In 2007 in Canada, 20,800 people learned they had colorectal cancer—9,400 women and 11,400 men. During the same year, 8,700 died of this cancer—4,000 women and 4,700 men. In Canada over the past 25 years, the mean incidence of colorectal cancer has been stable and the mean mortality rate has shown a slight decrease. After lung cancer, colorectal cancer is the second leading cause of death by cancer in Canada. It is also the third most frequently diagnosed type of cancer in both women and men.¹

Most colon cancers start as an adenomatous polyp whose cells develop into cancer over a period of several years through a process that is not clearly understood. Surgical excision is the standard therapeutic approach; depending on the scope of the lesion, it might be accompanied by chemotherapy or radiation therapy. The prognosis is a direct function of the stage of the cancer.

In Canada, the survival rate at 5 years is 60% for colorectal cancer. More specifically, the survival rate at 5 years is higher than 90% for those with early-stage lesions (T1N0M0—stage 1 tumour, 0 nodes involved, and 0 metastases) and 5% for those with later-stage lesions (TxNxM1). It is of the utmost importance, therefore, to act as quickly as possible before the cancer spreads through the serous membrane and invades the lymph nodes.²,³

**Features of an effective screening program**
The goal with screening is to detect cancerous or pre-cancerous lesions before there are symptoms. Screening can be incorporated into an organized program when the following conditions are met.⁴,⁵
- The screening test reduces mortality.
- The screening test makes it possible to detect disease at a preclinical stage.
- The screening test makes it possible to predict accurately whether a person has cancer (a high degree of sensitivity) or does not have cancer (a high degree of specificity).

- The screening test is considered safe and does not expose people to unacceptable risks.
- If screening reveals a cancer, effective treatment is available at an affordable cost.

**Application to colorectal cancer**
Colorectal cancer screening meets these conditions. About 90% of cases of colorectal cancer are diagnosed in Canadians older than 50 years. I estimate that, if an organized colorectal cancer screening program were offered to a population of men and women between the ages of 50 and 74 years and 70% of this population took part, colorectal cancer–related mortality could be reduced by at least 17%. This screening would consist of a fecal occult blood test every 2 years and, when there are positive test results, either a barium enema or colonoscopy.⁴,⁶-⁸

This approach can be compared with the approach to screening for breast cancer, which consists of mammography every 2 years followed by a biopsy if mammography raises the possibility of a malignant tumour. In the case of the fecal occult blood test, 1 positive test in 10 actually turns out to be cancer. In the case of breast cancer screening, 1 lesion in 18 detected on mammography is cancerous.

The fecal occult blood test is risk free; however, it causes unnecessary concern in 9 out of 10 people screened; a mammary lesion detected on mammography causes unnecessary concern in 17 out of 18 women screened. On the other hand, barium enema and colonoscopy carry certain risks and definitely cause discomfort. The advantage of being almost certain of being able to cure a patient with a cancerous lesion that is caught early in its development or of preventing benign polyps from developing into malignant lesions outweighs the risks of these procedures. These small lesions can be removed by colonoscopy or sigmoidoscopy before they become cancerous.

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Conclusion
Currently in Canada, we do not have extensive experience with an organized colorectal cancer screening program. Recently, Ontario, Manitoba, and Alberta launched colorectal cancer screening initiatives. We will need to monitor the development of these experiments as well as new technological developments. The reduction in mortality from breast cancer and cervical cancer owing, in part, to women’s participation in early screening is encouraging us to take action. Cancer organizations, public health authorities, and medical professionals all need to work together.2,9,10

Dr Pineau is Vice President of the Quebec Division of the Canadian Cancer Society.

Competing interests
None declared

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cause? Given the bottlenecks that are already affecting too many health care sectors, how can we justify preparing for what could be a veritable tsunami of requests for gastroenterology services? And what of the work that will fall to family physicians in managing the follow-up from this screening, which will be weighted toward the very great majority of those who receive positive test results? It is truly unfortunate that all the energy that family physicians will devote to supporting these patients, whom they have sent on ill-fated diagnostic journeys, will result in painful experiences that will probably ruin the quality of life of a substantial portion of their patients’ remaining days.

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Competing interests
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References

CLOSING ARGUMENTS

- Colorectal cancer screening meets all the conditions for creation of an effective screening program.
- This program would make it possible to reduce mortality due to colorectal cancer, which is responsible for 8700 deaths each year in Canada, by at least 17%.
- Family physicians should support the creation of a structured screening program and encourage their patients to participate in it.

- Colorectal cancer screening does not reduce the absolute risk of mortality.
- The fecal occult blood test is not a good screening test; it produces too many false-positive results.
- Verification of positive fecal occult blood test results requires painful procedures that are not risk free for too many patients who are already vulnerable because of their age.