

# Common sense for a common problem: the question of screening the average-risk population for colorectal neoplasia

Chris Vinden, MD; Vivian C. McAlister, MB

There is a discrepancy between the advice given in Canada regarding screening of the average-risk population for colorectal cancer and knowledge regarding the natural history of this cancer. The benign phase of colorectal cancer development is sufficiently long and predictable to allow for its prevention. Colorectal cancer differs from breast and prostate cancer in this respect. Screening for colorectal neoplasia allows not only for the early detection of cancer during the asymptomatic stage but also for its elimination during its benign phase. The loss to the patient of a failure to screen for colorectal neoplasia is, therefore, greater than with cancers for which individuals are commonly screened. The cost of the initial care of colon cancer is several times more than for cancers of the cervix, breast or prostate. This magnifies the cost to the health care system of failure to screen for colorectal neoplasia.

To justify screening an average-risk population, the prevalence of the disease and the benefit of intervention must be sufficient. Colorectal cancer is common in Canada, affecting about 50 people per 100 000 population per year. The annual inci-

dence increases predictably with age so that 1%, 2% and 3% of people are affected in their 50s, 60s and 70s, respectively. Without a prevention policy, 6000 in every 100 000 Canadians will develop colorectal cancer over their lifetime. The screening tool should be reliable, sensitive and capable of intervention. In the case of colorectal neoplasia, only colonoscopy fulfills these criteria. The Canadian Task Force on Preventive Health Care did not include colonoscopy in its 2001 update of guidelines regarding colon cancer, but suggested that fecal occult blood testing (FOBT) and flexible sigmoidoscopy be included in the periodic health examination of asymptomatic people over 50 years of age.<sup>1</sup> Even these recommendations are not as widely advocated as screening for other cancers, so their application has been limited. In effect, Canada has no policy for the prevention of colon cancer.

Heightening public awareness of colon cancer requires the ready availability of a test to reassure the individual. FOBT misses most of the benign precursors of colon cancer and many of the malignant lesions. Attempts to improve the sensitivity and

specificity of the test by examining feces for DNA (a panel of 21 mutations), instead of blood, have not been successful. Although the missed lesion rate dropped from 89.2% with FOBT to 81.8% with DNA, the test is, as yet, insufficiently sensitive to provide the patient or the patient's physician with reassurance.<sup>2</sup> Flexible sigmoidoscopy misses between 65% and 35% of patients with advanced colonic neoplasia, and it has been suggested that the higher proportion of missed lesions occurs in women.<sup>3</sup> Informed consent for sigmoidoscopy requires the patient to understand the incremental benefit and risk of completing endoscopic surveillance of the colon. Over 14 million colonoscopies are performed annually in the United States, mostly in non-hospital settings, with extremely low mortality and perforation rates.

The survey published by Hilsden and colleagues in this issue of the *Canadian Journal of Surgery* suggests that physicians are voting with their feet by proposing colonoscopy most often when approached regarding colon cancer screening (page 434).<sup>4</sup> This answer is similar to the findings of a survey of colorectal surgeons who were asked what test they

Department of Surgery, University of Western Ontario, London, Ont.

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**Correspondence to:** Dr. Vivian C. McAlister, Department of Surgery, University of Western Ontario, London ON N6A 5A5; vmcalist@uwo.ca

would prefer for themselves or would recommend to a family member.<sup>5</sup> These results are to be expected because they are derived from common sense. The guidelines of the Canadian Task Force on Preventive Health Care are derived from a review of available evidence, which it deemed was strong for FOBT and moderate in support of sigmoidoscopy. The fact that colonoscopy was not tested was not accounted for. The implications of these surveys are that clinical equipoise<sup>6</sup> does not exist to conduct such a trial. It is improper of public health planning authorities to allow this impasse to result in our lack of an effective policy. The precautionary principle<sup>7</sup> would dictate serious consideration of a colonoscopic screening policy for the average-risk population commencing at age 50.

Barriers to the implementation of a colorectal neoplasia screening policy by colonoscopy include concern regarding the financial cost to the health care system and the impact of such a policy on currently available endoscopic resources. The cost of a screening policy must be weighed against the cost of treating the disease in an unscreened population. This requires a detailed modelling exercise with appropriate sensitivity limits, but it may well be that screening by colonoscopy would actually result in substantial savings to the system. Such a decision analysis model will have to account for the potential increases in the cost of

chemotherapy from about \$60 for traditional agents up to an astounding \$30 000 for newer, more effective treatments.<sup>8</sup> The issue of current endoscopic resources is more vexatious, because symptomatic patients are already experiencing considerable delays before initial consultation. Some of the delays are the result of the surreptitious addition to the queue of minimally symptomatic patients seeking screening. A solution would be to consider placement of colorectal neoplasia screening programs outside the hospital environment. This would require provincial governments to provide a facility fee of about \$150 for colonoscopy. Precedents for such a measure can be seen in radiological services (including barium enema) that are currently available independently. It is likely that sufficient endoscopic and entrepreneurial skills exist within the current complement of gastroenterologists and general surgeons to service a screening program. The diversion of asymptomatic and minimally symptomatic patients away from overstretched hospitals will add to the beneficial effect on the health care system of a true reduction in requirement for therapeutic colorectal cancer care.

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