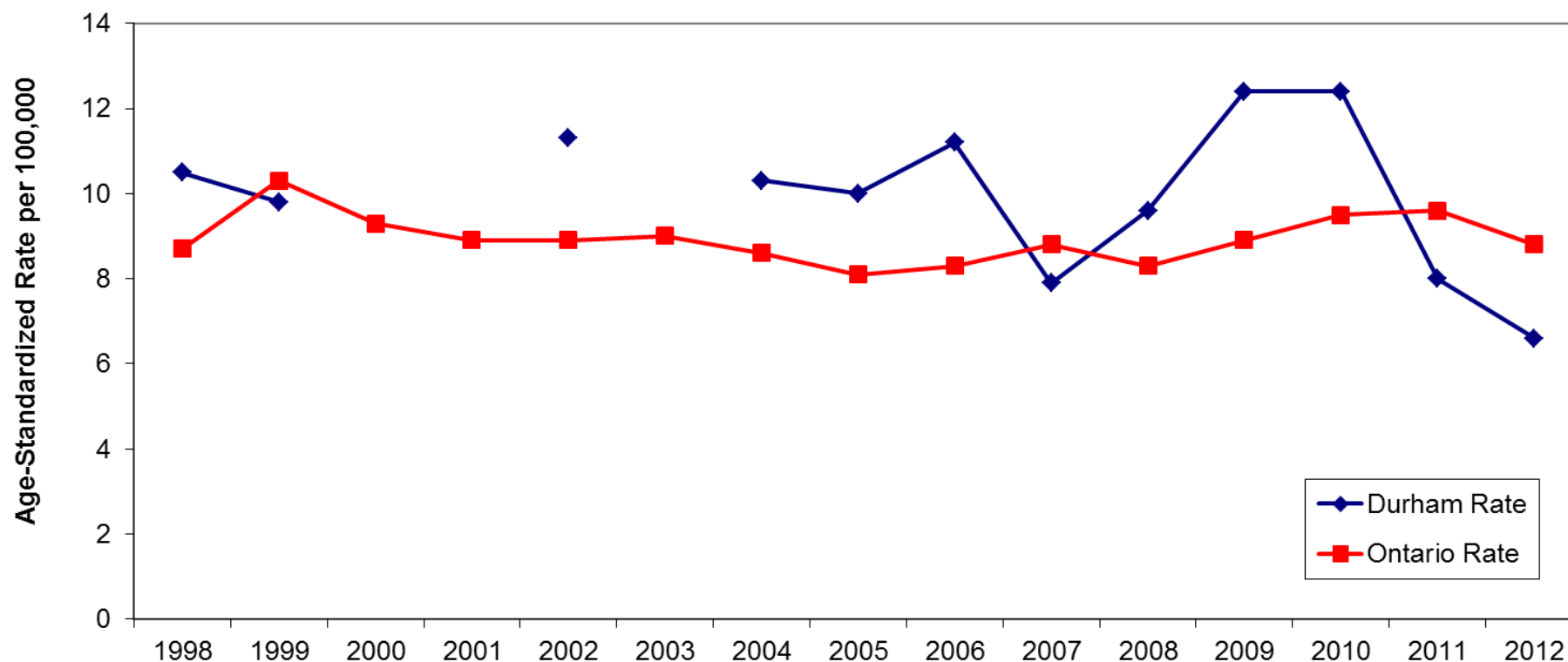
Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Rate	16.5	22.5	19.4	21.5	18.1	14.8	15.8	14.5	15.5	14.4	24.9	15.4	18.3	18.6	17.7
Ontario Rate	18.3	18.3	18.0	19.0	19.6	18.4	17.3	17.4	16.4	17.2	16.5	16.7	17.2	16.4	16.0
Durham Count	30	42	38	42	40	35	39	37	38	39	68	45	54	57	55
Ontario Count	949	955	957	1,031	1,101	1,073	1,030	1,061	1,023	1,094	1,081	1,116	1,170	1,143	1,135

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Ovarian cancer is the seventh most common cancer among females in Durham Region. Risk factors include smoking, occupational exposure to asbestos, and family history of ovarian or breast cancer, including having genes such as BRCA1 and BRCA2 (2). Oral contraceptive use and having children decreases the risk of ovarian cancer (2). Incidence remained steady in Durham Region but decreased significantly in Ontario from 1998 to 2012. For 2010 to 2012 combined, Durham Region was similar to Ontario.

Figure 22: Cervical cancer

Age-standardized incidence rates for females, Durham Region and Ontario, 1998 to 2012



Rates and Counts	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Durham Rate	10.5	9.8	--	--	11.3	--	10.3	10.0	11.2	7.9	9.6	12.4	12.4	8.0	6.6
Ontario Rate	8.7	10.3	9.3	8.9	8.9	9.0	8.6	8.1	8.3	8.8	8.3	8.9	9.5	9.6	8.8
Durham Count	23	26	18	18	29	16	30	29	31	22	29	39	38	25	21
Ontario Count	475	571	533	520	539	549	526	513	526	571	544	588	638	655	608

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Cervical cancer is a common cancer worldwide but not in Canada where most women have regular Pap tests and receive treatment before cancer develops. Human papillomavirus (HPV) is the main cause but other factors increase risk, including smoking, use of oral contraceptives, and co-infection with other sexually transmitted infections such as HIV, chlamydia and herpes (2). Cervical cancer is preventable with HPV vaccination and regular Pap test screening. Incidence remained steady in Durham Region and Ontario from 1998 to 2012. For 2010 to 2012 combined, Durham Region was similar to Ontario. We did not include age-standardized rates when counts were less than 20 and instead presented these as dashes in the table and gaps in the graph.

Table 3: Trends in males**Annual Percent Change (APC) from 1998 to 2012 for selected cancers for males, Durham Region and Ontario**

	APC for Durham Region	Trend	APC for Ontario	Trend
All Cancers	-0.4%	No change	-0.3%*	Significant decrease
Cancer in ages 15-29 years	1.5%	No change	1.2%*	Significant increase
Cancer in ages 30-49 years	1.1%	No change	0.7%*	Significant increase
Cancer in ages 50+ years	-0.7%*	Significant decrease	-0.4%*	Significant decrease
Lung cancer	-0.6%	No change	-1.3%*	Significant decrease
Colorectal cancer	-0.6%	No change	-0.4%	No change
Prostate cancer	-2.0%*	Significant decrease	-0.9%	No change
Bladder cancer	-0.5%	No change	-1.2%*	Significant decrease
Thyroid cancer	6.3%*	Significant increase	8.0%*	Significant increase
Non-Hodgkin lymphoma	2.3%*	Significant increase	1.2%*	Significant increase
Melanoma	3.5%*	Significant increase	1.9%*	Significant increase
Leukemia	0.1%	No change	0.6%	No change
Kidney cancer	2.2%	No change	2.0%*	Significant increase

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)**Note:** * indicates a statistically significant change.

Comments: Overall cancer incidence rates for Durham Region males decreased by 0.4% per year from 1998 to 2012 but this decrease was not statistically significant. Incidence did decrease significantly for Ontario males. Over the 15-year period, prostate cancer decreased significantly by 2% per year and cancer in ages 50 and over by 0.7% per year in Durham Region. Increases occurred for thyroid cancer, melanoma and non-Hodgkin lymphoma. The largest change was a 6.3% increase in thyroid cancer, which is partly due to improved detection methods.

Table 4: Trends in females**Annual Percent Change (APC) from 1998 to 2012 for selected cancers for females, Durham Region and Ontario**

	APC for Durham Region	Trend	APC for Ontario	Trend
All Cancers	0.6%*	Significant increase	0.5%*	Significant increase
Cancer in ages 15-29 years	3.1%*	Significant increase	1.2%*	Significant increase
Cancer in ages 30-49 years	1.6%*	Significant increase	1.5%*	Significant increase
Cancer in ages 50+ years	0.3%	No change	0.2%*	Significant increase
Lung cancer	1.5%*	Significant increase	0.7%*	Significant increase
Colorectal cancer	-0.4%	No change	-0.6%*	Significant decrease
Breast cancer	-0.3%	No change	-0.4%*	Significant decrease
Bladder cancer	-3.0%	No change	-2.0%*	Significant decrease
Thyroid cancer	8.1%*	Significant increase	7.4%*	Significant increase
Non-Hodgkin lymphoma	1.3%	No change	0.7%*	Significant increase
Melanoma	1.1%	No change	1.9%*	Significant increase
Leukemia	0.0%	No change	1.1%*	Significant increase
Kidney cancer	-0.2%	No change	1.2%*	Significant increase
Uterine cancer	1.5%	No change	2.5%*	Significant increase
Ovarian cancer	0.0%	No change	-1.0%*	Significant decrease
Cervical cancer	0.6%	No change	0.1%	No change

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)**Note:** * indicates a statistically significant change

Comments: Overall cancer incidence rates for Durham Region females increased significantly by 0.6% per year from 1998 to 2012, similarly in Ontario. Incidence rates also increased in ages 15-29 and 30-49, and in lung cancer and thyroid cancer. As with males, the largest change was in thyroid cancer, which increased 8.1% per year. There were no significant decreases in Durham Region females but rates did go down in Ontario for colorectal, breast, bladder and ovarian cancers. The smaller number of cases in Durham Region means that changes are less likely to be statistically significant.

Table 5: Trends in both sexes

Annual Percent Change (APC) from 1998 to 2012 for selected cancers for both sexes combined, Durham Region and Ontario

	APC for Durham Region	Trend	APC for Ontario	Trend
All Cancers	0.1%	No change	0.2%	No change
Ages 0-14 years	2.7%	No change	1.3%*	Significant increase
Ages 15-29 years	2.6%*	Significant increase	1.2%*	Significant increase
Ages 30-49 years	1.5%*	Significant increase	1.2%*	Significant increase
Ages 50+ years	-0.2%	No change	-0.1%	No change
Lung cancer	0.4%	No change	-0.4%	No change
Colorectal cancer	-0.5%	No change	-0.5%*	Significant decrease
Bladder cancer	-1.2%	No change	-1.3%*	Significant decrease
Thyroid cancer	7.7%*	Significant increase	7.6%*	Significant increase
Non-Hodgkin lymphoma	1.9%*	Significant increase	1.0%*	Significant increase
Melanoma	2.3%*	Significant increase	1.9%*	Significant increase
Leukemia	0.2%	No change	0.8%*	Significant increase
Kidney cancer	1.2%	No change	1.7%*	Significant increase
Oral cancers	-0.3%	No change	0.6%	No change
Stomach cancer	-1.1%	No change	-0.7%*	Significant decrease

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Note: * indicates a statistically significant change.

Comments: Overall cancer incidence rates in Durham Region and Ontario did not change from 1998 to 2012 because increases in females cancelled out decreases in males. Each age group increased except for ages 50 and older. Thyroid cancer increased the most, followed by melanoma and non-Hodgkin lymphoma.

Table 6: Male SIRs**Standardized Incidence Ratios (SIRs) for males, Durham Region compared to Ontario, 2010 to 2012 combined**

	SIR	Lower Confidence Interval	Upper Confidence Interval	Number of Durham Region Cases	Durham Region Compared with Ontario
All Cancers	1.03	1.003	1.06	5,106	Higher than Ontario
Cancer in ages 0-14 years	1.21	0.83	1.58	40	similar
Cancer in ages 15-29 years	1.20	0.96	1.43	97	similar
Cancer in ages 30-49 years	0.97	0.87	1.06	418	similar
Cancer in ages 50+ years	1.03	1.003	1.06	4,551	Higher than Ontario
Lung cancer	1.03	0.95	1.11	637	similar
Colorectal cancer	0.97	0.89	1.04	611	similar
Prostate cancer	1.06	0.998	1.12	1,237	similar
Bladder cancer	0.98	0.88	1.07	409	similar
Thyroid cancer	0.93	0.73	1.13	87	similar
Non-Hodgkin lymphoma	1.10	0.96	1.23	252	similar
Melanoma	1.14	0.99	1.28	246	similar
Leukemia	1.01	0.86	1.16	174	similar
Kidney cancer	0.99	0.84	1.13	174	similar

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)**Comments:** Durham Region males had significantly higher incidence than Ontario for all cancers combined and for cancer in adults aged 50 and older. The remaining cancer categories were similar to provincial levels. Because we used the new SEER method of counting cancers in the SIRs, the number of cases in this table may be different from trend data above.

Table 7: Female SIRs

Standardized Incidence Ratios (SIRs) for females, Durham Region compared to Ontario, 2010 to 2012 combined

	SIR	Lower Confidence Interval	Upper Confidence Interval	Number of Durham Region Cases	Durham Region Compared with Ontario
All Cancers	1.07	1.04	1.10	5,238	Higher than Ontario
Cancer in ages 0-14 years	0.95	0.60	1.29	29	similar
Cancer in ages 15-29 years	1.33	1.09	1.57	116	Higher than Ontario
Cancer in ages 30-49 years	1.10	1.03	1.17	430	Higher than Ontario
Cancer in ages 50+ years	1.06	1.03	1.09	4,156	Higher than Ontario
Lung cancer	1.24	1.15	1.33	719	Higher than Ontario
Colorectal cancer	0.99	0.91	1.08	532	similar
Breast cancer	0.97	0.92	1.02	1,341	similar
Bladder cancer	1.28	1.09	1.47	178	Higher than Ontario
Thyroid cancer	1.21	1.09	1.33	397	Higher than Ontario
Non-Hodgkin lymphoma	1.08	0.94	1.23	210	similar
Melanoma	1.13	0.97	1.28	200	similar
Leukemia	0.96	0.79	1.13	121	similar
Kidney cancer	0.94	0.75	1.13	93	similar
Uterine cancer	1.01	0.90	1.12	323	similar
Ovarian cancer	1.14	0.97	1.31	176	similar
Cervical cancer	0.98	0.77	1.18	88	similar

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Durham Region females had significantly higher incidence than Ontario for all cancers combined, lung, thyroid and bladder cancers, and for three of the four age groupings. The remaining cancer categories were similar to Ontario. Thyroid cancer influenced SIRs for young women, accounting for 28% and 20% of all new cancers in females aged 15 to 29 and 30 to 49 respectively. Because we used the new SEER method of counting cancers in the SIRs, the number of cases in this table may be different from trend data above.

Table 8: SIRs for both sexes

Standardized Incidence Ratios (SIRs) for both sexes combined, Durham Region compared to Ontario, 2010 to 2012 combined

	SIR	Lower Confidence Interval	Upper Confidence Interval	Number of Durham Region Cases	Durham Region Compared with Ontario
All Cancers	1.05	1.03	1.07	10,344	Higher than Ontario
Cancer in ages 0-14 years	1.08	0.83	1.34	69	similar
Cancer in ages 15-29 years	1.27	1.10	1.44	213	Higher than Ontario
Cancer in ages 30-49 years	1.06	1.003	1.12	1,355	Higher than Ontario
Cancer in ages 50+ years	1.04	1.02	1.07	8,707	Higher than Ontario
Lung cancer	1.13	1.07	1.19	1,356	Higher than Ontario
Colorectal cancer	0.98	0.92	1.03	1,143	similar
Bladder cancer	1.05	0.96	1.13	587	similar
Thyroid cancer	1.15	1.05	1.26	484	Higher than Ontario
Non-Hodgkin lymphoma	1.09	0.99	1.19	462	similar
Melanoma	1.13	1.02	1.23	446	Higher than Ontario
Leukemia	0.98	0.87	1.10	295	similar
Kidney cancer	0.97	0.85	1.08	267	similar
Oral cancers	0.92	0.80	1.04	217	similar
Stomach cancer	0.99	0.84	1.13	175	similar

Source: Cancer Care Ontario SEER*Stat Package Release 10 – Ontario Cancer Registry (August 2015)

Comments: Durham Region residents had significantly higher incidence than Ontario for all cancers combined, lung cancer, thyroid cancer and melanoma, and for three of the four age groupings. The remaining cancer categories were similar to Ontario. Because we used the new SEER method of counting cancers in the SIRs, the number of cases in this table may be different from trend data above.

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1. Cancer Care Ontario. [Ontario Cancer Statistics 2016](#). Toronto: Cancer Care Ontario, 2016.
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