

Patterns of preventive practice in New Brunswick

Renaldo N. Battista,* MD, ScD, FRCPC
 Cynthia S. Palmer,† MSc
 Beatrice M. Marchand,† RNA
 Walter O. Spitzer,‡ MD, MPH, FRCPC

A survey of active general practitioners was conducted in New Brunswick to ascertain their patterns of preventive practice with respect to cancer of four anatomic sites: the breast, the cervix, the colon and rectum, and the lung. Ninety-two percent of the physicians reported that they taught breast self-examination to their female patients, 98% that they performed breast examinations, 98% that they did Papanicolaou smears routinely, and 97% that they provided counselling against smoking. Few of the physicians reported that they submitted women aged 50 to 59 years to annual mammography (3%) or examined stool samples from asymptomatic patients over 44 years of age for occult blood (20%). Many (77%) said they still routinely performed chest roentgenography for early detection of lung cancer; an estimated 49% of the physicians said they performed cytologic screening of sputum samples for the same purpose. Preventive practices, when used, were usually carried out during major encounters with patients, such as general check-ups. The potential for prevention through this clinically based approach is still largely unrealized.

Enquête auprès des omnipraticiens en activité au Nouveau-Brunswick afin de connaître leurs pratiques de dépistage des cancers du sein, du col utérin, du côlon et du rectum, et du poumon. Parmi ces médecins, 92% enseignent l'auto-examen des seins à leurs clientes, 98% examinent eux-mêmes les seins, 98% font systématique-

ment des frottis de Papanicolaou et 97% prêchent contre l'usage du tabac. À l'encontre, peu d'entre eux demandent la mammographie annuelle pour les clientes dans la cinquantaine (3%) ou la recherche du sang occulte dans les selles pour les clients asymptomatiques des deux sexes passé l'âge de 44 ans (20%). La radiographie systématique à la recherche du cancer du poumon est encore prescrite par 77% de ces médecins; on estime que 49% d'entre eux demandent dans le même dessein la cytologie des crachats. Ces divers moyens de dépistage sont ordinairement mis en oeuvre lors d'examens généraux, par exemple dans le cadre d'un bilan de santé. Les auteurs analysent la valeur préventive d'une telle attitude clinique.

The role of physicians in providing preventive services to patients in the context of their clinical practice is now recognized.¹⁻⁴ The approach to prevention set forth by the Canadian Task Force on the Periodic Health Examination³ is based on the use of a set of age- and sex-specific health protection packages. It is well known that 70% of individuals in the general population see their doctor at least once every year and that 90% do so at least once every 5 years.^{5,6} Hence, case-finding and primary prevention activities offered to patients who consult their physicians for unrelated symptoms lie at the heart of this prevention strategy.

The importance of early diagnosis of cancer of the breast, cervix, colon and rectum, and lung in terms of morbidity and mortality has been amply documented.³ We recently studied primary care physicians in Quebec to ascertain their patterns of preventive practice with respect to these four types of cancer.^{7,8} To broaden the generalizability of our results, we also studied physicians in New Brunswick. In this paper we report the findings of the latter study and compare them with those of the Quebec study.

Methods

The study population consisted of all general practitioners active as of February 1982 according to the New Brunswick Medical Society (NBMS). Most physicians in New Brunswick are reimbursed on a fee-for-service basis. According to the Medicare standards in that province, only the physicians who bill for a minimum of \$20 000 in services a year are considered active. Of the

*Assistant professor, departments of epidemiology and biostatistics and of family medicine, McGill University, Montreal, and research scholar, National Cancer Institute of Canada, Toronto

†Research coordinator, Kellogg Centre, Montreal General Hospital, McGill University

‡Strathcona professor and chairman, Department of Epidemiology and Biostatistics, and professor of medicine, McGill University

Reprint requests to: Dr. Renaldo N. Battista, Division of Clinical Epidemiology, Montreal General Hospital, 1650 Cedar Ave., Montreal, PQ H3G 1A4

410 physicians registered with the NBMS only 325 qualified as active practitioners. We excluded from our study, according to predetermined criteria, physicians who had moved out of the province, those who were employed by agencies and businesses, those who had enrolled for postgraduate training, those who were unavailable to participate because of illness, age or work schedules, and those whose practices were restricted or specialized.

Interviews, averaging 45 minutes each, were conducted by professional interviewers. The questions had already been used successfully in the Quebec study, which had a response rate of about 95%.^{7,8} However, minor modifications were made this time, and nine new questions pertinent to New Brunswick physicians were added.

The patterns of preventive practice in this group of physicians were compared with the best available practice criteria, as specified by the Canadian Task Force on the Periodic Health Examination.³

Results

The survey was conducted in the summer of 1982. Fifty-four of the 325 physicians were considered ineligible and were excluded from the study. However, we identified five physicians who were not initially on the NBMS's list and included them in the study. Of these 276 physicians 8 refused to participate, 2 could not be contacted, and 1 did not finish the interview. The proportion of women physicians was higher among those who were ineligible for or refused to participate in the study than among those who did participate (19% v. 8%). However, we found no statistically significant differences in the distribution of age among all the physicians.

The physicians' patterns of preventive practice according to the recommendations of the task force are shown in Table I. Preventive strategies were most often implemented during general check-ups or assessments related to the object of prevention.

Breast cancer

An estimated 92% of the physicians reported that they teach breast self-examination to their female patients; 92% of these said they do it themselves, and 8% said they share this responsibility with a nurse. Ninety-eight percent of all the physicians reported that they perform breast examinations. Seventy percent of these said that risk assessment determines the frequency of breast examination.

Only 3% of the physicians said they submit women aged 50 to 59 years to annual mammography even if the results of breast examination are normal. The most frequently offered reasons for not complying with the task force's recommendation included perceived ineffectiveness of the procedure, risk of radiation and lack of availability of the procedure (Table II).

Cervical cancer

Papanicolaou smears are reportedly done by 98% of

the physicians; 68% of these physicians said that risk assessment determines the frequency with which they perform this procedure. All 98% reported that they do a smear at least once a year for high-risk patients, and

Table I—Compliance of 265 physicians with practice recommendations of the Canadian Task Force on the Periodic Health Examination³

Practice (and recommendation of task force)	Province; % of physicians*	
	New Brunswick (n = 265)	Quebec ⁷ (n = 430)
Breast cancer		
Teaching of breast self-examination (neutral)	92	96
Breast examination (recommended)	98	99
Annual mammography for women aged 50 to 59 years (recommended)	3	8
Cervical cancer		
Papanicolaou smear (recommended)	98	91
Colorectal cancer		
Testing for occult blood in stool samples from patients aged 45 years and over (recommended)	20	15
Lung cancer		
Roentgenography (not recommended)	77	77
Cytologic testing of sputum samples (not recommended)	49	41
Counselling against smoking (recommended)	97	98

*Weighted estimates.

Table II—Reasons reported by 257 physicians for not sending women aged 50 to 59 for annual mammography

Reason	% of respondents
Perceived ineffectiveness	38
Risk of radiation	25
Service not available	20
Cost	6
Lack of patient compliance	2
Unnecessary worry for patients	1
None in particular	8

Table III—Reasons reported by 212 physicians for not testing stool samples from asymptomatic patients aged 45 years and over for the presence of occult blood

Reason	% of respondents
Perceived ineffectiveness	69
Test not available	11
Cost	9
Lack of patient compliance	7
Lack of information	2
Other	2

65% reported that they do it just as often for low-risk patients. Among the physicians who said they are not influenced by risk factors, 90% said they do a Pap smear at least once a year. Seventeen percent of the physicians have a formal recall system.

Colorectal cancer

An estimated 20% of the physicians said they routinely examine stool samples from asymptomatic patients aged 45 years and over for occult blood. The most common reason the other 80% gave for not complying with this recommendation was the perceived ineffectiveness of the test (Table III).

Lung cancer

Of the 265 physicians 77% said they use chest roentgenography for early detection of lung cancer in high-risk individuals with no respiratory symptoms; indeed, 58% of them said they use the procedure at least once a year in such patients. An estimated 49% of the physicians said they routinely perform cytologic screening of sputum samples for early detection of lung cancer in high-risk patients.

An estimated 97% of the physicians said they advise patients who smoke to stop. Counselling and the prescribing of nicotine gum are among the most frequently used approaches. Fifty-eight percent of the physicians claimed some success in persuading their patients to stop smoking. Twenty-seven percent of the physicians were smokers.

Discussion

The results of the New Brunswick study parallel those of the Quebec study (Table I). The physicians in Quebec reported using the same preventive measures for the four types of cancer. They also rarely send women aged 50 to 59 years of age for annual mammography or routinely examine stool samples from patients over 44 years of age for occult blood. Most of the physicians still routinely use chest roentgenography, and about half perform cytologic screening of sputum samples for early detection of lung cancer.

The physicians in Quebec gave two main reasons for not submitting asymptomatic women aged 50 to 59 years to annual mammography for early detection of breast cancer — uncertainty that it added to the value of breast examination and concern about the risks of radiation. The task force's recommendation in favour of mammography was based on the findings of a randomized clinical trial that showed that a combination of annual breast examination and mammography in women in this age group decreased the mortality rate by 40%.^{9,10} However, the contribution of each examination to this result is still a matter of controversy. The ongoing Canadian study on screening for breast cancer might answer this crucial question.¹¹

Although physicians are concerned about the risk of radiation associated with mammography they do not seem to feel the same constraint in using chest roentgenography for the early detection of lung cancer,

despite its not having been demonstrated to be efficacious for this purpose. This may be a carry-over effect from the former routine use of the procedure for the detection of tuberculosis, even though such practice is now inappropriate.

Because clinicians are uncertain of its effectiveness in the early detection of colorectal cancer, the testing of stool samples from patients aged over 44 years for occult blood is not widely done (Table III). There are also problems of patient compliance and controversies about the best way to use this measure.^{12,13}

Primary care physicians carry out preventive strategies in contexts they judge to be appropriate; our data show that, when performed, such activities are usually part of a general check-up and are less frequently performed during visits for medical problems unrelated to the object of prevention or for minor problems.

The potential for prevention through this clinically based approach is still largely unrealized. A better understanding of the conditions under which preventive activities can be integrated into medical practice is therefore needed.

We thank the New Brunswick Medical Society, Gallup New Brunswick and the general practitioners of the province for their cooperation, and Mr. Tim Evans and Ms. Diane Telmosse for their technical contributions.

The research for this paper was supported by a grant from the National Cancer Institute of Canada.

References

1. Frame PS, Carlson SJ: A critical review of periodic health screening using specific screening criteria. Part 1. Selected diseases of respiratory, cardiovascular, and central nervous systems. *J Fam Pract* 1975; 2: 29-36
2. Breslow L, Somers AR: The lifetime health-monitoring program: a practical approach to preventive medicine. *N Engl J Med* 1977; 296: 601-608
3. Canadian Task Force on the Periodic Health Examination, Spitzer WO (chmn): The periodic health examination. *Can Med Assoc J* 1979; 121: 1193-1254
4. Roemer MI: The value of medical care for health promotion. Commentary. *Am J Public Health* 1984; 74: 243-248
5. D'Souza MF, Swan AV, Shannon DJ: A long-term controlled trial of screening for hypertension in general practice. *Lancet* 1976; 1: 1228-1231
6. Kohn R, White KL (eds): *Health Care, an International Study. Use of Physician Services*, WHO, Geneva, 1979
7. Battista RN: Adult cancer prevention in primary care: patterns of practice in Quebec. *Am J Public Health* 1983; 73: 1036-1039
8. Battista RN, Spitzer WO: Adult cancer prevention in primary care: contrasts among primary care settings in Quebec. *Ibid*: 1040-1041
9. Shapiro S, Strax P, Venet L et al: Changes in 5-year breast cancer mortality in a breast cancer screening program. In *Seventh National Cancer Conference Proceedings*, Am Cancer Soc, New York, 1974
10. Shapiro S: Evidence of screening for breast cancer from a randomized trial. *Cancer* 1977; 39: 2722-2782
11. Miller AB, Howe GR, Wall C: The national study of breast cancer screening. Protocol for a Canadian randomized controlled trial of screening for breast cancer in women. *Clin Invest Med* 1981; 4: 227-258
12. Gilbertsen VA, Church TR, Greene FJ et al: The design of a study to assess occult blood screening for colon cancer. *J Chronic Dis* 1979; 33: 107-114
13. Winawer SJ: Screening for colorectal cancer: an overview. *Cancer* 1980; 45: 1093-1098