Cancer Care Ontario

ONTARIO CANCER STATISTICS 2018

EXECUTIVE SUMMARY

Ontario Cancer Statistics is a biennial publication that provides information on the burden of cancer in Ontario. It is produced by the Surveillance and Cancer Registry department of CCO. The report is organized around four main types of indicators: incidence, mortality, survival and prevalence. This edition also includes a special chapter on emerging issues in cancer control, which examines cancer in relation to comorbidity and wait times.

Ontario
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KEY FINDINGS

INCIDENCE:

- In 2018, an estimated 90,483 new cases of malignant cancer (excluding non-melanoma skin cancer) are expected to be diagnosed in Ontario, resulting in an age-standardized incidence rate of 571.1 cases per 100,000.
  - The incidence rate is expected to be higher in males (613.2 per 100,000) than females (542.7 per 100,000).
- The most commonly diagnosed cancers in 2018 are expected to be breast, colorectal and lung.
- Cancer incidence is expected to be highest in people ages 60 to 79, with this age group accounting for more than half of all cancers diagnosed in 2018.
- The cancer incidence rate increased by 0.5% per year from 1983 to 2001, and then remained stable until 2013.
  - Among males, the incidence rate increased by 0.4% per year from 1983 to 2001, and then decreased by 0.7% per year from 2001 to 2013.
  - In contrast, among females, the incidence rate increased by 0.4% per year from 1983 to 2013.
- The greatest decreases in incidence rates from 1983 to 2013 occurred in laryngeal, cervical, lung, bladder and stomach cancers. The greatest increases occurred in thyroid and liver cancers, as well as melanoma and non-Hodgkin lymphoma.
- Cancer incidence rates have been increasing over the past decade among people under age 60 and decreasing among people age 60 and older.
- Population-based stage data was available for six cancer types: breast, cervix, colorectal, lung, prostate and thyroid. The majority of breast, colorectal, prostate, cervical and thyroid cancer cases in 2013 were diagnosed at stage I or II. The majority of lung cancer cases, on the other hand, were diagnosed at stage IV.

> "In 2018, 90,483 new cases of cancer are expected to be diagnosed in Ontario, 45,518 in males and 44,965 in females."

MORTALITY:

- In 2018, an estimated 30,574 deaths from cancer (excluding non-melanoma skin cancer) are expected to occur in Ontario, resulting in an age-standardized mortality rate of 186.9 deaths per 100,000.
  - The mortality rate is expected to be higher in males (219.5 per 100,000) than females (162.5 per 100,000).
- The leading cause of cancer death in 2018 is expected to be lung cancer, which is projected to cause almost one quarter of all cancer deaths. The next most common causes of cancer death are expected to be colorectal, breast and pancreatic cancers.
- More than half of all the cancer deaths in 2018 are expected to occur in people ages 60 to 79, while more than one-third are expected to occur in people age 80 and older.
- The cancer mortality rate decreased by 0.4% per year from 1983 to 2001 and then declined by 1.6% per year from 2001 to 2013.
  - Among males, the cancer mortality rate was stable from 1983 to 1988, declined by 0.9% per year from 1988 to 2001, and then declined a further 1.8% per year from 2001 to 2013.
  - Among females, the cancer mortality rate declined by 0.2% per year from 1983 to 2002, and then declined a further 1.6% per year from 2002 to 2013.
- From 1983 to 2013, the greatest decreases in mortality occurred in Hodgkin lymphoma and cervical, stomach and testicular cancers. The greatest increases occurred in liver cancer, melanoma and lung cancer.

> "In 2018, 30,574 deaths from cancer are expected to occur in Ontario, 16,039 in males and 14,535 in females."

SURVIVAL:

- For the 2009–2013 time period, the five-year relative survival ratio for all cancers combined was 64.7%.
  - Survival was significantly higher among females (66.4%) than males (63.0%).
- Five-year relative survival was highest for thyroid (98.8%), testicular (97.0%) and prostate (95.4%) cancers.
- Five-year relative survival was lowest for pancreatic (9.5%), esophageal (15.3%), lung (20.0%) and liver (20.4%) cancers.
- Five-year relative survival decreased with increasing age, from 87.1% for people diagnosed between the ages of 15 and 39 to 44.7% for people diagnosed at age 80 or older.
- Although cancer survival has improved over the past three decades, since 1984-1988 the greatest improvements in five-year relative survival have been made in people diagnosed between the ages of 40 and 79. Over the same time period, there was no significant improvement in five-year relative survival for people diagnosed at age 80 or older.
- While five-year relative survival from diagnosis was 64.7%, it increased to 82.7% for people who survived the first year after their diagnosis. Five-year relative survival increased for each year survived until four years after diagnosis, when the relative survival ratio was 97.7%.

> "The greatest improvements in survival have been made in those diagnosed between the ages of 40 and 79 years."

PREVALENCE:

- The number of cancer survivors in Ontario is increasing. As of January 1, 2014, an estimated 370,713 people living in Ontario had been diagnosed with cancer in the previous 10 years. This is more than double the number of people (184,309) who had been diagnosed in the previous 10 years at the end of 1993.
- Prostate cancer was the largest contributor to 10-year prevalence, accounting for 75,610 prevalent cases.
- The greatest relative increases in 10-year prevalence from 1993 to 2013 were in liver and thyroid cancers.

> "In Ontario, 585,016 people are living with a diagnosis of cancer in the past 30 years, 311,759 females and 273,257 males."

KEY FINDINGS: EMERGING ISSUES IN CANCER CONTROL

COMORBIDITY AND CANCER:

This section examines the burden of comorbidities among people diagnosed with cancer, given that comorbidities affect the treatment and prognosis of patients. Seven cancer types diagnosed from 2011 to 2015 were analyzed—bladder, breast (female), colorectal, kidney, lung, melanoma and pancreas.

- Of the cancers studied, the prevalence of comorbidity ranged from 10.2% among breast cancer patients to 48.0% among pancreatic cancer patients.
- Patients with comorbid conditions were more likely to be diagnosed at stage III or IV than those without comorbidities.
- The most common comorbidities among the cancer patients studied were diabetes, another primary cancer diagnosis and chronic obstructive pulmonary disease.
- Three-year relative survival tended to decrease with increasing Charlson Comorbidity Index (CCI) score. Among the cancers studied, comorbidity had the greatest effect on survival for pancreatic cancer (reducing survival from 15.9% among people with no comorbidity [CCI score of zero] to 5.4% among people with severe comorbidities [CCI score of three or more]) and lung cancer (reducing survival from 32.5% to 13.5%).

WAIT TIME AND CANCER:

This section examines wait times to surgical cancer treatment. While some wait for treatment is inevitable, a delay in initiating treatment may result in the loss of an opportunity for a cure because cancer may grow and spread to other parts of the body over time. Wait time is defined in this report as the time between the decision to treat with surgery and the first therapeutic surgery performed after diagnosis.

In Ontario, once the decision to treat a cancer with surgery is made, the patient is assigned a priority level that reflects the urgency of surgery. There are four priority levels:

- level I (surgery recommended within 24 hours);
- level II (highly aggressive malignancies, surgery recommended within 14 days);
- level III (invasive malignancies that do not meet the criteria for priority level II or IV, surgery recommended with 28 days); and
- level IV (slow growing malignancies, surgery recommended within 84 days).

Seven cancer types, diagnosed from 2011 to 2015, were analyzed—breast (female), colorectal, esophagus, lung, oral cavity & pharynx, ovary and pancreas. The analysis was restricted to cases assigned priority level II, III or IV.

- Of the cancers studied, patients with breast or esophageal cancer had the shortest median wait times to surgical treatment (16 days) while those with oral cavity & pharynx cancer had the longest (20 days).
- The majority of cases were assigned priority level III, regardless of cancer type or stage.
- Most patients received surgical treatment within the recommended wait time. Additionally, the proportion of patients receiving treatment within the recommended time increased with increasing priority level.
- Among priority level II patients, lung cancer patients were the most likely to receive surgical treatment within the recommended 14 days (92.7%), while those with ovarian cancer were the least likely (65.2%).
- Breast and esophageal cancer patients experienced no decrease in survival with increasing wait time to surgical treatment. However, shorter wait times were associated with poorer survival for people with colorectal, lung, oral cavity & pharynx, ovarian and pancreatic cancers.

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