

Colorectal cancer screening in Canada: It's time to act

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The National Committee on Colorectal Cancer Screening (NCCCS)¹ and the Canadian Cancer Society² have recently endorsed colorectal screening using fecal occult blood (FOB) testing. These documents are the latest links in a lengthening chain of reports that now brings us to a de facto national professional and scientific consensus on this issue. There has been enough talking. It is now time to act.

Colorectal cancer is the commonest cause of cancer-related death among nonsmokers in Canada.³ In 2002, there were an estimated 17 600 new cases and 6600 deaths from the disease nationally.⁴ Although age-standardized incidence and death rates have been declining for decades, the total number of new cases and related deaths is growing steadily because of population aging.

Colorectal cancer has long been regarded as an attractive target for screening: it is a common cancer; its natural history is reasonably well understood; early disease is detectable by means of tests that are acceptable to patients; and treatment of early disease is highly effective.

Cancer screening is intended to reduce mortality. However, good intentions are not enough. Policy-makers must be confident that screening actually does reduce mortality. Very large and lengthy randomized trials are necessary to answer this question.

Fortunately, well-designed randomized trials of screening using FOB testing were begun in the 1970s and early 1980s, and the results of 3 trials were reported in 1993⁵ and 1996.^{6,7} All 3 trials showed a statistically significant mortality reduction with FOB screening. A follow-up report from one trial also documented a significant reduction in cancer incidence,⁸ presumably because of the excision of premalignant adenomatous polyps. The results of the 3 trials are remarkably consistent, when difference in compliance and test sensitivity are taken into account.

Many clinicians are sceptical about using the FOB test. The test is undeniably imperfect: it misses almost as many cancers as it finds. If not done carefully, false-positive results could overwhelm our capacity to provide diagnostic follow-up. The mortality benefits shown in the clinical trials were modest, but this was due in large part to poor compliance. Individuals who are compliant with FOB screening can expect a more substantial reduction in their risk of dying of colorectal cancer.⁹

Six credible Canadian groups have endorsed colorectal cancer screening with FOB testing. Cancer Care Ontario¹⁰ and the NCCCS¹ conducted comprehensive multiple-

stakeholder reviews. The Canadian Task Force on Preventive Health Care¹¹ conducted a rigorous evidence-based analysis. Both the Quebec¹² and the national¹³ health technology assessment agencies have reported on economic evaluations. The Canadian Cancer Society² has based its position on the weight of evidence and expert opinion.

The key recommendation of all these groups is to screen average-risk, asymptomatic individuals over the age of 50 with FOB testing annually or biennially. Cancer Care Ontario, the NCCCS, the Canadian Task Force on Preventive Health Care and the Canadian Cancer Society all stress the need for an adequate infrastructure, quality assurance and timely diagnostic follow-up of positive test results. Cancer Care Ontario estimated that a well-run program could reduce colorectal cancer mortality by 20%, which translates to about 1500 fewer deaths annually in Canada by 2015.

Colonoscopy and flexible sigmoidoscopy are also options for colorectal cancer screening. Colonoscopy is probably a better screening tool than FOB testing for average-risk people who are prepared to accept the discomfort and inconvenience of the procedure. Colonoscopy appears to be at least as cost-effective as FOB testing, the higher cost per procedure balanced by lower frequency and higher yield.^{14,15} The deal breaker for colonoscopy is inadequate health system capacity. We are far from having enough capacity to offer colonoscopy as primary screening for the more than 7 million people aged 50–75 in Canada. Cancer Care Ontario calculated that Ontario would have enough colonoscopy capacity to support FOB screening, and then only if an FOB test with high specificity is used. Given our existing health care resources, therefore, confirmation of positive FOB test results should get first call for colonoscopy. A nation that believes in the principles of equity and distributive justice in health care must start its colorectal cancer screening with FOB testing.

As for flexible sigmoidoscopy, it should not be recommended over FOB testing because the supporting evidence is not as strong as it is for FOB testing and because flexible sigmoidoscopy has the inherent limitation of examining only part of the colon. The procedure is probably a reasonable alternative for people who are noncompliant with FOB testing and may also prove a useful adjunct to FOB testing.¹⁶

If FOB screening for colorectal cancer is worth doing, it is worth doing well. Simply issuing clinical guidelines is not enough. Cancer screening always has the potential for harm, particularly from false-positive test results and complications from diagnostic investigations. The emphasis on

adequate infrastructure and quality assurance by several groups who have endorsed FOB testing^{1,2,10,11} is well founded. If we use the results of the randomized trials to justify the intervention, we must be confident that we are providing care that matches the quality of these trials. The specificity of FOB testing and the safety and accuracy of diagnostic colonoscopy will be critical parameters of a quality colorectal cancer screening program. Provincial breast cancer screening programs have already shown that it is possible to provide high-quality cancer screening in the real world.¹⁷

FOB screening could be an important building block in a comprehensive attack on colorectal cancer. Organized programs would not only save lives through screening, they could also provide an effective platform for education about the benefits of healthy eating¹⁸ and physical activity¹⁹ in preventing colorectal cancer. Furthermore, these programs would identify individuals and families at increased risk because of adenomatous polyps, who may benefit from intensive surveillance, genetic testing and, possibly, chemoprevention with ASA²⁰ or calcium supplements.²¹

Cancer control is a challenging and frustrating business. We get few opportunities to substantially reduce rates of death from common cancers. FOB testing is not an ideal screening tool, but it is an evidence-based intervention that is cost-effective and feasible. It also prevents cancer and saves lives. Colorectal screening with FOB testing is simply too good an opportunity to ignore.

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