INSIGHT ON COLORECTAL CANCER

News and information on colorectal cancer and screening in Ontario

HIGHLIGHTS

- Colorectal cancer is the second leading cause of death from cancer in Ontario.
- Numbers of new colorectal cancer cases and deaths are rising.
- Survival for colorectal cancer has improved, and can be further increased by screening to detect early-stage cancers.
- When caught early through regular screening, there is a 90 per cent chance that colorectal cancer can be cured.
- Colorectal screening has been at low levels in the absence of an organized program.
- ColonCancerCheck, a province-wide, population-based screening program, aims to increase colorectal screening rates and reduce mortality due to colorectal cancer.

Insight on Cancer is a series of joint Cancer Care Ontario and Canadian Cancer Society (Ontario Division) publications, designed to provide up-to-date information for health professionals and policy-makers about cancer and cancer risk factors in the province.

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Disclaimer

Many of the tables and charts in this report contain information derived from the Ontario Cancer Registry. Cancer Care Ontario made efforts to ensure the completeness, accuracy and currency of this information at the time of writing this report. This information changes over time, however, as does our interpretation of it. Accordingly, Cancer Care Ontario makes no representation or warranty as to the completeness, accuracy or currency of this information.

AN IMPORTANT CANCER IN ONTARIANS AGED 50 AND OVER

Second most common cause of cancer and cancer deaths

Colorectal cancer is the second leading cause of cancer deaths in Ontario, after lung, with an estimated 3,226 deaths in 2008. It is the second most common cancer diagnosed in Ontario, with an estimated 8,303 new cases in 2008. Colorectal, breast (8,213) and lung (7,861) cancer each accounted for 15% of all cancer diagnoses. Although new cases of prostate cancer are high (an estimated 10,673 cases in 2008), deaths are much lower (an estimated 1,414 in 2008).

In 2004, approximately 33,500 living Ontarians had been diagnosed with colorectal cancer in the preceding 10 years. This is about 3 in every 1,000 people (a prevalence of 0.3%).

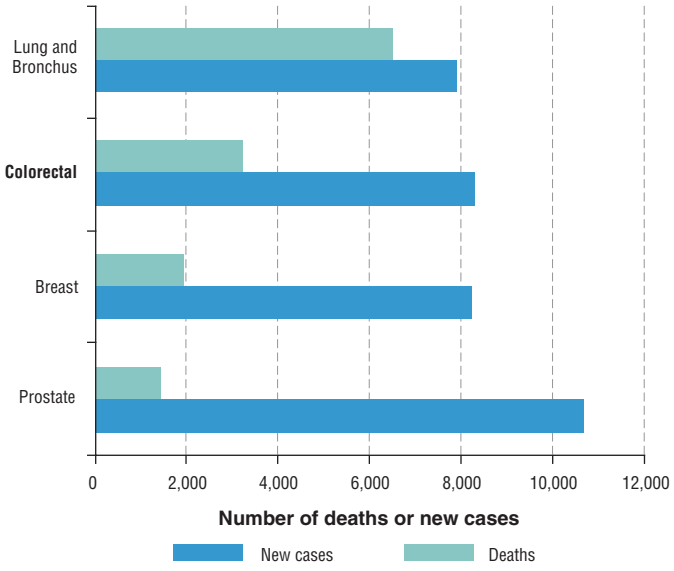
Rates increase with age

Colorectal cancer incidence rises rapidly with age, especially after age 50. Approximately 93% of cases are diagnosed in people aged 50 or older. Compared with the 0.3% for colorectal cancer prevalence mentioned above for Ontarians of all ages, prevalence in Ontarians aged 50 and older is 0.9%, or 9 in every 1,000.

Mortality increases less steeply across age groups.

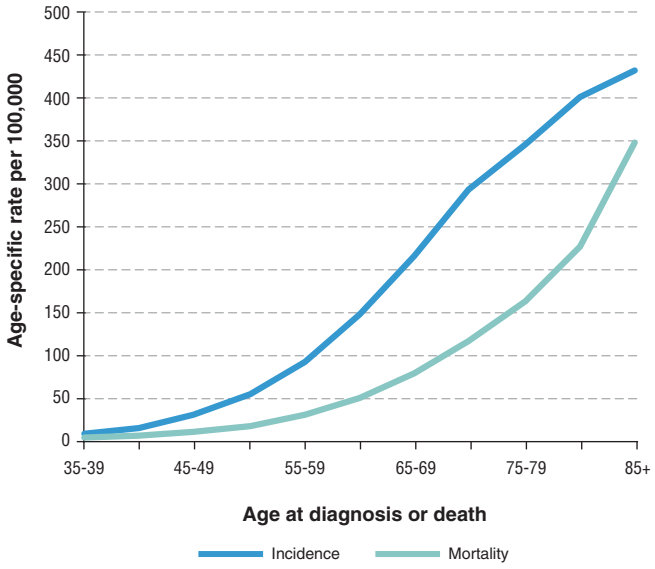
ColonCancerCheck is an organized, population-based colorectal screening program for Ontario. It targets men and women aged 50 to 74 years, when the risk of developing colorectal cancer is much higher than at earlier ages.

Annual number of deaths and new cases for the most common cancers in Ontario, 2008



Source: Cancer Care Ontario (Informatics, 2007)

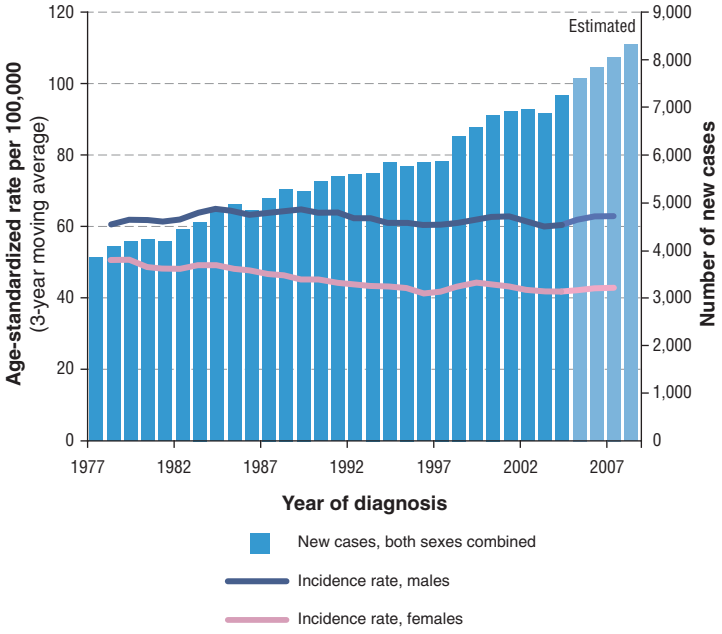
Colorectal cancer incidence and mortality rates by age, Ontario, 2000–2004



Source: Cancer Care Ontario (Ontario Cancer Registry, 2007)

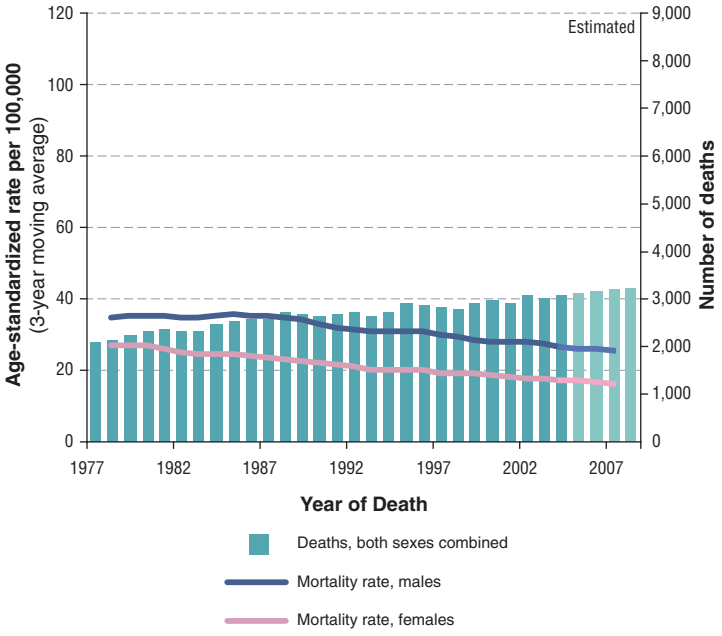
NEW CASES AND DEATHS INCREASING

Number of new cases and incidence rates of colorectal cancer, Ontario, 1977-2008



Source: Cancer Care Ontario (Informatics, 2007)

Number of deaths and mortality rates of colorectal cancer, Ontario, 1977-2008



Source: Cancer Care Ontario (Informatics, 2007)

The number of new colorectal cancer cases and deaths has increased over the past three decades, new cases by 117% and deaths by 55%. The estimated number of cases for 2008 is 8,303 and the estimated number of deaths is 3,226.

These increases in numbers result mainly from the increase in and aging of Ontario's population. Because older people are more likely to develop cancer, a larger population with a larger proportion of older people will have more cancers.

The risk of colorectal cancer has not increased. Incidence rates have been stable for both males and females since the mid to late 1990s, following earlier decreases.

An exception to stable incidence rates is seen with First Nations people in Ontario, whose rates of colorectal cancer have risen rapidly in the past few decades.*

Colorectal cancer mortality rates have been falling since before 1977 for females and since the mid 1980s for males. These declining rates may reflect earlier diagnosis and improvements in treatment.

* For a comparison of colorectal cancer incidence in First Nations people and for Ontario as a whole, see the Cancer System Quality Index, 2008, at http://www.cancercare.on.ca/english/csqi2008/csqioutcomes/csqi-cancer-inc/.

A recent systematic review found that population-based screening with the fecal occult blood test (FOBT) offered every two years lowered colorectal cancer mortality by 16%.

(Hewitson P et al. American Journal of Gastroenterology 2008;103:1541-49)

SURVIVAL IMPROVING

Steady and significant improvements in estimated five-year relative survival* over two decades

Survival rose from 53% in 1985–1989 to 64% in 2000–2004 for Ontarians aged 50–74.

Earlier diagnosis and improvements in treatment, such as better surgical techniques, are probably responsible for the survival gains in colorectal cancer.

Stage at diagnosis greatly affects colorectal cancer survival. Cancers diagnosed early have a better prognosis because treatment is more effective.

Ontario has limited data related to stage at diagnosis. Evidence from other jurisdictions without organized, population-based screening programs shows that colorectal cancer is often detected at a late stage, when survival is poor.

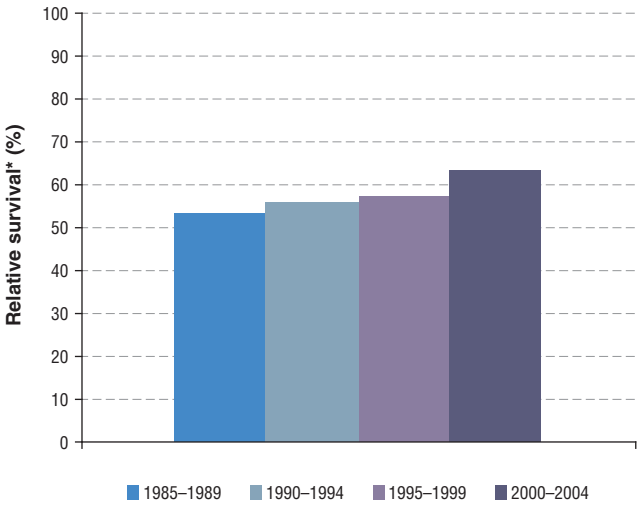
In Manitoba, in the absence of a colorectal screening program, less than half of cancers were diagnosed at Stage I and II, when they are curable, with estimated five-year survival rates of 87–96%. More than half of colorectal cancers were diagnosed at Stage III or IV. Stage III cancers have spread to lymph nodes, and estimated five-year relative survival* is only 55%. Stage IV cancers, which have spread to distant organs, have a poor prognosis.

Cancer Care Ontario is currently doing the groundwork for collecting information on cancer stage in Ontario.

* Five-year relative survival is the proportion of people alive five years after a first diagnosis of colorectal cancer, adjusted for the mortality expected among people of the same age in the general population.

Detection of early-stage colorectal cancer through widespread, population-based screening is needed to improve survival.

Colorectal cancer
5-year relative survival* for adults aged 50-74
Ontario, 1985-2004



Source: Cancer Care Ontario (Ontario Cancer Registry, 2007)

*Using Brenner's period method, which estimates survival of all cases followed up during the specified periods.

Stage at diagnosis and survival from colorectal cancer

Stage at diagnosis[1]	Stage distribution Manitoba, 2005	Estimated five-year relative survival US (SEER) 1993-1997
I	20%	96%
II	26%	87%
III	31%	55%
IV	23%	5%

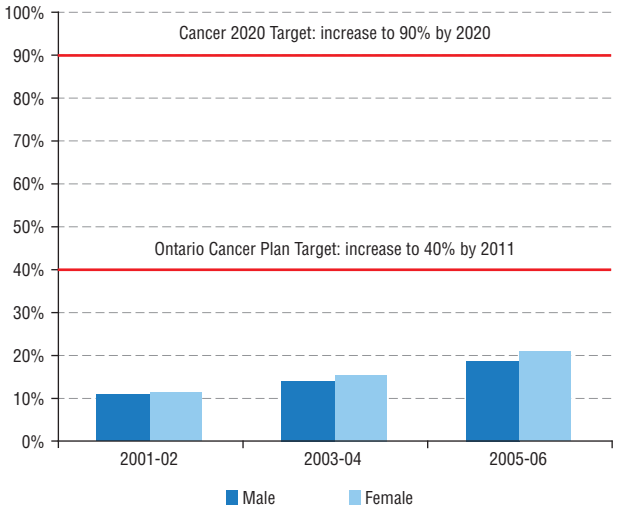
[1] American Joint Committee on Cancer (AJCC), AJCC Cancer Staging Manual, Sixth Edition, see www.cancerstaging.org

Source: 2005 Annual Statistical Report, Incidence and Mortality. Epidemiology and Cancer Registry, CancerCare Manitoba, 2005 (calculated from cases with known stage)

The Annual Report to the Nation on the Status of Cancer, 1973-1997, with a Special Section on Colorectal Cancer. Cancer 2000;88:2398-424. (Data from Surveillance, Epidemiology, and End Results (SEER) Program)

COLORECTAL SCREENING IN ONTARIO

Percent of men and women (ages 50-74) who received a fecal occult blood test (FOBT) in the past two years, 2001-06, by sex



Source: Cancer System Quality Index

Rates are standardized to the 1991 Canadian population

Low colorectal screening rates in Ontario

Use of the fecal occult blood test (FOBT) is extremely low across Ontario. In 2005–2006, only 19% of Ontario men and 21% of Ontario women aged 50–74 had received this test during the previous two years. This is an improvement over past years. It is still, however, well below the target of 90% set in Cancer 2020, the plan for cancer prevention and screening developed by Cancer Care Ontario and the Canadian Cancer Society. (http://www.cancercare.on.ca/documents/2006Cancer2020Report-English.pdf)

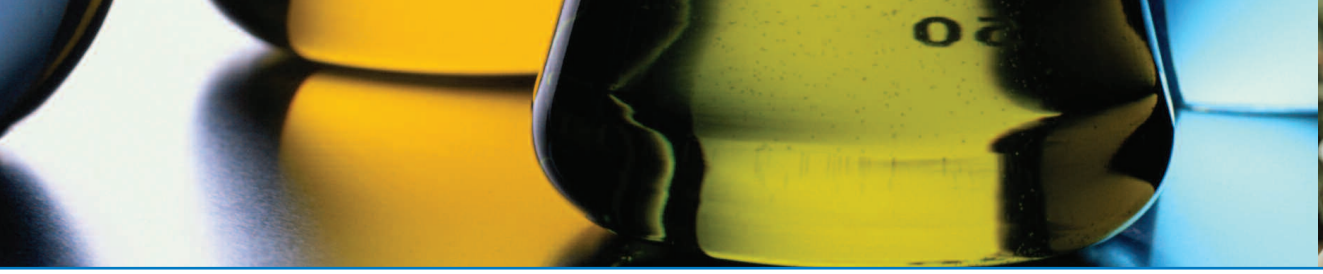
Proportions of the population who had received this test across the Local Health Integration Networks (LHINs) ranged from 15% to 23% of the population (men and women considered together) in this age group. (http://www.cancercare.on.ca/english/csqi2008/csqiaccess/csqi-colorectal-screen)

ColonCancerCheck is Canada's first province-wide, population-based screening program. It was launched in January 2007 by the Ministry of Health and Long-Term Care in collaboration with Cancer Care Ontario.

The goals of the program are to reduce mortality through an organized screening program and to improve the capacity of primary care providers to participate in comprehensive colorectal cancer screening.

To achieve these goals, ColonCancerCheck aims to:

- increase early detection of colorectal cancer
- ensure high clinical standards for fecal screening and colonoscopy and flexible sigmoidoscopy
- ensure that screening methods are effective
- achieve high recruitment and ongoing participation of age-eligible Ontarians
- ensure adequate colonoscopy capacity
- operate screening methods as efficiently as possible
- attach primary care providers to age-eligible unattached participants with a positive FOBT or those who are at increased risk
- coordinate service delivery through primary care
- build capacity for comprehensive screening through primary care



ColonCancerCheck relies on primary care providers as the first point of contact with the program. Primary care providers undertake a risk assessment of their patients aged 50 to 74.

Age-eligible patients with symptoms such as rectal bleeding or unexplained change in bowel habits are sent for diagnostic work-up. FOBT is *not* appropriate for these patients.

For patients at average risk – those with no family history of colorectal cancer and no symptoms – FOBT every two years is the primary screening tool for Ontarians. The test can detect invisible (occult) amounts of blood in the stool. FOBT was chosen because it is the only colorectal cancer screening method that has been proven in randomized controlled trials to reduce mortality from colorectal cancer.

Participants receive a test kit from a primary care provider or, if they have no primary care provider, from a pharmacist or through Telehealth Ontario. ColonCancerCheck will inform all those with negative results by mail, and recall them every two years for screening.

To support quality, ColonCancerCheck is using standards developed by Cancer Care Ontario's Program in Evidence Based Medicine to implement FOBT across the province. These standards relate to the performance and usability of the kits, and laboratory processing of the test.

Primary care providers refer patients with a positive FOBT, and those at increased risk – that is, those with a family history of one or more first degree relatives (parent, sibling or child) with colorectal cancer – for colonoscopy. Anyone in this category who does not have a primary care provider will be referred, through ColonCancerCheck, to a primary care provider who has agreed to take on unattached patients as part of his or her roster.

The colonoscopist informs the primary care provider of the results of the colonoscopy and the appropriate follow up interval, which depends on the results of the colonoscopy. Patients with a positive FOBT who have a normal colonoscopy are considered average risk, and can be screened using FOBT or colonoscopy after ten years. Patients with a family history and a normal colonoscopy are considered at increased risk, and should be re-referred for colonoscopy in five to ten years. Patients with adenomas may be recalled for colonoscopy sooner than ten years, with the interval determined by the number, size, and type of the adenomas detected.

To ensure that there is sufficient **colonoscopy capacity** to meet the demands of ColonCancerCheck, funding has been provided to hospitals to increase their capacity. To support quality, Cancer Care Ontario has developed **colonoscopy standards** to which participating hospitals must adhere as a condition of funding. The standards relate to the physician endoscopists, the hospitals and the performance of the procedure itself.

Ontario Colorectal Screening Program

For more information on the ColonCancerCheck program:

- visit www.ColonCancerCheck.ca
- e-mail colorectalcancerscreening@cancercare.on.ca
- call the Ministry of Health and Long-Term Care: 1 866 410-5853 (TTY: 1 800 387-5559)
- or see the Ministry's website at www.health.gov.on.ca

Colorectal Screening Resources:

http://www.cancercare.on.ca/colorectalscreening

For more information on colorectal cancer:

Call the Canadian Cancer Society *Cancer Information Service* at 1 888 939–3333, e-mail cis@ontario.cancer.ca or visit www.cancer.ca.

A recommendation from a primary care physician increases colorectal screening participation.

(Subramanian et al., Preventive Medicine 2003)

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Cancer Care Ontario is the provincial agency responsible for continually improving cancer services. As the government's cancer advisor, Cancer Care Ontario works to reduce the number of people diagnosed with cancer, and makes sure patients receive better care every step of the way.

Cancer Care Ontario's mission is to improve the performance of the cancer system by driving quality, accountability and innovation in all cancer-related services.

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The Canadian Cancer Society is a national, community-based organization of volunteers whose mission is the eradication of cancer and the enhancement of the quality of life of people living with cancer.

The Canadian Cancer Society achieves its mission through research, education, patient services and advocacy for healthy public policy. These efforts are supported by volunteers and staff and funds raised in communities across Canada.